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11th Meeting of the EAU Robotic Urology Section (ERUS)
17–19 September 2014, Amsterdam, The Netherlands

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Welcome to the 11th Meeting of the EAU Robotic Urology Section (ERUS)

Dear colleagues and friends,

It gives us great pride to welcome you to Amsterdam for three days of learning on robotic urological surgery. The earlier editions of the annual ERUS meeting showed the power of live surgery training for both novice and more experienced robotic surgeons.

In Amsterdam, the Thursday and Friday will be packed with a variety of live surgical procedures. All procedures will follow the new regulations for live surgery from the EAU and they will allow for plenty of interaction, being chaired by experienced robotic surgeons and an expert panel.

Developments in techniques and technologies will be presented and demonstrated in practice. With a live-satellite connection between Holland's two largest cities, Amsterdam and Rotterdam, we consider the meeting a truly Dutch event with input from different institutes from this country.

The meeting venue is located in the heart of Amsterdam at just a walking distance from the Royal Palace and the Amsterdam Canals.

Robotic surgery has grown from an experiment by few, to a useful tool for many. The broad spectrum of urological procedures for benign and malignant diseases will be presented, illustrating that robotic surgery has firmly landed in urology.

Now it is time to broaden the experience, improve quality, economize procedures, speed up the learning curve and, above all look for ways to implement technological improvements in daily practice.

In an ambience of interaction and learning, we hope you will discover new ways to improve your practice, make new friends, and enjoy your stay in Amsterdam!

Alex Mottrie
Chairman EAU Robotic Urology Section Board
Organisers

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Francesco Montorsi, Milan (IT)
Daniel Moon, Melbourne (AU)
Declan Murphy, Melbourne (AU)

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Vip Patel, Celebration (US)
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Christian Schwentner, Tübingen (DE)
Ryoichi Shiroki, Aichi (JP)
Prasanna Sooriakumaran, Oxford (GB)
Michael Stöckle, Homburg (DE)
Jens-Uwe Stolzenburg, Leipzig (DE)
Nazareno Suardi, Milan (IT)
Ashutosh Tewari, New York (US)
Tom Tuytten, Heerlen (NL)
Jean-Paul Van Basten, Nijmegen (NL)
Ben Van Cleynenbreugel, Leuven (BE)
Henk Van Der Poel, Amsterdam (NL)
Fijs Van Leeuwen, Leiden (NL)
Emmanuel Vander Poorten, Leuven (BE)
André Vis, Amsterdam (NL)
Alessandro Volpe, Novara (IT)
Carl Wijburg, Arnhem (NL)
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Sponsor Acknowledgement

The organisers respectfully acknowledge the following sponsors for providing unrestricted educational grants and services to the 11th Meeting of the EAU Robotic Urology Section.

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OLYMPUS
ORSI
ROSWELL PARK CANCER INSTITUTE
SCANLAN INTERNATIONAL
SIMBIONIX USA CORPORATION
SURGICAL SPECIALTIES
SURGIQUEST
Floorplan venue

First floor

Ground floor

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General Information

About Amsterdam
From its earliest days, Amsterdam has been a bustling hub of commerce that welcomed other cultures with open arms. Learn more about this lovely canal-side city, including the rich history and development of its tolerant society. Or jump straight to the modern day and find out about the city’s architecture and its colourful neighbourhoods. If you’re feeling ambitious, you might even pick up a few words of Dutch! A good website for information on Amsterdam is www.iamsterdam.com. The national currency of The Netherlands is the Euro (EUR or €).

Abstracts
The abstracts are available in this book.

Certificate of Attendance
A Certificate of Attendance for ERUS 2014 can be printed online as of Monday, 22 September on erus2014.uroweb.org. You will need your registration number (under the barcode on your badge) to print the Certificate of Attendance.

Cloakroom/luggage
The cloakroom is located in the main entrance area and is open during meeting hours. Please be sure to collect all personal belongings at the end of the day.

Congress Bag
Each delegate can collect a congress bag in the registration area.

Congress Dinner
The congress dinner will take place on Thursday, 18 September at the magnificent National Maritime Museum: Het Scheepvaart-museum. The Museum shows how Dutch culture has been shaped by the sea. The museum has recently been renovated, but its 350-year history and initial design as a naval arsenal shine through. The dinner will take place in the open courtyard of the museum, featuring live music, a menu inspired by Dutch Golden Age trade routes, and an opportunity to mingle with colleagues. Entrance tickets can be purchased at the registration desk.

Disclosure links to Industry
It is requested that all faculty disclose to the audience any links with the industry related to the topic of their lecture at the beginning of their presentation(s). A link can be: being a member of the advisory board or having a consulting agreement with a specific company.

EAU Policy on Live Surgery
The EAU established an official policy on Live Surgery Events, offering organising centres a clear framework within which to plan and perform live surgeries at any EAU congress or meeting. It outlines a set of guidelines in which the overriding principle is that patient safety must take priority over all other considerations in the conduct of live surgery. Read more on: http://www.uroweb.org/events/eau-live-surgery-events/

Emergency Information
Emergency phone number for police, fire brigade and ambulance service is 112. Contact the security or the organisation immediately in case of an emergency in the congress venue.

Exhibition
A technical exhibition will be held jointly with the meeting in the exhibition hall on the ground floor.

Opening hours:
Thursday 18 September 09.00–16.30
Friday 19 September 09.00–16.00

First Aid
In case of an emergency, contact a security guard or the organisation immediately.

Insurance
The organisers do not accept responsibility for any personal damage. Participants are strongly recommended to arrange their own personal insurance.

Language
All presentations during the meeting will be conducted in English. No translation will be provided.

Lost and Found
Found items should be returned to the registration desk. If you lose something, please report to this desk for assistance.
Mobile Phones
The sound and flashlight of mobile phones must be switched off during sessions.

Press
Journalists can obtain free registration to the meeting. All media operators must show their credentials (press card dated 2013/2014 and original assignment letter).

Registration area
The registration area is located in the main entrance on the ground floor.

Opening hours:
Wednesday 17 September 07.00–19.00
Thursday 18 September 07.00–18.00
Friday 19 September 07.30–18.00

Safety
All bags may be subject to inspection. Security is present for your safety. Please take all personal effects with you when leaving the session rooms.

Scientific Posters
The scientific posters are on display from 17 to 19 September in the poster area on the ground floor. It has been requested that one of the authors is present to answer possible questions during the following poster viewing hours but this is not required.

Scientific Videos
The scientific videos are on digital display from 18 to 19 September in the exhibition area on the ground floor.

Smoking Policy
Smoking is prohibited inside the congress venue.

Speaker Service Centre (SSC)
All presentations should be handed in at the Speaker Service Centre (located on the first floor) at least three hours prior to the start of the session.

Opening hours:
Wednesday 17 September 07.00–19.00
Thursday 18 September 07.00–18.00
Friday 19 September 07.30–18.00

Transportation
Amsterdam has an excellent public transport network (Openbaar Vervoer) including trams, busses, metros and ferries. It’s a very easy and affordable way to navigate the city. Public transport in Amsterdam is run by city transport company GVB and there are a number of different ticket options for visitors and residents which basically depend on how long you plan to stay in Amsterdam and where you wish to go. Firstly, you should note that the OV-chip card (OV-chipkaart) is a smart card system used for all public transport in the Netherlands. This means when boarding/exiting your train/tram/bus/metro you need to check-in and check-out by holding your chip card against the card readers.

Venue Address
Beurs van Berlage
Damrak 243
1012 ZJ Amsterdam
T: +31 (0) 20 530 4141
info@beursvanberlage.nl
www.beursvanberlage.nl

WiFi
Free wireless internet will be available in all areas and session rooms. Please search for the “ERUS2014” network and connect by entering the following:
Username: ERUS2014
Password: ERUS2014
Continuing Medical Education Accreditation

The 11th Meeting of the EAU Robotic Urology Section is accredited by the European Accreditation Council for Continuing Medical Education (EACCME) to provide the following CME activity for medical specialists. The EACCME is an institution of the European Union of Medical Specialists (UEMS), www.uems.net.

The 11th Meeting of the EAU Robotic Urology Section is designated for a maximum of 15 hours of European external CME credits. Each medical specialist should claim only those hours of credit that he/she actually spent in the educational activity.

Through an agreement between the European Union of Medical Specialists and the American Medical Association, physicians may convert EACCME credits to an equivalent number of AMA PRA Category 1 Credits™. Information on the process to convert EACCME credit to AMA credit can be found at www.ama-assn.org/go/internationalcme.

Live educational activities, occurring outside of Canada, recognized by the UEMS-EACCME for ECMEC credits are deemed to be Accredited Group Learning Activities (Section 1) as defined by the Maintenance of Certification Program of The Royal College of Physicians and Surgeons of Canada.
SEEKING FOR PERFECTION IN ROBOTIC SURGERY?

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Intensive Robotic Training
- 6 days course
- Max. 5 participants
- This session contains:
  • theoretical courses
  • Simulator training & dry lab
  • 2 days Animal training
  • 2 days Live surgery (with dual console)
- Price: 7,500 € pp excl. VAT

Please note there is a limited number of subscriptions per session allowed.

Intensive Procedure Specific Robotic Training on
- Robot-Assisted Partial nephrectomy
- Robot-Assisted Cystectomy & intracorporeal neobladder
- Robot-Assisted Radical Prostatectomy
- 2 or 3 days course
- Max. 3 participants
- This session contains:
  • theoretical courses
  • Animal training
  • Live surgery (with dual console)
- Price: 3,500 € (2 day) pp excl. VAT
  5,000 € (3 day) pp excl. VAT

Inclusive: training fee, lunch, didactical material, transport to and from training center.

Structured training:
26-28/01 & 11-13/02
23-25/02 & 11-13/02

Partial Nephrectomy:
12-14/01
16-17/02
16-17/03

Cystectomy:
2-4/02

RARP:
2-4/03
1-3/04

We also offer you the possibility to prepare your own training! Our “CUSTOM-MADE TRAINING” makes it possible to adapt a program according the experiences and wishes of the participants!

You can find extra information on the website: www.orsi-online.com

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M: (+32) (0)474/37.66.47
Sandra.martens.orsi@gmail.com
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and Professor of Urology,
University of Padua, Italy

Dr. Giacomo Novara
Scientific Director, OLV Robotic Surgery Institute
Assistant Professor of Urology
Department of Surgery, Oncology,
and Gastroenterology - Urology
Clinic University of Padua
## Scientific Programme

### WEDNESDAY, 17 SEPTEMBER

**Young Academic Urologists-Junior ERUS Programme**

**Room: Effectenbeurszaal**

**08.30–08.40** Welcome and introduction new group YAU-JUNIOR ERUS  
N. Buffi, Milan (IT)  
C. Wijburg, Arnhem (NL)

**08.40–09.25** Session 1 – Hot topics in robotic urologic surgery  
Moderators: R. Autorino, Cleveland (US)  
N. Buffi, Milan (IT)  
C. Wijburg, Arnhem (NL)

**08.40–08.55** Economics business case example cost-effectiveness.  
Robotics with the new Da Vinci Xi: Will the older systems still be supported?  
C. Wijburg, Arnhem (NL)

**08.55–09.10** HOT courses: Results of a dry lab study  
A.E. Canda, Ankara (TR)

**09.10–09.25** Pilot study: Results from ERUS curriculum  
G. Novara, Padova (IT), A. Volpe, Novara (IT)

**09.25–10.00** Session 2 – Challenging scenarios in robotic urologic surgery  
Moderators: G. De Naeyer, Aalst (BE)  
N.D. Doumerc, Toulouse (FR)  
C. Schwentner, Tübingen (DE)

**09.25–09.45** Robotic assisted radical prostatectomy: Step by step and difficult cases  
G. Pini, Stockholm (SE)

**09.45–10.00** Nightmare session: How table side assistant can help to control a hemorrhagic event (Iliac artery and renal vein lesion)  
F. Annino, Arezzo (IT)

**10.00–11.00** Session 3 – A look at the literature  
Moderators: F. Annino, Arezzo (IT)  
A. Govorov, Moscow (RU)  
G. Pini, Stockholm (SE)

**10.00–10.15** Learning curve in robotic surgery: Review of the literature (RALP, RAPN and RARC)  
G. De Naeyer, Aalst (BE)

**10.15–10.30** Complications in robotic surgery: Review of the literature (RALP, RAPN and RARC)  
A. Wallerstedt, Stockholm (SE)

**10.30–10.40** 2014 Best papers in robotic prostatectomy  
N. Suardi, Milan (IT)

**10.40–10.50** 2014 Best papers in robotic renal surgery  
R. Autorino, Cleveland (US)

**10.50–11.00** 2014 Best papers in robotic cystectomy  
C. Schwentner, Tübingen (DE)

**11.00–11.25** Coffee break & poster viewing

**11.25–12.10** Session 4 – Video and poster session. The 3 best abstracts and best 3 best videos  
Moderators: N.D. Doumerc, Toulouse (FR)  
D. Porres, Aachen (DE)  
A. Wallerstedt, Stockholm (SE)

**11.25–11.32** PYJ03 Prevalence and predictors of thromboembolic events in patients undergoing lymph node dissection during radical prostatectomy  
11.32–11.39 PYJ02 Development and validation of the checklist based assessment tool for robot assisted radical prostatectomy
C. Lovegrove, G. Novara, K. Guru, A. Mottrie, B. Challacombe, J. Raza, H. Van Der Poel, J. Peabody, R. Popert, P. Dasgupta, K. Ahmed (London, United Kingdom; Padua, Italy; Buffalo, Detroit, United States of America; Aalst, Belgium; Amsterdam, The Netherlands)

11.39–11.46 PYJ01 A new intraoperative modular training system for the learning curve in robotic surgery
V. Al Salhi, S. Khorrami, M. De Angelis, T. Verdacchi, V. Giommoni, F. Annino (Arequzzo, Italy)

11.46–11.53 VYJ02 Image guided robotic partial cystectomy using flexible cystoscopy and tile pro
A. Sridhar, S. Madhavan, S. Nathan (London, United Kingdom)

11.53–12.00 VYJ01 Robotic off-clamp zero ischemia partial nephrectomy in small, peripherally located, exophytic renal mass is safe and feasible
A.E. Canda, O.U. Cakici, K. Ener, A.F. Atmaca (Ankara, Turkey)

12.00–12.10 VYJ03 Robot-assisted radical nephroureterectomy in an ectopic pelvic kidney
C. Wagner, A. Schütte, J. Witt (Gronau, Germany)

12.10–12.15 Video and Poster session: The winners

12.15–12.30 Last years’ winner reports

12.30 Final remarks
N. Buffi, Milan (IT)
C. Wijburg, Arnhem (NL)

European Association of Urology Nurses (EAUN) Programme

Room: Berlage zaal

09.15–09.25 Opening EAUN-ERUS
Nurse specialist – J.E. Kinsella, London (GB)

09.25–09.40 New robots/new technology
Urologist – H. Van Der Poel, Amsterdam (NL)

09.40–10.00 Five prostatectomies a day, can it be done?
OR Nurse – L. Söderkvist, Stockholm (SE)
OR Nurse – E. Rundin, Stockholm (SE)

10.00–10.20 Cut the costs: Cost efficiency/effectiveness throughout the process
Urologist – C-H. Rochat, Geneva (CH)

10.20–10.40 What kind of urological procedures can be done with the robot?
Urologist – J.-P. Van Basten, Nijmegen (NL)

10.40–11.00 Nerve sparing, are there any standards?
Urologist – V. Ficarra, Padua (IT)

11.00–11.30 Coffee break & poster viewing

11.30–12.30 Break-out session Ward nurses
Chair: J.E. Kinsella, London (GB)

11.30–11.50 QoL and symptom assessment in the Netherlands and the use of internet
Clinical nurse specialist – C. Tillier, Amsterdam (NL)

11.50–12.10 Erectile dysfunction, counseling and treatment: The nursing perspective
Ostomy and wound nurse – B. Jetten, Amsterdam (NL)

12.10–12.30 Transfer from OR – recovery
Nurse – S. Van ’t Slot, Rotterdam (NL)
Nurse – A. Van Houwelingen, Rotterdam (NL)

11.30–12.30 Break-out session OR nurses
Chair: L. Söderkvist, Stockholm (SE)

11.30–11.50 Positioning and draping, looking for a standard: Differences and similarities in the Netherlands
OR nurse – P. Kennedy, Amsterdam (NL)
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<td>How to teach student nurses in robotic surgery</td>
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<td>OR Nurse/Educator – M. Landsbergen, Arnhem (NL)</td>
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<td>12.10–12.30</td>
<td>Transfer from OR – recovery – ward: What standards need to be met?</td>
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<td>Recovery nurse – L. Thompson-Ritfeld, Rotterdam (NL)</td>
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<td>12.30–13.30</td>
<td>Lunch break &amp; poster viewing</td>
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<td>13.30–14.00</td>
<td>Not at home after one day, a case story</td>
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<td>Clinical nurse specialist – W. De Blok, Amsterdam (NL)</td>
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<td>RoboCare – It’s not all about the robot</td>
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<td>Nurse coordinator – E. Birch, Melbourne (AU)</td>
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<td>Emergency post-op situations on the ward</td>
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<td>Urologist – K. Ahmed, London (GB)</td>
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<td>Break-out session OR nurses</td>
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<td>MIMIC simulation hands on training</td>
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<td>J. Ostman, Seattle (US)</td>
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<td>13.30–15.00</td>
<td>Simultaneous session OR Nurses during simulation session</td>
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<td>Emergency converting robotics to open operation: How to train the staff</td>
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<td>OR nurse – L. Juhl Hansen, Aalborg (DK)</td>
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<td>First assistant’s role in Europe; and what about the training?</td>
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<td>OR nurse – J. Peterson, Aalborg (DK)</td>
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<td>Chair: J.E. Kinsella, London (GB)</td>
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<td>The patient’s perspective from the admission to discharge</td>
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<td>Interview with patient – Mr. B. (NL)</td>
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<td>Interviewer – W. De Blok, Amsterdam (NL)</td>
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<td>16.00–16.15</td>
<td>Closing remarks and take home messages</td>
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<td></td>
<td>J.E. Kinsella, London (GB)</td>
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**European School of Urology (ESU) Courses**

**ESU Course 1 – Advanced course in Da Vinci prostatectomy**

**Room:** Administratiezaal

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<th>Time</th>
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<td>13.30</td>
<td>Introduction</td>
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<td>P-T. Piéchaud, Bordeaux (FR)</td>
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<td>13.30–13.50</td>
<td>General principles of robotic radical prostatectomy</td>
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<td>13.30–13.40</td>
<td>My way of access: How I place the ports</td>
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<td>W. Artibani, Verona (IT)</td>
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<tr>
<td>13.40–13.50</td>
<td>My way of access: How I place the ports</td>
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<td>P. Dasgupta, London (GB)</td>
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<td>13.50–14.30</td>
<td>Step-by-step operative procedure</td>
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<td>13.50–14.00</td>
<td>Bladder neck approach: Preservation or not: How do I do it?</td>
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<td>P. Dasgupta, London (GB)</td>
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<td>P.-T. Piéchaud, Bordeaux (FR)</td>
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<td>14.00–14.10</td>
<td>Posterior dissection: Seminal vesicles complete dissection</td>
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<td>W. Artibani, Verona (IT)</td>
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14.10–14.20  Posterior dissection seminal vesicles sparing  
P.-T. Piéchaud, Bordeaux (FR)
14.20–14.30  Lateral dissection: Anatomical reminders. Peri prostatic fascia, neuro vascular periprostatic structures  
P. Dasgupta, London (GB)
14.30–15.00  Nerve sparing: Which space of dissection, how do I do it?  
14.30–14.40  Interfascial dissection  
P. Dasgupta, London (GB)
14.40–14.50  Interfascial antegrade dissection  
W. Artibani, Verona (IT)
14.50–15.00  Intrafascial dissection  
P.-T. Piéchaud, Bordeaux (FR)
15.00–15.30  Coffee break & poster viewing
15.30–16.00  Apex & DVC
15.30–15.40  First approach  
P. Dasgupta, London (GB)
15.40–15.50  Final approach  
W. Artibani, Verona (IT)
15.50–16.00  Special techniques for continence. Anterior fixation and Posterior fixation: Rocco technique  
W. Artibani, Verona (IT)
16.00–16.40  Anastomosis
16.00–16.10  Double half running suture  
W. Artibani, Verona (IT)
16.10–16.20  Vloc suture  
P. Dasgupta, London (GB)
16.20–16.30  Unique running suture  
P.-T. Piéchaud, Bordeaux (FR)
16.30–16.40  Technique of extended lymphadenectomy  
W. Artibani, Verona (IT)
16.40–17.00  Specific situations
16.40–16.50  Bladder neck and median lobe. Previous prostatic surgery: TURP, Adenomectomy  
P.-T. Piéchaud, Bordeaux (FR)
16.50–17.00  Salvage prostatectomy  
P.-T. Piéchaud, Bordeaux (FR)
17.00–17.30  Postoperative complications
17.00–17.10  Prevention and management: actual standard  
P. Dasgupta, London (GB)
17.10–17.20  Anatomical and functional results  
W. Artibani, Verona (IT)
17.20–17.30  Conclusions  
P.-T. Piéchaud, Bordeaux (FR)
17.30  Closure

ESU Course 2 – Advanced Course in Robotics in the Upper Urinary tract
Room: Veilingzaal

A. Mottrie, Aalst (BE)
13.45–14.00  Patient positioning, trocar positioning, trans- and retroperitoneal access in renal robotic surgery  
D. Moon, Melbourne (AU)
14.00–14.15 Robotic pyeloplasty: Multichannel or single site technique  
B. Challacombe, London (GB)
14.15–14.30 Renal surgery: Nephrectomy and nephroureterectomy: How I do it  
C. Vaessen, Paris (FR)
14.30–14.40 Current indications for partial nephrectomy and nephrometry scores  
D. Moon, Melbourne (AU)
14.40–15.00 Partial nephrectomy I  
Step I: Isolation of renal hilum  
Step II: Mobilisation of the kidney  
Step III: Clamping of renal pedicle: Different techniques  
B. Challacombe, London (GB)  
D. Moon, Melbourne (AU)  
A. Mottrie, Aalst (BE)  
C. Vaessen, Paris (FR)
15.00–15.30 Coffee break & poster viewing
15.30–16.00 Partial nephrectomy II  
Step IV: Different tumor resection techniques  
B. Challacombe, London (GB)  
D. Moon, Melbourne (AU)  
A. Mottrie, Aalst (BE)  
C. Vaessen, Paris (FR)
16.00–16.30 Partial nephrectomy III  
Step V: Different renorraphy techniques  
B. Challacombe, London (GB)  
D. Moon, Melbourne (AU)  
A. Mottrie, Aalst (BE)  
C. Vaessen, Paris (FR)
16.30–17.00 Postoperative care  
B. Challacombe, London (GB)
16.40–17.00 Special techniques:  
Which haemostatic agents are useful? Surgical bolster?  
B. Challacombe, London (GB)  
Selective clamping or zeroischemia: What's up, doc?  
C. Vaessen, Paris (FR)
New developments  
A. Mottrie, Aalst (BE)  
– Robotic applied Bulldogs  
– Fluorescence  
– Drop in ultrasound devices  
– Robotic suction/irrigator device
17.00–17.30 Partial nephrectomy IV: Special cases/complication management  
B. Challacombe, London (GB)  
D. Moon, Melbourne (AU)  
A. Mottrie, Aalst (BE)  
C. Vaessen, Paris (FR)  
– Hilar tumours  
– Endophytic tumours  
– Cystic tumour  
– Limits of RAPN  
– Other
17.30 Closure
ESU Course 3 – Advanced course in Da Vinci cystectomy and diversion
Room: Verwey kamer

13.30–13.50  Introduction
P. Wiklund, Stockholm (SE)

13.50–15.00  Cystectomy
13.50–14.07  Open radical cystectomy and lymphadenectomy in bladder cancer
J. Palou, Barcelona (ES)
K. Guru, New York (US)
14.24–14.40  Female cystectomy
J. Palou, Barcelona (ES)
14.40–15.00  Lymphadenectomy
C.M. Annerstedt, Stockholm (SE)

15.00–15.30  Coffee break & poster viewing

15.30–16.20  Diversion
15.30–15.40  Extracorporeal urinary diversion
J. Palou, Barcelona (ES)
15.40–16.10  Intracorporeal urinary diversion
Bricker conduit
K. Guru, New York (US)
Neobladder
C.M. Annerstedt, Stockholm (SE)
P. Wiklund, Stockholm (SE)

16.10–16.20  Ways to proceed – Panel discussion

16.20–17.30  Results
16.20–16.45  Outcomes after robotic-assisted cystectomy
P. Wiklund, Stockholm (SE)
16.45–17.10  Complications
C.M. Annerstedt, Stockholm (SE)
17.10–17.30  IRCC presentation
K. Guru, New York (US)

17.30  Closure

ESU Course 4 – Robotics in Urogenital tumours: Where are we in 2014?
Room: Rode kamer

13.30–13.35  Introduction
M. Stöckle, Homburg (DE)

13.35–15.00  Part one
13.35–14.00  Do the benefits of robotic prostatectomy justify the costs?
M. Stöckle, Homburg (DE)
14.00–14.30  Present role of robotic prostatectomy in the US
T. Ahlering, Orange (US)
14.30–15.00  Robotic surgery at the upper urinary tract
J. Stolzenburg, Leipzig (DE)

15.00–15.30  Coffee break & poster viewing

15.30–17.30  Part two
15.30–16.10  Proliferation of robotic surgery in non-Urological disciplines – US trends
T. Ahlering, Orange (US)
16.10–16.50  Robotic cystectomy and urinary diversion  
M. Stöckle, Homburg (DE)

16.50–17.30  Risk stratified access: Transperitoneal versus extraperitoneal approach to prostate and kidney  
J. Stolzenburg, Leipzig (DE)

17.30  Closure

Course 5 – Advanced course in Da Vinci reconstructive surgery  
Room: Ontvangkamer

13.30–14.45  Session 1: Upper tract
13.30–13.45  UPJ Stenosis: Pyeloplasty step by step  
A. Hemal, Winston Salem (US)

13.45–14.00  UPJ Stenosis: Single port pyeloplasty  
N. Buffi, Milan (IT)

14.00–14.15  Kidney: Special cases  
A.R. Kural, Istanbul (TR)

14.15–14.30  Stone surgery in upper and lower tract  
C-H. Rochat, Geneva (CH)

14.30–14.45  Discussion

14.45–15.45  Session 2: Ureter
14.45–15.00  Reconstructive ureteral surgery (benign)  
A. Hemal, Winston Salem (US)

15.00–15.30  Coffee break & poster viewing

15.30–15.45  Reconstructive ureteral surgery (malignant)  
A. Hemal, Winston Salem (US)

15.45–17.00  Session 3: Pelvis
15.45–16.00  Bladder diverticulectomy  
A.R. Kural, Istanbul (TR)

16.00–16.15  Urinary fistulae  
A. Hemal, Winston Salem (US)

16.15–16.30  Urogenital prolapse  
C-H. Rochat, Geneva (CH)

16.30–16.45  Associated inguinal hernia repair  
C-H. Rochat, Geneva (CH)

16.45–17.00  Discussion

17.00–17.30  Session 4: External genitalia
17.00–17.20  Surgery for male infertility  
G. De Boccard, Geneva (CH)

17.20–17.30  Discussion

17.30  Closure
THURSDAY, 18 SEPTEMBER

Plenary sessions
Room: Grote zaal

All timings are subject to change due to live surgery

08.00–08.10 Welcome
EAU: C. Chapple, Sheffield (GB)
ERUS: W. Artibani, Verona (IT)
Host faculty: H. Van Der Poel, Amsterdam (NL)

08.10–08.45 State-of-the-art lectures
Moderator: W. Artibani, Verona (IT)
Panellists: J. Palou, Barcelona (ES)
V. Pansadoro, Rome (IT)
J. Rassweiler, Heilbronn (DE)

08.10–08.20 Outcomes of live surgery patients operated at ERUS ’13 Stockholm
P. Wiklund, Stockholm (SE)

08.20–08.30 Future of robotics in Japan and Asia
R. Shiroki, Nagoya (JP)

08.30–08.45 European Urology
G. Novara, Padova (IT)

08.45–10.00 Live Surgery I
Moderator: D. Murphy, Melbourne (AU)
Panellists: S. Bhayani, St. Louis (US)
A.E. Canda, Ankara (TR)
M. Desai, Los Angeles (US)
F. Montorsi, Milan (IT)
D. Pushkar, Moscow (RU)

Case presentations
M. Gan, Rotterdam (NL)
Partial nephrectomy with Firefly
A. Mottrie, Aalst (BE)
Radical cystectomy with LND and intracorporeal ileal conduit
C.M. Annerstedt, Stockholm (SE)
K. Guru, Buffalo (US)

10.00–10.30 Coffee break & poster viewing

10.30–11.30 State-of-the-art lectures on indications for nerve sparing in RARP
Chairs: W. Artibani, Verona (IT)
M. Stöckle, Homburg (DE)

10.30–10.45 Nerve preservation and outcome
V. Ficarra, Padova (IT)

10.45–11.00 Grading nerve preservation
A. Tewari, New York (US)

11.00–11.15 Patient selection for nerve preservation
J. Davis, Houston (US)

11.15–11.30 Lessons from open prostatectomy
M. Graefen, Hamburg (DE)

11.30–12.00 Oral presentations of the 3 best abstracts
Chairman: C. Wijburg, Arnhem (NL)
Co-chairmen: N. Buffi, Milan (IT)
C-H. Rochat, Geneva (CH)
N. Suardi, Milan (IT)

10-min presentations of the 3 best abstracts
11.30–11.40 PE03 Improvement of fluorescence-based sentinel node detection during a combined sentinel node biopsy, extended pelvic lymph node dissection and robot-assisted radical prostatectomy procedure
G. Kleinjan, N. Van Den Berg, O. Brouwer, C. Acar, E. Wit, E. Vegter, R. Valdés Olmos, F. Van Leeuwen, H. Van Der Poel (Leiden, Amsterdam, The Netherlands; Istanbul, Turkey)

11.40–11.50 PE02 Survival outcomes after robot-assisted radical cystectomy: Results from the international robotic cystectomy

11.50–12.00 PE01 Improved short-term renal function after robot-assisted partial nephrectomy with selective arterial clamping – a matched pair analysis for preoperative GFR
N.N. Harke, F. Schiefelbein, G. Schoen (Gronau, Wuerzburg, Germany)

12.00–13.15 Live Surgery II
Moderator: J. Davis, Houston (US)
Panellists: T. Ahlering, Orange (US)
F. Montorsi, Milan (IT)
D. Murphy, Melbourne (AU)
H. Van Der Poel, Amsterdam (NL)

Case presentations
M. Gan, Rotterdam (NL)
Radical prostatectomy
V. Patel, Orlando (US)
Robot assisted flexible ureterorenoscopy
J. Rassweiler, Heilbronn (DE)

13.15–14.15 Lunch & poster viewing

14.15–15.30 Round table on upcoming techniques
Moderator: P. Dasgupta, London (GB)
Panellists: W. Artibani, Verona (IT)
J. Barentsz, Nijmegen (NL)
J. Palou, Barcelona (ES)
T. Wilson, Duarte (US)

14.15–14.30 Update on ERUS training in robotic surgery
A. Volpe, Novara (IT)

14.30–14.45 MRI imaging and prostate cancer management
J. Barentsz, Nijmegen (NL)

14.45–15.00 Future developments in surgical robotics
G. Janetschek, Salzburg (AT)

15.00–15.15 Industrial robots in operating theatre?
E. Vander Poorten, Leuven (BE)

15.15–15.30 Discussion

15.30–16.00 Coffee break & poster viewing

16.00–17.15 Live surgery III
Moderator: H. Beerlage, ’s-Hertogenbosch (NL)
Panellists: T. Ahlering, Orange (US)
W. Alkhudair, Riyadh (SA)
W. Artibani, Verona (IT)
J. Davis, Houston (US)
C. Wijburg, Arnhem (NL)

Case presentations
M. Gan, Rotterdam (NL)
Radical prostatectomy with 3D site table assistance
S. Klaver, Rotterdam (NL)

Sentinel lymphnode and extended radical prostatectomy
H. Van Der Poel, Amsterdam (NL)
P.-T. Piéchaud, Bordeaux (FR)

17.15–17.45 State-of-the-art lectures
Moderator: J. Witt, Gronau (DE)
Panellists: H. Beerlage, 's-Hertogenbosch (NL)
N. Suardi, Milan (IT)
T. Tuytten, Heerlen (NL)

17.15–17.30 State-of-the-art: Certification of robotic surgeons
W. Artibani, Verona (IT)

17.30–17.45 State-of-the-art: The role for lymph node dissection in advanced prostate cancer
M. Wirth, Dresden (DE)

17.45 Closure

17.45–18.00 General Assembly ERUS Society – by invitation only
A. Mottrie, Aalst (BE)
FRIDAY, 19 SEPTEMBER

Plenary sessions
Room: Grote zaal

All timings are subject to change due to live surgery

08.10–08.40 State-of-the-art lectures
Moderator: M. Graefen, Hamburg (DE)
Panellists: C. Abbou, Vincennes (FR)
W. Artibani, Verona (IT)
A.R. Kural, Istanbul (TR)
J-P. Van Basten, Nijmegen (NL)

08.10–08.20 Future of prostate cancer surgery
A. Tewari, New York (US)

08.20–08.30 The role of fluorescence in robotics
F. Van Leeuwen, Leiden (NL)

08.30–08.40 High risk PCa: A comparative analysis about open vs robotic
F. Montorsi, Milan (IT)

08.40–10.00 Live surgery IV
Moderator: T. Wilson, Duarte (US)
Panellists: J. Davis, Houston (US)
J. Palou, Barcelona (ES)
R. Sanchez-Salas, Paris (FR)
T. Tuytten, Heerlen (NL)
C. Wijburg, Arnhem (NL)

Case presentations
M. Gan, Rotterdam (NL)
Radical cystectomy with ePLND and intracorporeal neobladder
P. Dasgupta, London (GB)
M.S. Khan, London (GB)
P. Wiklund, Stockholm (SE)
Zero-ischemia partial nephrectomy
M. Desai, Los Angeles (US)

10.00–10.30 Coffee break & poster viewing

10.30–11.30 Round table on complication prevention in robotic surgery
Moderator: T. Ahlering, Orange (US)
Panellists: P. Dasgupta, London (GB)
K. Rha, Seoul (KR)
J.P Van Basten, Nijmegen (NL)
B. Van Cleynenbreugel, Leuven (BE)

10.30–10.45 Entero-urethral anastomosis
P. Sooriakumaran, Oxford (GB)

10.45–11.00 Bowel/stapling manipulation during cystectomy
C. Wijburg, Arnhem (NL)

11.00–11.15 Partial nephrectomy
B. Challacombe, London (GB)

11.15–11.30 Complications & RARP
F. Montorsi, Milan (IT)

11.30–13.00 Live surgery V
Moderator: P-T. Piéchaud, Bordeaux (FR)
Panellists: V. Ficarra, Padova (IT)
K. Guru, Buffalo (US)
V. Pansadoro, Rome (IT)
M. Stöckle, Homburg (DE)
A.N. Vis, Amsterdam (NL)
Case presentations
M. Gan, Rotterdam (NL)
Single site pyeloplasty
N. Buffi, Milan (IT)
Intracorporeal neobladder
P. Wiklund, Stockholm (SE)

13.00–14.00 **Lunch & poster viewing**

14.00–14.15 **ESOU-lecture: Neo-adjuvant chemotherapy in RARC**
M. Brausi, Modena (IT)

14.15–15.00 **Pasadena consensus: Best practices on Robot Assisted Radical Cystectomy (RARC)**
Panellists: J. Catto, Sheffield (GB)
F. Montorsi, Milan (IT)
T. Wilson, Duarte (US)

14.15–14.30 Overview and consensus
J. Catto, Sheffield (GB)
T. Wilson, Duarte (US)

14.30–14.45 Meta-analysis of outcomes
G. Novara, Padova (IT)

14.45–15.00 Surgical consensus
K. Guru, Buffalo (US)
P. Wiklund, Stockholm (SE)

15.00–15.30 **Video session**
Head jury: G. De Naeyer, Aalst (BE)
Jury: A. Vis, Amsterdam (NL)
P. Sooriakumaran, Oxford (GB)

10-min presentations of the 3 best videos
Announcement Junior ERUS Simulator Olympics Contest

15.00–15.10 VE03 Robotic flexible ureteroscopy, safety, effectivity and a early results
J. Rassweiler, R. Saglam, A.S. Kabakci (Heilbronn, Germany; Ankara, Turkey)

15.10–15.20 VE02 Robot-assisted en-bloc radical cystectomy with nephroureterectomy and intracorporal urinary diversion by seven patients with muscle-invasive bladder cancer and upper urinary tract urothelial cell carcinoma. Single-center experience
J. Krude, A. Alexandrov, P. Lund, C. Hach, A. Goell (Essen, Germany)

15.20–15.30 VE01 Robot-assisted ureteral reimplantation using the psoas hitch technique – important surgical steps
M. Musch, J.L. Hohenhorst, M. Janowski, A. Pailliart, M. Vanberg, D. Kroepfl (Essen, Germany)

15.30–16.00 **Coffee break & poster viewing**

16.00–17.15 **Live surgery VI: Special indications**
Moderator: C-H. Rochat, Geneva (CH)
Panellists: A. Hemal, Winston Salem (US)
A.R. Kural, Istanbul (TR)
R. Shiroki, Nagoya (JP)
M. Stöckle, Homburg (DE)

Case presentations
M. Gan, Rotterdam (NL)
Robot assisted adrenalectomy
H. Beerlage, ’s-Hertogenbosch (NL)
J. Rietbergen, Rotterdam (NL)
Simple prostatectomy
J.-U. Stolzenburg, Leipzig (DE)

17.15–17.35 **State-of-the-art lectures**
Moderator: M. Stöckle, Homburg (DE)
Panellists: V. Ficarra, Padova (IT)
E. Panagiotou, Athens (GR)
B. Van Cleynenbreugel, Leuven (BE)
17.15–17.25 Pelvic female robotic surgery – are we involved?
M. Stöckle, Homburg (DE)

17.25–17.35 RARP vs external radiotherapy
P. Sooriakumaran, Oxford (GB)

17.35–17.50 Closing remarks and presentation of ERUS '15
Abstracts

Oral Presentations

Oral Presentations YAU-Junior ERUS – Poster abstracts (PYJ01–PYJ03)
Wednesday 17 September 11.25–12.10

Oral Presentations YAU-Junior ERUS – Video abstracts (VYJ01–VYJ03)
Wednesday 17 September 11.25–12.10

Oral Presentations ERUS – Poster abstracts (PE01–PE03)
Wednesday 17 September 11.30–12.00

Oral Presentations ERUS – Video abstracts (VE01–VE03)
Wednesday 17 September 15.00–15.30

Unmoderated Poster Presentations

YAU-Junior ERUS – Poster abstracts (PYJ04–PYJ27)
ERUS – Poster abstracts (PE04–PE89)

Unmoderated Video Presentations

ERUS – Video abstracts (VE04–VE38)

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Oral Presentations

PYJ01

A new intraoperative modular training system for the learning curve in robotic surgery
Y. Al Salhi, S. Khorrami, M. De Angelis, T. Verdaccchi, V. Giommoni, F. Annino. San Donato Hospital, Dept. of Urology, Arezzo, Italy

Introduction & Objectives: We present evaluation of an intraoperative modular training system in order to help the learning ofRALP using rear access technique. We tried to develop a system that provides a schematization step by step in RALP (Robotic assisted radical prostatectomy), focusing the attention on seminal vesicles dissection to study the possible reproducibility and feasibility, assessing the learning curve of surgeons regarding the key points for the approach of a successful surgical procedure.

Material & Methods: The first phase is represented by a visual demonstration in the operative room of the surgical anatomy followed by a detailed explanation of the surgical steps by the trainer to the trainees. The second phase, taking advantage of the presence of a double console, consists of three steps, where each participant is scored on a session of nine surgical tasks (Douglas space, both right and left vesicle-deferent complex, peduncle of seminal vesicle, front surface of seminal vesicle, Denovillier fascia) with three different outcomes (identification, exposure and execution) measured for number of attempts, timing and accuracy for each task on the robotic prostatectomy with posterior access. In each task the trainer asks the trainee to a) identify the single anatomical structure, b) to simulate its exposure and c) execution using the console pointers; if the trainer considers correct the simulation, allows the trainee to replicate surgically the maneuver, otherwise the trainer will practice the procedure.

Results: We performed this modular training system in ten procedures. We found no delay of the operative time as well as no postoperative complications. Furthermore we found an improvement of the surgical skills of the trainee in each step. After the 10 procedures evaluated all the trainees were able to complete all the steps of the seminal vesicles dissection.

Conclusions: This modular training system, thanks to the presence of the double console and its pointers for the identification of the anatomic structures and the simulation of the exposures movements, could represent an interesting and potentially useful practice in order to decrease the learning curve of young surgeons without extending the operative time. The use of the double console reduces time to move from trainee to trainer control and allows the trainer to stop the trainee in case of danger, however we believe that this training model could be applied even without the double console system. We think that the introduction of a standardize assessment and of a greater number of surgical steps will help to assess the effectiveness of the learning curve.

PYJ02

Development and validation of the checklist based assessment tool for robot assisted radical prostatectomy
C. Lovegrove1, G. Novara2, K. Guru3, A. Mottrie4, B. Challacombe1, J. Raza4, H. Van Der Poel5, J. Peabody6, R. Popert1, P. Dasgupta1, K. Ahmed1. 1Guy’s Hospital, Dept. of Urology, London, United Kingdom; 2University of Padua, Dept. of Urology, Padua, Italy; 3Roswell Park Cancer Institute, Dept. of Urology, Buffalo, United States of America; 4OLV Clinic, Dept. of Urology, Aalst, Belgium; 5Netherlands Cancer Institute, Dept. of Urology, Amsterdam, The Netherlands; 6Henry Ford Hospital, Dept. of Urology, Detroit, United States of America

Introduction & Objectives: Use of robot-assisted radical prostatectomy (RARP) has become the current standard of care. Surgical training and its assessment are critical in assuring optimal outcomes after robot-assisted approach towards prostatectomy. This study aims to develop and validate a checklist-based performance assessment tool utilizing the Healthcare Failure Mode and Effect Analysis (HFMEA) for trainees undertaking RARP.

Material & Methods: This multi-institutional, observational, prospective study used HFMEA to identify critical steps associated with RARP. HFMEA employed pre-emptive risk assessment to minimize adverse events (Figure 1). After designing a safety checklist, content validation helped develop the RARP Assessment Score. 17 surgical trainees were scored based on the RARP Assessment Score while performing RARP. Results were analysed relative to RARP experience to examine sub-process learning curves.

Results: 5 surgeons were observed for 42 console hours to map key steps of RARP. HFMEA identified 84 possible failure modes with 46 potential causes with “Hazard score” ≥8. Content validation by multi-national experts created the RARP Assessment Score, comprising of 17 stages and 41 steps (Figure 2). This was acceptable, feasible and demonstrated educational impact. After 5 months of data collection, 14 of 17 trainees used the RARP Assessment Score. They had participated in 284 RARP cases (range 3–56) and, within the cohort, all procedural steps had been attempted. Of reported data, most cases were T stage 2 (38.0%), N stage 0 (58.2%) and “Intermediate” D’Amico risk (35.9%). Learning evaluation revealed that easier steps (for example patient preparation) were undertaken earlier during training and surgeons achieve “competence” within few procedures. Fellows
failed to achieve competence in challenging critical steps, such as vesico-urethral anastomosis in the initial phase of the study.

**Conclusions:** RARP Assessment Score based on HFMEA methodology identified critical hazardous steps specific to RARP and was used to assess and evaluate surgeons while performing RARP.

**PYV03**

Prevalence and predictors of thromboembolic events in patients undergoing lymph node dissection during radical prostatectomy

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**Introduction & Objectives:** Lymph node dissection (LND) during radical prostatectomy has been associated with increased risk of thromboembolic events. We recorded the incidence and investigated the predictors of deep venous thrombosis (DVT) and pulmonary embolism. We recorded the incidence and investigated the predictors of deep venous thrombosis (DVT) and pulmonary embolism. Low alcohol consumption was found to be protective. ORP with LND had a higher risk of DVT and/or pulmonary embolism (RR 95% CI: 11.22 (4.31–29.22) versus 6.61 (2.34–18.69) in RARP with LND). In patients not undergoing LND, the open approach increased 3.7-fold the risk for DVT or pulmonary embolism compared to the robot-assisted approach (95% CI 1.36–9.62). More wound, respiratory, cardiovascular and neuromusculoskeletal complications were encountered after LND compared to no-LND (14.6% vs. 6.3%). LND was also associated with increased risk to undergo re-operation.

**Conclusions:** We found that patients undergoing LND during radical prostatectomy experienced more DVT and pulmonary embolism events. Open surgery increased the risk for thrombosis more than robot-assisted surgery; this risk was significantly higher in patients not undergoing LND.

**YAU-Junior ERUS – Video abstracts**

**VYJ01**

Robotic off-clamp zero ischemia partial nephrectomy in small, peripherally located, exophytic renal mass is safe and feasible

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**Introduction & Objectives:** Renal hilar clamping decreases bleeding during performing robotic partial nephrectomy (RPN). However, particularly prolonged warm ischemia might have adverse effects on postoperative renal function. Therefore, zero ischemia off-clamp RPN is increasingly being applied. We present a case of zero ischemia off-clamp RPN on a patient with a peripherally located small renal mass.

**Material & Methods:** A 47 year-old male patient was evaluated complaining from recently onset headache and hypertension. He was then referred to our institution with the diagnosis of right adrenal mass of 5×4 cm size and concomitant 19×13 mm sized left renal mass with contrast enhancement on computerized tomography and magnetic resonance imaging (MRI). Further work-up revealed a functioning right adrenal mass lesion with increased blood and urine catecholamines suggesting pheochromocytoma. We initially performed a right percutaneous robotic adrenalectomy and pathology confirmed benign pheochromocytoma. Three months afterwards we performed a transperitoneal zero ischemia off-clamp RPN for left kidney mass lesion.

**Results:** We used 5 abdominal ports including the 4th-robotic arm. Following early access to the renal pedicle, renal vein and renal artery

**MRI:** Left kidney mass

![Tumor excision](image-url)
were dissected and encircled with vascular tapes. A laparoscopic bulldog clamp was prepared to be used if needed. Then, renal mass was isolated and without clamping the renal pedicle, zero ischemia RPN was completed. We used a 3-0 V-Loc 180, 45 cm, 1/2 26 mm tapered needle (Covidien™) to perform internal and external renorenorrhaphy. In addition, Lapra-Ty® clips (Ethicon Endo-Surgery) were used to anchor and secure each of a single strand of barbed suture on the renal capsule. No complication occurred. Intraoperative blood loss was 100 cc. Postoperative follow-up was uneventful and patient was discharged on postoperative day-2. Histopathology demonstrated clear cell renal cell carcinoma, Fuhrman grade II, 17 mm in size with clear surgical margins. 6th-month abdominal MRI showed no recurrence or any other lesion involving the right kidney. The patient stated that he is very satisfied with the outcomes of the both robotic surgeries in addition to the excellent abdominal cosmetic result that is also presented at the end of the video with an abdominal picture of the patient.

**Conclusions:** Small, peripherally located and exophytic renal masses might carry malignant tissue characteristics. These tumors might be detected incidentally. Zero ischemia off-clamp RPN seems to be a safe and feasible surgical approach in the surgical management of these tumors. This minimally invasive surgical approach has the advantage of avoiding complete renal ischemia and decrease in renal function. This approach might be particularly important in patients with underlying kidney disease.

**VYJ02**

**Image guided robotic partial cystectomy using flexible cystoscopy and tile pro**

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**Introduction & Objectives:** Partial cystectomy is an option for solitary muscle invasive bladder lesions provided there is no concurrent CIS, and reasonable clearance can be obtained. Although the robot assisted laparoscopic approach for partial cystectomy is still experimental, its use in pelvic oncology as a whole has demonstrated lesser perioperative morbidity compared to the open approach. The challenge for minimally invasive partial cystectomy has been adequate localization of the tumour as well as achieving adequate margins. We describe a novel technique where we used concurrent flexible cystoscopy during a robotic procedure for tumor localization as well as to guide excisional limits in order to achieve adequate clearance.

**Material & Methods:** A 77 year old lady presented with bothersome lower urinary tract symptoms in the form of frequency, urgency and intermittent haematuria. A flexible cystoscopy showed a bladder lesion at the dome of the bladder. She underwent rigid cystoscopy, transurethral bladder tumour resection and bladder mapping biopsies under general anaesthetic, which showed a solitary muscle invasive Transitional cell carcinoma without any evidence of CIS. Completion staging with CT chest did not demonstrate any nodal or metastatic disease. In view of a favorable histology, location of tumor and to avoid morbidity associated with a radical cystectomy, she was listed for a Robotic partial cystectomy. For the procedure, the patient was placed in reverse Trendeleberg position. Standard 6 port configuration for cystectomy was used with a 12 mm supraumbilical camera port, three 8 mm robotic ports, one 5 mm suction port and one 12 mm air seal port. The bladder was identified and detached from the anterior abdominal wall. The peritoneal space was dissected laterally on either side down to the ureters in order to completely expose the dome of the bladder. At this point an assistant inserted a flexible cystoscope and the tumor visualized. The cystoscopic image was projected onto the console using Tile Pro. The surgeon and assistant worked in tandem to identify excisional limits around the tumour, enough to provide a 2 cm limit of normal tissue. The surgeon indenting the water filled bladder with the robotic instrument, and confirmed limits on the Tile Pro view. Once the limits were identified, they were marked on the intraperitoneal surface using diathermy. The marked margins were incised to excise the lesion, and the specimen bagged. Intraperitoneal spill of urine was kept to a minimum by minimal hydro distension during the flexible cystoscopy. A washout with sterile water was performed prior to closure of the bladder. The bladder was closed in two layers using V-lock closure device.

**Conclusions:** The above case report and attached video demonstrate the feasibility of Image guided Robotic partial cystectomy using flexible cystoscopy and Tile Pro. Using this technique we were able to achieve maximal bladder preservation (preservation of functional status) with adequate clearance (as confirmed by histopathology).

**VYJ03**

**Robot-assisted radical nephroureterectomy in an ectopic pelvic kidney**

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**Introduction & Objectives:** During the past years, robot-assisted approaches have become more and more common for many surgical procedures in urology, especially in the field of oncological surgery. However, the use of robot-assisted kidney surgery is still not that common in comparison to prostate cancer surgery. Ectopic pelvic kidneys are a quite rare condition, malignancies are even more rare. The use of robot-assisted surgery for radical nephroureterectomy in an ectopic pelvic kidney has (to our knowledge) so far not been described in a video.

**Material & Methods:** We present a case of a 79 year old lady that presented with persistent gross hematuria and unspecified abdominal pain. Ultrasound showed a left hydronephrotic ectopic pelvic kidney with a tumor approximately 7 cm in diameter. Because of suspicious urothelial cells in the cytology from the kidney pelvis sample, that was taken during RUPG and DJ Insertion, we decided to perform a robot-assisted radical nephroureterectomy. CT scan showed a aberrant vascular supply from the contralateral common iliac artery. The fact that the patient suffered from numerous medical conditions, such as IDDM, atrial fibrillation with Warfarin Therapy, anemia (just to name a few), underlined the decision of choosing for a minimally invasive approach; furthermore, the robot-assisted technique allows for better visualisation and dexterity of the instruments.

**Results:** Surgical Time was 155 minutes, EBL was 200 ml. Of note, intraoperatively vessels from the ipsilateral internal iliac artery were encountered, that were not visible in the CT scan. The postoperative course was uneventful, final pathology showed a Clear Cell RCC pT1b G1 R0, with concomitant signs of chronic pyelonephritis due to hydrenephrosis. Fortunately, no signs of TCC were found.

**Conclusions:** In experienced hands, robot-assisted nephroureterectomy is feasible even in an ectopic pelvic kidney, however, due to the altered anatomy, knowledge of vascular supply is mandatory. Intraoperative ultrasound can be helpful to identify additional vessels.

**ERUS – Poster abstracts**

**PE01**

**Improved short-term renal function after robot-assisted partial nephrectomy with selective arterial clamping – a matched pair analysis for preoperative GFR**

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**Introduction & Objectives:** According to the international guidelines small renal masses should be treated with nephron-sparing surgery...
PeO2

Survival outcomes after robot-assisted radical cystectomy: Results from the international robotic cystectomy consortium.

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Introduction and Objectives: Robot-assisted radical cystectomy (RARC) is limited and mostly based on single institutional series. We report the clinical outcomes and associated prognostic factors in patients who underwent RARC over 5 years ago.

Material & Methods: In the IRCC database, 1586 patients underwent RARC for bladder cancer between 2004 and 2013. Only 315 patients (20%) had undergone surgery over five or more years ago. Clinical and pathological data at the time of the latest follow-up were collected. Patients with <60 months of follow up were excluded from the analysis. Recurrence free survival (RFS), cancer specific survival (CSS) and overall survival (OS) were the outcomes of interest and plotted using the Kaplan Meier Survival. Univariable and multivariable analyses were performed to identify factors associated with outcomes of interest.

Results: 315 patients were included in the evaluation. 92 patients were alive at the time of the analysis. Mean follow-up of patients alive was 75 months. Mean age was 69 years, while 80% were men. 48% patients had pathological non organ-confined disease. Soft tissue positive margins was 6%; median LNY was 16 with 29% positive lymph nodes. The median time to death and cancer specific death was 14 and 13 months respectively. The RFS, CSS and OS were 56%, 61% and 30% respectively. On multivariable analysis, ASA, non-organ confined disease and LN positive disease were associated with poorer RFS (HR1.43, 3.07 and 1.12 respectively), while age non-organ confined disease and positive lymph nodes affected both CSS and OS.

Conclusions: The largest multi-institutional cohort of robot-assisted radical cystectomy present acceptable survival outcomes.

PeO3

Improvement of fluorescence-based sentinel node detection during a combined sentinel node biopsy, extended pelvic lymph node dissection and robot-assisted radical prostatectomy procedure.

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Introduction & Objectives: As a new fluorescence laparoscope.

Results: 315 patients were included in the evaluation. 92 patients were alive at the time of the analysis. Mean follow-up of patients alive was 75 months. Mean age was 69 years, while 80% were men. 48% patients had pathological non organ-confined disease. Soft tissue positive margins was 6%; median LNY was 16 with 29% positive lymph nodes. The median time to death and cancer specific death was 14 and 13 months respectively. The RFS, CSS and OS were 56%, 61% and 30% respectively. On multivariable analysis, ASA, non-organ confined disease and LN positive disease were associated with poorer RFS (HR1.43, 3.07 and 1.12 respectively), while age non-organ confined disease and positive lymph nodes affected both CSS and OS.

Conclusions: The largest multi-institutional cohort of robot-assisted radical cystectomy present acceptable survival outcomes.
Material & Methods: Materials and Methods: 40 Patients with a Brantigan nomogram-based risk > 10% of lymph node (LN) metastases were included. After intraprostatic tracer injection, SN mapping was performed (lymphoscintigraphy and SPECT-CT). In groups 1 and 2 intraoperatively SNs were pursued using a laparoscopic gamma probe (LGP) followed by fluorescence imaging (FI). In group 3 SNs were initially located via FI. Compared to group 1, in groups 2 and 3 a new tracer-formulation was introduced with a reduced total injected volume (2.0 mL vs. 3.2 mL), but increased particle concentration. For groups 1 and 2 the Tricam SL II + D-light C laparoscopic fluorescence imaging (LF) system was used. In group 3 the LF-system was upgraded to an Image 1 HUB HD + D-light P system.

Results: Results: SPECT-CT images were taken as a starting point for SN biopsy. In group 1 we identified a mean of 50% of the SNs based on their fluorescent signature. Improvement of the hybrid tracer preparation and the injection technique resulted in a visualization rate of 64% in group 2. The introduction of the new fluorescence detection system increased the visualization rate to 93% in group 3. A Kruskal-Wallis test showed a significant difference in the fluorescence visualization rate between the groups (p=0.004). Biochemical recurrence occurred in three patients in group 1 and 2 and in zero patients in group 3, suggesting that better nodal staging was achieved in group 3 with the optimized SN identification protocol.

Conclusions: Conclusion: With different steps of improvement, the in vivo fluorescence detection in SNs during RARP + SN biopsy could be significantly enhanced. Although we showed a high fluorescence visualization rate in group 3, still SPECT-CT is used for the rough localization of the SNs in prostate cancer patients.

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ERUS – Video abstracts

VE01
Robot-assisted ureteral reimplantation using the psoas hitch technique – important surgical steps
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Introduction & Objectives: We present the most important steps of robot-assisted ureteral reimplantation using the psoas hitch technique (RAURI). In addition, the results of our RAURI series are described.

Material & Methods: Between October 2009 and May 2013 RAURI was performed in 14 patients (in combination with a Boari flap in 5 patients) with benign or malignant lesions of the distal part of the ureter. The patient and surgical data were collected prospectively. Follow-up was accomplished using standardized questionnaires that were sent to the patients.

Results: Resection of the distal ureter was necessary due to urethelial carcinoma in 5 patients, ureteric stricture caused by advanced prostate cancer in 2 patients, ureteric stricture caused by an inflammatory conglomerate tumour of the adnexa in 1 patient, and iatrogenic ureteric stricture following gynecologic or urologic surgery in 6 patients. RAURI can be divided into the following important steps, which are illustrated in our video: 1) mobilization of the bladder, 2) preparation of the ureter, 3) fixation of the bladder on the psoas muscle, 4) opening of the bladder, 5) formation of a submucosal tunnel, 6) tension-free vesico-ureteric anastomosis and ureteric stenting, 7) closure of the bladder. The median operative duration (including docking and undocking of the robot) was 227.5 min. There were no intraoperative complications. Postoperative complications according to the Clavien-Dindo classification occurred in 10 patients within 90 days after surgery: 9 patients experienced minor complications (grade I–II), and 1 patient a major complication (grade IIIb). The median postoperative length of stay was 8 days. All patients remained asymptomatic during a median follow-up of 13.42 months. In 1 patient an asymptomatic short stricture on the site of ureterovesical anastomosis was identified radiographically and subsequently underwent successful endoscopic incision.

Conclusions: RAURI showed good surgical results in our patient population and thus seems to be a reliable minimally invasive alternative to open surgery. We feel that following the general principles of open surgery during important surgical steps of RAURI was a major factor for these successful outcomes.

VE02
Robot-assisted en-bloc radical cystectomy with nephroureterectomy and intracorporeal urinary diversion by seven patients with muscle-invasive bladder cancer and upper urinary tract urothelial cell carcinoma. Single-center experience
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Introduction & Objectives: In this video we describe step-by-step our technique of robot-assisted en-bloc radical cystectomy with nephroureterectomy and intracorporeal urinary diversion in seven patients with the diagnosis of muscle-invasive bladder cancer and synchronous upper urinary tract urothelial cell carcinoma. We also show important bench-marks of this procedure. This video shows in detail all steps of the procedure from port placement (seven-port transperitoneal approach) over the ablative steps (bladder and kidney resection and pelvic lymph node dissection) to the fully intracorporeal robot-assisted reconstruction.

Material & Methods: After informed consent, we assessed 7 patients undergoing an en-bloc radical cystectomy and nephroureterectomy at Alfried Krupp Hospital, Germany. All procedures were performed by one surgeon. We primarily assessed surgery and console duration, conversion rate, blood loss, intraoperative transfusion, and resection status. Secondary endpoints were postoperative transfusions as well as intra- and postoperative complications.

Results: Three of the patients were male. Median age was 75.14 years (64–84), the mean BMI was 27.98 kg/m² (22–34). Two of the patients were ASA 2, four ASA 3 and one ASA 4. The indication for an en-bloc radical cystectomy and nephroureterectomy was diagnosis of a simultaneous transitional cell cancer of the lower and upper urinary tract in three patients. The other four patients had a muscle-invasive bladder cancer and a functionless kidney. Urinary diversion was reconstructed as intracorporeal ureterocutaneous stoma in six and as extracorporeal ileum conduit in one patient. Surgery lasted 296.85 min, thereof 199.71 min console time on average. There was no need of a conversion to open surgery. The mean blood loss was 238 ml and none of the patients required blood transfusions. Resection margins were tumor-free in six cases. In the patient with positive resection margins the tumor stage was pT4a. Postoperative complications occurred in two of the patients: paralytic ileus (Clavien-Dindo class 1 CDC 1) in one patient and port hernia (CDC 3b) in the other patient.

Conclusions: Robot-assisted en-bloc radical cystectomy and nephroureterectomy could be performed with acceptable surgery durations with a high intraoperatively and postoperatively safety. Further surgeries have to be performed to evaluate functional and oncologic results.

VE03
Robotic flexible ureteroscopy, safety, effectiveness and a early results
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Introduction & Objectives: Flexible ureterorenoscopy (FURS) or retrograde intrarenal surgery are rapidly evolving in the last decade...
based on significant improvements of the armamentarium. This approach has become a viable alternative to extracorporeal shock wave lithotripsy and percutaneous nephrolithotomy even for larger renal calculi. Despite the progress in the design of the ureterorenoscopes and accessories for flexible ureterorenoscopy, the surgeon has to perform this procedure in a standing position with suboptimal ergonomics, which may not only result in orthopaedic complaints among endourologists. It may be one of the reasons for imperfect performance of flexible ureterorenoscopy, resulting in the need of second session and frequent repair of the endoscopes.

**Material & Methods:** The company ELMED from Turkey designed and developed a new robotic manipulator to remotely control all of the functions of the flexible ureterorenoscope. This robot may significantly reduce the learning curve of the procedure. The Avicenna Roboflex consists of surgeon’s console, and manipulator of flexible ureterorenoscope. After introducing the access sheath in a usual method, the robot with draped arm comes to the operation area. The flexible ureterorenoscope is introduced into the sheath manually and stabilized by the proximal support. Then, the hand piece of the scope is locked to the robotic arm. Finally, the laser fiber driver is attached and laser probe introduced. The entire docking maneuver takes less than 60 seconds. The right hand control enables deflection. A central wheel enables fine adjustment of the deflection useful during systematic dusting of the stone. The left joystick allows rotation as well as advancing and retracting the scope. The speed of rotation and advancement can be regulated at the screen of the console. The laser fiber can be remotely moved forward and backward. Integrated water pump can be adjusted also to increase or decrease the flow rate for optimal endoscopic vision.

**Results:** In the meantime, we treated more than eighty kidney stones by seven different urologists. An access sheath was used in the majority of patients (n=72). In six girls and in cases of narrow ureters (n=3), the ureterorenoscope was inserted directly following rigid ureteroscopy and placement of a guide-wire. Mean time to dock the robot was 59.6 (35–124) seconds, which decreased after 42 cases to a mean of 45.9 seconds. Mean fragmentation time was 46 (15–118) minutes corresponding to a mean fragmentation speed of 29.1 (18–46) mm³ per minute increasing to 32.7 mm³/min after 42 cases. Mean console time was 53 (23–135) minutes and mean operative time including placement of the access sheath and DJ-stent 74 (40–182) minutes. Complete stone disintegration was accomplished in 79 patients (96%). Based on plain-X-ray and ultrasound evaluation, after 3 months 65 patients (80%) were stone-free, whereas 16 (20%) showed clinically insignificant residual fragments. Based on a questionnaire, we found there is a significant difference when comparing the ergonomics of classical versus robot-assisted flexible ureteroscopy (total score 31.3 vs. 5.6; p<0.01) and this is true for all domains.

**Conclusions:** We could demonstrate safe and efficacious application of the device with a short learning curve by seven experienced endourologists. Future studies have to evaluate the impact of the device on clinical outcome of FURS.
Unmoderated Poster Presentations

YAU-Junior ERUS – Poster abstracts

PYJ04
Preliminary learning curve of robot-assisted laparoscopic intrafascial radical prostatectomy of a single surgeon with experience in more than 1,000 laparoscopic urologic surgeries: A comparative analysis with recently performed 100 laparoscopic radical prostatectomies

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Introduction & Objectives: Despite many analytic reports about the learning curve transition from open to robot assisted intrafascial radical prostatectomy (RARP), a few comparative results with laparoscopic intrafascial radical prostatectomy (LRP) were reported. Therefore, we evaluated operative and postoperative outcomes of RARP with simultaneously performed 100 LRPs.

Material & Methods: A single surgeon (HKH) experienced in more than 1,000 laparoscopic operations including 415 cases of radical nephrectomy, 85 radical cystectomy, 369 radical prostatectomy and 212 other urologic tumors from 2009. We evaluated the operative (operation time, intraoperative transfusion and complication, hospital stay, margin status, pathologic stage, Gleason score) and postoperative parameters (continence and erectile function) of initial 50 cases of RARP without tutoring compared with recently performed 100 LRPs.

Results: Despite all LRP were performed via 4-port extra-peritoneal approach, RARPs were also done extra-peritoneally except first 5 cases. Mean age (p=0.205) and prostate volume (p=0.520) of RARP and LRP were 64.6±6.9 yr and 66.3±6.0 yr, 34.2±14.9 cc and 32.3±9.9 cc, respectively. Mean preoperative PSA (p=0.403) was 10.1±10.4 and 12.7±15.9 in RARP and LRP. Mean Gleason score and percentage of pathologically localized cancer were 7.0 and 73.3% and 56.0% in RARP and LRP. Mean operation time (p=0.003) and length of hospital stay (p=0.721) of RARP and LRP were 145.5±43.6 min (90–240) and 118.1±39.1 min, 6.4±0.9 day (5–9) and 6.6±1.1 day (5–11). Mean operation time of RARP of 1st to 5th RARP, 6th to 10th, 11th to 15th, 16th to 20th, after 20th was 177, 162, 158, 130 and 107 min, respectively. After 17 cases, the mean operation time of RARP showed similar to LRP (less than 2 hrs). There was no intraoperative transfusion and complications during both approaches. Positive surgical margin in localized cancer (p=0.825) was shown in 12% and 8% in RARP and LRP, respectively. At postoperative 6 weeks, sexual intercourse (p=0.308) was reported in 12% and 8%, pad-free continence (p=0.056) in 68% and 33% in patients with RARP and LRP, respectively. At postoperative 3 months, sexual intercourse (p=0.216) was reported in 13.3% and 12%, pad-free continence (p<0.001) in 96.7% and 81% in patients with RARP and LRP, respectively.

Conclusions: The previous large volume experience of LRPs may shorten the learning curve of RARP in relation to oncologic and functional outcomes. Additionally, previous experiences of laparoscopy may help improved functional outcomes of RARP.

PYJ05
Standardized reporting of the overall success of robot-assisted radical cystectomy with totally intracorporeal neobladder diversion: The neobladder (nb) pentafecta concept

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Introduction & Objectives: To quantify the oncological and functional outcome of robot-assisted radical cystectomy (RARC) with totally intracorporeal neobladder, utilizing a PENTAFECTA tool.

Material & Methods: Between 2003 and 2012 in a tertiary referral center, 70 patients underwent RARC with totally intracorporeal modified Studer ileal nebladder formation. The neobladder (nb) PENTAFECTA was achieved when all 5 elements were achieved in an individual patient: 1. Negative surgical margins, 2. No recurrence and cancer-specific death at 24 months, 3. No 90-day complications ≥ Clavien grade 3, 4. Daytime continence (0–1 pad/day) at 12 months and 5. Satisfactory sexual activity or potency at 12 months. We also estimated the (nb) QUADRAFECTA, by excluding from the (nb) PENTAFECTA definition the absence of complications.

Results: 31 patients were included in the analysis. Median follow-up of the cohort was 30.3 months (IQR: 12.7–35.6). The (nb) PENTAFECTA was achieved in 32.3% of the entire cohort and 42.9% of the male patients who underwent a nerve-sparing RARC with neobladder formation. The (nb) QUADRAFECTA rates were 54.8% and 66.7%, respectively. We recorded negative surgical margins in 29/31 pa-
tients (93.5%). Overall, 21 adverse events were recorded in 14 patients (45.2%). Three Clavien grade I-II complications occurred in 3 patients at 90 days (9.7%). Eighteen Clavien grade III-V complications were recorded in 11 patients (35.5%). The most common complication was symptomatic lymphocele (4/31 patients). 19 male (90.5%) and 2 out of 3 (66.7%) female patients were continent (0–1 pad/day) at 12 months. 16 out of 21 (76.2%) of the nerve-spared patients were potent with or without PDE5 medication at 12 months (Figure 1).

Conclusions: In our series, which included learning curve cases, the (nb) PENTAFECTA rates were very encouraging. Postoperative complications are the measure that most affected the overall PENTAFECTA rate. By using the (nb) PENTAFECTA, our aim is to create a standardized reference for reporting the patient’s global health and the operation’s overall success. This combined outcome measure may be useful for assessing service development and future regulation.

**PVJ06**
Clinical short term effects of Silodosin and Naftopidil on lower urinary tract symptoms after robot-assisted laparoscopic radical prostatectomy

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Introduction & Objectives: There are limited evidences on lower urinary tract symptoms (LUTS) persisted after robot-assisted laparoscopic radical prostatectomy. This study evaluated clinical effects of α-blocker on LUTS in patients with robot-assisted laparoscopic radical prostatectomy (RARP).

Material & Methods: From January 2010, 120 patients were performed to RARP. 67 male patients of them received Silodosin 8 mg/day or Naftopidil 75 mg/day for 8 weeks. The international prostate symptom score and quality of life index (QOL) were surveyed before and at the end of 8 week administration in all subjects.

Results: Total international prostate symptom score (IPSS) associated with voiding symptoms and storage symptoms were significantly decreased at 8 weeks compared with baseline (P<0.01). In a Silodosin group, voiding symptom was improved and other improved the storage symptoms. QOL index was significantly improved with both groups.

Conclusions: LUTS detected in patients performed RARP were marked improved with administration of Silodosin and Naftopidil. These symptoms could represent a novel target for medical treatment by understanding of the voiding dysfunction physiology.

**PVJ07**
Does preoperative storage symptom influence postoperative recovery of storage symptoms after robot assisted laparoscopic radical prostatectomy?

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Introduction & Objectives: Incontinence after radical prostatectomy affects patient’s quality of life regardless of pathology results. Obstructive symptoms could be relieved after robot assisted laparoscopic radical prostatectomy (RALRP) due to the removal of the prostate. However, storage symptoms may be not. This study investigated the effect of preoperative storage symptom on the recovery of postoperative storage symptom in patients who underwent RALRP.

Material & Methods: From 2007 to 2013 who underwent RALRP in 359 patients. Among them, 231 patients were available for analysis of medical records. There are 3 categories in the international prostate symptom scores (IPSS) that evaluate storage symptoms (IPSS question No. 2, 4, 7). Patients were divided into two groups: the storage symptom group (storage symptom score ≥6) and the non storage symptom group (storage symptom score <6). ‘Worsening of bladder irritation’ was defined as higher postoperative symptom score. “Recovery of bladder irritation” was defined as same or lower storage symptom score than preoperative symptom score.

Results: The mean age of patients was 65.9±9.7 years (48–75 years) and mean PSA was 6.48±2.5 ng/dl (2.9–31.7). Before surgery, the mean IPSS score was 11.5±2.6, the mean obstructive symptom score was 6.9±1.3, and the mean storage symptom score was 4.6±0.8. Of the 231 patients, 77 (33.3%) belonged to the storage storage symptom group and 154 (66.7%) belonged to the non-storage symptom group. Worsening of bladder irritation was significantly higher in the storage symptom group after RALRP (79% vs. 55%, p=0.02). The period of recovery to the preoperative status was also significantly longer in the storage symptom group (11.2 months vs. 8.3 months, p<0.01).

Conclusions: Storage symptoms after RALRP were more severe in patients with bladder irritation preoperatively. The recovery of storage bladder symptoms after RALRP was also longer than that of non storage symptom group. Our results suggest that preoperative storage bladder symptom score may be used as a predicting factor of postoperative storage symptoms.

**PVJ08**
Does anterior periprostatic fat tissue removed during robot assisted laparoscopic radical prostatectomy contain any lymph nodes?

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Introduction & Objectives: We investigated if anterior periprostatic fat tissue removed during robot assisted laparoscopic radical prostatectomy (RALRP) contain any lymph nodes (LNs).

Material & Methods: Anterior periprostatic fat tissues removed during RARP in 88 patients were sent separately for histopathologic evaluation. Correlation with postoperative pathologic stage was made. Patients with a history of previous prostate or bladder surgery and radiation therapy were excluded.

Results: Mean patient age, serum prostate specific antigen (PSA), prostate weight and body mass index (BMI) were 62.3±5.7 years (range, 46–74), 9.2±6.4 ng/ml (range, 0.3–37), 57.9±28.0 grams (range, 11–180) and 26.8±1.7 kg/m² (range, 20–30), respectively. Overall, LNs in anterior periprostatic fat tissues were detected in 8 (9.1%) patients with a mean LN yield of 1.4±0.7 LNs (range, 1–3). Of those, no metastatic LN was detected. Postoperative pathologic stages included pT0 (n=1, 1.1%), pT2a (n=19, 21.6%), pT2b (n=11, 12.5%), pT2c (n=37, 42.0%), pT3a (n=15, 17.0%) and pT3b (n=5, 5.7%). Overall, positive surgical margins (PSM) were detected in 24 (27.3%) patients. Of the patients with pT2 disease (n=67), PSM rate was 13.4% (n=9). Of the patients with pT3 disease (n=20), PSM rate was 70.0% (n=14). Of the patients with pT2a (n=19), pT2c (n=37) and pT3a (n=15) disease, LNs in anterior periprostatic fat tissues were detected in 1 (5.3%), 6 (16.2%) and 1 (6.7%) patient in each group, respec-
Conversion from robotic to open surgery: Translating knowledge from motor racing to healthcare


Introduction & Objectives: In cases of emergency, the conversion from robotic to an open surgery is not trivial and requires an adequate training of all the members of the team. The aim of our work was to investigate the possible problems of a robotic conversion in cases of emergency, share a job distribution flowchart and exercise doctors and nurses, as a team of Formula One, to perform as quickly as possible a procedure which can save patient’s life.

Material & Methods: By performing an analogue in proactive planning, active management and post hoc learning in the motor racing pits stop we examined our robotic conversion to open surgery in case of emergency. In the last 2 months we simulated several emergencies during a robotic surgery that required a conversion to open surgery. An ordinary atmosphere of a robotic room was recreated. A human dummy was placed on the operating table and a Da Vinci robot locked to it. All surgeons, anaesthesiologists, nurses and paramedical staff were involved. Each type of professional was recognized through a different cap to be able to trace the movements of each person during the conversion. All the simulations were timed and filmed. The videos at the end were analysed in order to understand the problems and complications during the procedure.

Results: After several simulations our average conversion time was 95±25 (57–183) seconds. At the end of our training we reduced the conversion time by a mean of 45 seconds. In this simulations we found different kind of problems. We tried to improve these in the following ways: 1) proactive learning with briefings before surgery and checklists to prevent errors; 2) at the beginning of the surgery establish who will give the orders in case of need; 3) clearly defined tasks assigned to every member of the team; 4) give clear message with a key code; 5) find the correct placement of instrument, table and equipment in the operating room for more safe ad quick movements; 6) prepare gloves and scrubs for the chief surgeon on the instrument table from the beginning of robotic surgery; 7) do not remove the trocars during conversion; pneumoperitoneum can reduce the bleeding; 8) make sure the robot is well disconnected to the trocar and distant from the body of the patient; sudden movements of the Da Vinci patient-side cart can cause serious problems to the patient’s limbs; 9) do not take any sacks outside the operative room. We propose our flowchart for the jobs distribution in the team.

Conclusions: We proposed a generic conversion model that can be applied to each robotic surgery. Though it is impossible to to establish a universally accepted conversion model because each robotic group is composed of different person with different habits and different ways of working. The geometry of the operating room is very important and an accurate preliminary study for spaces is necessary. The lessons from motor racing can be applied to healthcare for proactive planning, active management and post hoc learning. Standardisation of working practices, interpersonal communication, consistency and continuous development is fundamental for success. The application of these concepts would result in improvements in the quality and safety in the conversion process from robotic surgery to open. We hope that this study will be the beginning of courses and tests for each robotic team in order to improve, in cases of emergency, in the conversion from robotic to open surgery.

Robotic cystectomy is associated with an early transition to intracorporeal urinary diversion which is sustained for patients receiving orthotopic neobladder


Introduction & Objectives: Intracorporeal reconstruction following robotic cystectomy is feasible but technically challenging. In this study we report the transition to intracorporeal urinary diversion within an established robotic surgery program.

Material & Methods: Demographics, performance status, intraoperative, post operative events and cancer follow up data were maintained prospectively for all patients undergoing cystectomy.

Results: 79 patients underwent robotic cystectomy and urinary diversion over 36 months by two surgeons. Of these 28 had a neobladder (7 extracorporeal and 21 intracorporeal) and 51 had ileal conduits (21 extracorporeal, 30 intracorporeal). Cancer and patient characteristics were similar between extracorporeal and intracorporeal groups. Initially reconstruction was performed extracorporeal with migration to intracorporeal diversion within 5 cases for each surgeon. A preference for intracorporeal reconstruction was maintained for all patients receiving orthotopic neobladder and 75% receiving conduit. Outcomes were similar regardless of approach with median operative time for conduit being 270 minutes and for neobladder being 360 minutes. 8/79 patients required blood transfusion. The median length of stay was 10 days. Complications included urosepsis/pelvic collection (14/79), benign stricture (2/79), malignant stricture (4/79), ileus (8/79) and urine leak (5/79). One patient died as a result of MI within 30 days of surgery. 11 patients had extravesical disease on post operative pathology. At median followup of 18 months, there were 5 cancer deaths within 1 year of surgery and 4 recurrences.

Conclusions: The transition to intracorporeal urinary diversion is an early event for experienced surgeons performing robotic cystectomy. The intracorporeal approach is maintained for orthotopic diversion and likely to be adopted as the standard approach for patients electing to have robotic cystectomy and continent diversion.
pressure to empty his 10-cm bladder diverticulum. We describe the technique we used for his robotic-assisted bladder diverticulectomy with concomitant cystoscopy, highlighting the most difficult steps of the surgery and discussing the different tricks that can make it easier.

**Results:** The procedure was uneventful and the patient was discharged after 3 days with no significant post-void residual after catheter removal.

**Conclusions:** Robotic-assisted bladder diverticulectomy is a safe and effective procedure, provided we keep in mind the importance of careful identification of the diverticulum and surrounding structures.

**Table 1**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Airseal™</th>
<th>Conventional insufflation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>62.0</td>
<td>61.7</td>
</tr>
<tr>
<td>Weight (kg)</td>
<td>91.8</td>
<td>87.2</td>
</tr>
<tr>
<td>Height (cm)</td>
<td>180.5</td>
<td>180.0</td>
</tr>
<tr>
<td>Median ipSVA-Value (ng/ml)</td>
<td>7.8</td>
<td>8.3</td>
</tr>
<tr>
<td>Average skin-skim time (min)</td>
<td>205.2</td>
<td>190.3 (p=0.11)</td>
</tr>
<tr>
<td>Calculated blood loss (ml)</td>
<td>765.1</td>
<td>739.9 (p=0.074)</td>
</tr>
<tr>
<td>CO2 used (ml)</td>
<td>726.4</td>
<td>646 (p=0.083)</td>
</tr>
<tr>
<td>Shoulder pain presence (%)</td>
<td>6%</td>
<td>5% (p=0.289)</td>
</tr>
<tr>
<td>Time to first flatus (h)</td>
<td>23.4</td>
<td>23.8 (p=0.71)</td>
</tr>
<tr>
<td>Bowel peristaltic 1st post-op day (%)</td>
<td>94%</td>
<td>94%</td>
</tr>
<tr>
<td>Positive surgical margin (%)</td>
<td>5%</td>
<td>4% (p=0.35)</td>
</tr>
</tbody>
</table>

**Conclusions:** Using the valveless Airseal™ insufflation system compared with conventional insufflation showed a reduced CO2 use and a shorter average skin-skim time in one study [1]. Inconsistently with these data we did not find significant differences concerning this parameter. Especially regarding the CO2 use there was a tendency for a higher CO2 consumption in the Airseal™ group. A possible explanation for these results could be the characteristic of our center (high volume, >1100 RARP’s per year, high standardized process, specialized team members). Therefore the possible advantages of the valveless system (less pressure undulation, fewer lenses fogging with the reduced need for lens cleaning) may be without relevance in our setting.1. Use of the valveless trocar system reduces carbon dioxide absorption during laparoscopy when compared with standard trocars.

**Reference:**


**PYJ13**

**Robot-assisted adrenalectomy – single-institutional results**

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**Introduction & Objectives:** Minimal-invasive resection of adrenal masses becomes more accessible to urologists with the increasing experience in robot assisted surgery of renal anomalies. Typical indications include the hormone-active and hormone-inactive adenoma as well as metastases of other tumour entities and the rare primary adrenal malignancies. We present the operative and oncological results of all RALA (Robot-assisted laparoscopic adrenalectomy) procedures at our institution since the introduction of robotic surgery.

**Material & Methods:** We analyzed perioperative data of 43 patients who underwent RALA at our institution between May 2008 and May 2014. Evaluation focused on operative performance (total time and blood loss) as well as the rate of intraoperative complications and the frequency of malignant histopathological findings. We also looked at the rate of conversion and blood transfusion and evaluated the changes in operating time between the first half (2008–2011) and second half (2012–2014) of procedures.

**Results:** Median blood loss was 50 ml with a mean overall operating time of 137 min. We evaluated n=19 procedures between 2008 and 2011 (set 1) and n=24 procedures between 2012 and 2014 (set 2). Comparing the changes between the two sets we found a median operating time of 148 min for set 1 and a median of 127.5 min for set 2. Mean blood loss changed from 122 ml (set 1) to 67 ml (set 2). The mean tumour size was 5.32 cm (range 1–10 cm) with an average weight of 34.0 g (range 2.5–210 g). Intraoperative complications occurred in n=9 cases of which n=4 were classified as Clavien 1, n=3 as Clavien 2 and n=2 as Clavien 3. In 2 cases conversion to open surgery was necessary due to excessive bleeding and large tumour size respectively. This leads to a conversion rate of 4.6%; however both conversions occurred during the first 15% of procedures. Blood transfusion was necessary in only 1 case early in the series where the tumour was adherent to the spleen. We identified n=20 hormone-active tumours (mainly adrenal cortical adenoma), n=7 inactive tumours and n=16 malignancies (predominantly metastases of other tumour entities). There were 2 cases of adrenal cortical carcinoma as well as 1 case of malignant pheochromocytoma.

**Conclusions:** Our data supports robotic surgery as a reliable and safe approach in the treatment of adrenal gland masses. Conversion as well as blood transfusions were more likely to occur in the earlier stage of our series. Operating time and blood loss decreased over time, even without taking the introduction of new surgeons into account. Similar to the conditions for robotic renal procedures limitations arise from intraoperative complications like bleeding as well as very large masses, but otherwise RALA is a feasible treatment option in patients who qualify for laparoscopic surgery.

**PYJ14**

Perioperative, oncological and functional outcomes and complications of robot-assisted radical prostatectomy and extended pelvic lymph node dissection after prior abdominal surgery: A single surgeon’s experience

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**Introduction & Objectives:** To assess the impact of prior abdominal surgery on perioperative, oncological and functional outcomes and complications in patients undergoing transperitoneal robot-assisted radical prostatectomy (RARP) and extended pelvic lymph node dissection (ePLND).

**Material & Methods:** From November 2008 to October 2012, a total
of 233 consecutive patients with intermediate- or high-risk clinically localised prostate cancer underwent RARP and EPNLND by a single experienced open and laparoscopic surgeon at our institution. Clinical and pathological data were prospectively collected. Complications were classified according to the Modified Clavien System. Biochemical recurrence was defined as two consecutive PSA ≥0.2 ng/ml. Urinary continence was defined as no leakage at all. Potency was defined as erectile function allowing sexual intercourse with/without phosphodiesterase-5 inhibitors. Only patients who were potent preoperatively and did undergo nerve-sparing RARP were evaluated concerning potency recovery. Patients with and without prior abdominal surgery were compared by performing a logistic regression using Wilcoxon rank sum test, Wald Chi squared test and Fisher's exact test. Statistical significance is defined as p<0.05.

**Results:** Among 233 patients, 49 (21%) had undergone prior abdominal surgery (Group 1) and 184 (79%) had not undergone prior abdominal surgery (Group 2). The most frequent operations were inguinal hernia (44%) and appendectomy (30%). The two groups were comparable for all preoperative variables. The minimum follow-up was 1 year. There were no statistically significant differences between Group 1 and Group 2 in median operative time (276 vs 272 min), number of nodes removed (16 vs 17), rates of nerve-sparing procedures (75% vs 67%), median length of stay (8 vs 7.7 d), catheter-free rates on POD 5 (98% vs 96%) and pathological tumour stadium. The two groups had similar complication rates (44% vs 41%) and no access-related complications were observed in Group 1. For Group 1 and Group 2 biochemical recurrence-free survival rates were 84% (41/49 pts) and 88% (164/184 pts) (p=0.073). Continence rates were 100% (49/49 pts) and 93% (171/184 pts) (p=0.052), whereas a recovery of erectile function was achieved in 65% (18/28 pts) and 62% (62/100 pts) (p=0.672), respectively.

**Conclusions:** The transperitoneal robot-assisted radical prostatectomy with extended pelvic lymph node dissection is feasible and safe in the setting of prior abdominal surgery. The procedure can be performed without an increase in complications and no detrimental effect on functional outcomes is to be expected. However, long-term follow-up is required to draw definitive oncological conclusions.

**PJY15**

A health and economic analysis of robotic prostatectomy in the Australian public health system

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**Introduction & Objectives:** To establish practice patterns, perioperative outcomes and the cost of performing radical prostatectomy using the da Vinci robot in the Australian health system.

**Material & Methods:** Data was extracted from the Victorian Admitted Episodes Data Set (VAED) July 14 2010–April 13 2013 and refined by DRG M01A/B, ICD C61. Exclusions: Cystectomy, duplicate records. Practice patterns, length of stay (LOS) and blood transfusion rates (BTR) were compared for 5130 patients who underwent open (ORP), laparoscopic (LRP) and robotic (RARP) approaches in the public and private sector. For the economic analysis, to calculate the incremental cost of RARP over ORP and LRP, we constructed estimates of the DRG costs (M01A/B – Major male pelvic procedures) per day based on the 2012-13 financial year data. This was multiplied by the LOS for each of the surgical procedures between July 2012 and April 2013 from the VAED. The additional costs of the robot were added including capital, maintenance, consumables and repairs. Cost was also offset by differences in blood transfusion rates based on VAED. One and two-way sensitivity analyses were performed around the base case scenario of 124 robotic cases being performed with a 7-year lifespan of the robot. Variables included in sensitivity analysis included surgical caseload, lifespan of robot and the cost of consumables.

**Results:** The number of robotic prostatectomies performed in the public sector increased, coinciding with a fast decline in open procedures (Figure 1). LOS was 4.8, 3.6 and 1.4 days for ORP, LRP and RARP respectively. BTRs were 15%, 6% and 0% in the public sector respectively. The incremental cost of RARP over ORP and LRP was $442 and $2,092 respectively. Cost neutrality could be achieved if an institution was performing approximately 140 cases per year (Figure 2). Cost was further offset by increasing the caseload and lifespan of the robot, and decreasing the cost of consumables.

**Conclusions:** The number of RARPs performed in the Australian public system is fast increasing, with significantly improved LOS and BTRs. The cost of RARP can be offset by reductions in LOS, BTRs and cost of consumables, and by increasing the caseload and lifespan of the robot.

**PJY16**

An educational concept for bedside-surgeons for robotic-assisted radical prostatectomy

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**Introduction & Objectives:** Education in robotic-assisted surgery is often focused exclusively on the surgeon on the console. In reality, console-surgeon and bedside-assistant have to act as a competent team. Bedside-surgeons are often residents or physician assistants with low experience in laparoscopic surgery. Up to now, there is no structured training for a novice bedside-surgeon who joins a pre-existing robotic-surgery program. Aim of this study was to create a well-structured educational concept for bedside-surgeons in robotic-
assisted radical prostatectomy (RARP), which is adaptable by other surgical subspecialties.

**Material & Methods:** An education concept for novice bedside-surgeons was developed and introduced to our surgical team. Therefore an expert panel, which included experienced console surgeons, bedside-surgeons, and surgical nurses was formed. The step stones of the operation were defined and the requirements for assisting were discussed. In the OR the educational process was conducted by an experienced bedside-surgeon and surgical nurse.

**Results:** Our concept contains 6 phases applicable in one week. Phase 0: “Know your environment”: Presentation of the bedside-surgeon the day prior first surgery. Introduction to all the components of the robotic-surgical system and explanation of the principles of patient’s positioning. Phase 1: “Know your operation”: Active observation of RARP performed by an experienced bedside-surgeon, learning of instruments and their use in surgery. Phase 2: “Orientation in the body”: Camera operating during trocar placement, suction and retraction with laparoscopic instruments during the first steps of RARP. Phase 3: “Applying of your basic skills”: Trocar placement and applying laparoscopic skills. Assisting the operation as long as the novice assistant and surgeon feel comfortable. Phase 4: “Deepen your key skills”: Assisting the key steps of RARP like seminal vesicle preparation and nerve-sparing. Phase 5: “Act independently”: Assisting the whole operation. Intervention of the experienced bedside surgeon only in case of emergency.

**Conclusions:** This work presents the first concept exclusively dedicated to novice bedside-surgeons. It provides an easy access to basic laparoscopic skills and sufficient assistance to robotic-assisted radical prostatectomy. Further research is needed to improve and validate our bedside-surgeon education program.

**Abstract PYJ17**

Rectal injury during robot-assisted radical prostatectomy (RARP) with and without bowel preparation: Perioperative results

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**Introduction & Objectives:** Fast track in surgery is a multimodal, multidisciplinary perioperative concept to optimize the perioperative management with potentially faster recovery after a surgical treatment. In this concept, a bowel preparation (BP) is not recommended as a routine prior to elective surgery. The aim of this study was to evaluate the rate of rectum injury and perioperative results of RARP with and without BP.

**Material & Methods:** Data of 5543 RARP patients were analyzed retrospectively including 2651 patients without BP and 2892 with preoperative BP with emphasis on patients with an intraoperatively detected rectal injury.

**Results:** A total of 11 (0.2%) rectal injury cases were identified during RARP, in 5 cases with BP and in 6 cases without BP. The mean age was 63.6 and 69.3 years, BMI 25.7 and 24.8 kg/m², initial PSA was 14.6 and 24.8 ng/ml, mean prostate weight 84.4 g and 56.5 g correspondingly in patients with and without bowel preparation. Median catheter time was with 5 days identical for both groups. All rectal injuries were identified intraoperatively, 2-layer closure technique was used. No colostomy was performed. In one patient in the group without bowel preparation an open revision for an infected hematoma was necessary. No association of rectal injury with any perioperative parameter, pathological finding or surgeon experience was found (see Table 1).

**Conclusions:** A rectal injury during RARP is a rare complication. The typical postoperative course is not affected after intraoperative repair. Abduction of bowel preparation does not increase the rate of rectal injuries.

**PYJ18**

Robot-assisted laparoendoscopic single-site inguinal lymphadenectomy: Initial investigation in a cadaver model

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**Introduction & Objectives:** Aim of the present study was to determine the feasibility of robot assisted laparoendoscopic single site surgery (R-LESS) inguinal lymphadenectomy (ILND) in a cadaver model.

**Material & Methods:** Two fresh male cadavers were used and placed in supine frog leg position. A 6-cm incision was made at the level of the apex of the femoral triangle and a Gelpoint™ port preloaded with four ports was introduced. The da Vinci Si robotic system in a 3-arm configuration was docked from the opposite side at about a 45° angle. Borders of dissection were the inguinal ligament superiorly, the midpoint of the sartorius muscle laterally, and adductor longus muscle medially. Bilateral ILND was performed with inclusion of the superficial and deep inguinal nodes and identification, ligation and section of greater saphenous vein, and its branches at its insertion into femoral vein. After undocking the robot, specimen was removed through the Alexis wound retractor by removing the GelSeal cap.

**Results:** Time for setup, including positioning, multichannel port insertion, robotic docking, and insertion of instruments, was 30 minutes. The dissection was accomplished by having the non-dominant hand lifting the packet and the monopolar scissors in the dominant dissecting. Both right (n=2) and left (n=2) side procedures were completed successfully without the addition of extra ports and each side took about 120 min to be completed. It was not deemed necessary to cross the robotic instruments in a chopstick configuration. No tearing of the multichannel platform and no significant gas leakage was noticed. No injuries to major vessels occurred. The pathology report showed eight nodes removed on the right side and nine on the left side.

**Conclusions:** R-LESS ILND is technically feasible, allowing the removal of inguinal lymph nodes within the same boundaries of con-
ventional surgical dissection. By involving one single incision, it holds the potential of reducing surgical morbidity, while carrying a limited increase in technical demands. Further investigation is warranted to determine whether the adoption of this novel robot assisted approach could translate into an actual clinical benefit for selected penile cancer patients.

PYJ19
Robot-assisted laparoscopic partial nephrectomy in patients with previous abdominal surgery
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Introduction & Objectives: The aims of this study was to determine the impact of history of previous abdominal surgery (PAS) on the outcomes of robotic partial nephrectomy (RPN).

Material & Methods: The medical records of consecutive patients who underwent RPN for a single renal mass from 2006 to 2013 were reviewed. Patients were divided in two groups: those who had history of PAS and those with no previous abdominal surgery (NPAS). With respect to location of PAS and its proximity to the site of RPN, four sub-groups of patients were considered: (a) patients with remote site of PAS in relation to RPN; (b) patients with history of PAS in the proximity of RPN site; (c) patients with history of previous umbilical hernia/abdominal hernia mesh repair; (d) cases with high likelihood of widespread abdominal adhesions [major PAS (MPAS)].

Results: From the 670 consecutive patients undergoing RPN during the study period, 627 met our inclusion criteria. Three hundred and twenty one patients had history of PAS (51.2%). On univariable and multivariable analyses, history of PAS or history of MPAS were not predictors of overall complications while CCI, EBL and tumor size were the only significant factors.

Conclusions: RPN can be safely performed in patients with history of PAS with surgical outcomes comparable to those obtained in patients without history of PAS. Moreover, the extent of PAS does not seem to affect these outcomes. Sound surgical technique in gaining access, placing the ports and performing meticulous adhesiolysis represent key factors to minimize the risk of complication in this challenging setting.

PYJ21
Salvage robotic prostatectomy after brachytherapy: Our initial experience

Introduction & Objectives: Salvage radical prostatectomy has become a feasible option for patients with biochemically relapse after low-dose rate brachytherapy for localized prostate cancer. The aim of this study is to review our series of salvage radical prostatectomies after low-dose rate brachytherapy with curative intent, in patients with low risk localized prostate carcinoma, and to compare oncologic outcomes, functional and surgical complications between open salvage radical prostatectomy (SRP) and robotic-assisted laparoscopic prostatectomy (sRALP).

Material & Methods: Descriptive and comparative study of 15 patients who underwent salvage radical prostatectomy between December 2009 and May 2014. Recurrence was confirmed by biopsy. Metastatic disease was discard prior to surgery. 8 patients underwent SRP and 7 patients sRALP. We analyzed clinical and oncologic parameters at diagnosis and at relapse, peri-operative complications, hospital stay and functional data, and pathologic characteristics (Table).

Results: Median follow-up: 27.25 months in SRP, 11 months in sRALP. Both groups were homogeneous in clinical stage, PSA and Gleason at diagnosis and at relapse. Clavien I-II complications were 37.5% in SRP and 28.5% in sRALP. Clavien III were 12.5% and 0 respectively. Anastomotic leak rate was 37.5% in first group and 28.6% in the second one. Median length of stay was 5 days in SRP and 4 days in sRALP. Functional data (urinary continence and sexual function) was similar in both groups.

Conclusions: We observed a higher percentage of locally advanced disease in robotic surgery patients, associated with an increase in positive surgical margins in this group (p=0.01). A trend to a greater rate of complications was seen in open surgery.

PYJ22
The robot alone is not enough – how to to provide a comprehensive enhanced recovery service
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Introduction & Objectives: To describe experience with an enhanced recovery protocol (ERP) for patients undergoing robotically-assisted laparoscopic radical prostatectomy (RALP) in a UK cancer centre.

Material & Methods: An ERP for patients undergoing RALP was used since inception of a robotic programme in December 2012. All patients were entered onto the ERP regardless of age and stage of disease. Key elements included pre-op counseling, carbohydrate loading, specific anaesthetic and analgesic regimes coupled with early mobilisation in a unit where embedded ER practice was already in place for radical cystectomy. Data was collected prospectively on the BAUS complex surgery database. Data included age, stage, grade, PSA at diagnosis and time to discharge. Re-admissions were screened for retrospectively.

Results: 300 patients with a mean age of 64.9 years (range 47–74 yrs) underwent RALP. The median PSA at diagnosis was 8.0 ng/ml (range 0.9–42). Pre-operative Gleason scoring confirmed that 9%, 82% and 9% of patients had low, intermediate and high grade disease, 61% had clinical stage T2 disease. A total of 9 patients (4%) had positive lymph nodes. 2 patients required peri-operative blood transfusion. Complications included sepsis (2), haemorrhage (2) and wound infection (1). Mean length of stay was 1.2 days with a median/mode of 1 day. 240 patients (80%) were discharged to their own home on day of discharge. 233 patients (81%) were discharged home between day 2 and day 5. 43 patients (15%) came home the same day.
The end variable BCR is defined as PSA three years after surgery. 73% of pts is free of biochemical surgical margins as reference, a limited surgical margin appeared as 0.1–3.0 mm and multifocal. Definition of limited surgical margin is 0.1–3.0 mm and multifocal. Definition of extensive surgical margin is >3.0 mm or multifocal.

**Conclusions:** An ERP for RALP allows the majority of patients to have overnight-stay surgery. Length of stay in our institution is in the top decile nationally, and can only be achieved by incorporating minimal access surgery (RALP) within an established and continuously evolving care pathway. Introducing technology alone (the da Vinci surgical robot) is not enough to maximise the benefits of enhanced recovery.

**Introduction & Objectives:** Various prognostic variables for biochemical progression (BCR) after robot assisted radical prostatectomy (RALP) are known. Less well known is the predictive value of characteristics of surgical margins, like location, length and focality. 

**Material & Methods:** Prospective registration and retrospective analysis. From January 2009 until March 2011 420 patients underwent RALP in our hospital because of clinical localized prostate carcinoma. The procedures were performed by one surgeon. All patients were analyzed at exact 36 months of follow-up. The variables pTumor-stadium, pGleason score and surgical margins were evaluated. Positive surgical margins were analyzed; location (apex vs. other), length (short 0.1–3.0 mm vs. long >3.0 mm) and focality (unifocal vs. multifocal). Definition of limited surgical margin is 0.1–3.0 mm AND unifocal, definition of extensive surgical margin is >3.0 mm OR multifocal. The end variable BCR is defined as PSA >0.2 ng/ml.

**Results:** Within 36 months BCR occurred in 115/420 (27%) of pts. Three years BCR outcomes are listed in the table. In univariable analysis no significant difference was seen regarding location and presentation of BCR: apex 20/40 (50%) pts vs. other 17/38 (45%) pts (p=0.64). We did see a significant difference regarding length; short 5/27 (19%) pts vs. long 32/51 (63%) pts (p < 0.001). Also focality showed a significant difference; unifocal 21/54 (39%) pts vs. multifocal 16/24 (67%) pts (p=0.02). There was a significant difference seen between limited surgical margin 5/25 (20%) pts vs. extensive surgical margin 32/53 (60%) pts (p=0.001). In multivariable logistic regression analysis there was corrected for chronological order of surgery, initial PSA, prostate volume, BMI, age, pGleason score and pTumor-stadium. With negative surgical margins as reference, a limited surgical margin appeared as no predictor for BCR (p=0.39) and an extensive surgical margin appeared as a strong significant predictor for BCR (p=0.02; OR 2.385; 95% CI 1.128–5.043).

**Conclusions:** Three years after surgery 73% of pts is free of biochemical recurrence, despite of the first 150 pts concerning the oncological learning curve of the surgeon (previously presented) with 41% (174/420) of pts presenting ≥pT3a and/or ≥pG7b. After correction for seven prognostic variables, a limited surgical margin appeared as no predictor for BCR and an extensive surgical margin appeared as a strong significant predictor for BCR. When counselling on salvage therapy, one might take this into account.

**PYJ23**

**Predictive value of surgical margins for biochemical progression three years after RARP: Location, length and focality**

E. Collette1, M. Kliffen2, M. Gan3, R. Engel1, D. Van Den Ouden1, D. De Lange1, O.S. Klaver1, 1Maasstad Hospital, Dept. of Urology, Rotterdam, The Netherlands; 2Maasstad Hospital, Dept. of Pathology, Rotterdam, The Netherlands

**Introduction & Objectives:** Various prognostic variables for biochemical progression (BCR) after robot assisted radical prostatectomy (RALP) are known. Less well known is the predictive value of characteristics of surgical margins, like location, length and focality.

**Material & Methods:** Prospective registration and retrospective analysis. From January 2009 until March 2011 420 patients underwent RALP in our hospital because of clinical localized prostate carcinoma. The procedures were performed by one surgeon. All patients were analyzed at exact 36 months of follow-up. The variables pTumor-stadium, pGleason score and surgical margins were evaluated. Positive surgical margins were analyzed; location (apex vs. other), length (short 0.1–3.0 mm vs. long >3.0 mm) and focality (unifocal vs. multifocal). Definition of limited surgical margin is 0.1–3.0 mm AND unifocal, definition of extensive surgical margin is >3.0 mm OR multifocal. The end variable BCR is defined as PSA >0.2 ng/ml.

**Results:** Within 36 months BCR occurred in 115/420 (27%) of pts. Three years BCR outcomes are listed in the table. In univariable analysis no significant difference was seen regarding location and presentation of BCR: apex 20/40 (50%) pts vs. other 17/38 (45%) pts (p=0.64). We did see a significant difference regarding length; short 5/27 (19%) pts vs. long 32/51 (63%) pts (p < 0.001). Also focality showed a significant difference; unifocal 21/54 (39%) pts vs. multifocal 16/24 (67%) pts (p=0.02). There was a significant difference seen between limited surgical margin 5/25 (20%) pts vs. extensive surgical margin 32/53 (60%) pts (p=0.001). In multivariable logistic regression analysis there was corrected for chronological order of surgery, initial PSA, prostate volume, BMI, age, pGleason score and pTumor-stadium. With negative surgical margins as reference, a limited surgical margin appeared as no predictor for BCR (p=0.39) and an extensive surgical margin appeared as a strong significant predictor for BCR (p=0.02; OR 2.385; 95% CI 1.128–5.043).

**Conclusions:** Three years after surgery 73% of pts is free of biochemical progression, despite of the first 150 pts concerning the oncological learning curve of the surgeon (previously presented) with 41% (174/420) of pts presenting ≥pT3a and/or ≥pG7b. After correction for seven prognostic variables, a limited surgical margin appeared as no predictor for BCR and an extensive surgical margin appeared as a strong significant predictor for BCR. When counselling on salvage therapy, one might take this into account.

**PYJ24**

**“Same day discharge” RALP – the ultimate form of enhanced recovery**

N. Campain1, J. M c g r a t h1, L. Jackson1, N. Batchelor2, M. Daugherty2, E. Waine1, 1Royal Devon & Exeter Hospital, Dept. of Urology, Exeter, United Kingdom; 2Royal Devon & Exeter Hospital, Dept. of Anaesthesia, Exeter, United Kingdom

**Introduction & Objectives:** Robotically-assisted radical prostatectomy (RALP) is now the predominant approach for prostate cancer surgery, with over 70% of all patients in the UK currently undergoing a robotic procedure. It is usual practice in all UK cancer centres for patients to stay in hospital for at least 1 night following RALP. Enhanced recovery after surgery (ERAS) care pathways allow earlier discharge from hospital. We describe our experience with “same-day surgery” for patients undergoing RALP in a UK cancer centre.

**Material & Methods:** Patients undergoing RALP were identified pre-operatively by the operating surgeon and anaesthetic team to be suitable for potential planned “same-day surgery” (on the basis of medical assessment and social circumstances). Suitable patients were placed first on the operating list and underwent pre-op counseling, carbohydrate loading, specific anaesthetic and analgesic regimes coupled with early mobilisation. Data was collected prospectively, including age, stage, grade, PSA at diagnosis and time to discharge. Re-admissions were screened for retrospectively.

**Results:** 10 patients underwent “same-day” surgery for RALP with a mean age of 65 years (range 56–70). Median PSA at diagnosis was 8.9 ng/ml (range 4.8–22.8). Two patients had high-grade disease according to pre-operative Gleason scoring. All patients were ASA grade 1 or 2 and all operations had < 300 mls blood loss. Median operating time was 2–2.5 hours. All patients lived within 60 minutes of the hospital. All patients were discharged home on the same day with basic analgesia and 28 days of low-molecular weight heparin. There were no re-admissions within 30 days. Trial-without-catheter (TWOC) was successful in all patients.

**Conclusions:** This is the first demonstration that “same-day surgery” for robotically-assisted laparoscopic prostatectomy can be successfully achieved and represents the ultimate goal of enhanced recovery (ERAS). Robotic radical surgery for prostate cancer can be planned pre-operatively so that appropriately selected patients do not require...
admission to hospital overnight and can be safely discharged home on the same operative day.

**PYJ25**
The initial 56 robot cystectomies of an experienced robotic surgeon: Trends in perioperative parameters and complications

E. Collette, M. Gan, R. Engel, D. Van Den Ouden, D. De Lange, O.S. Klaer. Maasstad Hospital, Dept. of Urology, Rotterdam, The Netherlands

**Introduction & Objectives:** Radical cystectomy is performed robot assisted in our hospital since 2012, including the intracorporeal construction of a Bricker urine deviation or a Studer neobladder. This procedure is performed by one surgeon who already had experience with 700 robot prostatectomies.

**Material & Methods:** Prospective registration and retrospective analysis. From January 2012 until May 2014 56 patients underwent robot cystectomy. Ten functional cystectomies were performed and 46 radical tumor cystectomies. 30 patients received neo-adjuvant chemotherapy. Four neobladders and 52 brickers were conducted.

**Results:** 50 procedures were conducted intracorporeal and 6 procedures extracorporeal, of which 3 concerned conversions and 1 neobladder. Mean age is 67 year and BMI is 26. ASA score I n=2, II n=36 and III n=18. We observed a significant difference in mean operative time concerning the first half of the RARC-Bricker cohort (n=22, min=321) and the second half (n=21, min=280) (p=0.004) and the mean intra-operative blood loss also showed a significant decrease between the first (n=22, ml=695) and second half (n=21, ml=450) (p=0.03). Hospital stay showed a decreasing non-significant difference between the first (n=22, days=13.5) and second half of the cohort (n=21, days=11.9) (p=0.33). Six (6/36=11%) patients stayed ≥ 1 night at the ICU. Half of pts (23/46) showed <pT2 and half of pts (23/46) showed ≥pT2, including 5 N+ pts. Two patients experienced a positive surgical margin (both ypT4B). We observed a significant difference in mean lymph node harvest concerning the first half (n=21, Node=17) and the second half of the oncological cohort (n=22, Node=12) (p<0.05). There was a significant reduction observed in the number of complications: the first half presented 71% (20/28) and the second half 43% (12/28) (p=0.03). Low grade complications were seen in 45% (25/56) of pts; Clavien grade 1 n=7, grade 2 n=18. A high grade complication was observed in 13% (7/56) of pts; grade 3a n=2, grade 3b n=4, grade 5 n=1 (12 days after Salvage surgery).

**Conclusions:** RARC including IC-Bricker derivation is feasible, but not without obstacles, even after extensive robotic experience (700–1,000 RARP). It is safe according to early oncological results. The results of this initial cohort of robot cystectomy show an increase in lymph node harvest and a decrease in hospital stay. We observed a significant reduction in operative time, intra-operative blood loss and complications. We present only 13% high grade complications, despite the learning curve.

**PYJ26**
“Natural” dry lab training in Da Vinci surgery. A new original setting

S. Khorrami, V. Al Salhi, F. Annino, M. De Angelis. San Donato Hospital AUSL 8, Dept. of Urology, Arzno, Italy

**Introduction & Objectives:** To propose an economic and reproducible dry lab exercises. Our idea is to develop easy simulation exercises, in order to help the trainee in the learning of the robotic surgical skills, that could simulate tissues and parenchyma as an alternative to common dry lab.

**Material & Methods:** We evaluate specific skills such as delicate, dissection, section and suture and intra-abdominal spatial orientation. As subjects of training we identified, regarding the softness, the removal of flower petals, for the dissection, we introduce the peeling of a tomato, regarding the section and suture of parenchyma and urethra we used a hot dog and finally for the spatial orientation we played chess. The exercises have been reproduced ten times for each trainee and had been evaluated by an expert robotic surgeon who gave a score from one to five for each exercise.

**Results:** We found a very rapid improvement of the skills of the trainee, starting from an average score of 2.1 for each exercise reaching an average score of 4.3 at the tenth attempt. Furthermore the trainer, after several simulations for each exercise, found this kind of training enough realistic such as the texture of materials and the movements of the robotic arms.

**Conclusions:** We think that this robotic training represents a valid, low cost and easily achievable simulation for the young surgeon that wants to start practicing robotic surgery. We expect that it will allow the trainees to manipulate tissues that mimic some characteristic of human tissues better than the common dry lab usually utilized. Further studies will provide the possibility of an improvement of surgical skills and if it could represent a valid tool for the learning curve of the trainee. Abstract submit for junior erus section.

**PYJ27**
Patient’s experience of the Robotic Assisted Laparoscopic radical Prostatectomy (RALP) learning curve


**Introduction & Objectives:** Robotic Assisted Laparoscopic radical Prostatectomy (RALP) is widely used as gold standard treatment for localised prostate cancer. The objective of this study was to understand the impact of a surgical team’s learning curve on the patient’s apprehensions, expectations and experience of undergoing an innovative surgical technique.

**Material & Methods:** Prospective data was collected about patient experience during the RALP learning curve. Patient questionnaires were posted to the first 120 patients who underwent robotic assisted laparoscopic prostatectomy (RALP) at our centre. The questions were divided into 4 domains; (a) Anxiety and expectations about the operation, (b) quality of preoperative information, (c) patients experience of the RALP and (d) views on expensive new surgical techniques. We compared the outcomes in 3 groups divided into three equal cohorts along the learning curve.

**Results:** Seventy-five patients (62.5%) returned the completed questionnaires. They were divided into three equal groups of 25 patients to assess the variation in the parameters as the surgeons gained more surgical experience. Pre-operative anxiety and apprehensions about the operation decreased over time (Table 1). Similarly, expected hospital stay and actual hospital stay was shorter in the 51–75 cohort compared to 1–25 cohort. The number of patients (∼50%) who expected that they would need morphine in the post-operative phase

### Table 1

<table>
<thead>
<tr>
<th></th>
<th>1 to 25</th>
<th>26 to 50</th>
<th>51 to 75</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean anxiety level (range 1–10)</td>
<td>5.64</td>
<td>4.96</td>
<td>4.8</td>
</tr>
<tr>
<td>Expected hospital stay in days</td>
<td>2.4</td>
<td>2.7</td>
<td>2.1</td>
</tr>
<tr>
<td>Actual hospital stay in days</td>
<td>2</td>
<td>2.2</td>
<td>1.8</td>
</tr>
<tr>
<td>Expected minor complications (%)</td>
<td>56</td>
<td>68</td>
<td>56</td>
</tr>
<tr>
<td>Actual minor complications (%)</td>
<td>24</td>
<td>16</td>
<td>12</td>
</tr>
<tr>
<td>Expected major complications (%)</td>
<td>24</td>
<td>20</td>
<td>28</td>
</tr>
<tr>
<td>Actual major complications (%)</td>
<td>4</td>
<td>4</td>
<td>0</td>
</tr>
</tbody>
</table>
did not change with progression on the learning curve. Overall Sixty and twenty-four percent of the patients expected to have minor and major complications respectively compared to 17% and 4% of patients who actually experienced these events. The incidence of minor and major complications as reported by the patient, decreased with increasing surgical experience. The patient’s expectations about return to physical activity and normal continence were concordant with their actual recovery. All patients rated their overall robotic experience as excellent or good with 100% of the patients expressing confidence in recommending robotic surgery to their friends and relatives and supported the extra cost of robotic surgery.

Conclusions: Patients were not unduly apprehensive about robotic surgery during the early surgical learning curve and this improved over the course of learning curve. The incidence of minor and major complications experienced by patients improved with increasing surgical experience.

ERUS – Poster abstracts

PE04
Robot-assisted retroperitoneal lymph node dissection for metastatic testicular germ cell tumors: Safety and feasibility in the early phases of the learning curve
O. Acar 1, T. Esen 2, F. Cezayirli 1, A. Musaoglu 1, 1Vkf American Hospital, Dept. of Urology, Istanbul, Turkey; 2Koc University, School of Medicine, Dept. of Urology, Istanbul, Turkey

Introduction & Objectives: Retroperitoneal lymph node dissection (RPLND) is performed in patients with advanced germ cell tumors (GCT) and residual retroperitoneal masses that persist post-chemotherapy. Minimally invasive approaches represent an attractive alternative to the well established open surgical technique. Herein, we aimed to document the safety and feasibility of robot-assisted RPLND in the initial phases of the learning curve.

Material & Methods: After the adaptation of robotic technology in our institution, as of May 2010, a total of 10 open and 8 robot-assisted RPLNDs were performed in patients with clinical stage IIA-III GCT. Charts were retrospectively reviewed in order to document clinical characteristics, perioperative findings and postoperative outcome and investigate any relevant differences between the study groups.

Results: Mean patient age was 27.9±9.6 and 31.1±11.8 years in the open and robotic groups, respectively (p=0.532). Four patients in the open surgery group had primary retroperitoneal disease whereas one patient in the robotic group had bilateral testicular tumor with enlarged retroperitoneal lymph nodes. 60% of the patients who were managed by open surgery had clinical stage IIA and higher disease while 75% of the patients who were operated robotically had clinical stage II disease. All except two patients in the robotic group were operated due to residual masses post-chemotherapy. Maximal diameter of the retroperitoneal mass was 8.7±7.8 cm (range = 2–28) and 2.8±1.4 cm (range = 1–5) on average in the open and robot-assisted surgery groups, respectively (p=0.043). The difference between the groups was statistically insignificant in terms of operative duration, estimated blood loss amount and length of hospitalization. Open conversion rate was 12.5% (1/8) in the robotic RPLND group. Two patients in the open surgery group and a single patient in the robotic group suffered from clavien grade 2 and higher complications in the post-operative period. Excised lymph nodes did not harbor viable tumor cells in all except one patient in the robotic surgery group. Mature teratoma was the most common eventual histopathologic diagnosis. After a mean follow-up of 9.3±4.9 months none of the patients developed recurrent disease.

Conclusions: Open RPLND may have been preferred for larger masses and higher stage diseases. Perioperative findings, morbidity and early oncological outcome of open RPLND is similar to that of its robotic counterpart. Despite the technically challenging nature, RPLND can be performed safely and efficiently via the robot-assisted laparoscopic route even early in the learning curve.

PE05
Nurses teaching doctors – an on-site training program created by daVinci coordinators
L. Birch Moeller, Herlev Hospital, Dept. of Anesthesiology, Herlev, Denmark

Introduction & Objectives: The presentation will demonstrate how daVinci Coordinators at the Center for Robotic Surgery at Herlev Hospital, have created their own internal training program for doctors and nurses aspiring to the daVinci team. In January 2012, Department of Anesthesiology reorganized and created Center for Robotic Surgery, covering robotic assisted surgery in urology, gynecology and general surgery. This reorganization gave scrub nurses in Center for Robotic Surgery the opportunity to indulge in robotic surgery and the perioperative nursing concerning this. All of the nurses were sent to a training facility in Strasbourg for basic training. 3 were trained as daVinci Coordinators. After a year, the idea of an internal training program occurred. The reasons for that was a growing lack of trained staff as the quantity of robotic surgery grew and on-site training seemed to be a good alternative to sending more teams off to Strasbourg for training.

Material & Methods: The training program consists of two modules. First module is a one-day Dry Lab including a review of the system from a to z, trouble shooting, emergency procedures, and simulator training. The second module is a two-day Wet Lab on a porcine model. It was decided that two of the daVinci Coordinators should act as instructors together with one senior doctor with considerable robotic experience. With a mixture of both nurses and doctors as participants, considerations of the content and structure of the training program were many and challenging as well.

Results: At present time, we have completed 3 courses and expects to continue running approximately 3–4 courses per year. The outcome, in terms of staff trained on-site instead of off-site, has had a beneficial effect on the team spirit for nurses and doctors in the Center for Robotic Surgery. Furthermore, with the on-site training program, it is now much more accessible to get staff trained and able to work with the daVinci system. In addition to this, it gave the daVinci coordinators the opportunity to make use of their skills, by being part of the instructor team on the training program.

Conclusions: Each module was completed with oral evaluation of the content and structure. Evaluation showed a greater need to learn and train emergency undocking rather than e.g. positioning of the patient. We have now after evaluation changed the program to consist of a more thorough training of emergency procedures and troubleshooting. Overall, the on-site training program at Herlev Hospital has been a great success both for each participants, for the daVinci coordinators and for the Center for Robotic Surgery at Herlev Hospital.

PE06
Robot-assisted bladder sparing operations for malignant tumors of the bladder with the lesion of the bladder neck
A. Teplov, S. Berelevichus, S. Pyanikin, N. Vetsevha, P. Davydenko, N. Yashina. Vishnevsky Surgeon Institute, Dept of Urology, Moscow, Russia

Introduction & Objectives: Robot-assisted bladder sparing operations of patients with invasive bladder cancer are presented by single observations, mainly in case of the tumor in diverticulum of the bladder and tumors of urachus. Methods of robot-assisted resection of the bladder tumor in the area of the bladder neck have been developed.

Material & Methods: 5 robot-assisted operations have been made: for invasive bladder cancer pT2a–bN0M0G2 with the localization in
the bladder neck – in case of 4 patients and pheochromocytoma with the lesion of the bladder – 1 patient. Criteria for an inclusion of patients: a non-multiples bladder cancer localized in the bladder neck with the level of invasion of the tumor within the muscle layer T2a–b, with the N0, G1–2 level of differentiation. Three robotic manipulators performed this operation with the use of bipolar clip, monopolar scissors, clip and needle holder. The first stage: cystoscopy and stenting of the ureters. The second stage: robot-assisted resection with trans-bladder light illumination. The third stage: pelvic lymphadenectomy. The defect of the rear wall was taken in by the thread V-loc, 3-0 with the one- row continuous suture. Resection of the mouth of the ureter with the formation of mucoso-muscle cuff on the ureter-stent – 2 patients.

Results: Median observations of patients ranged from 11 to 16 months (13.3 months). Recurrence of the tumor and metastases have not been revealed. Functional results in Table 1.

<table>
<thead>
<tr>
<th>Sex</th>
<th>Age</th>
<th>Diagnosis of the bladder</th>
<th>Duration of the operation (h)</th>
<th>Volume of blood loss (ml)</th>
<th>Complications</th>
<th>Duration of hospital stay (days)</th>
</tr>
</thead>
<tbody>
<tr>
<td>f</td>
<td>62</td>
<td>Pheochromocytoma</td>
<td>2 h 30 min</td>
<td>50</td>
<td>none</td>
<td>10</td>
</tr>
<tr>
<td>m</td>
<td>65</td>
<td>Bladder cancer pT2aN0M0G2</td>
<td>2 h 40 min</td>
<td>80</td>
<td>none</td>
<td>8</td>
</tr>
<tr>
<td>m</td>
<td>69</td>
<td>Bladder cancer pT2bN0M0G2</td>
<td>3 h 20 min</td>
<td>100</td>
<td>none</td>
<td>9</td>
</tr>
<tr>
<td>f</td>
<td>67</td>
<td>Bladder cancer pT2bN0M0G2</td>
<td>2 h 15 min</td>
<td>60</td>
<td>none</td>
<td>12</td>
</tr>
<tr>
<td>m</td>
<td>57</td>
<td>Bladder cancer pT2aN0M0G2</td>
<td>2 h 30 min</td>
<td>100</td>
<td>none</td>
<td>7</td>
</tr>
</tbody>
</table>

Conclusions: Bladder sparing operations in the form of robotic resection of the bladder neck are the operations of choice for muscle-invasive bladder cancer and pheochromocytoma with the lesion of the bladder neck, which allow to remove radically the tumor, to resect the ureter with one-stage the formation of mucoso-muscle cuff on the ureter-stent, to perform the pelvic lymphadenectomy, and to preserve the urinary bladder in a large amount compared with the open resection and TUR of the bladder.

PE07
Short-term results after robot-assisted laparoscopic radical prostatectomy compared to open surgery

A. Wallerstedt 1, S. Tyritzis 2, T. Thorsteinsson 2, S. Carlsson 3, J. Stranne 3, O. Gustafsson 4, H. Hugosson 4, A. Bjartell 5, U. Wilderäng 2, P. Wiklund 1, G. Steineck 2, E. Haglind 6

Introduction & Objectives: During the last years more centers performed radical cystectomy robotically. The aim of this report is to describe our results for early- and late complications after robot-assisted radical cystectomy (RARC) with totally intracorporeal urinary diversion.

Material & Methods: Between December 2003 and June 2013, a total of 164 bladder cancer patients (127 male, 37 female) underwent RARC with totally intracorporeal urinary diversion. Mean age was 64 years (range 37–87). Neoadjuvant cisplatin-based chemotherapy was administered in 33% of the patients. 29 patients (20%) had BCG treatment prior surgery. A total of 86 (52%) patients received a continent urinary diversion with intracorporeal neobladder formation and 78 (48%) an ileal conduit. Conversion to open surgery was necessary in 5 patients.

Results: Patients with ileal conduit had more frequent early complications with higher Median operating time was 382 minutes (range 177–760). On surgical pathology, 48% of patients had pT1 or less disease, 25% had pT2, and 27% had pT3/pT4 tumor. Patients who had neoadjuvant chemotherapy were found to have pT0 disease in 49%. The mean number of lymph nodes removed was 21 (range 0–60). 23% of patients had lymph node positive disease. Positive surgical margins occurred in 6 cases (3.6%). Median follow-up was 18 months (range 3–117 months). We recorded a total of 102 early complications (30 days) were recorded of which 22 patients (13%) had Clavien grade 3 or higher. Three patients (2%) died within 90 days after surgery, one from pulmonary embolism and two from cardiac arrest. Clavien grade than patients with neobladder; however, the difference was not statistically significant. Whereas patients with orthotopic neobladder had more late complications than the patients with ileal conduit (p <0.05). We found no relation between neoadjuvant treatment and history of BCG-treatment in relation to postoperative early and late complications.

Conclusions: RARC with intracorporeal urinary diversion is a complex surgical procedure with post-operative morbidity. However the majority of complications are low grade (Clavien ≤2) and compari-
son with open cystectomy series will have to await further studies. A history of BCG- and neoadjuvant treatment in these patients was not associated with a higher complication rate.

**PE10**
Open versus robotic nephron-sparing surgery: 4 year results and determinants of decision making

O. Acar1, T. Esen2, M. Vural3, A. Musagul1, 1VKF American Hospital, Dept. of Urology, Istanbul, Turkey; 2Koc University, School of Medicine, Dept. of Urology, Istanbul, Turkey; 3VKF American Hospital, Dept. of Radiology, Istanbul, Turkey

**Introduction & Objectives:** Robotic technology has enabled a smooth transition from open to minimally invasive nephron-sparing surgery. Herein, we aimed to compare the outcomes of open and robot-assisted nephron-sparing surgeries performed within the robotic era of our institution.

**Material & Methods:** After the installation of robotic hardware in our hospital, as of May 2010, a total of 64 open and 53 robotic NSSs have been carried out by a single surgeon. Charts were retrospectively reviewed in order to document the clinical characteristics, perioperative findings, postoperative outcome and investigate any relevant differences between the groups.

**Results:** Mean patient age was 55.9±11.1 and 50.7±13.5 years in the open and robotic groups, respectively (p=0.026). Forty patients in each group were male. Mean ASA score was significantly higher in the open surgery group (1.6±0.7 vs. 1.4±0.5, respectively). Mean tumor size did not differ significantly between the study groups (4.1±1.9 vs. 3.4±2.5, p=0.085). However, patients in the open surgery group had more complicated tumors with higher mean R.E.N.A.L. score, mean P.A.D.U.A. score and lower c-index value. Mean operative time was 103.7±33 and 143.0±48 minutes in the open and robotic groups, respectively (p=0.001). Estimated blood loss was insignificantly higher in the open group (184.4±126.2 vs. 180.9±149.3 ml, p=0.890). A total of 28 (43.7%) and 19 (35.8%) patients in the open and robotic groups respectively, were managed under warm-ischemic conditions and mean WIT was significantly higher in the robotic group (17.5±7.08 vs. 22.4±5.6 minutes, p=0.014). Length of hospitalization was significantly higher in the open surgery group (4.5±1.7 vs. 3.9±1.2 days, p=0.027). Mean postoperative eGFR was significantly lower than the mean preoperative eGFR in the open surgery group (74.5±18.6 vs. 83.8±20.4 ml/min/1.73 m², p=0.08) which was significantly lower than the mean preoperative eGFR in the open surgery group. Herein, we aimed to compare the outcomes of open and robotic NSSs performed within the robotic era of our institution.

**Conclusions:** More complicated kidney tumors, older and more problematic patients were handled via open NSS. Operative duration and warm-ischemic time were longer in the robotic surgery group whereas eGFR decline was higher in the open surgery group. Perioperative complications and oncologic outcome were similar between the groups during the follow-up period.

**PE11**
Role of robotic radical prostatectomy in hormonal therapy for high-risk prostate cancer: A propensity score-adjusted analysis

W.S. Ham, S.H. Lee, K.C. Koo. Yonsei University College of Medicine, Dept. of Urology and Urological Science Institute, Seoul, South Korea

**Introduction & Objectives:** To evaluate the role of robotic radical prostatectomy (RRP) in hormonal therapy (HT) for high-risk prostate cancer (PC).

**Material & Methods:** We performed a propensity score–based analysis of 372 consecutive patients [group I (RRP with adjuvant HT): 209, group II (primary HT): 163] treated for high-risk PC. After adjusting for propensity scores, a Cox proportional hazard model (COX) was employed to test the influence of the respective treatment on postoperative hormone refractory PC (HRPC) progression, overall death and PC-specific death (PCSD).

**Results:** Group II patients had an older age and more severe high-risk characteristics. During a median of 30.0 mo of follow-up, 9 men progressed into HRPC, 4 and 14 men died from PC and other causes in group I, vs. 23, 20 and 24 men, respectively, in group II. In group I, the 10-year HRPC progression-free survival rate was 87.0% and the 10-year overall survival rate and 10-year PC-specific survival rate were 71.3% and 95.2%, respectively, vs. 21.1%, 21.4% and 30.4%, respectively, in group II. There were significant differences between two groups with regards to the Kaplan-Meier estimates of these endpoints. After adjusting for the propensity to receive RRP with HT or primary HT, a regression analysis of survival based on COX revealed predictive influences of selection of treatment modality on these endpoints.

**Conclusions:** RRP with adjuvant HT may prolong the time to HRPC progression, overall death and PCSD compared to primary HT. Therefore, RRP may have a significant role as a local therapy in treating high-risk patients.

**PE12**
Robot-assisted retroperitoneal lymph node dissection for post-chemotherapy non-seminomatous germ cell tumor

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**Introduction & Objectives:** The advancement in medical robot technology has allowed urologists the benefit of a wider selection of choices when choosing the right modality for laparoscopic surgery. We report here a case of robot assisted laparoscopic retroperitoneal lymph node dissection for post chemotherapy non-seminomatous lymph node dissection for post chemotherapy non-seminomatous germ cell tumor in Korea.

**Material & Methods:** An 18-year-old patient male was diagnosed with stage IIb (T1N2MO2, β-HCG 23,245.16 ml/L, AFP 169.5 ng/ml, LD 644 U/L) mixed germ cell type testis cancer after radical orchectomy of a left testicular mass and had undergone 3 cycles of BEP (bleomycis, etoposide, and cisiplatine) chemotherapy. Re-evaluation of the patient after chemotherapy showed normalization of tumor markers but remnant left para-aortic, aortocaval and right retrocual lymph nodes. His parents were counseled for retroperitoneal lymph node dissection (RPLND) and offered robot retroperitoneal lymph node dissection (R-RPLND). They consented and left ipsilateral nerve sparing R-RPLND using left modified template was partaken.

**Results:** The patient had favorable body size for operation but was very slim due to chemotherapy (height 174.1 cm, weight 49.3 kg, BMI 16.3). He was put in a right lateral decubitus position and a 12 mm periumbilical camera port, three 8-mm robotic ports (one midline below the xiphoid, the second midline above the pubis and the third medial to the left anterior superior iliac spine) and two additional assistant ports (5 mm, 12 mm Rt upper and lower quadrants) were placed. First, the remnant right spermatic cord was dissected out and taken down to the point marked at previous orchectomy. Next dissection was done inferiorly until the iliac crossing of the ureter was seen. Dissecting out the ureter allowed for proper retraction using the third Davinci arm to avoid ureteral injury was done. Lateral paraaortic lymph nodes packages were dissected and visualization of the common iliac artery and aorta. Moderate left template was used; superiority the renal hilum, inferiorly the iliac crossing of the ureter, laterally the ureter and medially the lateral border of the aorta up until the inferior mesenteric artery level. Ultimately, the common iliac, pericaval,
and interaortocaval LNs were taken. The console time was time was 255 minutes, with 300 mL estimated blood loss (EBL). No immediate post-operative complications were observed and the patient was discharged on post-operative day 4. Pathology results showed mixed germ cell tumor in both aortocaval (1/13) and para-aortic (1/6) lymph nodes. He is currently on his second cycle of adjuvant chemotherapy (etoposide, and cisiplatine) and we plan to follow-up very carefully at the outpatient department.

Conclusions: Robot RPLND is a feasible surgical method, and in the hands of a seasoned surgeon results in little post-operative complications. Further studies on refinement of the surgical technique will be needed.

PE13
Initial experience of robotic assisted retroperitoneoscopic partial nephrectomy
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Introduction & Objectives: Nephron sparing partial nephrectomy has become the gold standard for renal masses smaller than 4 cm and should be favored in renal masses up to 7 cm. With the increasing availability of the da Vinci surgical system, robotic assisted laparoscopic partial nephrectomy (RALPN) is being increasingly utilized for the management of small renal masses. Although most cases of RALPN are still performed via a transperitoneal (TP) approach, the retroperitoneal (RP) technique is gaining popularity especially for the treatment of posteriorly located renal masses. The RP technique has been shown to result in earlier return of bowel function and reduced operative time compared to the TP approach. It provides an easy access to the renal hilum and posterior surface of the kidney without the need for bowel mobilization thereby minimizing the risk for bowel injury. The objective of this study was to report the initial experience and to assess the outcome of the first cases of robotic assisted retroperitoneoscopic partial nephrectomy at our institution.

Material & Methods: Between May 2013 and March 2014 we performed the first 13 RP RALPN cases at our institution using a previously described technique. All cases were performed by two robotic surgeons who had extensive experience with TP RALPN.

Results: All patients had a posteriorly located renal mass. The mean patient age was 64 years, the mean R.E.N.A.L nephrometry score was 6.3. Mean operative time (OT) including docking time was 166 min and warm ischemia time (WIT) was 16 min. Mean estimated blood loss (EBL) was 136 ml and positive margin rate (PMR) was 0%. Three patients suffered a complication that required further intervention. Two of them experienced a postoperative hemorrhage due to pseudoaneurysms and required embolization; one patient had a urine leak. All three subjects who experienced a complication had nephrometry scores between 7 and 10; one of them received therapeutic anticoagulation because of atrial fibrillation. The absence of distinct anatomic landmarks and a smaller working space in comparison to the TP access can be challenging and careful patient selection is important when transferring from the TP to the RP approach in order to avoid complications. These early results encouraged us to apply the RP technique to posteriorly and laterally located renal masses and hold on to TP RALPN for anteriorly located renal masses.

Introduction & Objectives: As part of the Peter MacCallum Cancer Centre (PMCC) “Robocare” program, we recently set up a Nurse Led Robotic Prostatectomy Care Pathway (NLRPCP) to help men prepare for their robotic-assisted radical prostatectomy (RARP) and manage the side-effects and oncological follow up in a multidisciplinary fashion. This NLRPCP (Figure 1) aims to enhance patient care by providing support, ensuring safety and optimizing efficiency in terms of decreased length of stay and minimizing hospital follow up visits. The objective of this study is to assess our standardized NLRPCP in terms of patient satisfaction, coordination of care between disciplines, length of stay and readmission rates.

Material & Methods: We retrospectively analyzed the medical records of all patients that underwent RARP between 07/2012 and 03/2013 at PMCC and were managed in the NLRPCP. In our analysis we looked at Pathway Compliance, Length of Stay and Postoperative Course. Moreover, a patient satisfaction questionnaire was sent to patients undergoing RARP over an 18 month period.

Results: Between 07/2012 and 03/2013 124 patients underwent a RARP at PMCC. Eighty-five percent of patients were discharged day 1 post-op and mean length of stay was 1.3 days. In the peri-operative period 98% of patients received at least one phone call between dis-
charge and trial of void (TOV) and 95% received at least one call be-
tween their TOV and 2-month post-op visit. After their 2-month post-
visit, 74 (60%) patients were followed up in the nurse’s telephone
clinic. Of the remaining 50 patients, 23 (19%) were followed up else-
where (private urologist, different hospital), 23 (20%) were follow in
the outpatient clinic for medical reasons (oncological follow up, com-
pliation management) and 4 patients (3%) were lost to follow up. In
total 29 complications were picked up by the phone clinic, of which
11 (40%) could be resolved over the phone, 8 (28%) complications
were managed at the outpatient clinic and 9 patients (31%) needed
readmission. In our NLRCP 18 patients (15%) were referred to the
psychologist, 44 (35%) to the sexual health/erectile dysfunction clinic
and 44 (35%) to the physiotherapist. Seventy-four patients filled out
the patient satisfaction questionnaire. Seventy-one patients (96%) felt
well or very well supported in the NLRCP in general. Thirty-seven
(50%) patients found well or very well supported by the telephone
calls in the perioperative phase.

Conclusions: This study shows that the NLRCP at Peter MacCallum
Cancer Centre is a safe plan of care with high patient satisfaction. This
way the limits the post-operative length of stay and readmission
rates as well as the outpatient follow up. At such, this study demonstra-
tes the validity of a model of nurse-led shared care that creates
a true multidisciplinary approach which better care, improves out-
comes for RARP patients and lowers financial impact on hospital re-
sources.

PE15

Comparison of the the learning curve of classical and robotic
flexible ureteroscopy
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and Research Hospital, Dept. of Urology, Ankara, Turkey; 4Duke University, Dept. of Urology, Durham-North Carolina, United States of America;
5SLK Kliniken, Dept. of Urology, Heilbronn, Germany

Introduction & Objectives: Although we know that learning curve
of robotic assisted flexible ureteroscopy (RAFURS), is shorter than the
learning curve of da Vinci, current literature lacks studies on learning
curves of RAFURS, in this study we aimed to compare learning curves of
manual and RAFURS procedures in experts and trainees.

Material & Methods: A unique kidney model contains open calices
to insert a standard 500 mm³ artificial stones and 2 mm holes on
the bottom of it, is used to overcome the shortcomings of in-vivo
studies such as respiration movement, different anatomy and stone
composition. Experts group (n=5) consisted of urologists with an ex-
pertise of greater than 50 cases of FURS. Participants in the trainees
group (n=5) had no prior experience with FURS. Each participant frag-
mented artificial stones with a volume of 500 mm³ using 230 micron
laser fiber, with energy of 800 mJ and frequency of 8 Hz, and the time
recorded. They repeated the procedure either robot assisted or man-
ually at least 5 times each.

Results: Mean duration of the first and fifth manual procedure in the
expert group were 24 and 20.8 minutes while mean duration of first
and fifth robotic procedures were 34.6 and 26.2 minutes respectively.
In the trainees group, mean duration of first and fifth manual proced-
ures were 43.6 and 31.6 minutes while they were 37 and 25.4 min-
utes with Roboflex respectively.

Conclusions: Duration of fragmentation seems to decrease even after
the second procedure, both for experts and trainees. Additionally du-
ration of the fragmentation seems to be shorter with Roboflex than
with manual FURS in the trainees group. RAFURS appears to lessen
the learning curve for flexible ureteroscopic procedures.

PE16

Robotic-assisted radical prostatectomy: The largest Russian
experience
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Introduction & Objectives: Despite the presence of different treat-
ment options for localised prostate cancer, radical prostatectomy
still remains the “gold standard” for managing this disease. Robot-
assisted radical prostatectomy (RARP) is a rapidly evolving technique
for the treatment of localized prostate cancer. We report the largest
Russian experience with the use of the da Vinci S robot for RARP at
our department.

Material & Methods: This was a nonrandomized prospective study
evaluating 600 patients (mean age 66 years) who underwent RARP
from November 2008 till September 2013 performed by a single sur-
geon, without previous laparoscopic training, but with extensive ex-
perience in open retropubic prostatectomy. International Consulta-
tion on Incontinence Questionnaire—Urinary Incontinence Short Form
(ICIQ-UI SF) and the International Index of Erectile Function (IIEF-6)
were used to evaluate the functional outcomes. Postoperative contin-
ence was defined as the use of no pads; potency was defined as the
ability to achieve and maintain satisfactory erections for sexual in-
tercourse >50% of times, with or without the use of oral phosphodi-
esterase type 5 inhibitors; biochemical recurrence (BCR) was defined
as two consecutive PSA levels of >0.2 ng/ml after RARP.

Results: The mean blood loss was 180 ml (35–2000). The mean op-
erating time was 165 minutes (97–295). In our series an overall com-
pliation rate was 23% (Clavien I, 3%; Clavien II, 12.3%; Clavien IIIb,
7.7%). Twelve patients required a blood transfusion. We had conver-
sion to open procedures in 5 cases and incidental bladder opening in
one case. There were no other intraoperative complications. The posi-
tive margin rate was 17% for all patients. Three and 12 months after
surgery, 83.2% and 91% patients were continent and 43.8 and 75.4%
were potent respectively.

Conclusions: Our experience with da Vinci prostatectomy is promis-
ging. RARP offers good results when performed by a single surgeon
with wide experience in open surgery.

PE17

Hydrodissection technique of neurovascular bundle preservation
during robotic radical prostatectomy
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Medico Stomatological University, Hospital 50, Dept. of Urology,
Moscow, Russia

Introduction & Objectives: Preservation of the neurovascular bundle
during radical prostatectomy is extremely important for postopera-
tive erectile function. We examined whether hydrodissection of the
neurovascular bundle during da Vinci radical prostatectomy would result in improved erec-
tile function postoperatively.

Material & Methods: Sixty-three patients (mean age 64.4 years) who
underwent nerve sparing radical prostatectomy were randomly as-
signed to a standard neurovascular bundle dissection (n=30) or hy-
drodissection of the neurovascular bundles using ErbeJet 2 equip-
ment (n=33). All procedures were done by a single high volume sur-
geon, without previous laparoscopic training, but with extensive ex-
perience in open retropubic prostatectomy. In men with bilateral neurovascular bundle
preservation mean International Index of Erectile Function scores in
the hydrodissection group were higher than in the standard dissec-
tion group by 1.8 at 6 weeks and by 2.8 at 3 months (p < 0.05). In men
with unilateral partial neurovascular bundle resection there was also
significant improvement between the hydrodissection and standard dissection groups at 6 weeks and 3 months (p < 0.05).

**Conclusions:** Hydrodissection of the neurovascular bundle during da Vinci radical prostatectomy improves postoperative International Index of Erectile Function scores. Longer follow-up is needed to evaluate direct impact of hydrodissection on erectile function in patients after da Vinci prostatectomy.

**PE18**

**Functional and oncological results of da Vinci radical prostatectomy in obese patients in Russia**

K. Kolontarev, A. Govorov, P. Rasner, D. Pushkar. Moscow State Medico Stomatological University, Hospital 50, Dept. of Urology, Moscow, Russia

**Introduction & Objectives:** In several studies obesity has been suggested as a risk factor for worse perioperative outcomes in the da Vinci radical prostatectomy. However, the real impact of obesity on perioperative outcomes has not yet been well estimated for robotic radical prostatectomy (RARP).

We report our experience with the RRP in obese patients at our department.

**Material & Methods:** Results of 605 da Vinci radical prostatectomy cases were analyzed starting from November 2008. First hundred cases were excluded from final analysis due to the learning curve period. Results of 505 cases of robotic prostatectomy by a single surgeon were prospectively analyzed. Obesity was defined as having a body mass index (BMI) greater than 30. Patients with BMI > 30 were compared to those with BMI < 30. Specific comparators between the groups were: age, total operating time, estimated blood loss, total prostate specific antigen (PSA), specimen weight, pathological stage, grade and margin, complications, and functional outcomes. We also provide with some details of techniques for surgeons, which may optimize results of the procedure in obese patients.

**Results:** Ninety-seven men were identified as obese. When comparing the two groups, no statistically significant difference (p > 0.05) was noted in blood loss (205 versus 180 ml in patients with BMI > 30 and 30 and 0.05). There was no difference in positive margin rates in pT2 and pT3 stages in both groups. Pad-free results were slightly better in non-obese group (67% versus 58% in obese patients in 3 months follow-up). The continence rate in patients with a BMI > 30 was 87% and 91% in patients with a BMI < 30 in 32 months of follow-up period. Nerve-sparing technique was used in 70% cases in non-obese group and 55% cases in obese patients. The erectile function rate in patients with a BMI > 30 was 68% and 64% in patients with a BMI < 30 in 32 months of follow-up period.

**Conclusions:** Robotic prostatectomy is not associated with increased morbidity in the obese patient. There were no statistically significant differences noted in oncological or functional outcomes between the two groups in 32 months of follow-up period. We believe that da Vinci prostatectomy could be recommended to those obese patients with previously delayed open radical surgery due to the high risk of possible complications. Based on our personal experience we formed some practical recommendations which may help surgeons to avoid unnecessary mistakes and will allow them to achieve better results in robotic surgery of obese patients.

**PE19**

**Prospective non-randomized trial comparing perioperative data of patients treated by robot-assisted radical prostatectomy and radical retropubic prostatectomy**

D. Pushkar, A. Govorov, K. Kolontarev, P. Rasner, V. Diakov, A. Bernikov. Moscow State Medico Stomatological University, Hospital 50, Dept. of Urology, Moscow, Russia

**Introduction & Objectives:** The first robot-assisted radical prostatectomy (RARP) in Russia was performed in 2007. Since then the Department of Urology of MSMSU has acquired more experience in performing RARP procedures than any other institution in the Russian Federation. The aim of our study was to continue the assessment of the perioperative outcomes of two contemporary series of patients treated by RARP or radical retropubic prostatectomy (RRP) in a single institution an to present the final data of this trial. The interim data was presented on ERUS 2012.

**Material & Methods:** We performed a prospective non-randomized study comparing the perioperative data of 100 patients who had undergone RARP, and 100 men after RRP at our institution from November 2010 to July 2012. The two groups were comparable for various clinical and pathological variables including median age (66.7 years), mean PSA value (6.4 ng/ml), clinical stage, Gleason score, Charlson score, Body Mass Index etc. The mean prostate volume was significantly smaller in the RALP group (37 vs 53 cc, p < 0.05), as well as the mean International Index of Erectile Function (IIEF) score (10.4 vs 22.4, p < 0.05). All RARP cases were performed by a laparoscopically-naive surgeon having vast surgical experience in RRP.

**Results:** Several perioperative characteristics are summarized in Table 1.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>RARP</th>
<th>RRP</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median operative time, min</td>
<td>165</td>
<td>104</td>
<td>0.05</td>
</tr>
<tr>
<td>Median intraoperative blood loss, ml</td>
<td>185</td>
<td>490</td>
<td>0.05</td>
</tr>
<tr>
<td>Blood transfusions, % of patients</td>
<td>7</td>
<td>21</td>
<td>0.05</td>
</tr>
<tr>
<td>Median in-hospital stay, days</td>
<td>5</td>
<td>10</td>
<td>0.05</td>
</tr>
<tr>
<td>Foley catheter removed (median days)</td>
<td>7</td>
<td>14</td>
<td>0.05</td>
</tr>
</tbody>
</table>

We observed perioperative complications in 10 (10%) patients undergoing RARP and in 15 (15%) men undergoing RRP (p < 0.05).

**Conclusions:** The final data of our study showed better results for RARP compared to RRP in terms of median operative time, intra-operative blood loss, blood transfusion rates, in-hospital stay and catheterization time. The positive surgical margin rates and complication rates did not differ significantly between the two types of procedures. The shift from an open to a robotic approach was facilitated by previous substantial experience in RRP that – at least in our opinion – minimized the learning curve of RARP before obtaining proficiency.

**PE20**

**Safety and effectiveness of a new robot for flexible ureteroscopy**

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**Introduction & Objectives:** Flexible ureterorenoscopy (FURS) represents a technically challenging procedure requiring specific endourologic skills. Based on preclinical studies, we present early clinical experience with treatments performed by 7 different experienced endourologists (IDEAL phase 2) who have used the Roboflex Avicenna™ device (ELMED, Turkey) developed for remote controlled flexible ureteroscopy. We searched the safety and effectiveness of this new device.

**Material & Methods:** After Ethical approval, a total 81 patients (mean age 42, range 6–68) were treated. The stone volumes were calculated by CT software, and single and multiple stones with a maximal total volume of 3000 mm³ were accepted in the study. The patients with

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*Note: The content above is a translated representation of the original text.*
urethra. The remaining 41 patients underwent robot-assisted radical cystectomy (RARC). Overall quality of life scores are similar in the two groups although neobladder patients appear to have a higher overall health score, perhaps reflecting the healthier patient cohort. Patient perception of body image is markedly different in the two groups with neobladder patients scoring highly. Unfortunately, sexual activity appears to be low.

**PE22**

**Oncological outcomes following robot-assisted radical cystectomy**

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**Introduction & Objectives**: Radical cystectomy is the gold standard treatment for muscle-invasive bladder cancer and offers survival advantages for high risk superficial disease. Neoadjuvant chemotherapy may also offer a survival advantage in suitably selected patients. At present, the long-term oncological outcomes for robot-assisted radical cystectomy (RARC) are unclear. We report the oncological outcomes of large series from a single centre performing this operation since July 2011. Furthermore, a significant proportion (42%) of this group have undergone neoadjuvant chemotherapy.

**Material & Methods**: Prospective data collection was performed over the period July 2011–June 2014 using our Uro- Onco database with retrospective analysis. Classification of surgical complications was undertaken using the Clavien grading system. Statistical analysis was performed using Stata® software and Kaplan-Meier curves for T-stage undertaken to report disease-specific survival and recurrence-free survival.

**Results**: 73 consecutive RARC patients with a median age of 66 (30–86) were included for analysis with 48 (66%) intracorporeal ileal conduits and 25 (34%) neobladders. Median follow-up was 11.8 months (3–32). Neobladder patients had a lower BMI at 23 (22–29) in comparison to 27 (23–32) for ileal conduits. Male to female ratio was 3:1. Common complications included blood transfusion-9.6%, ileus-14.0% and pelvic collection-6.8%. 30-day readmission rate was 8.0%. Overall 33 patients (42%) received neoadjuvant chemotherapy and 13 were downstaged to T0 at cystectomy. 32.4% of patients were stage pT3 or higher disease or were N1. Cancer specific survival was calculated at 62.8%, 87.7% and 81.8% at 180, 360 and 720 days respectively. Disease-free survival was 16.5%, 21.5% and 21.5% at 180, 360 and 720 days. 71% of patients who recurred had detectable disease within 6 months. Furthermore, of the patients who progressed to death 86% progressed within 12 months from surgery.

**Conclusions**: Survival data appears to correlate directly with T-stage and those patients who are ≥T3 or N1 do particularly badly. The impact of neoadjuvant chemotherapy appears to significantly downstage a number of patients but some patients do progress during this 12 week treatment course. Identifying which patients will benefit most from this treatment is a critical next step to move forward.

**PE23**

**A pilot prospective single centre randomised controlled trial of open, robotic and laparoscopic (CORAL) radical cystectomy**

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**Introduction & Objectives**: Laparoscopic and robotic approaches in radical cystectomy have become increasingly popular, but a high level of evidence comparing these to open radical cystectomy is lacking. We report results of a pilot 3-arm randomised controlled trial.
Abstract PE23  – Table 1

<table>
<thead>
<tr>
<th></th>
<th>ORC (n=20)</th>
<th>RaRC (n=20)</th>
<th>LRC (n=19)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 day complications (any Clavien grade)</td>
<td>14/20 (70%)</td>
<td>11/20 (55%)</td>
<td>5/19 (26%)</td>
<td>0.02 (ORC vs LRC, p&lt;0.01)</td>
</tr>
<tr>
<td>30 day complications (Clavien ≥3)</td>
<td>4/20 (20%)</td>
<td>6/20 (30%)</td>
<td>1/19 (5%)</td>
<td>0.15</td>
</tr>
<tr>
<td>90 day complications (any Clavien grade)</td>
<td>14/20 (70%)</td>
<td>11/20 (55%)</td>
<td>6/19 (32%)</td>
<td>0.07</td>
</tr>
<tr>
<td>90 day complications (Clavien ≥3)</td>
<td>4/20 (20%)</td>
<td>7/20 (35%)</td>
<td>2/19 (11%)</td>
<td>0.19</td>
</tr>
<tr>
<td>Operative time (mins)</td>
<td>293</td>
<td>389</td>
<td>301</td>
<td>0.001 (RaRC vs ORC and LRC, p&lt;0.001)</td>
</tr>
<tr>
<td>Estimated blood loss (mL)</td>
<td>808</td>
<td>585</td>
<td>460</td>
<td>0.07</td>
</tr>
<tr>
<td>Time to oral solids (days)</td>
<td>7.5</td>
<td>4</td>
<td>4</td>
<td>0.03 (ORC vs RaRC, p&lt;0.05; ORC vs LRC, p=0.01)</td>
</tr>
<tr>
<td>Length of stay (days)</td>
<td>14.4</td>
<td>11.9</td>
<td>9.7</td>
<td>0.02 (ORC vs LRC, p=0.02)</td>
</tr>
<tr>
<td>Positive resection margins</td>
<td>2/20 (10%)</td>
<td>3/20 (15%)</td>
<td>1/19 (5%)</td>
<td>0.86</td>
</tr>
<tr>
<td>1 year disease specific mortality</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 year overall mortality</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Comparing open (ORC), robotic (RARC) and laparoscopic radical cystectomy (LRC) with extracorporeal urinary diversion.

**Material & Methods:** From March 2009 to July 2012, 164 patients with muscle invasive or high risk bladder cancer were seen. Of these, 93 were suitable for inclusion in the trial; 60 (64.5%) agreed and 33 declined. 71 others were not eligible. Primary endpoints were 30 and 90 day complications, and secondary endpoints were peri-operative clinical and pathological, and quality of life (QOL) analyses. Results were analysed by intention to treat.

**Results:** 60 patients were randomised equally into 3 groups. 1 patient in the LRC group was withdrawn due to change in diagnosis. There were no significant differences in patient demographics between the 3 groups. ORC was associated with a higher incidence of 30-day complications of any Clavien grade compared to LRC only. Mean operative time for RARC was longer than for the other 2 approaches, but ORC resulted in slower return to oral solids and longer hospital stays than the minimally invasive approaches. There were no differences in pathological, oncological or QOL outcomes.

**Conclusions:** Radical cystectomy is a morbid procedure with high complication rates, whichever surgical approach is used. Randomisation into surgical trials is feasible, but recruitment from a single centre is slow and logistically challenging. We propose multicentre, multinational trials for such procedures.

**PE24**

**Perioperative and long-term postoperative success rates of Anderson-Hynes robot-assisted pyeloplasty (RAP): A single center experience**


**Introduction & Objectives:** To investigate perioperative and long-term postoperative success rates of Anderson-Hynes robot-assisted pyeloplasty (RAP) at a single center.

**Material & Methods:** We retrospectively reviewed our RAP experience of 61 patients performed by two surgeons between 2004 and 2013 regarding operating time, length of hospital stay, perioperative complication, and success. Overall success was measured on necessary redo pyeloplasty. We also identified patients with temporary stent placement due to symptomatic hydronephrosis or with further obstruction in diuretic renography.

**Results:** Median age, operating time, and follow-up was 33 years, 195 minutes and 64 months. No conversion to open procedure was necessary. The success rate was 98% (n=60) with one patient undergoing open redo pyeloplasty due to a recurrent stenosis. Temporary stent placement was reported in 3 patients due to pyelonephritis and dilatation.

**Conclusions:** Satisfying long-term success rates including low complication rates of RAP can be reported in this study. RAP presents a safe and standardised procedure for symptomatic ureteropelvic junction obstruction.

**PE25**

**Paradoxical lower positive margin rates seen in patients with D’Amico high risk prostate cancer compared to low/intermediate risk patients in robotic prostatectomy series**

R. Weston, B. Hickerton, S. Jose, S. Obediat, P. Cornford, The Royal Liverpool University Hospital, Dept. of Urology, Liverpool, United Kingdom

**Introduction & Objectives:** Robotic assisted radical prostatectomy (RAP) was introduced 3 years ago, in a relatively PSA screening-naive population. We describe the short term oncological outcomes in 245 consecutive RARP from a single surgeon in patients with high-risk disease, compared with low and intermediate-risk disease.

**Material & Methods:** Mean age was 61 years (47–74). The average pre-operative PSA was 8.8 ng/ml. Median length of stay was 1 day. Patients were risk stratified according to the D’Amico criteria. 76% of patients were low/intermediate risk and 24% were in the high-risk group. All pathology was centrally reviewed. Degree of nerve sparing and local extent of excision was determined by pre-operative parameters including D’Amico stratification.

**Results:** The overall positive surgical margin (PSM) rate was 17.6%. In the high-risk group the PSM rate was 15.4% and 20.4% in the low/intermediate-risk group. In the high-risk group 5 of 65 patients (7.5%) had a detectable post op PSA (>0.1). Two of 185 patients (1.1%) in the low/intermediate-risk group had a detectable post op PSA. Two of the seven PSA failures had a PSM.

**Conclusions:** These short-term results demonstrate that robotic radical prostatectomy gives acceptable short term oncological outcomes in a high-risk group. The table demonstrates that the T2 margin rates are similar in both groups however the unexpected T3 disease in the low/intermediate group results in a significantly higher PSM rate. The paradoxical lower positive margin rate in the high risk group is likely to be due to wider excision in this patient cohort. D’Amico stratification is far more predictive of biochemical failure then PSM rate.
PE26 Multicenter study of outcomes of robotic partial nephrectomy after major abdominal surgery

R. Barod1, H. Rahbar1, S. Marshall2, H. Zargar3, M. Ball4, J. Larson5, M. Alia6, M. Stifelman2, S. Bhayani3, J. Kaouk3, C. Rogers1. 1Henry Ford Hospital, Dept. of Vattikuti Urology Institute, Detroit, United States of America; 2New York University, Dept. of Urology, New York, United States of America; 3Cleveland Clinic, Dept. of Urology, Cleveland, United States of America; 4Johns Hopkins University, Dept. of Surgery, St Louis, United States of America

Introduction & Objectives: To evaluate outcomes of robotic partial nephrectomy (RPN) after major abdominal surgery through an open ipsilateral/midline abdominal incision.

Material & Methods: 607 consecutive RPN surgeries were identified in five academic centers. A total of 57 patients who had previously undergone major abdominal surgery, defined as having an open upper midline/ipsilateral incision. Perioperative outcomes were compared to 550 patients who had no previous major abdominal surgery.

Results: The most common types of open upper midline/ipsilateral/midline abdominal incision. The high intraoperative complication rate noted in our study was used in 9% of cases of major abdominal surgery group vs 4% in the no prior surgery group (p=0.10).

Conclusions: RPN is feasible and safe in select patients after major abdominal surgery through an open ipsilateral/midline abdominal incision. The higher intraoperative complication rate noted in our study did not appear to be related to the incision.

Table 1. Comparison of patient characteristics and perioperative outcomes of 793 RPN patients based on type of hilar clamping

<table>
<thead>
<tr>
<th>Variable</th>
<th>Satinsky (N=82)</th>
<th>Bulldog (N=711)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tumor size (cm)</td>
<td>2.93±1.71</td>
<td>3.13±1.63</td>
<td>0.385</td>
</tr>
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<td>2.93±1.71</td>
<td>3.13±1.63</td>
<td>0.385</td>
</tr>
<tr>
<td>Warm ischemia time</td>
<td>20.6±9.3</td>
<td>19.2±7.9</td>
<td>0.219</td>
</tr>
<tr>
<td>Intraoperative complication</td>
<td>3 (3.5%)</td>
<td>4 (0.7%)</td>
<td>0.043</td>
</tr>
<tr>
<td>Postoperative complication</td>
<td>11 (13.5%)</td>
<td>69 (12.5%)</td>
<td>0.151</td>
</tr>
<tr>
<td>Clavien I</td>
<td>6 (10.5%)</td>
<td>37 (6.7%)</td>
<td>0.258</td>
</tr>
<tr>
<td>Clavien II</td>
<td>4 (7.0%)</td>
<td>22 (4.0%)</td>
<td>0.151</td>
</tr>
<tr>
<td>Clavien III</td>
<td>1 (1.8%)</td>
<td>7 (1.3%)</td>
<td>0.189</td>
</tr>
<tr>
<td>Clavien IV</td>
<td>0 (0.0%)</td>
<td>3 (0.5%)</td>
<td>0.219</td>
</tr>
<tr>
<td>LOS</td>
<td>2.7±1.12</td>
<td>2.6±1.42</td>
<td>0.574</td>
</tr>
</tbody>
</table>

PE27 Use of the Satinsky clamp in robotic kidney surgery

R. Barod1, H. Rahbar1, J. Larson2, H. Zargar3, S. Marshall4, M. Ball5, M. Alia6, M. Stifelman2, S. Bhayani3, C. Rogers1, 1Henry Ford Hospital, Dept. of Vattikuti Urology Institute, Detroit, United States of America; 2New York University, Dept. of Urology, New York, United States of America; 3Cleveland Clinic, Dept. of Urology, Cleveland, United States of America; 4Johns Hopkins University, Dept. of Surgery, St Louis, United States of America; 5Johns Hopkins University, Dept. of Urology, Baltimore, United States of America

Introduction & Objectives: The Satinsky clamp is an alternative to bulldog clamps for renal hilar control during robotic partial nephrectomy (RPN), although potential concerns include the possibility of collisions. We evaluate the use of the Satinsky clamp during RPN using a multicenter database and compare outcomes to RPN performed with bulldog clamps.

Material & Methods: A multicenter study of RPN at 5 academic institutions included 793 patients with information available about method of hilar clamping: Satinsky clamp, n=82 (10.3%) and bulldog clamp, n=711 (89.7%). Patient baseline characteristics, tumor features, and peri-operative outcomes were compared between Satinsky and bulldog clamp groups. The Satinsky clamp was passed through a dedicated second assistant port for en-bloc hilar clamping.

Results: Outcomes of the Satinsky and bulldog clamp groups are shown in Table 1.

Table 1. Patient characteristics and perioperative outcomes of 607 RPN patients with and without prior major open abdominal surgery

<table>
<thead>
<tr>
<th>Variable</th>
<th>Major abdominal surgery</th>
<th>No previous surgery</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>60.5±11.6</td>
<td>58.1±11.5</td>
<td>0.128</td>
</tr>
<tr>
<td>BMI</td>
<td>30.7±6.9</td>
<td>29.8±5.9</td>
<td>0.309</td>
</tr>
<tr>
<td>ASA</td>
<td>2.6±0.6</td>
<td>2.4±0.6</td>
<td>0.067</td>
</tr>
<tr>
<td>Tumor location</td>
<td>3.1±1.71</td>
<td>3.13±1.63</td>
<td>0.385</td>
</tr>
<tr>
<td>Anterior</td>
<td>19 (33%)</td>
<td>14 (26%)</td>
<td>0.189</td>
</tr>
<tr>
<td>Posterior</td>
<td>11 (20%)</td>
<td>15 (28%)</td>
<td>0.189</td>
</tr>
<tr>
<td>Nephrometry score</td>
<td>7.4±1.86</td>
<td>7.1±3.17</td>
<td>0.330</td>
</tr>
<tr>
<td>OR time (min)</td>
<td>197.3±74.9</td>
<td>198.4±58.1</td>
<td>0.134</td>
</tr>
<tr>
<td>EBL (ml)</td>
<td>193.4±175.2</td>
<td>175.1±166.4</td>
<td>0.433</td>
</tr>
<tr>
<td>Transfusion</td>
<td>3 (5.3%)</td>
<td>2 (3.5%)</td>
<td>0.938</td>
</tr>
<tr>
<td>Warm ischemia time</td>
<td>20.6±9.3</td>
<td>19.2±7.9</td>
<td>0.219</td>
</tr>
<tr>
<td>Intraoperative complication</td>
<td>2 (3.5%)</td>
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<td>LOS</td>
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<td>2.6±1.42</td>
<td>0.574</td>
</tr>
</tbody>
</table>

There were no significant differences in patient characteristics between groups for age, BMI or ASA score. Patients in the Satinsky group were more likely to have an anterior tumor (44% vs 29%), interpolar tumor (31% vs 12%) and hilar tumor (38% vs 14%), but there was no difference in tumor size, nephrometry score, multiple tumors, multiple vessels, or baseline GFR<60. Patients in the Satinsky group had a higher estimated blood loss (257 vs 183 ml), transfusion rate (13% vs 5%) and length of stay (3.6 vs 2.8 days) but no difference in intraoperative complications, postoperative complications, or warm ischemia time. The three intraoperative complication in Satinsky group included: renal vein injury, small bowel serosal tear and epigastric vessel injury.

Conclusions: In a multicenter study of RPN, the Satinsky clamp was used for hilar clamping in a small percentage of cases, particularly for anterior, interpolar/hilar tumors. These cases had a higher
blood loss, which could make bulldog clamps more challenging, but there was no increase in intraoperative or postoperative complications.

**PE28**
Intraoperative frozen section of the prostate to reduce the risk of positive margin whilst ensuring nerve sparing in patients with intermediate and high-risk prostate cancer during robotic radical prostatectomy – first UK centre experience

N. Vasdev, A. Soosainathan, T. Kanzara, T. Lane, G. Boustead, J. Adshead. Lister Hospital, Dept. of Robotic Urology, Department of Urology, Stevenage, United Kingdom

**Introduction & Objectives:** To evaluate whether intraoperative frozen section analysis (FS) of the prostate surface might provide significant information ensuring nerve-sparing and minimizing positive margin rates.

**Material & Methods:** Between 11/2011 and 04/2014, 20 patients with intermediate and high risk prostate cancer treated with robotic radical prostatectomy (RRP) received intraoperative whole surface FS analysis of the prostate. The apex and base were circumferentially dissected as well as the whole postero-lateral tissue corresponding to the neurovascular bundles (NVB). Multiple perpendicular sections were cut systematically for FS analysis.

**Results:** Frozen Section analysis was performed in 20 patients who underwent a RRP and 40 corresponding FS analysis were performed. Tumour was identified in 8/40 (20%) of FS and the ipsilateral nerve bundle was excised. On analysis of the nerve bundle, 5 proven T3 cancer foci were found within the NVB at the matched point. No tumours were found in the remaining 3 bundles. On final histology all patients with T2 (n=15) disease had negative surgical margins and T3 (5) had tumour present in 2/5 patients (40%). Our positive surgical rate in our 500 cases performed so far has dropped to 0% from a previous 17% using this technique. On the commencement of intraoperative FS technique the mean operative time increase by 17 minutes (range 11–47 minutes). Biochemical relapse data not long enough yet but all PSAs <0.05 @ 3 months median follow up.

**Conclusions:** In our series there was a reduction in the PSM for T2 (n=15) disease had negative surgical margins and T3 (5) had tumour present in 2/5 patients (40%). Our positive surgical rate in our 500 cases performed so far has dropped to 0% from a previous 17% using this technique. On the commencement of intraoperative FS technique the mean operative time increase by 17 minutes (range 11–47 minutes). Biochemical relapse data not long enough yet but all PSAs <0.05 @ 3 months median follow up.

**Conclusions:** RRP is a safe procedure with low morbidity. As surgeons progress through the learning curve peri-operative parameters and oncological outcomes improve. This learning curve is not affected by the introduction of a fellowship-training programme. Using a carefully structured mentored approach, RRP can be safely introduced as a new procedure without compromising patient outcomes.

**PE30**
New technique for robotic assisted nephrectomy for central renal tumors with intra-operative evaluation of tumour histology

R. Barod, V. Kapoor, A. Tapper, C. Rogers. Henry Ford Hospital, Dept. of Vattikuti Urology Institute, Detroit, United States of America

**Introduction & Objectives:** We describe a technique for robotic assisted nephrectomy for central renal tumors of uncertain histology that allows for intraoperative pathological specimen assessment and modification of surgical approach to nephroureterectomy in the rare instances that transitional cell carcinoma is found.

**Material & Methods:** Eight patients had central renal masses of uncertain histology that were not amenable to nephron-sparing surgery. All patients were offered diagnostic ureteroscopy, but requested a single-stage diagnostic procedure at the time of nephrectomy for practical considerations. Patients underwent a modified four-arm robotic radical nephrectomy technique using a GelPOINT® access port for the assistant port. Following hilar ligation, the ureter was divided between two closely placed hem-o-lok clips. The kidney was immediately placed in an endocatch bag and extracted through the GelPOINT for frozen section analysis. If frozen section confirmed transitional cell carcinoma, a completion ureterectomy with bladder cuff excision was performed.

**Results:** Eight patients underwent the modified nephrectomy technique. Three patients had transitional cell carcinoma on frozen section analysis and underwent completion ureterectomy and lymph node dissection. All patients had negative margins. One patient developed hematuria requiring cystoscopic fulguration postoperatively (Clavien 3). No recurrences were documented at median 8.3 months follow up.

**Conclusions:** We describe the safety and feasibility of a robotic assisted nephrectomy technique for patients with central tumors not amenable to nephron-sparing surgery and of uncertain histology that facilitates on-table frozen section analysis to determine if transitional cell carcinoma is present and modification of surgical approach to nephroureterectomy in these cases.

**PE31**
The results of 2013 survey to evaluate laparoscopic and robotic partial nephrectomy practice in the United Kingdom

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**Introduction & Objectives:** With the increase of routine ultrasound and cross-sectional imaging there has been an increase in the number
of small renal masses worldwide. Due to this trend there is migration on the diagnosis of smaller renal masses that localized lesions, which has allowed for urologists to pursue nephron-sparing approaches to treatment, including partial nephrectomy and targeted in situ ablation.

**Material & Methods:** In the UK there is a variation in the number of LPN and RPN being performed throughout the country. To establish current practice of either technique we developed a questionnaire, which was sent to all Urological cancer units in the UK in March 2013 with a request of all participating urological surgeons to return the survey within 3 months of receipt. Prior to sending the questionnaire each cancer centre was individually telephoned by both the first and second authors of this paper. A 73% response was received from national experts in the UK performing either LPN (Group 1) or RPN (Group 2). All data collected included selection criteria, pre-operative scoring, details of surgical technique, average warm ischemia time and approximate complication rate.

**Results:** The results of the survey indicated that surgeons in Group 1 (LPN) consisted of 19 Surgeons who have performed a total of 465 LPN from June 2002 until November 2012. All surgeons select tumour <4 cm in size which are at least 50% exophytic. Ten percent of surgeons use the RENAL scorings system. The control of the renal hilum was with the lap bulldog (50%), lap satinsky (20%), rummell loop (10%) and no clamp (10%). The mean warm ischemia time was 16.6 minutes (range 0–30). The mean incidence of urinoma was 2.4% (range 2–15), AV Fistula 0.6% (range 0–3) and emergency nephrectomy was 0.5% (0–4). Twenty percent of surgeons perform Retroperitoneal LPN. In Group 2 (RPN) there were only 7 surgeons which indicates that RPN is only being performed by a select few centres in the UK and is a relatively new procedure who have performed a total of 227 RPN from January 2008 until November 2012. All surgeons selected tumour <5 cm which were technically feasible. Fifty seven percent of surgeons use a scorings system i.e. RENAL or PADUA. The mean warm ischemia time was 15.3 minutes (range 0–27). The control of the renal hilum was with the lap bulldog (100%). The mean incidence of urinoma was 1 (range 0–5), AV Fistula 0.5% (range 0–5) and emergency nephrectomy was 0. None of surgeons perform Retroperitoneal RPN. The results of our questionnaire indicate that the number of RPN in the UK is increasing gradually and is associated with a comparable WIT to LPN. The numbers of centres performing RPN are few when compared to LPN, but the volume of cases per surgeon is higher than LPN. Only one surgeon who participated in our survey performs retroperitoneal RPN.

**Conclusions:** In conclusion the results of our questionnaire indicate that RPN is a new technique in the UK which is being performed in a few select centres in the UK. The technique is being safely performed with only one surgeon performing the technique using the retroperitoneal approach. Early data indicates that the major complication rates of RPN cases are lower nationally in comparison to LPN. However longer follow up is required to validate these results.

**PE32**  
**Augmented reality in robotic partial nephrectomy utilizing intraoperative ultrasound**  
A. Hughes-Hallett 1, P. Pratt 1, A. Darzi 1, J. Vale 1, E. Mayer 1, 1 Imperial College London, Dept. of Surgery and Cancer, London, United Kingdom; 2 Imperial College London, Hamlyn Centre For Robotic Surgery, London, United Kingdom

**Introduction & Objectives:** The use of preoperative imaging to create reconstructions of a patient’s anatomy for image guidance has been widely published and successfully translated into the operating theatre. Although the use of preoperative imaging for guidance is efficacious it can only ever be used as a roadmap, lacking the levels of accuracy in deformation and registration to offer a sufficiently accurate platform to guide in tumor resection. This study assesses the feasibility of a novel approach to image guidance utilizing freehand, registered, 3D ultrasound to create an augmented reality-operating environment.

**Material & Methods:** Initially a porcine kidney was injected with an agar-based tumor phantom with similar echogenic properties to tumor, this tumor phantom had been previously validated. The kidney (and tumor) was then scanned with a tracked ultrasound probe, utilizing a methodology previously outlined by our group. From this, using a novel algorithm, a 3D tumor volume was created and overlaid onto the operative scene. In addition to this simple overlay a 3D scene reconstruction was also created using the stereo camera of the da Vinci classic system, allowing the scene to be manipulated and viewed from a multitude of different viewpoints. This process can be performed quickly allowing on-the-fly viewing of reconstructions.

**Results:** Figure 1 shows the progression from standard 2D ultrasound to the proposed augmented reality image guidance system. The system allows for reconstructions to be made fast enough to have little impact on the operative workflow.

**Figure 1. A) Conventional US view, b) & c) Creation of freehand ultrasound reconstruction using multiple ultrasound slices, d) Ultrasound reconstruction viewed in conjunction with stereo scene reconstruction.**

**Figure 2 shows the tablet-based system that the surgeon can use to manipulate his view of the operative scene, allowing him to view the reconstruction from numerous angles.**

**Figure 2. Tablet interface for manipulating and viewing image guidance.**

**Conclusions:** This initial study suggests that the use of augmented reality guidance for tumor resection in partial nephrectomy, utilizing tracked ultrasound, is feasible. More work is planned to establish whether this approach to image guidance improves resection quality over traditional intraoperative ultrasound.
PE33
Side docking for robot assisted vesicovaginal fistula resection

Introduction & Objectives: Vesicovaginal fistula (VF) is a rare complication of hysterectomy. We describe the advantages of side docking during robot-assisted vesicovaginal resection (RAVR).

Material & Methods: A 34 years-old female with a history of hysterectomy with bilateral salpingo-ophorectomy and adjuvant radiation therapy due to uterine cancer was submitted later on for left reimplantation of the ureter due to iatrogenic obstruction. Since the hysterectomy, she has been complaining for high volume urine leakage from the vagina. An MRI was performed depicting a VF of high insertion. A RAVR of the fistula with use of the 4 arms was decided. The patient was placed in a dorsal lithotomy position and a cystoscopy was performed. Two ureteric catheters were inserted to both ureters exiting from the urethra while an additional ureteric catheter was placed in the opening of the fistula and exiting through the vagina in order to mark the route of the fistula. The dorsal lithotomy position was maintained and a sideward docking of the da Vinci system was chosen for possible instrument use through the vagina and bladder. Extravesical dissection between the bladder and vagina was performed with the aid of a uterine manipulator that was placed externally from the assistant. Finally the bladder was opened and the fistula was resected. The opening of the bladder and vagina were closed with continuous single layer suture and omentum was placed in between in order to avoid recurrence. The ureteric catheters were removed immediately postoperatively while the indwelling catheter was removed two weeks later.

Results: The console time was 55 min and the estimated blood loss was minimal. After removal of the catheter immediate continence was achieved. Six months postoperatively the patient remained symptom free.

Conclusions: RAVR in post-radiation cases even though challenging is feasible and efficient. Side docking of the robot with the patient in the lithotomy position gives the ability for simultaneous cystoscopy if needed, while stenting of the ureters and endoscopically identifying the VF provides maximal safety.

PE34
Laparoscopic versus robotic partial nephrectomy by retroperitoneal access in PADUA score 8 or more
S.W. Lee, J.Y. Jeong, S.B. Jung, H.H. Sung, S.S. Jeon, S.I. Seo. Samsung Medical Center, Sungkyunkwan University School of Medicine, Dept. of Urology, Seoul, South Korea

Introduction & Objectives: To study perioperative clinicopathologic outcome of laparoscopic versus robotic retroperitoneal partial nephrectomy which were more challenging preoperative aspects and dimensions used for anatomic (PADUA) score 8 or more.

Material & Methods: We retrospectively analyzed clinicopathologic data of our hospital who underwent laparoscopic or robotic retroperitoneal partial nephrectomy by single surgeon with medical record and imaging from October 2007 to May 2013, and selected the data which PADUA scores were 8 or more and divided two (laparoscopic and robotic) groups. Baseline characteristics (age, sex, tumor side and size, eGFR and etc.), Perioperative clinical outcome (ischemic time, operative time, complication, hospital stay, percent change in eGFR and etc.), postoperative pathologic outcomes (surgical margin and etc.) were compared in two groups.

Results: Overall 56 patients (13 were in laparoscopic group and 43 in robotic group) were selected. Baseline characteristics and preoperative tumor data of two groups were not significantly different, except mean age (p<0.05). Mean ischemic time, and mean operative time of two groups were not significantly different (p>0.05). Perioperative complication rates of laparoscopic group (30.8%) were significantly higher than robotic group (46.3%) (p<0.05) (Table 1). In laparoscopic group, A-V fistula and intraoperative bleeding were 2 (15.4%) cases respectively, whereas in robotic group, 1 (2.3%) case respectively. Claven grade were also significantly higher in laparoscopic group (p<0.05). Pathologic surgical margin positive rate and mean thickness of safety margin were not statistically different (p>0.05).

Conclusions: Our data showed that retroperitoneal robotic partial nephrectomy is more safe than retroperitoneal pure laparoscopic partial nephrectomy in case of PADUA score 8 or more.

PE35
A two-stage approach to the management of renal tumors with caval and atrial extension: A novel hybrid technique with robotic-assistance
D. Dalela, F. Penna, L. Hsu, B. Barod, A. Dwivedi, A. Abdelmalak, A. Khan, J. Morgan, C. Rogers, M. Menon. Henry Ford Hospital, Dept. of Urology, Detroit, United States of America

Introduction & Objectives: We report a novel technique for management of renal cell carcinoma (RCC) with cavo-atrial tumor thrombus using a two-stage approach: 1) robotic-assistance for kidney mobilization and inferior vena cava (IVC) dissection with overnight recovery, followed by 2) open completion nephrectomy with IVC and atrial thrombectomy. We hypothesize that an initial minimally-invasive approach for the kidney could decrease bleeding from the nephrectomy bed and make the open atrial thrombectomy easier to plan.

Material & Methods: Robot-assisted kidney mobilization was performed using a midline Gelpoint for assistance. The kidney was completely freed except for its attachment to the renal vein. After repositioning and re-docking, the IVC and renal veins were dissected. The patient recovered overnight and was taken back to surgery the next day with extension of the midline incision to a median sternotomy, allowing immediate progression to bypass and circulatory arrest for completion nephrectomy and thrombectomy.

Results: The first stage robotic surgery was uneventful with an estimated blood loss of 200 mL and console time <4 hours. For the second stage, bypass was initiated within 1 hour of incision; durations of cardiopulmonary bypass and circulatory arrest were 159 and 25 minutes respectively. There was no bleeding from the nephrectomy bed despite heparinization and hypothermia.

Conclusions: A staged approach for RCC with atrial thrombus using robotic mobilization of the kidney followed by a delayed open completion nephrectomy and thrombectomy is feasible with potential to reduce bleeding from the nephrectomy bed and facilitate surgical planning between the urology, cardiothoracic surgery, and anesthesia teams.

PE36
Functional outcomes after robot-assisted radical prostatectomy in patients with severe vs. mild and moderate LUTS
N.N. Harke, M. Godes, M. Addali, A. Schütte, C. Wagner, J. Witt. Prostate Center Northwest, St. Antonius-Hospital, Dept. of Urology, Pediatric Urology and Urologic Oncology, Gronau, Germany

Introduction & Objectives: Postoperative incontinence remains a major patients’ concern after robot-assisted radical prostatectomy (RARP). Especially patients with preoperative micturition difficulties are believed to have a higher rate of postoperative sequelae. This study compares the functional outcomes in patients with mild and moderate LUTS (lower urinary tract symptoms) vs. severe symptoms.

Material & Methods: Retrospective analysis of 4870 patients after RARP was performed with division in two groups according to the International Prostate Symptoms Score (IPSS): in group 1 patients were allocated with mild to moderate symptoms (0–19, n=4524), in group 2 those with severe symptoms (20–35, n=346) could be found.

Results: Mean preoperative IPSS-score in group 1 was 7.2 and 23.6 in group 2 (p<0.001). No significant differences in mean age...
Results: respectively. Lower (group 1) and 1250 patients in the upper quartile (group 2), retrospectively. In this collective, 1250 patients could be found in the group of the youngest and oldest 25% percent of the patients after robot-assisted radical prostatectomy (RARP). The results in the group of the youngest and oldest patients will be treated with radical prostatectomy. This study investigates functional and oncological results in the youngest and oldest patients. Especially patients with severe LUTS benefit from a pronounced symptoms’ improvement.

Material & Methods: Data of 5100 patients after RARP were analyzed retrospectively. In this collective, 1250 patients could be found in the lower (group 1) and 1250 patients in the upper quartile (group 2), respectively.

Results: Mean age in group 1 was 55.2 vs. 72.3 years. Mean preoperative IIEF-5 was 18.6 vs. 10.3 in group 2 with an IPSS of 7.3 vs. 9.0 (p<0.001); PSA was 10.4 and 10.6 ng/ml, respectively (p<0.001). No significant differences could be observed in blood loss, transurethral catheter indwelling time and complications according to the Clavien-Dindo classification. In 92% vs. 82%, postoperative Gleason sum was \( \leq 7 \) with a pT-stage \( \geq 3a \) in 23% and 36% (p<0.001). After a mean follow-up of 30.6 months, recurrence occurred in 8.5% vs. 6.9% (p=0.16) with a cancer-specific survival in 99.8% and 99.6% (p=0.5). After 24 months, 95% vs. 91% of the patients were continent (defined as no pad or safety pad use); in each group 2% were strongly impaired by the urine loss (p=1.0). With a mean IIEF-5 of 5.6, 22% of the patients in the upper quartile could have sexual intercourse.

Conclusions: Both groups achieved similar results after RARP including perioperative parameters and oncological follow-up. An individual life expectancy above ten years should be respected to ensure that the patient can benefit from the long term oncological advantages. Comparable functional results proofs that RARP should be discussed as a treatment option also in elderly patients according to their individual health condition.

PE37 Robot-assisted radical prostatectomy – comparison of operative, functional and oncological results in the youngest and oldest patients

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Introduction & Objectives: Despite the ongoing discussion concerning therapeutic alternatives beyond surgery especially in the elderly patients, a major proportion of these patients with prostate cancer will be treated with radical prostatectomy. This study investigates the results in the group of the youngest and oldest 25% percent of the patients after robot-assisted radical prostatectomy (RARP).

Material & Methods: Data of 5100 patients after RARP were analyzed retrospectively. In this collective, 1250 patients could be found in the lower (group 1) and 1250 patients in the upper quartile (group 2), respectively.

Results: Mean age in group 1 was 55.2 vs. 72.3 years. Mean preoperative IIEF-5 was 18.6 vs. 10.3 in group 2 with an IPSS of 7.3 vs. 9.0 (p<0.001); PSA was 10.4 and 10.6 ng/ml, respectively (p<0.001). No significant differences could be observed in blood loss, transurethral catheter indwelling time and complications according to the Clavien-Dindo classification. In 92% vs. 82%, postoperative Gleason sum was \( \leq 7 \) with a pT-stage \( \geq 3a \) in 23% and 36% (p<0.001). After a mean follow-up of 30.6 months, recurrence occurred in 8.5% vs. 6.9% (p=0.16) with a cancer-specific survival in 99.8% and 99.6% (p=0.5). After 24 months, 95% vs. 91% of the patients were continent (defined as no pad or safety pad use); in each group 2% were strongly impaired by the urine loss (p=1.0). With a mean IIEF-5 of 5.6, 22% of the patients in the upper quartile could have sexual intercourse.

Conclusions: Both groups achieved similar results after RARP including perioperative parameters and oncological follow-up. An individual life expectancy above ten years should be respected to ensure that the patient can benefit from the long term oncological advantages. Comparable functional results proofs that RARP should be discussed as a treatment option also in elderly patients according to their individual health condition.

PE38 Introduction of a “dedicated prostate surgical planning meeting” increases the frequency of nerve-sparing in men undergoing robotic prostatectomy for prostate cancer while maintaining oncological safety


Introduction & Objectives: Nerve-Sparing (NS) surgery has been demonstrated to be independently associated with increased risk of a Positive Surgical Margin (PSM) following Radical Prostatectomy (RP) for prostate cancer when patient selection has not been performed. We examine if the introduction of a “dedicated prostate surgical planning meeting” enabled us to select patients for nerve sparing with out increasing the PSM rate in men undergoing RP.

Material & Methods: Patients included in the study were grouped according to whether they had undergone RP before (group 1, 390 men) or after (Group 2, 237 men) the introduction of a “dedicated prostate surgical planning meeting”. The outcome of the surgical planning meeting was a graphical surgical plan individualised the patients disease and pre-surgical functional status. Post op data collected included oncological and functional status via a validated questionnaire (IIEF5, IQCQ-SF).The accuracy of preop staging, the incidence of nerve sparing and the PSM rate were used as end points for comparison with p=0.05 set as significance.

Results: Median age and serum PSA for the entire patient cohort were 59 years and 10.4 ng/ml respectively while pathological stages were pT2c in 43%, pT3a in 40% and pT3b in 17% of patients. No significant difference was noted in disease characteristics between Group 1 and Group 2. No significant difference in presurgical potency status was found between Group 1 and Group 2. Nerve-sparing was performed in 32% (125/390) of men in Group 1 compared to 46% (109/237) of men in Group 2 (p<0.02). No significant difference was noted in the PSM rate between Group 1 and Group 2 (23% versus 14%). There was no statistical significant difference between the accuracy of staging between the two groups although the specificity and positive predictive value of staging when discussed in a dedicated meeting were found to be higher (specificity group 1 38.5% vs 49.5% in group 2; positive predictive value 63.6% in group 1 vs 70.6 in group 2).

Conclusions: The introduction of a “dedicated prostate surgical planning meeting” was associated with a significant increase in the frequency of nerve-sparing in men with high risk prostate cancer while maintaining oncological safety.

PE39 Use of 3D HD auxiliary monitor by bedside assistant results in shorter console-time and ischemia-time in robot-assisted laparoscopic partial tumor-nephrectomy

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Introduction & Objectives: Recently, we have shown that connecting live three-dimensional (3D) monitors to all three available Da Vinci robot® (Intuitive) generations improved the impression of shared perception for the whole surgical team. Standardized dry lab experiments revealed that delicate teamwork was faster (up to 40%) when using the 3D monitor. We now studied whether introduction of 3D auxiliary monitor for the assistants at the operating table indeed had a positive impact for robot-assisted laparoscopic partial tumor-nephrectomies (RAL-PN). In order to exclude possible learning curve effects, we examined the data of 26 procedures of 1 experienced surgeon and team members where in every case the same standardized surgical procedure was performed.

Material & Methods: Skin-to-skin time, console time, warm ischemia time and blood loss data of the last 13 subsequent partial nephrectomies using the conventional 2D auxiliary monitor were compared with the first 13 using the 3D auxiliary monitor. The perioperative outcomes were collected by retrospective review of the medical records. To display the 3D image, the digital YPbPr video signals for Left and Right images where connected to a medical grade 3D display system utilizing passive rotational polarization glasses (Sony LMD-2451MT, Tokyo, Japan) via two video converters (AJA video, HD10A-R0). All RAL-PNs were performed trans-peritoneally with identical robot (4) and assistant (2) port placements. In all patients the same
standardized procedures were used in every step of the operation, e.g. dissection of the vascular hilus, clamping of the vessels, the tumor-enucleo-resection, closure in 2 layers and unclamping after closure of the first layer. Between both groups no significant differences were noted for patient or tumor characteristics. Analysis was performed by Student’s t-test.

**Results:** The skin-to-skin time, the console time and the warm ischaemia time were significantly reduced. In contrast, blood loss and non-console time were not significantly reduced. In the table figures are shown as average ± standard deviation.

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Blood loss</th>
<th>Skin-skin</th>
<th>Console</th>
<th>Ischemia</th>
</tr>
</thead>
<tbody>
<tr>
<td>2D N=13</td>
<td>200±191</td>
<td>180±35</td>
<td>145±29</td>
<td>16.8±5.3</td>
</tr>
<tr>
<td>3D N=13</td>
<td>142±134</td>
<td>153±30</td>
<td>115±22</td>
<td>13.0±3.5</td>
</tr>
<tr>
<td>Change %</td>
<td>−29</td>
<td>−15</td>
<td>−20</td>
<td>−22</td>
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<td>0.19</td>
<td>0.02</td>
<td>0.004</td>
<td>0.02</td>
</tr>
</tbody>
</table>

**Conclusions:** We demonstrated that, at least for RAL-PNs, application of a 3D-monitor for the assistants resulted in clinically significant shorter warm ischemia times and console operating times when compared to the conventional 2D view. This is the first clinical study that shows a crucial relevance in optimizing shared spatial perception, which is in accordance with our previously published test results of 2D vs 3D in a lab setting.

PE40

Prospective comparison of the EPIC urinary function subscale to the AUAsi and urinary QOL as a metric of “urinary outcomes” following robotic assisted radical prostatectomy

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**Introduction & Objectives:** Radical prostatectomy impacts urinary QOL negatively due to incontinence and favorably due to relief of obstruction. The EPIC “Urinary Function” (UF) score represents the standard by which “Urinary Outcomes” have been measured in high profile publications. The EPIC UF was validated in men with prostate cancer whereas AUAsi/QOL was validated in “normal” men with varying degrees of LUTS. This is the first study in RARP men to prospectively compare and contrast “urinary outcomes” via the EPIC UF and AUAsi/QOL.

**Material & Methods:** 121 men undergoing RARP by one surgeon filled out self-administered questionnaires: EPIC, AUAsi/QOL preoperatively and 3, 9 and 12 months (M); Continence was defined as NO pad usage and available for 114/121 subjects (94%). The AUAsi and the urinary QOL were transformed to the same scale as the EPIC UF, i.e. maximum 100 and worst 0. Statistical significance was tested using paired t-tests.

**Results:** Baseline age was 60.4 (range 43–76) and all men were continent. Pad free rates at 3 and 12 M were 71.7% and 95.5%. The EPIC UF baseline was 96.3 compared to Urinary QOL of 68.5. The baseline urinary QOL was much lower because of LUTS. By one year the EPIC UF declined but returned by 12M to 91.3 (5% below baseline) due to the impact of incontinence. The AUAsi showed persistent improvement as it is not affected by incontinence only obstructive and irritative symptoms. The Urinary QOL which is impacted by incontinence only obstructive and irritative symptoms. The Urinary QOL was transformed to the same scale as the EPIC UF, pad usage and available for 114/121 subjects (94%). The AUAsi and urinary QOL were transformed to the same scale as the EPIC UF, i.e. maximum 100 and worst 0. Statistical significance was tested using paired t-tests.

**Conclusions:** Both the EPIC and urinary QOL measure HRQOL however results in this study were widely disparate as the EPIC UF demonstrated urinary function following RARP that did not return to baseline. In distinction, the urinary QOL which is sensitive to both LUTS and incontinence demonstrated in the same patients a significant improvement of 17% above baseline. Even though the EPIC UF was validated in men with prostate cancer this study indicates the Urinary QOL is a better measure of “urinary outcomes” following RARP as it is sensitive to LUTS and incontinence.

PE41

Long term outcomes in severe lower urinary tract symptoms in men following RARP

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**Introduction & Objectives:** Few studies have reported short and long term urinary outcomes of RARP in men with severe lower urinary tract symptoms (LUTS), independently from mild or moderate LUTS.

**Material & Methods:** RARP was performed on 665 patients by one surgeon from 2002 to 2007. Men returned pre and post-operative self-reported AUAss, urinary QOL and continence (pad usage) questionnaires. Men with preoperative severe LUTS, AUAss ≥ 20, (n=53, 8%) were observed longitudinally for a mean of 4.0 years (range 1.6–9.4 years) and compared to men with mild/moderate LUTS (AUAss <19, n=612, 92%).

**Results:** In men with severe LUTS, baseline average AUAss and QOL scores were 24.3 and 4.0. Long term AUAss improved by 70% (17 points, p<0.001), specifically 59% had AUAss drop to <8, 35% to 8–18 and 6% remained at ≥20. All individual AUA scores on average significantly improved (p<0.001) postoperatively, and decreased the most at 3 months except Nocturia p<0.05. The mean QOL scores declined from 4.0 to 2.0 (p<0.05). Preoperatively, 73% (38/52) had a QOL score of 4–6 compared to just 18% (6/33, p<0.001) long term following RARP. Overall pad free status is 71% versus 89%.

**Conclusions:** RARP significantly improved urinary symptoms and QOL scores in men with severe LUTS, with an overall pad free status of 71%. Specifically, these men should be counseled that RARP confers a significant short and long term benefit with regard to relief of obstructive and irritative symptoms.

PE42

Urinary continence after robotic prostatectomy: Results from a randomized, double-blind multi-center phase 4 clinical trial evaluating Solifenacin Succinate versus placebo

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**Introduction & Objectives:** Delusional bladder effects after radical prostatectomy such as reduced compliance, decreased capacity, and hyperactivity influence recovery of urinary continence. NCT01371994 (Vanguard Trial) a multi-center, randomized, double-blind study assessed the effects of postoperative Solifenacin succinate (SS) vs placebo on early return to continence after Robot Assisted, Laparoscopic Radical Prostatectomy (RALP).

**Material & Methods:** Continence outcomes after RALP were assessed by the Vanguard Trial. Primary and secondary outcomes were collected daily with a smartphone device (SPH) provided to patients the day of Foley catheter removal. Digitally recorded, encrypted patient answers were transmitted to dedicated servers. The study had an initial 21 day screening phase. Those voiding spontaneously during the last week of screening – but reporting urinary incontinence that re-
required 2 to 10 pads inclusive per day (PPD) – were eligible for 1:1 randomization ratio to either 5 mg SS daily or placebo. Randomized patients kept the SPH for another 12 weeks and answered daily inquiries, such as the number of PPD used over the prior 24 hours. The primary endpoint was the time interval from randomization to continence – defined as 0 pads use or a security pad completely dry for 3 consecutive days. Average PPD change from baseline to each visit was a secondary endpoint and the number of patients who reached 0–1 PPD use on any day of study was also analyzed as a post-hoc analysis.

Results: Of the 1125 screened patients, 1086 had SPH data and 837 (77.1%) wore one or less PPD by 15 weeks after RALP. 640 patients met randomization criteria and 622 patients had complete post-baseline SPH data. There was no significant difference in the continence time interval – primary endpoint (p=0.17). Mean change from baseline to end of treatment in average daily pad use was −2.9 and −3.2, for placebo and SS, respectively (p=0.033). By study end, 202/309 (65.4%) in placebo and 233/313 (74.4%) in SS reported 0–1 PPD use (p=0.0137). Dry mouth was the only common adverse event: 6.6% and 6.1% of placebo and SS, respectively.

Conclusions: Solifenacin succinate did not significantly affect time to continence following RALP; but was significantly associated with reaching the 0–1 PPD milestone by the end of the study. Among 1086 screened subjects with SPH data 77% reach the 0–1 PPD milestone 15 weeks after RALP (Level 1–B evidence).

PE43
Tablet based image guided robotic surgery – first in man
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Introduction & Objectives: Preoperative MR and CT images contain large amounts of anatomical data, but this powerful information is under-utilised during actual interventional procedures. The aim of this study is to report the feasibility of using a tablet/iPad based 3D imaging device for the first 2 cases of robotic assisted radical prostatectomy (RARP).
Material & Methods: The Translucent Medical system is comprised of a tablet computer with a touch screen display, a tracking system housed in a portable cart, a magnetic field generator and position sensors. Proprietary software uses the tracking data from the sensors to present 3D patient images in alignment with the patient’s anatomy. As the tablet computer display is moved, the system software updates image data over 20 times per second to show the patient’s internal anatomy in motion on the tablet display. After extensive laboratory and cadaveric testing it was used in two RARP patients with informed consent. The tumours were colour coded for accurate visualisation.
Results: The average operative time was 120 minutes. Both patients had negative margins – the first had two Gleason 6 cancers, one suspected T3 at the apex, the second patient had a Gleason 7 anterior tumour at the bladder neck. Both achieved continence, at 3 months and 2 weeks respectively and are undergoing penile rehabilitation.
Conclusions: This new tablet-like device is small, portable and easy to use. The 3D images align to the position of the patient on the operating table as well as during the movement of the prostate and its neighbouring structures during RARP. The device is undergoing further clinical testing based on IDEAL principles within the framework of a health technology assessment.

PE44
Setting up a new robot assisted radical cystectomy service
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Introduction & Objectives: Radical cystectomy is the treatment of choice for muscle invasive bladder cancer in fit patients. However, it is associated with significant morbidity and mortality of 48% and 4.2% respectively at 90 days. Median length of stay in UK is 13 days. A carefully designed service combining minimally invasive surgery with an Enhanced Recovery Programme may reduce length of stay, complications and mortality. We describe our experience in setting up and implementing such a service.
Material & Methods: A new regional robot assisted radical cystectomy service started in April 2013. Between April 2013 and June 2014, 23 patients (19 men and 4 women), of average age 72 years old (range: 56–81) and median ASA grade 2 (range: 1–3), underwent robot assisted radical cystectomy with extended pelvic lymph node dissection. 21 of the patients had ileal conduit and 2 orthotopic neobladder formation. As part of our Enhanced Recovery Programme, patient education, pre-operative carbohydrate drinks, spinal analgesia, goal-directed fluid therapy, early feeding (with nutritional supplementation) and intensive early mobilisation were applied and opioid analgesics and nasogastric tube insertion were avoided.
Results: Median surgical time was 6.5 h (range: 5 h 30 min–8 h 53 min), median blood loss was 223 ml (range: 30–500 ml) and median length of stay was 8 days (range: 5–29 days). One death was recorded (Clavien 5), one patient underwent laparotomy (Clavien 3b), one patient required readmission for transfusion and drainage of pelvic haematoma (Clavien 3a) and one more patient was transfused (Clavien 2). There were no other significant complications.
Conclusions: A well designed Enhanced Recovery Programme in combination with minimally invasive surgery can dramatically improve complications and length of stay compared to the national standards, even from its beginning. Long term results are awaited.

PE45
Simultaneous robotic partial nephrectomy and laparoscopic hemicolectomy: Report of a case
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Introduction & Objectives: Primary cancer may occur synchronously in different organs. Synchronous renal cell carcinoma in patients with colorectal carcinoma is reported in various percentages ranging from 0.03 to 4.85%. When surgical treatment is indicated, usually two separate operations are planned for resection. To our knowledge this is the first report about a synchronous Robotic left partial nephrectomy with contralateral laparoscopic hemicolectomy.
Material & Methods: A 65-year-old male was studied with an US of the abdomen due to strong urinary symptoms. The US showed a left renal mass of 4 cm. The abdominal CT confirmed the tumor of the left kidney and showed a synchronous tumor of the right colon ascending with lymphadenopathy. The patient subsequently underwent synchronous Robotic resection of the renal tumor and laparoscopic resection of the colon.
Results: Total operation time and blood loss were 210 minutes and 100 milliliter. The operation time needed for laparoscopic tumor nephrectomy was 110 minutes, and blood loss was 50 milliliter. For the hemicolectomy, operative time and blood loss were 100 minutes and 50 milliliter, respectively. The procedure was uncomplicated. On postoperative day 2 the wound drain was removed, and on day 4 the patient had flatus and the first bowel motion. The patient was dis-
charged 8 days postoperatively. There were no postoperative complications.

**Conclusions:** This abstract demonstrates the feasibility of this new approach with less complications. The interaction of Robotic and laparoscopic surgery can offer new opportunity to treat simultaneous multiorgan disease.

**PE46**

**Surgical margins less than 1 mm have no effect on biochemical recurrence after robotic radical prostatectomy**

G. D’Elia, P. Emiliozzi, A. Iannello, A. Cardi. Az Ospedaliera San Giovanni, Dept. of Urology, Rome, Italy

**Introduction & Objectives:** Positive surgical margins (SM) are universally acknowledged as an independent predictor of biochemical recurrence after open radical prostatectomy. However, it is not clear whether tumor distance less than 1 mm from the surgical margin might affect biochemical failure. We assessed the impact on biochemical recurrence in men with robotic radical prostatectomy specimens having negative SM, positive SM and SM less than 1 mm.

**Material & Methods:** A consecutive series of 400 men undergoing robotic radical prostatectomy with a minimum follow up of 24 months was divided into 3 groups based on margin status: negative, positive and less than 1 mm. Biochemical recurrence was defined as PSA greater than 0.2 ng/ml on 2 consecutive tests. Cox regression models were constructed to evaluate predictors of biochemical recurrence.

**Results:** A total of 40 patients (10%) had margins less than 1 mm, 60 patients (15%) had positive margins (8% of T2 and 26% of pT3) and 312 patients (75%) had negative margins. Preoperative PSA, pathological stage, Gleason score, and margin status were independent predictors of biochemical recurrence. Patients with negative SM and those with a SM less than 1 mm had similar rates of biochemical recurrence (log rank test p=0.18).

**Conclusions:** Surgical margins less than 1 mm seem to have no effect on biochemical recurrence after robotic radical prostatectomy. Longer follow up is necessary for confirmation of this finding.

**PE47**

**Perioperative, pathological and functional outcomes in robotic radical prostatectomy patients with prostate weight more than 100 gr**

G. D’Elia, P. Emiliozzi, A. Iannello, A. Cardi. Az Ospedaliera San Giovanni, Dept. of Urology, Rome, Italy

**Introduction & Objectives:** This study examines perioperative, pathological and functional outcomes as well as complications of robotic radical prostatectomy at a large community-setting center with a quality assurance program.

**Material & Methods:** Perioperative data and functional and pathological results of 500 consecutive patients who underwent robotic radical prostatectomy were prospectively collected. Perioperative outcome measures included: operative time, estimated blood loss, transfusion rate, complications and biochemical recurrence free survival. Pathologic outcome measures encompassed positive surgical margin rate and biochemical recurrence free survival (PSA <0.2). Return of continence was estimated at 1, 3, 6 and 12 months (continent 0 pads; incontinent 1 or more pads). Return of potency was evaluated at 1, 3, 6 and 12 months with IIEF-5 scores in 402 patients who underwent a nerve-sparing procedure (mean age 61 years; range 36–70).

**Results:** Mean age was 64.1 years (36–73). Mean body mass index (BMI) was 26.6. Mean preoperative PSA level was 6.9 ng/ml. Mean operative time was 146 minutes. Mean estimated blood loss was 160 cc. Blood transfusion was needed in 8 patients. Median hospital stay was 3 days, mean catheterization time was 8.1 days. According to the modified Clavien system, grade III complication rate was 2.6%, whereas minor complication rate was 17%. Positive surgical margin rate was 12.8% for pT2 disease and 29% for pT3 disease. Overall biochemical recurrence free survival is 95%. Complete continence at 1, 3, 6, and 12 months was 57%, 88%, 94% and 98%, respectively. Mean age of the 402 patients who underwent a nerve-sparing procedure was 61 years (range 36–69). At 1, 3, 6 and 12 months return of potency (IIEF-5 >21) with or without the use of oral medications was achieved in 6%, 22%, 51% and 68%, respectively.

**Conclusions:** Robotic radical prostatectomy has a low perioperative complication rate and acceptable outcomes in terms of positive surgical margins and maintenance of urinary continence and erectile function.

**PE49**

**Robot-Assisted Radical Cystectomy (RARC) results in lower costs and less complications as compared to Open Radical Cystectomy (ORC)**

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**Introduction & Objectives:** Despite the increasing application of the da Vinci robot in radical cystectomies, little is known about the cost-effectiveness. We have analyzed all costs and complications up to 90
days after cystectomy and compared them with the open radical cystectomy group.

**Material & Methods:** All patients who underwent radical cystectomy between January 2010 and September 2013 in our center were included. The reason for choosing January 2010 is that total costs could be retraced up until this date. Up until November 2010 only open radical cystectomies (ORC) were performed. Starting from November 2010 all patients underwent robot-assisted radical cystectomy (RARC), unless during the first 20 RARCs they had a cT3–4 tumor or previous extensive abdominal surgery. After the first 20 RARCs the open approach was only used with tetraplegia and when laparoscopy was impossible. This selection of cases was analyzed separately (S-ORC). Only oncological cystectomies were included and all were performed intracorporeal (including neobladders). The perioperative parameters, complications (Clavien) and total costs up to 90 days after radical cystectomy were analyzed. Total costs included all registered costs up to 90 days post-operative and all extra costs for materials, readmissions, transfusions and purchasing/maintenance of the robot.

**Results:** The ORC-group was comprised of 18, the S-ORC-group of 15 and the RARC-group of 56 patients. Mean operating time (minutes, skin to skin) was 325 for ORC, 368 for S-ORC and 339 for RARC. Mean blood loss was 211 cc, 1750 cc and 2111 cc for RARC, ORC and S-ORC respectively. Length of stay was shorter for RARC with 12.6 days compared to 24 days for ORC and 21 days for S-ORC. The incidence of severe complications (Clavien 3–5) was lower for RARC at 11% versus 21.4% for S-ORC and 44.4% for ORC. Total costs were compared with ORC (100%). Total costs of S-ORC were 93% and costs of RARC were 93.5%. The RARC group was divided in groups of 20. Total costs of the last group were 77.8% of ORC.

**Conclusions:** This retrospective analysis of costs shows that, including the extra costs of robotic surgery, RARC is not more expensive than ORC, possibly even cheaper. Besides that, RARC seems to have less complications and shorter length of stay as compared to ORC. A well-designed cost-effectiveness study is needed to confirm these results.

**PE50**

Robotic prostatectomy as a part of multimodal therapy for locally advanced prostate cancer -- biochemical recurrence free survival at 3 years


**Introduction & Objectives:** There has been a paradigm shift in the role of surgery as a primary treatment option, either alone or in conjunction with adjuvant therapy, for high risk prostate cancer. Surgery in this setting has shown to not only to provide definitive staging of the disease, but has also reduced the need for adjuvant therapy when down staging/downgrading occurs. Limited data is available on the biochemical recurrence free survival in patients who undergo Robotic prostatectomy as a part of multimodal therapy for high risk prostate cancer. We present this data from our centre with a median follow up of 24 months.

**Material & Methods:** 651 patients underwent robotic prostatectomy for prostate cancer over a 52 month period. 65 of these patients underwent Robotic prostatectomy as a part of multimodal therapy (i.e., had adjuvant therapy prior to biochemical recurrence), with a median follow up of 24 months. Decision for multimodal therapy was made either preoperatively or immediate post operatively with histopathological data at a multidisciplinary team meeting. Patient demographics, cancer characteristics and oncological outcomes were obtained prospectively. PSA was measured at 3 monthly intervals for the first two years, and then went on to 6 monthly PSA measurements provided no rise in PSA beyond nadir was noted. Kaplan Meier survival curve was generated for patients to obtain the biochemical recurrence free survival over the follow up period.

**Results:** The median age, PSA, gleason score and stage of the cohort of patients were 64 (49–71), 32 (15–73), 7 (7–10) and T3a (T3a-T4) respectively. 43/65 patients had T3b or above disease (66.2%). Out of the 65 patients undergoing Robotic prostatectomy as a part of multimodal therapy for prostate cancer, 6 patients (9.2%) had a biochemical recurrence despite adjuvant therapy. No patient has had a definite disease recurrence seen on imaging till date. The biochemical recurrence (BCR) free survival for this group of patients is as shown in the survival graph below. The BCR free survival at 3, 6, 12, 24 and 36 months post-surgery were 100%, 96.7%, 94.4%, 86.8 and 77.2% respectively.

**Conclusions:** Robotic prostatectomy is a viable option as a primary step in the multimodal therapy of prostate cancer offering a BCR free survival of 77.2% at 36 months and a disease free survival of 100% with a median follow up of 24 months.

**PE51**

A novel mathematical model to predict severity of postoperative functional reduction before partial nephrectomy: An importance of calculating Resected And Ischemized Volume (RAIV)

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**Introduction & Objectives:** Preoperative prediction for postoperative kidney function is an essential step to achieve improved renal function and prevent chronic kidney disease. We introduce the novel formula specialized for calculating resected and ischemized volume (RAIV) before partial nephrectomy and examine whether RAIV has the value to predict postoperative renal function.

**Materials & Methods:** We did a retrospective cohort study of 210 patients who underwent robotic partial nephrectomy (PN) between September 2006 and October 2013 at a tertiary cancer care center. Based on abdominal–pelvis CT and MRI scan, RAIV was calculated by the novel mathematical formula using integral calculus. Comparative analysis between RAIV and current nephrometries was undertaken for its degree of association and predictability regarding severity of postoperative functional reduction.

**Results:** In multivariable analysis, RAIV shows a superior association and predictability compared to current nephrometries. A Kaplan Meier survival curve was generated for patients to obtain the biochemical recurrence free survival over the follow up period.
change of eGFR/percent change of eGFR. Area under ROC curve shows an accurate predictability of RAIV on the stratified event of absolute change of eGFR/event of percent change of eGFR compared with three of representative nephrometries. The calibration plot of this model was excellent (close to the 45-degree line) within the whole range of predicted probabilities.

**Conclusions:** We demonstrated the method of preoperative calculation of RAIV with novel formula and it has a superior correlation with absolute and percent change of eGFR compared to current nephrometries and the prediction model achieved strong correlation for absolute and percent change of eGFR.

**PES2**

**Initial experience of robotic adrenalectomy by a single open surgeon: Early outcomes and learning curve**

J. Ha Bum, L. Yong Seong, K. Ki Kyung, L. Young Goo. Hallym University College of Medicine, Dept. of Urology, Seoul, South Korea

**Introduction & Objectives:** This study aimed to analyze the initial experience of robotic adrenalectomy in an open surgeon who was naïve to laparoscopic surgery, and to investigate the outcomes of robotic adrenalectomy and the change of operative time.

**Materials & Methods:** From July 2008 to October 2012, 20 consecutive patients (15 women, 5 men) underwent robotic, unilateral, transperitoneal adrenalectomy. All surgeries were performed by a single open surgeon. The data of patients were analysed retrospectively.

**Results:** The mean operative time was 216.8 (145–355) min and the mean tumor size was 3.4 (1.7–8.0) cm. The mean change in hemoglobin levels was −1.8 (−6.2 to −6.7) g/dL. The mean duration of hospital stay was 5.1 (1–16) days. Neither conversion nor mortality occurred. As operative complications, one case of intraoperative transfusion, one case of postoperative transfusion, one case of prolonged abdominal discomfort, and one case of prolonged drainage were reported. Benign tumors including eight Cushing’s adenomas (40%) were most frequently observed. In a simple linear regression analysis, the changes in the operative time of robotic adrenalectomy were statistically insignificant, whereas the mean operation time of the last 5 robotic adrenalectomies was significantly shorter than that of the first 5 cases.

**Table 1. Patient demographics**

<table>
<thead>
<tr>
<th></th>
<th>Adrenalectomy</th>
<th>Nephrectomy</th>
<th>Prostatectomy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, yrs, mean (range)</td>
<td>49.5 (26–68)</td>
<td>58.8 (28–82)</td>
<td>65.7 (53–75)</td>
</tr>
<tr>
<td>Sex, male, no. (%)</td>
<td>5 (25)</td>
<td>9 (53)</td>
<td>20 (100)</td>
</tr>
<tr>
<td>BMI, mean (range)</td>
<td>25.0 (20.9–29.4)</td>
<td>24.9 (19.4–30.9)</td>
<td>23.1 (16.4–29.4)</td>
</tr>
<tr>
<td>Comorbidities, no. (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypertension</td>
<td>12 (60)</td>
<td>7 (41)</td>
<td>11 (55)</td>
</tr>
<tr>
<td>Diabetes mellitus</td>
<td>2 (10)</td>
<td>1 (8)</td>
<td>5 (25)</td>
</tr>
<tr>
<td>ASA score, no. (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>1 (5)</td>
<td>3 (18)</td>
<td>3 (15)</td>
</tr>
<tr>
<td>II</td>
<td>18 (90)</td>
<td>13 (76)</td>
<td>18 (80)</td>
</tr>
<tr>
<td>III</td>
<td>1 (5)</td>
<td>1 (8)</td>
<td>1 (5)</td>
</tr>
<tr>
<td>IV</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>Previous abdominal/pelvic surgery, no. (%)</td>
<td>6 (30)</td>
<td>5 (30)</td>
<td>4 (20)</td>
</tr>
<tr>
<td>Adhesion, no. (%)</td>
<td>1 (5)</td>
<td>2 (32)</td>
<td>5 (25)</td>
</tr>
</tbody>
</table>

**Table 2. Perioperative results**

<table>
<thead>
<tr>
<th></th>
<th>Right robotic adrenalectomy</th>
<th>Left robotic adrenalectomy</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operative time, min (range)</td>
<td>235.8 (155–315)</td>
<td>195.6 (145–260)</td>
<td>0.343</td>
</tr>
<tr>
<td>size, cm, mean (range)</td>
<td>5.2 (1.7–5.0)</td>
<td>3.8 (2.0–8.0)</td>
<td>0.678</td>
</tr>
<tr>
<td>Hb, g/dL (range)</td>
<td>1.9 (0.6–7.5)</td>
<td>1.7 (0.3–3.1)</td>
<td>0.749</td>
</tr>
<tr>
<td>Hct, % (range)</td>
<td>5.7 (0.7–30.5)</td>
<td>5.0 (2.6–8.3)</td>
<td>0.999</td>
</tr>
<tr>
<td>Length of hospital stay, d, mean (range)</td>
<td>4.6 (1–14)</td>
<td>5.8 (3–18)</td>
<td>0.824</td>
</tr>
<tr>
<td>Conversion to open surgery, n</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Mortality</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

**Table 3. Perioperative complications**

<table>
<thead>
<tr>
<th></th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intraoperative</td>
<td></td>
</tr>
<tr>
<td>Transfusion</td>
<td>1 (5)</td>
</tr>
<tr>
<td>Postoperative</td>
<td></td>
</tr>
<tr>
<td>Complications</td>
<td></td>
</tr>
<tr>
<td>Clavien grade 1</td>
<td>1 (5)</td>
</tr>
<tr>
<td>Prolonged abdominal discomfort</td>
<td>1 (5)</td>
</tr>
<tr>
<td>Prolonged drainage</td>
<td>1 (5)</td>
</tr>
<tr>
<td>Clavien grade 2</td>
<td></td>
</tr>
<tr>
<td>Transfusion</td>
<td>1 (5)</td>
</tr>
</tbody>
</table>

**Table 4. Pathologic results**

<table>
<thead>
<tr>
<th></th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Histology</td>
<td></td>
</tr>
<tr>
<td>Cushing adenoma</td>
<td>8 (40)</td>
</tr>
<tr>
<td>Phaeochromocytoma</td>
<td>4 (20)</td>
</tr>
<tr>
<td>Adenoma</td>
<td>4 (20)</td>
</tr>
<tr>
<td>Non-functioning adenoma</td>
<td>2 (10)</td>
</tr>
<tr>
<td>Adrenal cyst</td>
<td>1 (5)</td>
</tr>
<tr>
<td>Metastatic adenocarcinoma</td>
<td>1 (5)</td>
</tr>
</tbody>
</table>
Conclusions: Robotic adrenalectomy is a good option even for open surgeons to treat adrenal tumors, considering the feasible and safe outcomes in this study. However, for open surgeons, robotic adrenalectomy can be challenging in the initial learning period.

Hautmann ileal neobladder with chimney modification during robotic radical cystectomy: Assessment of functional outcomes and complications?

K.K. Kim, Y.G. Lee. Hallym University College of Medicine, Dept. of Urology, Seoul, South Korea

Introduction & Objectives: Orthotopic neobladder reconstruction is a common method for urinary diversion following radical cystectomy. We report on the functional outcomes and complications of Hautmann ileal neobladder with chimney modification.

Materials & Methods: Between 2006 and 2012, 30 patients with invasive bladder cancer were included in this study. All underwent robotic radical cystectomy with orthotopic neobladder reconstruction by a Hautmann ileal neobladder with chimney modification. Neobladder reconstruction was performed with open surgical technique. Functional outcomes and complications were evaluated using uroflowmetry, a questionnaire, and reviewing medical records retrospectively.

Results: The mean (range) follow-up period was 19.4 (12–43) months. 13 early complications developed in 9 patients, whereas five late complications in 5 patients. The most common early complications were wound infection and ileus. The most common late complications were uretero-neobladder stricture and urethra-neobladder stricture. 90% of patients voided spontaneously without CIC assistance. 67% of patients were continent. 23% of patients used 1–2 pads, 3% of patients used 3–4 pads and 7% of patients used 5+ pads per 24 h. Daytime and night-time continence were achieved in 83% and 66% of patients. 70% of patients reported mucus leakage every day. 57% of patients voided spontaneously without CIC and were continent without a pad. The mean (range) maximum NB capacity, voided volume, PVR, and maximum flow rate were 414.6 (267–695) mL, 374.1 (230–677) mL, 40.4 (9–128) mL, and 20.8 (8.3–39.0) mL/s, respectively.

Table 1.—The early and late complications in patients with Hautmann ileal neobladder with chimney modification.

<table>
<thead>
<tr>
<th>Complication</th>
<th>Total</th>
<th>Requiring re-op</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wound infection</td>
<td>4 (13)</td>
<td>2 (7)</td>
</tr>
<tr>
<td>Ileus</td>
<td>4 (13)</td>
<td></td>
</tr>
<tr>
<td>Pyelonephritis</td>
<td>2 (7)</td>
<td></td>
</tr>
<tr>
<td>Persistent urinary leak</td>
<td>1 (3)</td>
<td></td>
</tr>
<tr>
<td>Vagino-neobladder fistula</td>
<td>1 (3)</td>
<td>1 (3)</td>
</tr>
<tr>
<td>Total patients</td>
<td>12/9</td>
<td>3/3</td>
</tr>
<tr>
<td>Late</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uretero-neobladder stricture</td>
<td>2 (7)</td>
<td>2 (7)</td>
</tr>
<tr>
<td>Urethra-neobladder stricture</td>
<td>2 (7)</td>
<td>2 (7)</td>
</tr>
<tr>
<td>Neobladder stone</td>
<td>1 (3)</td>
<td>1 (3)</td>
</tr>
<tr>
<td>Total patients</td>
<td>5/5</td>
<td>5/5</td>
</tr>
</tbody>
</table>

Table 2.—The pattern of catheterization of the neobladder and pad/mucus leakage

<table>
<thead>
<tr>
<th>No. Pts (%)</th>
<th>CIC frequency</th>
<th>Neobladder and pad/mucus leakage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>No. pts (%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1-2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3-4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>≥5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Day only</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Night only</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Day/Night</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pad use time</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Almost dry</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Slightly wet</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wet</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Soaked</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mucus leakage</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Every day</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Once/wk</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Not at all</td>
</tr>
</tbody>
</table>

Table 3.—The voiding function of Hautmann ileal neobladder with chimney modification

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum neobladder capacity, mL</td>
<td>414.6 (267–695)</td>
</tr>
<tr>
<td>Voided volume, mL</td>
<td>374.1 (230–677)</td>
</tr>
<tr>
<td>Post-void urinary volume, mL</td>
<td>40.4 (9–128)</td>
</tr>
<tr>
<td>Maximum flow rate, mL/s</td>
<td>20.8 (8.3–39.0)</td>
</tr>
</tbody>
</table>

Conclusions: The technique of Hautmann ileal neobladder with chimney modification under robotic radical cystectomy provides ac-
ceptable results in both aspects of complication rates and functional outcomes.

PE54
Clinical values of zero ischemia technique in robotic partial nephrectomy
T.Y. Shin 1, S.K. Lim 2, B.H. Jung 3, K.H. Rha 3. 1 Chuncheon Sacred Hospital, Hallym Medical College, Dept. of Urology, Chuncheon, South Korea; 2 Changi General Hospital, Dept. of Urology, Singapore, Singapore; 3 Yonsei University College of Medicine, Dept. of Urology, Seoul, South Korea

Introduction & Objectives: In the era of robotic partial nephrectomy, several efforts on improved renal functional outcome have been reported. Zero-ischemia is a novel technique that eliminates global ischemia, the clinical value of which needs to be demonstrated. To compare the postoperative functional outcomes of patients who underwent zero-ischemia and total-clamping robotic partial nephrectomy (RPN).

Materials & Methods: From February 2009 to October 2012, a database of 126 consecutive patients who underwent RPN were retrospectively analyzed, 117 patients met our inclusion criteria and were stratified into two groups, 20 patients underwent zero-ischemia RPN and 97 patients underwent total-clamping RPN. Post hoc power analysis was subsequently performed for calculation of sufficient sample size. Demographics/tumor characteristics, functional outcomes, and complications were analyzed.

Results: All zero-ischemia RPN cases were successfully performed. Mean tumor size was 3.4 cm (standard deviation [SD]: ±1.4); mean RENAL nephrometry score was 7.3 (SD: ±2.0) and no Clavien-Dindo III-V complications were recorded. Zero-ischemia RPN group had a significantly lower percentage decrease in the post-operative estimated glomerular filtration rate at 1 week (1.8 versus 20.8 ml/min/1.73 m², p=0.001) and 3 months (0 versus 9.9ml/min/1.73 m², p=0.002) when compared with the total-clamping RPN group.

Conclusions: Zero-ischemia confers improved renal functional outcomes in comparison to total clamping RPN, with acceptable complications and oncological outcomes even in large and complex tumors.

PE55
Laparoendoscopic single-site robotic partial nephrectomy was less painful than conventional approach without disadvantage of functional outcomes: 6-Month follow up
T.Y. Shin 1, S.K. Lim 2, K.H. Rha 3. 1 Chuncheon Sacred Hospital, Hallym Medical College, Dept. of Urology, Chuncheon, South Korea; 2 Changi General Hospital, Dept. of Urology, Singapore, Singapore; 3 Yonsei University College of Medicine, Dept. of Urology, Seoul, South Korea

Introduction & Objectives: To reduce morbidities and scarring associated with surgical interventions, laparoendoscopic single-site (LESS) surgery have been introduced and increasingly being adopted by urologists worldwide. In the present study, we compared long term functional outcomes and pain scale of patients who underwent LESS-RPN comparing to conventional RPN (C-RPN).

Materials & Methods: A total of 165 consecutive patients who had RPN were identified from our institutional review board approved computerized database between September 2006 to July 2012. Patients were stratified into two groups: 80 patients underwent C-RPN and 79 patients underwent LESS-RPN.

Results: LESS-RPN group had not significant differences in number of patients with negative surgical margin (p=0.194), absolute change of postoperative renal function (p=0.899) and postoperative complication rate (p=0.079) compared to C-RPN group. However, LESS-RPN group had a longer mean warm ischemia time (p=0.001), total operation time (p=0.033) and lower VAPS at discharge (p=0.048).

Conclusions: Long term functional outcomes in LESS-RPN were not inferior compared to C-RPN. Furthermore, Visual analog pain scale at discharge was reduced and better aesthetic advantage also could be expected in LESS-RPN.
PE56
Comparable number of dissected lymph nodes during radical prostatectomy in open and robotic-assisted approach in a high-volume center

B. Beyer, P. Tennstedt, K. Boehm, J. Schifffmann, A. Haese, M. Graefen, Martini-Clinic, Prostate Cancer Center, University Hospital Hamburg-Eppendorf, Hamburg, Germany

Introduction & Objectives: Pelvic lymph node dissection (pLND) during radical prostatectomy (RP) for prostate cancer is a staging tool with clear impact on potential adjuvant treatment. Furthermore, some studies suggest a possible curative role of pLND. Since different surgical approaches such as robotic assisted radical prostatectomy (RARP) and open radical prostatectomy (ORP) are routinely performed it is important to investigate whether differences in lymph node yield adherent to the respective surgical technique exist. Since lymph node yield and indication for pLND heavily depend on treatment pattern in the respective institution and surgical experience it is important to investigate the effect of the respective approach in a setting in which both techniques are routinely offered as a high-volume procedure.

Material & Methods: Retrospective assessment of 2152 men treated with ORP (79.4%) or RARP (20.6%) including pLND for clinically localized PCs at a tertiary care center in one year (March 2012–March 2013). A 1 to 1 propensity score matching was performed for 804 patients accounting for different patient characteristic between the groups. Propensity score was matched for age, BMI, Gleason score, clinical Tumor stage and preoperative PSA. A multivariate regression analysis was performed. Stratification into low-, intermediate- and high-risk group was performed according to D’Amico and comparison of number of dissected lymph nodes.

Results: No differences in baseline characteristics (age, BMI, Gleason score, preoperative PSA, clinical T-stage) between both matched groups were detected (p>0.05). Number of resected lymph nodes was comparable (median 8 (IQR 4–14) RARP vs. median 8 (IQR 4–15) ORP). The frequency of patients with more than 10 resected lymph nodes varied between D’Amico risk groups (low: 19.5%; intermediate: 41.2%; high: 59.3%); but not between surgical techniques (RARP vs. ORP for low: 19.8%/19.5%., intermediate: 38.7%/43.8% and high: 59.3%/59.3%). Multivariate logistic regression analysis including surgical technique, age at surgery, BMI, clinical stage, Gleason score and preoperative PSA showed that only biopsy Gleason score had a significant influence on LN yield (p<0.0001). In a comparison of 3 high volume surgeons who offer both techniques no difference in the number of resected lymph nodes was seen.

Conclusions: Our data show no differences between lymph node yield and the surgical technique in a high-volume center. Various factors influence number of taken lymph nodes but not surgical approach itself. For experienced surgeons there are no drawbacks regarding pLND when RARP is used.

PE57
Radical robotic assisted laparoscopic prostatectomy: A day case procedure

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Introduction & Objectives: The length of stay in our unit has been reduced following the move from open to robotic radical prostatectomy in 2008, from 4 days to 1.2 days. Anecdotally, many patients appeared to be well enough, to be discharged on the same day. It has appeared that daycase laparoscopic prostatectomy is feasible by Roy et al, 2009 [1]. We therefore commissioned an audit to examine the need for medical intervention, within the first 24 hours following RALP, in order to ascertain its potential safety as a daycase procedure.

Material & Methods: 100 consecutive patients were identified. The procedure used was a 6 port trans-peritoneal technique, with use of the four-arm Da Vinci robot S system. Patients were monitored overnight and discharged the next morning as per our standard protocol. All identified complications were classified according to the Clavien-Dindo system [2]. Any requirement for medical and nursing interventions were noted.

Results: The mean age of patients undergoing a RALP was 63.8 years (range 50–77 years). The mean length of stay was 1.4 days (range 1–6 days). There were no intraoperative complications. There were no conversions to open procedures. No patients required intraoperative or postoperative transfusions. No patients required a return to theatre. Only one patient required medical review by a doctor within the 24 hours following his surgery. A second patient developed a low grade temperature that settled without medical treatment.

Conclusions: This audit data suggests that RALP could be safely performed as a daycase procedure. We plan to develop this within our department.

PE58
Impact of an enhanced recovery program on totally intracorporeal robotic-assisted radical cystectomy in a high volume centre

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Introduction & Objectives: To describe our experience with the implementation and refinement of an enhanced recovery program (ERP) for totally intracorporeal RARC. To assess the impact on length of stay (LOS), complication and readmission rates.

Material & Methods: In total 181 patients underwent totally intracorporeal RARC between December 2003 and December 2013. ERP was introduced in October 2012 and continues to evolve. We compare outcomes between 87 consecutive patients undergoing totally intracorporeal RARC before ERP and 94 consecutive patients after implementation. Outcomes recorded included LOS, complication rates within the first 30 days (Clavien classification) and readmission rates.

Results: Since implementation of ERP our patient demographics have changed with patients more likely to be older and to undergo an ileal conduit urinary diversion. In the most recent 50 patients median LOS was 8 days (IQR 6–10) for ileal conduit patients and 7 days (IQR 6–10) for neobladder patients.

<table>
<thead>
<tr>
<th>Before ERP</th>
<th>After ERP</th>
<th>Statistical significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of patients</td>
<td>87</td>
<td>94</td>
</tr>
<tr>
<td>Male to female ratio</td>
<td>72:15</td>
<td>66:28</td>
</tr>
<tr>
<td>Median age (IQR)</td>
<td>66 (59–71)</td>
<td>70 (61–74)</td>
</tr>
<tr>
<td>Neobladder to ileal conduit ratio</td>
<td>48:39</td>
<td>25:69</td>
</tr>
<tr>
<td>Median length of stay in days for patients with ileal conduit (IQR)</td>
<td>9 (9–22)</td>
<td>8 (7–11)</td>
</tr>
<tr>
<td>Median length of stay for patients with neobladder (IQR)</td>
<td>9 (8–12)</td>
<td>7 (6–10)</td>
</tr>
<tr>
<td>Clavien classification 30-day complication rates for ileal conduits (%)</td>
<td>None</td>
<td>14 (36%)</td>
</tr>
<tr>
<td>Clavien 1–2</td>
<td>13 (33%)</td>
<td>18 (28%)</td>
</tr>
<tr>
<td>Clavien 3</td>
<td>12 (31%)</td>
<td>14 (20%)</td>
</tr>
<tr>
<td>Clavien 30-day complication rates for neobladders (%)</td>
<td>None</td>
<td>23 (48%)</td>
</tr>
<tr>
<td>Clavien 1–2</td>
<td>17 (35%)</td>
<td>9 (36%)</td>
</tr>
<tr>
<td>Clavien 3</td>
<td>8 (17%)</td>
<td>7 (28%)</td>
</tr>
<tr>
<td>Readmission rates post ileal conduit (%)</td>
<td>11 (28%)</td>
<td>17 (25%)</td>
</tr>
<tr>
<td>Readmission rates post neobladder (%)</td>
<td>15 (32%)</td>
<td>11 (44%)</td>
</tr>
<tr>
<td>30-day mortality rate (%)</td>
<td>Ileal conduit</td>
<td>1 (2.5%)</td>
</tr>
<tr>
<td>Neobladder</td>
<td>0</td>
<td>0</td>
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</table>

NS* = not significant.
time period resulting in more elderly patients, we have seen a continued gradual decrease in LOS. Recovery following totally intracorporeal RARC is enhanced with our ERP protocol. ERP is a safe approach promoting standardization of post-operative care and resulting in decreased LOS and decreased variability in LOS.

PE59
Early experience with the MIM symphony software registration for MRI-targeted transperineal prostate biopsies
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Introduction & Objectives: The MIM Symphony software registration system offers novel features unavailable in other MRI/TRUS fusion systems that increase the accuracy of MRI-targeted transperineal biopsies compared to standard visual or software-registration fusion systems. These features include (1) a virtual rectal probe that corrects for the rotation of the prostate when hips are flexed at the time of biopsy compared to the supine position used for mpMRI (2) a soft water-filled balloon to cover the transrectal probe that maintains the prostate shape unchanged for transperineal biopsies compared to the deformation that occurs when a transrectal probe is used to press against the prostate on transrectal MRI/USS fusion biopsies. To report the incidence and prostate cancer characteristics of men undergoing MRI targeted biopsies using the MIMS software registration system and the robotic prostatectomy pathology relating to upgrading or downgrading.

Material & Methods: Prospective data collection of 12 patients presenting to a specialist urologist. All men underwent multiparametric MRI scanning of the prostate before biopsy on a 3Tesla MR Siemens scanner. MRI lesions were graded using a Likert scale based on the P-RADS system by specialist urooncologists. Significant cancer was defined as Gleason score 6 and maximum cancer core length of ≥6 mm. All histopathology was reported by dedicated specialist uropathologists.

Results: There were 13 patients with characteristics (mean) age 62 years, PSA 6.2 ug/L, prostate volume 43 ml, PSA density 0.17 ng/ml/cm3, 17% free PSA normal:abnormal feel (69%:31%), Caucasian 92%, Asian 8%, 17% family history of prostate cancer. The median Likert risk was 4 and cancer was found in 85% of men with median primary grade 4, secondary grade 3 and median maximum cancer length of 4.5 mm. No cancer or insignificant cancer was found in 30%, equivocal risk cancer in 15% and significant cancer in 55%. Seven patients underwent radical prostatectomy. Rather than upgrading, there was downgrading of 3 of the 7 men from higher to lower Gleason score (4+3 to 3+4).

Conclusions: The unique properties of the MIMS Symphony software system that allow accurate fusion of the MRI and ultrasound images in the same plane without deformation result in highly accurate targeting of abnormal MRI lesions and more accurate risk grading.

PE60
Open versus totally intracorporeal robotic radical cystectomy, bilateral extended pelvic lymph node dissection and Studer urinary diversion for bladder cancer
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Introduction & Objectives: We retrospectively compared outcomes of open (n=42) versus totally intracorporeal robotic (n=32) radical cystectomy (RARC), bilateral extended pelvic lymph node dissection (BEPLND) and Studer urinary diversion in bladder cancer patients.

Material & Methods: Groups were compared in terms of patient demographics, operative parameters, postoperative parameters, pathologic parameters, complications (due to modified Clavien classification) and functional outcomes (urinary continence and erectile function).

Results: Groups had similar patient demographics (male/female ratio, mean patient age, mean body mass index and previous abdominal surgery history) (p>0.05). Groups had similar pT stages (organ confined disease and local extravesical disease) (p>0.05). All patients in robotic group underwent BEPLND. In open group, 71.4% and 28.6% of patients underwent BEPLND and standard PLND, respectively. Mean operative time was similar in open (9.2 hours) versus robotic (9.8 hours) approach (p>0.05). Mean estimated blood loss was significantly lower in robotic group (412.5 versus 1314.3 mL, p=0.000). Similar (+) surgical margin rates were detected between open (2.4%) versus robotic (6.3%) groups (p>0.05). Mean lymph node (LN) yield was significantly higher in robotic group (25.4 versus 17.2, p=0.005). When standard PLND dissection patients were excluded in open group, a higher trend was detected regarding mean LN yield rate in the robotic group (25.4 versus 20.4, p=0.118). Significantly more patients had bilateral neurovascular bundle (NVB) sparing surgery (93.7% versus 64.3%, p=0.004) and BEPLND (100% versus 71.4%, p=0.001) in robotic group. Mean duration of hospital stay was similar in open (18.8 days) versus robotic (17.4 days) approach (p>0.05). Mean time to liquid diet, mean time to regular diet, mean time to ambulation and mean abdominal drain removal time were similar between groups (p>0.05). Minor and major complications and readmission rates due to major complications during perioperative period (0–30 days) and postoperative 31–90 days were similar. However, number of postoperative readmissions due to minor complications was lower in robotic group (n=0 versus n=7, p=0.017). Rate of patients with day-time continence of no pad use was higher in robotic group (84.6% versus 75%, p>0.05). Rate of patients with severe day-time incontinence was lower in robotic group (8.3% versus 16.6%, p>0.05). Postoperative mean IIEF scores were similar between groups (p>0.05).

Conclusions: Decreased blood loss, better preserving NVBs, decreased rates of hospital readmissions due to minor complications seem to be the significant advantages of robotic surgery. In addition, a better trend for improved day-time continence and LN yield were also detected in robotic approach when compared to open surgery.

PE61
Early experience with robot assisted laparoscopic partial nephrectomy in a single institution: Results of our first 153 patients
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Introduction & Objectives: The increasing use and quality of abdominal imaging technologies have led to a growing detection of asymptomatic, small renal masses. The current standard of care for the treatment of localized renal tumors is partial nephrectomy (PN). We present the results of our initial series of robot assisted partial nephrectomies (RAPNs).

Material & Methods: A total of 153 RAPNs were performed between 2000 and January 2014 at our institution. Data was retrieved from our database to assess demographics, perioperative variables, postoperative complications and outcomes of RAPN. Complications were graded according to the Clavien-Dindo classification. Renal function was estimated using the Modification of Diet in Renal Disease (MDRD) Study equation.

Results: The median diameter of the tumors was 34 mm (IQR 17–68.5) and the R.E.N.A.L.-score 6 (IQR 4–10). Median operative time was 135 min (IQR 84–218.5), blood loss 100 ml (IQR 0–787.5) and
warm ischemia time 17 min (IQR 10–35). 8 Cases (4.8%) were converted to a radical nephrectomy, there were no conversions to an open procedure. The median length of stay was 3 days (IQR 2–5). 28 Patients had Clavien grade I and II complications (20.5%). Clavien grade III and IV complications were seen in 14 cases (9.2%). Grade IV complication included 4 cases of postoperative hemorrhage, which all were successfully treated endovascular; 1 patient suffered from a perforation of the ileum, which required laporatomy and resection; 1 patient had intoxication of opiates, a one day observation at the ICU-unit was required. Pathology showed 106 malignant tumors (69%). In nine of these (6.1%, N=9), a positive surgical margin was found. After an median follow-up of 12 months (IQR 1–48), one recurrence was detected. This patient underwent a robot assisted radical nephrectomy. The mean preoperative eGFR was 93 ml/min/1.73 m² (SD ±37.6) which decreased significantly to 71 ml/min/1.73 m² (SD ±21.3) 6 months after surgery. 77.9% Of the patients had a postoperative eGFR of > 60 ml/min/1.73 m². **Conclusions:** RAPN is feasible with acceptable WIT, blood loss, length of stay and complication-rate. We found a postoperative decline in renal function, although the majority of patients preserve a good renal function. These result are comparable with known literature about the RAPN.

**PE62**

Laparoscopic nephrectomy versus robot-assisted partial nephrectomy for renal cell carcinoma: A multicenter analysis of functional outcomes

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**Introduction & Objectives:** Robot-assisted partial nephrectomy is an emerging technique as an alternative modality for a small renal mass. The oncologic outcomes of robot-assisted partial nephrectomy were comparable with laparoscopic partial nephrectomy. Still, functional outcomes were not evaluated yet. We present the recent comparison of functional outcomes between robot-assisted partial nephrectomy and laparoscopic partial nephrectomy with 5 multicenter results.

**Material & Methods:** Data on patients who underwent partial nephrectomy for renal cell carcinoma between 2003 and 2011 at multiple institutions were collected. Patient characteristics including preoperative estimated glomerular filtration rate (eGFR) were investigated, and postoperative results were evaluated. Functional outcome change was evaluated with variations in pre- and postoperative eGFR. Student-t test and chi-square test were used to compare differences between different surgical procedures.

**Results:** A total of 1061 patients were included for evaluation; 223 patients underwent laparoscopic partial nephrectomy, while 838 patients underwent robot-assisted partial nephrectomy. The mean preoperative eGFR was 93 ml/min/1.73 m² (SD ±37.6) and decreased significantly to 71 ml/min/1.73 m² (SD ±21.3) 6 months after surgery. 77.9% Of the patients had a postoperative eGFR of > 60 ml/min/1.73 m². **Conclusions:** The RAPN results are comparable with literature knowledge. A multicenter analysis of the RAPN is technically more feasible. Surgical margin rate was 9.8% (3.9% in pT2 and 9.1% in pT3 disease). Of the patients, 17 (50%) underwent ePLND. Mean LN yield was 11.8±8.3 (range, 1–23). One patient had LN metastasis. Of the patients, 4 (11.8%) received HRPcA classified due to D’Amico risk group with minimum 1-year follow-up.

**PE63 Outcomes of robot-assisted laparoscopic radical prostatectomy in high-risk prostate cancer patients: Experience in 34 patients with oncologic and functional outcomes**

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**Introduction & Objectives:** We report outcomes of robot-assisted laparoscopic radical prostatectomy (RARP) and extended pelvic lymph node (LN) dissection (ePLND) in high-risk prostate cancer (HRPCa) classified due to D’Amico risk group with minimum 1-year follow-up.

**Material & Methods:** A total of 34 patients who had at least one preoperative HRPCA feature underwent RARP were included. LN dissection was performed in patients who had > 5% of LN involvement probability due to Partin’s tables. Mean patient age and preoperative serum PSA were 62.6±6.4 years and 12.2±9.1 ng/ml, respectively. Preoperatively, 2 (5.8%), 1 (2.9%), 11 (32.3%), 3 (8.8%) and 17 (50%) patients had prostate biopsy Gleason scores (GS) 5+4, 4+4, 3+5 and <8, respectively. No patient had GS 5+5 or 5+3 disease. Bilateral nerve-sparing and non-NVB-sparing surgery were performed in 16 (47%), 5 (15%) and 13 (38%) patients, respectively.

**Results:** Mean console time, intraoperative blood loss, duration of hospital stay and urethral catheter removal time were 162.1±64.4 minutes, 232.2±255.1 cc, 4.1±2.1 days and 12.6±6.2 days, respectively. During perioperative period (0–30 days), 4 minor (prolonged ileus [n=1], prolonged anastomotic leakage [n=1], prolonged lymphatic drainage [n=1] and urinary tract infection [n=1]) and 2 major (intraoperative bladder injury [n=2] that were repaired intraoperatively) complications occurred due to modified Clavien classification. No complication was detected during postoperative 31–90 days. Postoperative oncologic pathologies included pt0, ptTa, ptT2a, ptT2c, ptT3a and ptT2b disease in 2 (5.8%), 5 (14.7%), 3 (8.8%), 6 (17.6%), 10 (29.4%) and 8 (23.5%) patients, respectively. Postoperatively GS included 3+3+6 (n=7, 20.5%), 3+4+7 (n=10, 29.4%), 4+3+7 (n=6, 17.6%), 4+4+8 (n=2, 5.8%), 5+3+8 (n=1, 2.9%), 3+5+8 (n=1, 2.9%), 4+5+9 (n=3, 8.8%), 5+4+9 (n=1, 2.9%) and 5+5+10 (n=1, 2.9%). No malignancy was detected in 2 (5.8%) patients’ pathologic specimens. Positive surgical margin (SM) rate was 32.3% (2.9% in pt2 and 29.4% in pt3 disease). Of the patients, 17 (50%) underwent ePLND. Mean LN yield was 11.8+8.3 (range, 3–37). One patient had LN metastasis. Of the patients, 4 (11.8%) received adjuvant radiotherapy therapy (ART) alone, 4 (11.8%) received hormone therapy (HT) alone and 4 (11.8%) received ART+HT postoperatively. Mean follow-up was 27.8±11.1 months. Biochemical recurrence was detected in 9 (26.4%) patients. Of the 34 patients with 1-year follow-up, 17 (50%) were fully continent (0 pad/day), 6 (17.7%) wore a safety pad/day, 6 (17.7%) wore 1 pad/day, 3 (8.8%) wore 2 pads/day, and 3 (8.8%) wore 3 pads/day.
pads/day and 2 (5.9%) wore >2 pads/day. Of the 24 patients with no preoperative erectile dysfunction (ED), 15 (44.1%) had no ED at a mean follow-up of 1-year. Trifecta and pentaecta rates were 38% and 26%, respectively.

**Conclusions:** Due to our experience, RARP and ePND in HRPCa is a safe procedure with satisfactory oncologic and functional outcomes.

**PE64**

Postoperative complications of radical prostatectomy approached by robot-assisted, conventional laparoscopic, perineal and retropubic method in patients with prostate cancer: A prospective and non-randomized comparison study


**Introduction & Objectives:** Robot-assisted laparoscopic radical prostatectomy has been rapidly replaced other surgical methods. However, there have been little data to prospectively compare oncologic, and functional results among surgical approaches. The aim of this study was to compare postoperative complications of radical prostatectomy approached by robot-assisted, conventional laparoscopic, perineal and retropubic method.

**Material & Methods:** From June 2011 to May 2013, patients who underwent radical prostatectomy for prostate cancer were prospectively included to evaluate postoperative complications. Patients were non-randomly divided into four groups of surgical type. International index of erectile function (IIEF) was used to investigate sexual function, and normal sexual function was defined as IIEF-5 score >17. Sexual function was compared among patients who were preoperatively able to intercourse and underwent nerve sparing procedure. Continence was defined as pad use of one or less per day. Postoperative complications of in-hospital, postoperative 1, 3 and 12 month were investigated using Clavien classification.

**Results:** Robotic (n=96), conventional laparoscopic (n=27), retropubic (n=46) and perineal approach (n=20) were followed-up for 12 months. There were no differences among four groups regarding age, PSA, prostate size, Gleason score, clinical stage, NCCN classification, hospital stay, pathologic stage, positive margin rate and rate of nerve sparing were not different among four groups (p>0.05). Robotic group had lower overall complication rate and less pain than retropubic approach during hospital stay (p=0.05, Table 1), however this differences were not significant in the postoperative 1, 3 and 12 month. Robotic approach have less wound complication than retropubic and perineal approach (p<0.05). The 3.2% of all patients (n=6) experienced inguinal hernia, and there was no difference among the groups. Urinary leakage at the anastomosis site were not different among groups (p>0.05). Continent rate at postoperative 1, 3 and 12 month were not different among the groups. The rate of intercourse were 26.1%, 20.0%, 20.0% and 20.0%, respectively (p=0.05).

Table 1. Complications in OP field and hospital stay

<table>
<thead>
<tr>
<th></th>
<th>RALRP</th>
<th>LRP</th>
<th>RPP</th>
<th>RRP</th>
</tr>
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<tbody>
<tr>
<td>EBL, ml*</td>
<td>326±161.2</td>
<td>278±143.4</td>
<td>512±312.8</td>
<td>755±581.8</td>
</tr>
<tr>
<td>Transfusion, %</td>
<td>1.0</td>
<td>0</td>
<td>5.0</td>
<td>20.0</td>
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<tr>
<td>No. of complication</td>
<td>1.6±1.2</td>
<td>1.7±1.4</td>
<td>1.8±1.5</td>
<td>2.3±1.7</td>
</tr>
<tr>
<td>Pain score (NRS)</td>
<td>4.9±1.8</td>
<td>5.3±2.1</td>
<td>5.4±2.0</td>
<td>5.6±2.7</td>
</tr>
<tr>
<td>Wound problem, %</td>
<td>0.3</td>
<td>3.7</td>
<td>10.0</td>
<td>8.7</td>
</tr>
<tr>
<td>Hernia, %</td>
<td>3.3</td>
<td>4.5</td>
<td>6.3</td>
<td>2.8</td>
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*Post hoc analysis, RALRP had smaller EBL than RRP; †Post hoc analysis, there is significant difference between RLP and RRP.

**Conclusions:** Robotic approach had lower overall complication rate and less pain than retropubic method during hospital stay. However, there were no more differences among the four groups at postoperative 1, 3 and 12 month.

**PE65**

Urinary diversion after radical cystectomy – our initial experience comparing outcomes of extracorporeal and intracorporeal technique


**Introduction & Objectives:** Robotic assisted radical cystectomy for bladder cancer (RARC) has been reported with potential for improvement in peri-operative morbidity compared to the open approach and is gaining popularity. Yet, the concomitant urinary diversion is typically performed extracorporeally at most centers, primarily because intracorporeal diversion is technically complex and type of urinary diversion contributes to majority of complications. We report our initial experience and compare outcomes of extracorporeal urinary diversion (ICUD) to extracorporeal urinary diversion (ECUD) techniques done in our institute by the author.

**Material & Methods:** We analyzed the prospectively collected data of 30 patients who underwent RARC and ileal urinary diversion at our institution from June 2012 to May 2014. Mean age was 59 years (47–78 years). There were 24 male patients and 6 female patients. Twenty patients had ICUD out of which ileal conduit was done in 18 patients (14 males, 4 females) and studers ileal orthotopic neobladder was done in 2 male patients. Ten patients underwent ECUD out of which ileal conduit was done in 8 patients (6 males, 2 females) and studers ileal orthotopic neobladder was done in 2 male patients. Operative data and short-term outcomes between the two groups were assessed.

**Results:** Mean age of ICUD group was 60 years and ECUD group was 62 years and there was no significant differences were noted between the groups in terms of patient age, BMI, performance status, prior surgery, or pathologic stage. Mean operating time for ICUD was 160 mts (110–200) which was longer than ECUD group – 110 mts (90–180) (p=0.04). There were no 30 day mortality and one patient of ECUD had 90 day mortality due to recurrent intestinal obstruction. One patient of ICUD developed adhesive intestinal obstruction managed conservatively and another patient aged 78 years had pneumonia on 8th day treated with antibiotics. Time to oral feeds was better with ICUD of 24 hours compared to 72 hours in ECUD. Requirement of pain medications, early ambulance, tolerance to oral feeds was better ICUD group. There were no incidence of intestinal anastomotic leak, urinary leak, ureteric stricture in either group. One patient of ECUD had stomal hernia after 6 months which was repaired laparoscopically.

**Conclusions:** Urinary diversion after RARC is a significant contributor to complications. Complication rates were similar in patients who had whether ICUD or ECUD and also there were no increase complications in neobladder patients in our series which is comparable to literature. Robot-assisted intracorporeal urinary diversion can be accomplished safely with acceptable operative times even during early experience. Larger study with more patients and longer follow up will be required draw further conclusion.

**PE66**

Trifecta results of robot-assisted partial nephrectomy (RPN) – retrospective analysis of 70 initial patients

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**Introduction & Objectives:** Based on the EAU guidelines open partial nephrectomy is considered to be the standard of care when nephron sparing partial nephrectomy is indicated. Laparoscopic or robot-assisted laparoscopic partial nephrectomy are possible alternatives, which may provide advantages. An analysis of the initial 70 own patients was performed to evaluate possible benefits.

**Material & Methods:** 70 RPN were performed in 67 patients. Mean
Early oncologic failure after robot-assisted radical cystectomy: Results from the International Robotic Cystectomy Consortium (IRCC)


Introduction & Objectives: Despite being performed for over a decade with satisfactory early oncologic outcomes, there are still concerns regarding the induction of local recurrence and port site metastasis following Robot-assisted Radical Cystectomy (RARC). To our knowledge no major clinical study evaluating early oncological failure (EOF) with long-term follow-up has been presented regarding RARC. We attempt to assess the oncological safety of RARC with emphasis on rapid local recurrence and port site metastasis in a multi-institutional cohort.

Results: The IRCC database comprising of 1586 patients from 37 institutions in 13 countries performing RARC was queried for EOF. EOF was defined as presence of rapid local spread disproportional to the primary stage within one month and port site metastasis after surgery. The lead surgeons from each institution were contacted to confirm any reports of early failure. Each incidence was analyzed to identify common variables which may be associated with EOF.

Results: In the entire database of 1586 patients, EOF was reported in 6 patients (0.4%). Three male and 3 female patients, had mean ASA of 2.8. Mean age was 72 years (range 61–83 years). No inadvertent spillage of urine was reported. No major postoperative complication was noted in all of the patients. Patients had high grade disease, with negative margins. The data base identified 3 cases of port site metastasis (0.2%). All of these patients had >72 final pathological staging, with 2/12 and 1/8 positive lympho nodes in 2 cases. Specimen retrieval was performed using the standard lap-bag, without any reported urine spillage. Mean time to port site metastasis was 327 days (range 63–180 days). Two metastases were at port site, while 1 case had additional lung lesions.

Conclusions: Early oncological failure and port site metastasis are rare but a significant outcome after RARC. Further prospective collection of factors associated with early failure, can help in a better understanding of this rare yet significant outcome.
Conclusions: Neoadjuvant chemotherapy is associated with longer lymph node dissection times but not with higher morbidity or mortality. Use of neoadjuvant chemotherapy is encouraged in patients who undergo Robot-assisted radical cystectomy.

PE69
Measuring surgical competency in urethro-vesical anastomosis during robot-assisted surgery: Development and validation of Robotic Anastomosis Competence Evaluation (RACE) score

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Introduction & Objectives: Subjective and generic assessment of surgical competency is inadequate in objectively evaluating technical competence. A surgical competency measurement tool may be useful for robot-assisted surgery training and certification. We present the development and validation of a novel measurement instrument for urethra-vesical anastomosis (UVA) during Robot-assisted surgery (RAS).

Material & Methods: A panel of 5 experienced robotic surgeons (Delphi methodology without inter-expert consultations) developed a novel 6 domain scoring system, for assessing surgical skills at performing urethra-vesical anastomosis. Each domain comprised of a 5 point score (1: least optimal to 5: best). Higher score (range 5–30) reflects better performance. The final scoring system was constructed validated using three participant groups; Expert (>100 robotic cases), Intermediate (<25 robotic console hours) and Novice (no robotic console hour) surgeons. All participants performed the UVA on an inanimate model, using the da-Vinci Surgical System™. The video recordings of the performances were evaluated by 4 blinded experienced robotic surgeons. Comparisons were made between the expert and intermediate groups and expert and novice groups respectively to establish the construct validity of the scoring system. Wilcoxon-Rank sum test were used utilized to compare outcomes.

Results: Following two rounds of Delphi methodology performed to develop the novel scoring system 100% consensus was achieved on the assessment, language and content. 7 experts, 10 intermediates and 10 novices participated in our validation study. The mean overall score for the expert group was significantly higher than the intermediate and novice groups (27.3 vs. 19.5 and 13.6, p=0.004 and p<0.001 respectively). Additionally, significant differences were noted in the mean overall scores between the intermediate and the novice groups (19.3 vs. 13.6, p<0.001).

Conclusions: Robotic Anastomosis Competency Evaluation (RACE)
score is a novel construct validated measurement tool which assesses technical surgical skill and can identify surgical competence in UVA during RAS.

PE70
Robot-assisted radical prostatectomy after previous prostate surgery: Clinical and functional outcomes

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Introduction & Objectives: The objective of this study was to clarify the effect of previous TURP or open prostatectomy (OP) on surgical, oncological, and functional outcomes after robot assisted radical prostatectomy (RARP).

Material & Methods: The records of 380 patients who underwent RARP between August 2009 and March 2013 were retrospectively reviewed. A total of 25 men had undergone surgery for primary bladder outlet obstruction (20 TURP and 5 OP) before RARP (Group 1). A match-paired analysis was performed using our database to identify 36 additional men without a history of prostate surgery with equivalent clinicopathologic characteristics to serve as a control group (Group 2). Patients characteristics, complications and functional outcomes followed up for 12 months were assessed.

Results: Both groups were similar with respect to peroperative characteristics as age, BMI, PSA, prostate volume, clinical stage, Gleason score, D’amico risk, ASA, IPPS, continence and potency status. RARP resulted in longer console time and higher blood loss compared to surgery naive patients. No difference were found in the pathological stage, positive surgical margin and nerve sparing procedure between the groups. We noted a greater rate of urinary leakage (pelvic drainage >4 days) in Group 1 (12% vs 2.8%). Biochemical recurrence developed in 12% and 11.1% of patients, respectively. No significant difference was found in the anastomotic stricture, continence and potency rates.

Conclusions: RARP after TURP or open prostatectomy is a challenging but oncologically promising procedure with a longer dissection time, and greater blood loss. Patients with incidental prostate cancer found at the time of TURP or had previously undergone TURP as well as OP should be considered for RARP.

PE71
Robotic assisted radical cystectomy with intracorporeal ileal conduit; results from a single center study

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Introduction & Objectives: Since the introduction of robotic assisted minimally invasive surgery, complicated operations are feasible after a relatively short learning curve. Also totally intracorporeal robotic assisted radical cystectomy (RARC) has become an acceptable alternative to open cystectomy. The authors present the results of RARC with intracorporeal ileal conduit (ICIC) diversion in our center.

Material & Methods: From November 2010 until March 2014, all performed RARC-ICIC cases were evaluated with a postoperative follow up for at least 3 months. The procedures were performed by 3 surgeons. Perioperative parameters, 30-day readmission rate and 30-day complications (Clavien classification) were analyzed.

Results: In 69 patients a RARC-ICIC was performed. In 5 patients only a ICIC was performed because of unresectable malignancy at the time of the operation. These were not included in the analysis. In the RARC-ICIC group in total 15 women and 54 men. In 68 cases was an oncological indication for surgery, these patient underwent a pelvic lymph node dissection (PLND). In 1 case no PLND was performed, the indication was therapy resistant interstitial cystitis. Mean (skin to skin) operation time was 318 minutes. Mean blood loss was 218 cc. Mean hospital stay was 13 days. The 30-day readmission rate was 13%, mostly because of fever by a urinary tract infection. Complication rate (Clavien grade 1–5) was 55%, in 43% a grade 1 or 2 complication, in 12% a serious complication (Clavien grade 3–5), in which 0% grade 5 complications.

Conclusions: RARC with ICIC diversion is complex surgery but with this results we can conclude that it is a save procedure, even in the learning curve. A complete minimally invasive RARC-ICIC seems to have advantages, however, prospective randomized controlled trials comparing RARC-ICIC with open cystectomy with identical perioperative protocols are required to prove the benefits of minimally invasive surgical techniques.

PE72
Body Mass Index (BMI) has no effect on perioperative parameters in robot assisted partial nephrectomy patients

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Introduction & Objectives: Robot-assisted partial nephrectomy (RPN) is a promising, minimally-invasive treatment method for T1 renal masses. Although robotic assistance eases the procedure patient characteristics may affect perioperative parameters. The aim of this study is to evaluate the effect of body mass index (BMI) on perioperative parameters in robotic partial nephrectomy patients.

Material & Methods: Between April 2008 and May 2014 98 patients underwent RAPN operation at our institution by a single surgeon with extensive prior robotic experience. Perioperative parameters of the patients with BMI 30 (group II). There were 61 patients in group I and 37 patients in group II. Transperitoneal approach was used in all patients.

Results: Mean operative and warm ischemia time was 135 and 19 minutes in group I and 146 and 20 minutes in group II, respectively. Mean estimated blood loss was 192 ml in group I and 260 ml in group II. One patient in group I (2%) and 2 patients in group II (5%) had blood transfusions. Mean hospitalization time was 3.9 days in group I and 4.1 days in group II. No patients had positive surgical margins in both groups. There were 3 complications in group I (3 Clavien grade IIIB) and 4 complications in group II (1 Clavien grade I, 1 grade II, 1 grade IIIA and 1 grade IVA). None of the differences between the groups were statistically significant.

Conclusions: Surgical expertise can overcome patient related difficulties and provide optimal perioperative results in RAPN patients.

PE73
Psa Recurrence in patients treated with robot assisted radical prostatectomy and extended pelvic lymph node dissection

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Introduction & Objectives: To analyze the factors for PSA recurrence in patients treated with Robot Assisted Radical Prostatectomy (RARP) and extended pelvic lymph node dissection (ePLND).

Material & Methods: Between March 2005 and May 2014, 878 RARPs were performed in our department. Patients with intermediate or high risk factors according to D’Amico criteria had undergone pelvic lymph node dissection (PLND). Extended template was used after June 2007. The patients with limited PLND were excluded from study. Extended PLND was performed in 381 patients. There were 323 patients with a minimum follow up of 12 months. Age, preoperative PSA, postoperative Gleason score, positive surgical margin rate and tumor volume were analyzed for PSA progression. Two consecutive PSA values above 0.2 ng/ml were defined as PSA recurrence.

Results: The patient characteristics are summarized in Table 1. The PSA recurrence rate was 51.5% (49/323). There were 43 (13.3%) patients with lymph node invasion (LNI). The age was similar in both groups.
Mean age was 55.6 years (T1a) and 55.1 years (T1b), mean PSA level was higher in the PSA recurrence group (12.36 vs 10.10 ng/ml p<0.003). Pathology Gleason score (7.47 vs 6.92 P<0.0001), positive surgical margin rate (40.8% vs 17.8% P<0.0001), lymph node invasion rate (53% vs 5.8% P<0.0001) and tumor volume (12.79 vs 3.43 cc P<0.0001) were higher in the PSA recurrence group.

Conclusions: PSA level, lymph node invasion rate, positive surgical margin rate and tumor volume are important for PSA recurrence.

PE74
Is robotic partial nephrectomy safe for T1b tumours?
A comparison of the functional and oncological outcomes for T1a and T1b tumours at a single centre

Introduction & Objectives: Partial nephrectomy remains the gold standard definitive treatment of T1a renal tumours, with robotic partial nephrectomy (RPN) gaining popularity. We assessed whether outcomes achieved using RPN in T1a tumours could be successfully reproduced in T1b tumours.

Material & Methods: Using a prospective database of 123 elective cases, the peri-operative, oncological, and functional outcomes of 101 T1a tumours were compared with 22 T1b tumours including a single T2a.

Results: Mean age was 55.56 years (T1a) and 55.1 years (T1b), mean tumour size 2.61 cm vs. 5.03 cm, ASA scores 1.79 vs. 1.7, BMI 28.7 vs. 27.5 and mean PDAUA scores 7.43 (T1a) vs. 8.53 (T1b) (p<0.05). There were no significant differences in operative times, 179 mins (T1a) vs. 194 mins (T1b), warm ischaemic times (17.9 vs. 19.7 mins) or hospital stay (3.4 days and 3.6 days). Estimated blood loss was significantly decreased in the T1a group (145 ml vs. 244 ml), with no significant difference in subsequent haemoglobin drop (1.42 vs. 1.47 g/dl). There were two positive margins early in the T1a group but no radiological recurrences at mean 16 months. There was 1 conversion to radical nephrectomy in the T1a group but no transfusions or open conversions. Both groups had 1 Clavien grade IIa complication (angio-embolisation) with 1 Clavien IIb (ureteric stent) in the T1a group. Serum creatinine rose by 5.13 mol/l (T1a) and 14.09 mmol/l (T1b). 75/101 T1a’s and 16/22 T1b’s were performed for malignancy.

Conclusions: In the elective setting RPN can be performed safely on selected T1b tumours achieving equivalent oncological and functional results to those seen with T1a tumours, potentially extending indications for RPN. It is possible the advantages offered by the Da Vinci Surgical system may overcome the limitations previously posed by the larger T1b tumours with LPN.

PE75
Robotic intracorporeal Vescica Ileale Padovana (VIP):
Perioperative outcomes
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Introduction & Objectives: Robotic radical cystectomy (RC) with intracorporeal neobladder reconstruction is currently considered a challenging procedure characterized by a long operative time, leading to concern about its wide reproducibility. The aim of our study is to illustrate perioperative outcomes of our technique for robotic, intracorporeal, orthotopic, Padua neobladder, using staplers to entirely replicate established open principles of reservoir configuration.

Material & Methods: From August 2012 to December 2013, 41 patients underwent robotic intracorporeal Padua neobladder at a single tertiary cancer center. We performed robotic RC, extended lymphadenectomy, and totally intracorporeal Padua neobladder. Baseline demographics, pathology data, complications, and functional outcomes were assessed.

Results: Robotic intracorporeal urinary diversion was successfully performed in 41 patients with a minimum 90-d follow-up. Mean age and body mass index were 64.7 yr (SD 7.2) and 27.7 kg/m², respectively. Median operative time (console time) was 4.2 h (range: 4–6). Mean estimated blood loss was 210 ml (SD 60), mean time to regular diet was 6 d (range: 5–21 d), mean hospital stay was 9 d (range: 6–45 d), and 30- and 90-d complications were Clavien grade 1–2 (n=15 and 0), Clavien grade 3–5 (n=12 and 9), respectively. This study is limited by small sample size and short follow-up period.

Conclusions: Robot-assisted orthotopic neobladder (VIP) is feasible and safe. The partially stapled neeobladder we presented could shorten operative time for totally intracorporeal urinary diversion.

PE76
Robot assisted laparoscopic ureteric reimplantation: Feasibility and our initial experience
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Introduction & Objectives: The da Vinci robot is being used for an increasing variety of reconstructive procedures. Robotic-assisted laparoscopic ureteric reimplantation has been shown to have similar efficacy and safety profiles to open surgery in various studies. Robot-assisted surgery offers intraoperative advantages, including three-dimensional visualization with magnification and wristed movements with additional degrees of freedom. Objective of this presentation is to describe the feasibility and operative techniques used during daVinci® robot-assisted laparoscopic re-implantation and report our initial experience and short-term outcome of such procedures.

Material & Methods: Between July 2012 and December 2013, 4 patients underwent robot-assisted ureteric re-implantations because of various surgical conditions. We present a description of procedure, the incidence of perioperative complications and the results of follow-up examination. The data were collected retrospectively using the patients’ records. Two patients had tumor in the bladder diverticulum and robotic diverticulectomy was performed along with excision of lower ureter as ureters were close to diverticulum. One patient had diverticulum with atonic bladder secondary to chronic outlet obstruction who underwent diverticulectomy with reduction cystoplasty and another patient had lower ureteric stenosis secondary to repeated ureteroscopy. All four had extravesical ureteric reimplantation with psosas hitch and one required buari flap.

Results: The median console time was 140 mts (110–190). There were no intraoperative complications but there was one conversion to open surgery. One patient who had pelvic lymph node dissection as well developed lymphocele formation which required pigtail drainage (Clavien-Dindo – III) and there was no conversion to open method. The median hospital stay after surgery was 5 days. Urethral catheters were removed on 5th post operative day. At a median follow-up of 12 months, all patients were doing well and were asymptomatic.

Conclusions: Robot-assisted reconstructive surgery of the distal ureter is feasible and can be used without compromising the generally accepted principles of open surgical procedures. The functional
outcome was good in short-term follow-up and severe postoperative complications were rare in our initial experience. Robot-assisted laparoscopic surgery can be safely used for ureteral reimplantation with or without psoas hitch or boari flap.

**PE77**

**Robot–Assisted laparoscopic anatrophic nephrolithotomy with ice-slush for Staghorn stone**

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**Introduction & Objectives:** We report the initial experience of robot-assisted laparoscopic anatrophic nephrolithotomy (RLAN) with ice-slush for staghorn stone.

**Material & Methods:** The patient was a 55-year-old woman who presented to the urology department with abdominal pain and gross hematuria. Computed tomography revealed a large renal stone measuring 3.3 × 2.0 × 6.6 cm and mild hydronephrosis in the left side. After the ureteral catheter was inserted, the patient underwent left RLAN, which was performed peroperatively via 4 ports in the left flank position. After superior retraction of the spleen and medial mobilization of the colon, the renal pedicle was exposed. After entrapment of kidney with entrapment bag, ice-slush was inserted through the 12 mm assistant port. 20 min before inducing kidney ischemia, 12.5 g of mannitol was infused. The renal artery and vein were clamped using a bulldog clamp. A nephropyotomy incision was made on the Brodel line. The stone was extracted from the abdominal cavity using an endo-bag. The collecting system was irrigated with normal saline, and the collecting system was closed with 3-0 Monocryl running suture. The cortex was closed using 2-0 Monocryl by sliding knots technique.

**Results:** Total operative time was 210 minutes, and Total console time is 165 minutes. Blood loss was 300 ml and cold ischemia time was 41 minutes. There are no transfusion and intraoperative complications. 2 days after operation, urethral Foley catheter and Hemovac drain were removed. Hospital stay was 5 days. Postoperative CT showed mild post-operative perirenal hematoma and tiny residual stones at 9 days after operation.

**Conclusions:** RLAN is a feasible alternative for patients with staghorn stone who are candidates for open surgery.

**PE78**

The rate of positive surgical margins is not affected by intrafascial bilateral nerve preservation during robot-assisted radical prostatectomy

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**Introduction & Objectives:** Preserved potency after radical prostatectomy is one of the major wishes of most patients with prostate cancer undergoing surgery. For intraoperative preservation of the neurovascular structures, several quality grades of nerve-sparing were described: the extrafascial preparation without respect to the bundles, the interfascial approach between the prostatic and levator fascia as well as the intrafascial nerve sparing with dissection on or in the plane of the prostatic fascia. The aim of this study was to investigate if the rate of positive surgical margins is influenced by the individual grade of the nerve-sparing technique.

**Material & Methods:** Data of 5158 patients who underwent robot-assisted radical prostatectomy (RARP) between 2007 and 2013 were analyzed retrospectively. Nerve-sparing was performed bilaterally either intra- or interfascial or in a combination with unilateral intra- and interfascial neurovascular bundle preservation. The impact of nerve preservation on PSM rates was analyzed using the multivariate logistic regression, adjusted for known predictors of PSM.

**Results:** In 939 patients (18.2%), extrafascial preparation was performed, 2677 patients (51.9%) underwent RARP with a bilateral nerve preservation, either intra- or interfascial. Overall PSM rates were 8.5% for interfascial, 6.6% for the intrafascial nerve-sparing and 5.2% for the combined intra-/interfascial procedure. 20.0% positive surgical margins could be observed in the group without preservation of the bundles. Intrafascial bilateral nerve-sparing had no influence on PSM rates in the multivariate logistic analysis. Cumulative surgical experience with RARP was a factor for the reduction of the PSM rate. Locally advanced prostate cancer and higher initial PSA were the independent predictive factors for PSM (see table).

<table>
<thead>
<tr>
<th>Potential predictive factor</th>
<th>OR</th>
<th>95.0% CI</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organ confined prostate cancer (yes/no)</td>
<td>9.80</td>
<td>7.46–12.87</td>
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</tr>
<tr>
<td>Initial PSA (ng/ml)</td>
<td>1.01</td>
<td>1.00–1.01</td>
<td>0.003</td>
</tr>
<tr>
<td>Nerve sparing:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No NS</td>
<td>Reference</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Interfascial NS</td>
<td>0.86</td>
<td>0.64–1.17</td>
<td>0.336</td>
</tr>
<tr>
<td>Inter/intrafascial NS</td>
<td>0.71</td>
<td>0.49–1.02</td>
<td>0.061</td>
</tr>
<tr>
<td>Intrafascial NS</td>
<td>1.16</td>
<td>0.73–1.85</td>
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</tr>
</tbody>
</table>

**Cumulative surgical experience:**

<table>
<thead>
<tr>
<th>Reference</th>
<th>Odds ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>101–500 operations</td>
<td>0.77</td>
</tr>
<tr>
<td>501–1500 operations</td>
<td>0.63</td>
</tr>
<tr>
<td>&gt;1501 operations</td>
<td>0.46</td>
</tr>
</tbody>
</table>

**Conclusions:** Despite close preparation in the prostatic fascia, the intrafascial preservation of the neurovascular bundles is not a risk factor for a higher rate of PSM in RARP. To achieve these results, a careful selection of the patients has to be done with respect to the international guidelines and contraindications for nerve-sparing to avoid hazard to the oncological outcome.

**PE79**

A novel surgical technique for preserving bladder neck during robotic-assisted laparoscopic radical prostatectomy: preliminary results

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**Introduction & Objectives:** Robotic-assisted radical prostatectomy (RALP) and laparoscopic radical prostatectomy (LRP) have become standards of minimally invasive surgical (MIS) treatment for organ confined prostate cancer (PCa). Although superior functional outcomes have been described in the literature for MIS superiority in terms of early continence, outcomes are still controversial. Additionally, expensive equipment is still problem for RALP. However, there are some surgical techniques for early recovery and continence after RALP, there has not been introduced a surgical procedure for urinary continence at time of catheter removal after surgery. The primary purpose of present study was to describe our novel surgical technique including dissection technique for preserving bladder neck, during RALP. Additionally, we introduced a novel anatomical area between bladder neck and prostate.

**Material & Methods:** Between, December 2012 and May 2014, 52 RALP surgeries were performed in our institute. Demographic, perioperative and postoperative data were recorded. Quality of life (QoL) scores were assessed before RALP, after urethral catheter removal, at the 1st month of RALP. Fatty connective tissue between bladder neck and prostate was introduced and circular muscle fibres of internal sphincter was seen, in all patients. Complications were classified according to Clavien-Dindo classification. Statistical analyses were performed.
Results: Mean follow-up was 9.6±5.2 months, mean age was 61.1±6.5 years. Our novel technique for preserving bladder neck was performed in 52 patients and they were continent after catheter removal as mean duration of catheter was 9.4±4.1 days. However, there was no statistically significant difference between QoL and RALP after catheter removal in QoL before RALP (respectively; p<0.001, p=0.5). Furthermore, there was no complication related with bladder neck such as bladder neck stricture, acute/chronic urinary retention as well as no Clavien 3, 4 and 5 complications. Additionally, conventional laparoscopy and/or open surgery was not needed in any of RALP case.

Conclusions: Our novel technique provided very early continence as surgery was not needed in any of RALP cases. There were no complications. Additionally, conventional laparoscopy and/or open surgery was not needed in any of RALP case.

PE80

Does robotic partial nephrectomy carry a lower risk of readmission than open partial nephrectomy? A contemporary national analysis of 5276 cases from the NSQIP database

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Introduction & Objectives: The aim of this study was to explore factors associated with readmission following nephrectomy procedures using a contemporary large US national database.

Material & Methods: A validated, national surgical outcomes database, the American College of Surgeons NSQIP registry was queried for data on all patients undergoing open partial nephrectomy (OPN), minimally invasive (laparoscopic + robotic) partial nephrectomy (MIPN), and minimally invasive radical nephrectomy in 2011 and 2012 at over 350 participating institutions. Patients undergoing these procedures were identified using the Current Procedural Terminology codes. The primary outcome was unplanned 30-day hospital readmission. Preoperative variables included demographic data, baseline medical co-morbidities, and main surgical outcomes. A multivariable logistic regression model was constructed to assess for factors independently associated with the primary outcome.

Results: Overall, 5276 cases were identified and included in the analysis: 1411 OPN (26.7%), 2210 MIPN (41.8%), and 1655 LRN (31.3%). Overall, 30-day readmission rate was 5.9% (7.8% for OPN, 4.5% for MIPN, 6.1% for LRN). On multivariable analysis, the odds for 30-day readmission for MIPN was approximately 70% that of OPN (p=0.012). The odds for 30-day readmission for 2012 was about 80% of that of 2011 (p<0.001). The odds of re-admission for diabetics was 1.6 times that of non-diabetics (p<0.001) and the odds of a patient with a surgical site infection re-admitted was approximately 5 times that of one without (p<0.001). History of steroid use, history of bleeding disorder and occurrence of postop transfusion increase the odds of readmission by approximately 2 (p=0.005, p=0.038, and p<0.001, respectively), whereas a postoperative urinary infection increased the odds of re-admission by 5.5 (p<0.001).

Conclusions: An analysis of a large national validated dataset suggests that contemporary 30-day readmission rates following nephrectomy are influenced by patients’ characteristics as well as specific postoperative adverse events. Moreover, MIPN carries lower odds of readmission than OPN, regardless the confounding effects of other variables. Despite the limitations of this analysis, such findings indirectly support the expanding role of robotic technology in the field of NSS.

PE81

Robotic single port radical prostatectomy: First clinical investigation using a novel robotic system

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Introduction & Objectives: The aim of the present investigation was to determine the clinical feasibility and safety of robotic single-port radical prostatectomy (RP) using a novel robotic surgical system.

Material & Methods: This was a prospective, IRB approved, phase 1 study. After enrollment, patients underwent RP over a 3-week period in July 2010 and then followed for 3 years postoperatively. The procedures were performed using the da Vinci SP Surgical System, which is intended to provide the same core clinical capabilities as the existing multi-port da Vinci system, except that 3 articulating endoscopic instruments and an articulating endoscopic camera are inserted into the patient through a single robotic port. The main outcomes were the technical feasibility of the procedures (as measured by the rate of conversions) and the safety of the procedures (as measured by the incidence of perioperative complications). Secondary endpoints consisted of evaluating other key surgical perioperative outcomes as well as mid-term functional and oncological outcomes.

Results: A total of 11 patients underwent robotic single port RP. There were no conversions to alternative surgical approaches. Overall, two major (Clavien grade III b) postoperative complications were observed. At 1 year follow-up, one patient experienced biochemical recurrence, which was successfully treated with salvage radiation therapy. Study limitations include the small sample and the lack of a control group.

Conclusions: Robotic single-port RP was successfully completed using a novel robotic platform without posing any new risks to patient safety.

PE82

Robotic single port nephrectomy procedures: First clinical investigation using a novel robotic system

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Introduction & Objectives: The aim of this study was to determine the clinical feasibility and safety of robotic single-port nephrectomy (radical, simple, partial) procedures by using a novel robotic surgical system.

Material & Methods: This was a prospective, IRB approved, phase 1 study. After enrollment, patients underwent a robotic single-port nephrectomy procedure over a 3-week period in July 2010 and then followed for 3 years postoperatively. The procedures were done using the da Vinci SP Surgical System, which is intended to provide the same core clinical capabilities as the existing multi-port da Vinci system, except that 3 articulating endoscopic instruments and an articulating endoscopic camera are inserted into the patient through a single robotic port. The main outcomes were the technical feasibility of the procedures (as measured by the rate of conversions) and the safety of the procedures (as measured by the incidence of perioperative complications). Secondary endpoints consisted of evaluating other key surgical perioperative outcomes as well as mid-term functional and oncological outcomes.

Results: A total of 8 subjects underwent nephrectomy procedures (partial nephrectomy = 4; radical nephrectomy = 2; simple nephrectomy = 2). There were no conversions to alternative surgical approaches and no major postoperative complications. The median
warm ischemia time for three of the partial nephrectomies was 38 minutes. At 3-year follow-up all patients presented a preserved renal function and none had tumor recurrence. Study limitations include the small sample and the lack of a control group.

**Conclusions:** Robotic single port nephrectomy procedures were successfully carried out using a novel purpose-built robotic platform without posing additional risks to patient safety.

**PE83**

**Robotic simple prostatectomy: A large multi-institutional multi-national analysis**

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**Introduction & Objectives:** The aim of the present study was to report a large multi-institutional series of robot assisted simple prostatectomy (RASP).

**Material & Methods:** Consecutive cases of RASP done between 2008 and November 2014 at participating institutions were included in this retrospective analysis. Each group carried out the procedure according to its own protocols, criteria, and techniques. Demographic data, main perioperative outcome parameters, and information related to the surgical technique were gathered and analyzed.

**Results:** Overall, 456 cases (mean age 68 yo; mean BMI 28 kg/m²; mean Charlson score 2) were included in the analysis. In 24% of cases patients had history of previous abdominal surgery. In 31% they had a prostatectomy biopsy and in 18% they presented an indwelling Foley catheter. Baseline mean functional parameters were as follows: IPSS mean 23, Qmax 8 ml/sec, PVR 236 ml. Mean preop PSA was 8 ng/dl. Mean prostate volume was 119 ml. In the majority of cases (55%) they had a proximate biopsy and in 18% they presented a transperineal. Mean operative time was 144 min and estimated blood loss was 241 ml. An intraoperative complication was recorded in 8% of cases and an intraoperative transfusion was used in 5.9% of cases. Mean hospital stay was 3 days and mean time to catheter removal was 8 days. A postoperative complication was observed in 14% of cases, being mostly of low grade. On pathology mean weight of removed adenoma was 82 cc. Mean postoperative PSA was 2 ng/dl. Mean postoperative IPPS was 7 with a mean Qmax of 25 ml/sec.

**Conclusions:** This study confirms that RASP is a safe and efficacious minimally invasive treatment for BPH. The procedure is successfully performed in a variety of healthcare setting where robotic technology is already in place for other more common urological indications.

**PE84**

**Comparing outcomes of laparoscopic and robotic radical nephrectomy for localized renal cell carcinoma. Single centre and single surgeon experience**

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**Introduction & Objectives:** Laparoscopic radical nephrectomy is widely practiced surgical treatment for renal tumors. Since the introduction of robotic surgery in the uro-oncology, many procedures have been done robotically which were regularly dealt with laparoscopic approach. We prospectively evaluated the safety, feasibility, and efficiency of robotic radical nephrectomy (RRN) (Group 1) and compared this with laparoscopic radical nephrectomy (LRN) (Group 2) in the management of renal cell carcinoma.

**Material & Methods:** From June 2012 to May 2014, 45 robotic radical nephrectomies have been done by single surgeon for renal cell carcinoma. Perioperative and follow up data was collected prospectively and compared with retrospective data of 72 pure laparoscopic radical nephrectomies done from 2008 to 2014 by the same surgeon. Mean age of the patients was 51 years (29–69) in group 1 and 53 years (28–65). Stage wise both groups were comparable.

**Results:** There was no statistical difference between the two groups in terms of blood loss, operating time, conversion to open surgery, transfusion rates, hospital stay and intraoperative complications (p>0.05). There was significant difference between lymph node yield in group 1 (mean 13 nodes in 21 patients) compared to group 2 (mean 6 nodes in 28 patients). Surgical difficulty was better in group 1 in cases of multiple vessels (n=11 group 1, n=12 group 2), large tumor more than 8–9 cm (n=15 group 1, n=10 group 2) and upper polar tumor compared to group 2. Total cost to patient was 30–40% higher in robotic group compared to laparoscopic group. With mean follow up of 14 months (range 3–23) in group 1 and 48 months (range 6–72 months) there were no recurrence in group 1 and in group 2 there were 2 local recurrences and 19 developed distant metastases. There were no incidences of port site recurrences in either group.

**Conclusions:** Robotic radical nephrectomy is a safe and technically feasible option for performing radical nephrectomy for RCC. Both groups (RRN and LRN) had comparable intra-operative, peri-operative, post-operative and oncological outcomes. RRN had better lymph node yield, technically easy for large upper polar tumors and tumors with multiple arteries with additional cost to the procedure. In this comparative study, the benefits of RRN observed are fewer compared to LRN. However this may be an option for select cases or may be advisable if the cost of robotic surgery comes down. Only large prospective comparative study will confirm these clinical observations.

**PE85**

**Early unclamping technique during robotic partial nephrectomy can minimize warm ischemia without increasing morbidity**

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**Introduction & Objectives:** Early unclamping of the renal pedicle has been reported to decrease warm ischemia time (WIT) during laparoscopic partial nephrectomy. Our objective was to compare peri-operative outcomes of early unclamping (EU) versus stan-
dard unclamping (SU) during robotically assisted partial nephrectomy (RPN).

**Material & Methods:** A retrospective multi-institutional study was conducted at eight French academic centres between 2009 and 2013. Patients who underwent RPN for a renal mass were included in the study. Patients without vascular clamping or for whom the decision to perform a radical nephrectomy was taken before unclamping were excluded. Peri-operative outcomes were compared using χ² test and Fisher exact tests for discrete variables and Mann-Whitney test for continuous variables. Predictors of WIT and estimated blood loss (EBL) were assessed using multiple linear regression analysis.

**Results:** There were 430 patients: 222 in the EU group and 208 in the SU group. Tumors were larger (35.8 vs. 32.3 mm, p=0.02) and more complex (RENAL Score: 6.9 vs. 6.1, p < 0.0001) in the EU group but surgeons were more experienced (> 50 procedures: 12.2% vs. 1.4%, p < 0.0001). Mean WIT was shorter (16.7 min vs. 22.3 min, p < 0.0001) and EBL was higher (369.5 mL vs. 240 mL, p < 0.001) in the EU group with no significant difference regarding complications or transfusion rates. Those results remained the same when analyzing subgroups of complex renal tumors (RENAL score ≥7) or RPN performed by low-experienced surgeons (> 20 procedures). In multivariable analysis, EU was predictive of decreased WIT (β=−0.34; p < 0.0001) but was not associated with EBL (β=−0.09, p=0.16).

**Conclusions:** EU can reduce WIT during RPN without increasing morbidity even for complex renal tumours or when being performed by low-experienced surgeons.

**PE86 No proven benefit of postoperative drainage after robotic partial nephrectomy**

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**Introduction & Objectives:** Despite little evidence in the literature, most surgeons leave a drain postoperatively after robotic partial nephrectomy (RPN). The aim of this study was to assess the impact of a post-operative drainage after RPN.

**Material & Methods:** A retrospective multi-institutional study was conducted including all the RPN from 8 centers between 2009 and 2013. Two centers have stopped using postoperative drainage after a few procedures (<50 procedures). Patients without vascular clamping or for whom the decision to perform a radical nephrectomy was taken before unclamping were excluded. Peri-operative outcomes were compared between the two groups. Predictors of WIT and estimated blood loss (EBL) were assessed using multiple linear regression. Predictors of WIT were sought by univariate and multivariate analysis (binary logistic regression).

**Results:** Among 521 RPN included, 105 were done without postoperative drainage (20%). In the ND group, surgeons, surgeons were more experienced (53% vs. 1%, p < 0.0001) but tumors were more complex (RENAL SCORE: 7.5 vs. 6.4, p < 0.0001). Patients in both groups had similar complication rates (22.9% vs. 21.7%; p=0.79) and major complication rates (Clavien ≥3: 9.6% vs. 9.6%; p=0.38). The omission of postoperative drainage did not increase the risk of needing a CT scan (RR=0.89; 95% CI: 0.5–1.5). Conversely, length of hospital stay was shorter in the ND group (4.3 vs. 5.8 days; p < 0.0005). There were 6 urinary fistula, 4 in the D group (1%) and 2 in the ND group (1.5%; p=0.42) but CT scan was needed to confirm this diagnosis in each cases in both groups. Reoperation or radiological/endoscopic procedures were needed in 100% of urinary fistulae (none was cured only by the post-operative drain).

**Conclusions:** The omission of postoperative drainage does not increase the risk of postoperative complication, CT scan or procedures. Conversely, it could increase length of stay.

**PE87 Toxic perirenal fat: The ultimate enemy of robotic partial nephrectomy**


**Introduction & Objectives:** Toxic perirenal fat (TPF) could be defined as an inflammatory perirenal fat adhering to the parenchyma and which dissection is difficult and bloody. The objective of this study was to evaluate the impact of TPF on the technical difficulty of robot assisted partial nephrectomy (RPN).

**Material & Methods:** We analyzed data from 170 patients undergoing RPN for renal tumors. Patients were divided into two groups according to the existence or not of TPF diagnosed peroperatively. Perioperative data were compared between the two groups. Predictors of TPF were sought by univariate and multivariate analysis (binary logistic regression).

**Results:** A TPF was observed in 69 patients (40.6%). RENAL NEPHROMETRY score, surgeon’s experience and ASA score were similar between both groups. The operative time in the TPF group was on average 40 min longer than in the non-TPF group (191 min vs. 154 min, p < 0.0001). The blood loss was 2 times higher in the TPF group (739 ml vs. 334 ml, p < 0.0001). The TPF was associated with an increased pain score (3 vs. 1; p=0.003) and longer time of hospital stay (8.5 vs. 7.3 days, p < 0.0001).

**Table 1**

<table>
<thead>
<tr>
<th>Drainage</th>
<th>Non drainage</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Renal score</td>
<td>6.4 (4-11)</td>
<td>7.5 (4-11)</td>
</tr>
<tr>
<td>Surgeon's experience</td>
<td>&lt;20 cases</td>
<td>63.2%</td>
</tr>
<tr>
<td>20–50 cases</td>
<td>35.3%</td>
<td>14.3%</td>
</tr>
<tr>
<td>&gt; 50 cases</td>
<td>1.5%</td>
<td>53.3%</td>
</tr>
<tr>
<td>Complications</td>
<td>21.7%</td>
<td>22.9%</td>
</tr>
<tr>
<td>Major complications (Clavien ≥3)</td>
<td>9.5%</td>
<td>6.6%</td>
</tr>
<tr>
<td>Opening of urinary tract</td>
<td>43%</td>
<td>42%</td>
</tr>
<tr>
<td>Postoperative CT scan</td>
<td>13.3%</td>
<td>14.9%</td>
</tr>
<tr>
<td>Length of stay (days)</td>
<td>5.8 (2-45)</td>
<td>4.3 (2-14)</td>
</tr>
</tbody>
</table>

**Table 2**

<table>
<thead>
<tr>
<th>OR</th>
<th>95% CI</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>0.96</td>
<td>0.90-1.01</td>
</tr>
<tr>
<td>Male Gender</td>
<td>23.2</td>
<td>5.45-141.51</td>
</tr>
<tr>
<td>BMI</td>
<td>1.2</td>
<td>1.13-1.32</td>
</tr>
<tr>
<td>HTA</td>
<td>2.76</td>
<td>0.83-9.67</td>
</tr>
<tr>
<td>Dyslipidemia</td>
<td>2.71</td>
<td>0.76-10.18</td>
</tr>
<tr>
<td>Smoking</td>
<td>0.43</td>
<td>0.11-1.67</td>
</tr>
<tr>
<td>Alcoholism</td>
<td>7.96</td>
<td>0.59-217.29</td>
</tr>
<tr>
<td>Diabetes</td>
<td>2</td>
<td>0.35-12.8</td>
</tr>
</tbody>
</table>

**OR:** Odds ratio; **CI:** Confidence interval.
creased risk of conversion to open surgery (11.6% vs. 1%, p=0.0002) and to radical nephrectomy (4.3% vs. 0%, p=0.03). In univariate analysis, male gender, obesity, hypertension, dyslipidemia, smoking, diabetes and alcoholism were significantly associated with the presence of TPF. In multivariate analysis, male sex and obesity were the only predictors of TPF.

Conclusions: The presence of TPF is associated with increased operative time and blood loss and a higher risk of conversion to open surgery and to radical nephrectomy. Male gender and obesity are major risk factors for TPF.

PE88
Robotic simulator feasibility testing
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Introduction & Objectives: The demand for surgeons to implement robotic surgery programs in their hospitals has led to the need for training solutions. Simbionix has developed training modules for surgeons and residents to experience robotic skills and procedures for the da Vinci Skills Simulator. Simbionix has set out to provide an additional training platform for robotic surgery.

Materials & Methods: The simulator prototype hardware utilized the following core technologies and components: Stereoscopic view was integrated in the simulation and displayed using 3-D glasses. A headrest was provided to stabilize the user’s head and a customized table was used as an arm rest and to define a workspace. High precision tracking technology was connected to master controllers, and a pedal set was used for camera and clutching. A simulator processing unit with Virtual Reality software was used, including the Vaginal Cuff Closure module and Fundamentals of Robotic Surgery (FRS) tasks. The prototype was tested by physicians and industry representatives with the goal of validating the concept, the core technology, the software and the acceptance of the suggested solution. 19 user-tests were performed during the CREOG & APGO 2014 Annual Meeting and during the AUA 2014 Annual Meeting.

Results: The technology concept was well received. People liked large work space and having no limitation in hand motion as movement was not restricted by a mechanical system. Feedback was also collected on the quality, realism and usefulness of the simulation software. Video fidelity and responsiveness was found to be good. The need for procedure based simulation was identified, and the vaginal cuff closure module was found to be useful for practicing this challenging task.

Conclusions: Testing the training platform allowed validating the technology and direct continued development towards the goal of providing a robust training system. The next development stage is the platform design to include: Ergonomic adjustments, a complete pedal set; in-simulation educational aids to teach elements such as working in the correct workspace. Additional software modules will be developed to provide a complete educational offering. The robotic simulator will be integrated into an online curricula management system, MentorLearn™, to help training programs incorporate the simulator into the robotic curriculum and provide performance data reports. We expect that the future direction of integrating simulation based training and curriculum will expand and Simbionix will continue to work in collaboration with institutions and societies to fill in needs in robotic simulation, including possible future development of procedural tasks and complete procedure simulation for complex surgical procedures. The end result in all of the above examples lends to improved patient safety.

PE89
Robotic surgery: Driving a shift in prostate cancer patients’ treatment preferences
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Introduction & Objectives: Robotic assisted laparoscopic radical prostatectomy (RALRP) as a minimally invasive modality for the treatment of localised prostate cancer was introduced in our unit in September 2012. Prior to this, laparoscopic radical prostatectomy (LRP) and open radical prostatectomy (ORP) were offered as surgical options. By 2013 there appeared to be a shift in the treatment pathway of patients towards surgery despite the number of cancer diagnoses and non-surgical treatments remaining constant. A retrospective study was designed to assess patient treatment preferences pre and post the introduction of RALRP in our tertiary referral centre.

Materials & Methods: All newly diagnosed localised prostate cancers cases were collated between January 2011 and December 2013. Data was collected from our prostate cancer register. We compared patient treatment choices in 2011, when LRP was the only minimally invasive surgical option, to those in 2013, when RALRP became an established treatment modality alongside laparoscopic and open. Patients' treatment choices in 2011, when LRP was the only minimally invasive surgical treatment available, 32% of overall patient opted for surgery (5% of patients opting for LRP and 27% undergoing open procedures). The remaining patients underwent radiotherapy or were placed in an AS programme. By 2013, when robotic prostatectomy was established, the overall number of patients opting for surgery had increased to 51%. RALRP was performed in 50% of patients. Only 2 patients (0.9%) underwent open procedures, as robotic surgery was not feasible due to previous open colorectal resections. No patients underwent LRP in 2013. Comparing the two periods, by 2013, there was a 51% increase in the number of patients opting for surgery overall. The number of patients opting for active surveillance during the same period dropped by 28%.

Conclusions: The introduction of robotic methods has dramatically increased the proportion of patients opting for surgery to treat their prostate cancer. This increase is offset by a drop in the number of patients opting for active surveillance. While laparoscopic surgery was available as a minimally invasive option, it wasn’t until the introduction of robotic surgery that a significant shift in patients’ preferences away from active surveillance and towards surgery had occurred. In 2013, 100% of minimally invasive prostatectomies were performed with robotic assistance, leading to LRP no longer being offered to patients.
damage, and extravesical approaches have been described. Small to medium sized tumours can be excised transvesically, whereas the extravesical approach is optimal for large tumours.

VE05
Impact of a novel complete reconstruction of the posterior urethral support (CORPUS) on urinary continence recovery after robotic radical prostatectomy
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Introduction & Objectives: Although many intra-operative technical modifications to prevent side-effects after radical prostatectomy (RP) without compromising oncological adequacy have been reported, post-operative urinary incontinence remains a frustrating situation/problem which significantly impairs patients’ quality of life. To determine whether a novel intra-operative technique of Complete Reconstruction of the Posterior Urethral Support (CORPUS) improves rate and time of continence recovery after robotic radical prostatectomy (RP).

Material & Methods: In this prospective study, between January and June 2013, 36 consecutive patients suitable for nerve-sparing RARP were alternately assigned to either CORPUS technique or Rocco’s standard reconstruction. In the CORPUS group, fibres of the bilateral portions of the puborectalis muscle were used to create a sort of posterior hammock for the urethra. ICIQ-SF and IPSS were collected for all patients pre-operatively, and then ICIQ-SF at 1 day and both tests at 30 days and every 3 months until 1 year after catheter removal after RARP. Intra-/post-operative complications were evaluated. Pearson’s χ² test compared urinary continence according to ICIQ-SF at 1, 30 days and 1 year. To compare the interval before the return of urinary continence between the groups, the Kaplan-Meier method was used with the log-rank test to analyse differences between curves. Statistical significance was set at p<0.05.

Results: 50% of CORPUS patients were continent immediately after catheter removal, 83% after 30 days and 94.4% after 1 year. In controls, the respective rates were 16%, 61% and 94.4%. The differences were statistically significant in both cases. The Kaplan-Meier curves [see Figure 1] showed that complete continence was achieved faster in the CORPUS group than in controls, although the percentage was the same after 1 year (log-rank test, p=0.0661). IPSS at 30 days and 12 months did not reveal obstructive problems in either group. One limitation of this study is the low number of cases, “super-selected” to evaluate the true effect of CORPUS reconstruction.

Figure 1

Conclusions: The early continence rate and time to continence recovery of CORPUS patients were significantly improved, compared with those of patients undergoing the standard Rocco technique. Fur-
ATHER studies extending the inclusion criteria are needed to confirm the impact of the new CORPUS technique in a more heterogeneous group.

**VE06**

Laparoscopic robot-assisted upper pole heminephrectomy for functionless part of duplex kidney. Case report

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1Barmherzige Brüder Hospital, Dept. of Urology and Andrology, Vienna, Austria; 2Alfried Krupp Hospital, Dept. of Urology, Essen, Germany

**Introduction & Objectives:** To describe step-by-step our technique of robot-assisted upper pole heminephrectomy in a 39-year-old woman with functionless part of duplex kidney.

**Material & Methods:** We performed the procedure through a robot-assisted laparoscopic approach (3-arm da Vinci Si-HD) over 5 ports. For the nephrectomy, we used 1 assistant port (12 mm) and a suction port (6 mm) in addition to 1 camera port and 2 robot ports. Ports were placed to allow access to the kidney and distal ureter. After intraoperative repositioning of the patient, we performed the excision of the bladder cuff using three of the ports for nephrectomy and 2 additional ports: 1 camera port (12 mm) and 1 robot port (8 mm).

**Results:** Surgery lasted 228 min, thereof 138 min console time. Estimated blood loss was less than 110 ml. There were no postoperative complications. The catheter were removed on the third day, and the patient was discharged on the fifth day.

**Conclusions:** Laparoscopic robot-assisted upper pole heminephrectomy of duplex kidney with reduced number of ports could be performed with acceptable surgery durations. Further procedures using this technique have to be performed to evaluate functional outcomes and to confirm safety.

**VE07**

Laparoscopic, robot-assisted end-to-end anastomosis of the ureter in a patient with ureteral stenosis

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**Introduction & Objectives:** To describe our technique of robot-assisted end-to-end anastomosis of the ureter in patients with ureteral stenosis.

**Material & Methods:** The video shows a robot-assisted end-to-end anastomosis in a 70-year-old woman with a right-sided ureteral stenosis after an iatrogenic ureteral injury. The patient presented with right-sided flank pain and fever two years after undergoing ureterorenoscopy for stone removal. Sonography showed dilatation of the right renal pelvis and we excluded other pathologies by ct-scan. Retrograde urography revealed a midureteral stenosis that was confirmed by ureteroscopy. The placement of a double-j-stent was not possible and we inserted a nephrostomy tube. We then conducted a laparoscopic, robot-assisted procedure (4-arm da Vinci Si-HD) over 5 ports (One camera port, two robot ports, one 12 mm assistant port and a 5 mm suction port). To obtain good exposure of the surgical site, we first sutured and elevated the right ovar towards the anterior abdominal wall. After opening retroperitoneal space, we prepared the right ureter and exposed it over 5 cm. After visualization of the stenotic portion of the ureter by methylene blue injection into the nephrostomy tube, we proceed to ureterotomy and excision of the stenotic portion of the ureter (length ca. 1.5 cm). We inserted a double-j-stent into both resection ends using a terumo guidewire and we reestablished ureteral continuity by end-to-end anastomosis using interrupted monofil sutures (Monocryl 4-0 and 5-0).

**Results:** Surgery lasted 140 min, thereof 93 min console time. Estimated blood loss was 230 cc and there was not any postoperative complication. The drainage catheter was removed on the second post-operative day.

**Conclusions:** Robot-assisted partial nephrectomy without hilar clamping in patients with complex renal lesions has been showed to be safe and reliable in experienced hands.

**VE08**

Off clamp robotic partial nephrectomy

J. Evren, F. Aksun, M.G. Yenice, I. Yiğitbaş, V. Tuğcu. Bakırköy Dr. Sadi Konuk Education and Research Hospital, Dept. of Urology, Istanbul, Turkey

**Introduction & Objectives:** Renal cell carcinomas are 2–3% of all cancers. Nowadays partial nephrectomy is the standard treatment for the tumors less than 4 cm. Over the past decade robot-assisted partial nephrectomy has played an ever-increasing role in the technique of preserving renal function by retaining the unaffected kidney. We report a case of off-clamp robot-assisted partial nephrectomy.

**Material & Methods:** A 36-year-old patient without any complaint was admitted to our clinic. A renal mass was incidentally detected on urinary ultrasound. Abdominal MRI revealed the presence of a renal tumour 7.5 x 12.5 mm diameter localized in the right lower pole. Off-clamp robot-assisted partial nephrectomy was planned.

**Results:** The operation time was approximately 185 minutes. The estimated blood loss was 230 cc and there was not any postoperative complication. The drainage catheter was removed on the second post-operative day.

**Conclusions:** Robot-assisted partial nephrectomy without hilar clamping in patients with complex renal lesions has been showed to be safe and reliable in experienced hands.

**VE09**

Robot assisted laparoscopic adrenalectomy: Our initial experience and video demonstration of surgical steps


**Introduction & Objectives:** Minimally invasive adrenalectomy has become the standard of care for benign adrenal neoplasms and is being increasingly utilized for malignant disease. Robotic assistance offers unique advantages in visualizing and dissecting the adrenal gland, especially considering its challenging vasculature. Recent evidence supports the use of robotic surgery for the minimally invasive surgical management of adrenal masses. Objective of this paper is to present our early experience of robotic adrenalectomy (RA) highlighting the surgical steps in the video.

**Material & Methods:** We reviewed the medical records of 6 consecutive patients who underwent RA performed by a single surgeon between August 2012 and March 2014. Four were right sided and two were left sided. Surgical steps of transperitoneal RA include lateral position, port placement similar to kidney surgery, exposure of the adrenal gland, identification and control of the adrenal vein, circumferential dissection of the adrenal gland and specimen retrieval.

**Results:** Median tumor size on computed tomography (CT) was 4.5 cm (range 2.3–6.8), console time of 90 mts (60–130), estimated blood loss of 60 ml (30–100) and hospital stay of 3 days (2–5). There were no intraoperative and postoperative complications and there was no conversion to either pure laparoscopy or open method. Blood pressure fluctuation in pheochromocytoma cases was minimal without any adverse outcomes. Histopathology revealed pheochromocytoma in 4 cases, adrenal adenoma and carcinoma in one each.

**Conclusions:** Over the last decade, robot-assisted adrenalectomy has been included in the surgical armamentarium for the management of adrenal masses. It can be performed safely and effectively with operative time and complications rates similar to laparoscopic adrenalectomy.
VE10 Robot assisted laparoscopic colposacropexy: Our technique step by step
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Introduction & Objectives: To present a “step-by-step” video of robot-assisted laparoscopic colposacropexy with uterus preservation. We performed an original technique including the application of a “d reversed” shaped prolene mesh. The size of the mesh was modified depending on the size of anterior or posterior vaginal fascial defect that should be corrected.

Material & Methods: After having performed 30 laparoscopic colposacropexy of which 10 with uterus preservation, from September 2012 to March 2013 we carried out 6 robot assisted laparoscopic colposacropexy and 9 hysterocolposacropexy for the treatment of uterosacral ligament that was higher than the II degree according to Baden Walker Classification. Regardless of the type, the prolene mesh was configured to “d reversed” and folded so as to be fixed on the side of the rectum and posterior and inferior to the vaginal wall (or uterine isthmus). The size of the mesh was modified depending on the type and extent of vaginal fascial defect, and then the mesh was attached to the sacrum. All patients underwent diagnostic management including medical history, urogynecological examination, urodynamic test, abdominal ultrasound scan and dynamic ultrasound scan of pelvic organ prolapse. The follow up included urogynecological examination at 1, 3, 6 and 12 months after surgery and a dynamic ultrasound scan of pelvic organ prolapse at 12 months after surgery.

Results: The mean operative time was 100 minutes (range from 60 to 150). No conversion to open or laparoscopic surgery was needed. The estimated intraoperative mean blood loss was 70 ml (range from 20 to 100). The mean length of hospital stay was 4 days (range from 3 to 7). No peri-operative or post-operative complications occurred. At mean 14 months follow-up (range from 12 to 28), no mesh erosion or prolapse recurrence occurred with the exception of two patients with preoperative IV degree cystocele and hysterecele who presented asymptomatic I-II degree cystocele. De novo stress urinary incontinence occurred in one patient which needed only 1 pad/day.

Conclusions: Colposacropexy is the gold standard treatment for single or multiple pelvic organ prolapse. The robotic approach allows for effective solidification between the vaginal wall and the mesh through placement of sutures not causing ischemia of the vaginal wall in order to reduce the risk of mesh erosion. The magnification of operative field reduces the microscopic lesions of the vaginal wall facilitating the mesh erosion, that have not occurred with presented technique. The prolene mesh “d reversed” shaped that was configured depending on the size of vaginal fascial defect and the effective solidification between the vaginal wall and the mesh without ischemia of vaginal wall make our technique a safe, effective and easily repeatable surgical solution for treatment of pelvic organ prolapse.

VE11 Robot assisted laparoscopic ureterolysis and omental wrapping in patients with idiopathic retroperitoneal fibrosis
A. Vis, E. De Vries, J. Nieuwenhuizen, E. Meuleman. VUmc, Dept. of Urology, Amsterdam, The Netherlands

Introduction & Objectives: Idiopathic retroperitoneal fibrosis is a rare disease, characterized by the presence of a fibro-inflammatory tissue that surrounds the abdominal aorta and the iliac arteries, and often entraps the ureters. Glucocorticoids are the mainstay of treatment of idiopathic retroperitoneal fibrosis, but they often have substantial toxic effects. We analyzed the outcomes of robot assisted laparoscopic ureterolysis and omental wrapping in patients with retroperitoneal fibrosis with obstructive uropathy.

Material & Methods: In this study we enrolled 6 patients, aged 47–78 years, who underwent a robot assisted laparoscopic ureterolysis and omental wrapping because of idiopathic retroperitoneal fibrosis. A total of 9 obstructed renal collecting systems were operated; three patients underwent bilateral surgery. Operation time, length of hospital stay and perioperative complications were recorded. Trifecta of a successful procedure was defined as a patient with no drains (no JJ stent, no nephrostomy), free of anti-inflammatory medication and without complaints.

Results: Mean follow up time was 13 months (range 23–37 months). In 8 of 9 (88.9%) collecting systems, ureterolysis was successful and in 5 of 6 (83.3%) patients trifecta was achieved. Median operation time and hospital stay were 208 (range, 157–266) minutes and 4 (range, 1–7) days respectively. In 1 patient, the ureter was not found; therefore ureterolysis could not be performed. One urinary tract infection (Clavien-Dindo II) and one drainage of an asymptomatic urinoma (Clavien-Dindo IIIa) were recorded.

Conclusions: Robot assisted laparoscopic ureterolysis and omental wrapping in patients with idiopathic retroperitoneal fibrosis is demanding but feasible and should be considered in patients who remain symptomatic or dependent on intra-urinary drains, despite conservative treatment.
Conclusions: Robotic assisted laparoscopic radical cystectomy with intracorporeal ileal conduit has been reported with potential benefits compared to the traditional open method. With time robotic surgeons are becoming more familiar with intracorporeal urinary diversion especially ileal conduit. As show in our small series, this can be achieved safely with no increase in complications rates. However more number of patients with more data is necessary to confirm these findings.

VE13 Robot assisted total intracorporeal augmentation ileo-cystoplasty- Video demonstration of surgical technique


Introduction & Objectives: Robotic enterocystoplasty provides a minimally invasive approach to bladder augmentation in patients with small capacity overactive bladder (OAB). Augmentation cystoplasty (AC) historically has been reserved for patient’s refractory to conservative management. We report our initial experience highlighting the technique of complete intracorporeal robot assisted laparoscopic enterocystoplasty.

Material & Methods: From September 2012 to March 2014, we have performed completely intracorporeal augmentation cystoplasty in three male patients. Two patients had received intravesical BCG for low and intermediate grade transitional cell carcinoma and had developed small capacity bladder with severe irritative voiding symptoms not responding to conservative management including anti-tubercular treatment. One patient had small capacity bladder after transurethral resection of prostate. We used 4-arm Da Vinci Si HD (Intuitive surgicals, USA) system and standard port technique. Critical steps of the procedure is presented in the accompanying video which includes opening of bladder, isolating 15 cms of ileum, establishing ileal continuity, suturing detubalrized segment to bladder.

Results: The ages of the patients were 73, 65 and 58 years. Mean Blood loss was 120 ml. Average duration of surgery was 190 mts. In brief steps of the procedure include steep trendlenberg position, horizontal vescicostomy, selecting 12-15 cm segment of the ileum, restoring ileal continuration, detubalrization and intracorporeal suturing to urinary bladder which is opened at its dome in inverted U-shaped configuration. There were no intra operative complications or open conversion. One patient developed adhesive intestinal obstruction post operatively requiring exploration. On follow up this patient did not show any improvement in symptoms and underwent open simple cystectomy with ileal conduit after 2 months. Other two patients are doing well after 7 and 4 months of follow up and voiding well without the need of self catheterization.

Conclusions: Robotic enterocystoplasty is an advanced procedure that is technically feasible and safe. We perform the entire operation intracorporeally and our experience is encouraging giving minimal invasive benefit to patients. Additional experience may result in routine robotic urinary augmentation in select group of patients.

VE14 Robot assisted ureteral reconstruction in 3 patients

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Introduction & Objectives: Robot-assisted surgery has been commonly used as a minimally invasive approach for reconstructive urinary tract procedures in the last decade. In this video, 3 reconstructive ureteral procedures (2 ureteroneocystostomy and 1 ureteroureterostomy) are presented.

Material & Methods: First patient is a 48-year-old woman who had thermal injury of right distal ureter during robotic hysterectomy.

Psosas hitch and ureteroneocystostomy was performed by using extravesical Lich-Gregoir technique. Second patient is a 74-year-old man who had left distal ureteral stricture occurred as a result of transurethral resection of bladder tumor around the ureteric orifice. Following unsuccessful ureteral catheterization, robot assisted ureteroneocystostomy was performed. Last patient is a 70-year-old woman who had right ureteral ligation during open hysterectomy. Following percutaneous drainage for 3 weeks, she underwent robot assisted exploration. The ureter was isolated proximally and distally. It was obstructed by a metallic clip at the level of the iliac bifurcation. The clip was removed, the obstructed segment was resected and robot assisted ureteroureterostomy was performed. Double J ureteral stent was placed for 4 weeks in all patients.

Results: Postoperative period was uneventful in all 3 patients. None of them required blood transfusion. Intravenous pyelogram and diuretic renogram revealed no obstruction and well functioning kidneys in all patients.

Conclusions: Robot assisted ureteral reconstruction is a safe and effective method. Recognition of ureteral injury during any robotic surgery allows early reconstruction with the advantage of vision on the console and robotic instruments.

VE15 Robot-assisted enucleation of 12 cm angiomyolipoma

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Introduction & Objectives: We present the Robot-Assisted enucleation of a 12 cm renal mass suspicious for angiomyolipoma of the left kidney. The robotic approach can be considered as a valid alternative to the laparoscopic approach of renal masses.

Material & Methods: A 54 years old female patient came to us referring left lumbar pain and intestinal sub-occlusion. CT scan showed a 12 cm esophatic mass located at the median part of the left kidney suspicious for angiomyolipoma. The renal scan showed a total GFR of 30 ml/min. Preoperative serum creatinine (CrS) was 0.67 mg/dL. The day before surgery a superselective embolization was performed in order to decrease eventual intraoperative bleedings. A transperitoneal approach was preferred. The left colon was mobilized and the mass was clearly visible. The lateral limit of the aorta was followed cranially up to the left renal vein. The renal artery was identified. A vessel loop was placed around the artery and a bulldog clamp was placed on it. A tumour enucleation was performed. Great attention was paid to find the good cleavage plane between the mass and healthy renal tissue in order to preserve as much as possible the renal parenchyma. At the end of the procedure the specimen was positioned into an endobag and removed.

Results: Global ischemia time was 14 minutes. Operative time was 240 minutes; estimated blood loss was less than 50 cc. Patient was discharged on postoperative day 3. Final histopathological exam confirmed the mass to be benign angiomyolipoma. At 1 month postop CrS is 0.75 mg/dL.

Conclusions: Huge renal angiomyolipomas represent a potential problem due to the tendency to spontaneous rupture and the life threatening risk of hemorrhage. Size of the tumor, angiogenic component and concomitant tuberous sclerosis can be related with the hemorrhagic event. Robot Assisted Laparoscopic Partial Nephrectomy (RALPN) has been proposed as conservative treatment of benign and malignant disease of the kidney. Robotic enucleation of huge angiomyolipomas is a feasible surgical strategy. The robotic excision allows fine dissection and accurate clamping of all tumor vessels. The robotic approach offers typical advantages of minimally invasive surgery like postoperative painless course and short convalescence.
VE16
Robot-assisted laparoscopic resection of bladder diverticula
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Introduction & Objectives: Diverticulectomy is indicated for large diverticula (DI) associated with incomplete emptying, recurrent urinary tract infection, bladder calculi, or endoscopically non-treatable tumors. Evolution of minimally invasive technology facilitated laparoscopic management of bladder DI. We present robot-assisted laparoscopic diverticulectomy (RADIX) with focus on surgical technique (i.e. identification of, approach to and resection of the DI, and closure of the bladder), complications and outcome.

Material & Methods: Between 2009 and 2013 14 consecutive patients underwent RADIX in our clinic. Data were collected retrospectively using the patient’s charts and questionnaires that were sent to the patients.

Results: The surgical technique of RADIX is illustrated and described in our video. First, cystoscopy is performed for ureteral catheterization and to determine the relationship between ureteral orifice and DI mouth. Then, following port placement, the peritoneum is incised medially to the medial umbilical ligament and both the ductus deferens and the ureter are identified. For visualization of the DI the bladder is filled via the transurethral catheter. The DI neck is identified, opened and transected. In case of close proximity of the DI mouth to the ureteral orifice, a transvesical incision superior or even contralaterally to the DI mouth allows easier identification and preservation of the ureteral orifice, and could be especially useful if ureteral reimplantation is necessary. At the end of the procedure the bladder is closed with running sutures in two layers. There were no intraoperative complications. Major postoperative complications according to the Clavien-Dindo classification occurred in 2 patients within 90 days of surgery (1 × grade I, 1 × grade IVa). The median postoperative hospital stay was 8 days. At a median follow-up of 20.8 months, all patients remained without signs of DI recurrence and were asymptomatic.

Conclusions: In our hands RADIX is the treatment of choice for patients in whom diverticulectomy is indicated. We feel that in case of close proximity of the DI mouth to the ureteral orifice, a transvesical incision superior or even contralaterally to the DI mouth allows easier identification and preservation of the ureteral orifice, and could be especially useful if ureteral reimplantation is necessary.

VE17
Robot-assisted laparoscopic YV-plasty in patients with refractory bladder neck contracture
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Introduction & Objectives: In most cases bladder neck contracture (BNC) in the adult male patient is iatrogenic following transurethral resection of the prostate, radical prostatectomy or pelvic irradiation. While there is general agreement on initial treatment comprising endoscopic procedures like bladder neck incision, bladder neck resection and balloon dilation, there is little evidence on the management of complex refractory BNC. We present a case series of patients with refractory BNC treated with robot-assisted laparoscopic YV-plasty of the bladder neck (RAYV).

Material & Methods: Between 01/2013 and 03/2014 4 consecutive male patients underwent RAYV in our clinic. In 3 cases BNC emerged after transurethral resection of the prostate and in 1 case after retropubic simple prostatectomy. Each patient had 3 unsuccessful previous endoscopic treatments. Data were collected retrospectively using the patient’s charts and questionnaires sent to the patients.

Results: The surgical technique of RAYV is illustrated and described in our video. All procedures were performed using a transperitoneal six-port approach (four-arm robotic setting) with the patients in a steep Trendelenburg position. First, cystoscopy is performed to determine the relationship between BNC and urethral sphincter. Then, the peritoneum is incised medially and the bladder is approached as for cystotomy. To avoid bleeding from the dorsal venous complex a running suture is performed at the level of the prostatic apex. After removal of the prevesical fat the bladder neck is identified. Then the Y incision is performed through all layers with cold scissors. Thereafter, interrupted sutures are placed in the way that the apex of the V-flap is brought to the base of the Y incision, so that a wide bladder neck is accomplished. At the end of the procedure a suprapubic bladder catheter and pelvic drainage are placed. There were no intraoperative complications. Furthermore, no major postoperative complications according to the Clavien-Dindo classification occurred. 2 patients experienced minor complications within 90 days of surgery (1 × grade I, 1 × grade II). The postoperative hospital stay ranged from 8 to 14 days. During follow-up (range 0.5–14.6 months) 3 of the 4 patients maintained a subjectively unimpaired voiding function. No case of refractory BNC or de novo stress urinary incontinence were observed. 1 patient with preexisting stress urinary incontinence underwent a successful transobturator male sling procedure 4 months after RAYV.

Conclusions: To our knowledge, this is the first report on RAYV for refractory BNC. In our case series RAYV was successful in all but 1 patient during short follow up. At the same time, no intraoperative or major postoperative complications were observed.

VE18
Robot-assisted salvage extended pelvic lymph node dissection in prostate cancer
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Introduction & Objectives: To present the case of a patient who underwent robot-assisted salvage pelvic lymph node dissection (PLND) for prostate cancer.

Material & Methods: A 70-year old patient had a rising prostate-specific antigen (PSA) up to 1.12 ng/mL 3 years after robot-assisted radical prostatectomy (without PLND) and adjuvant radiotherapy for a pT3a Gleason 4+3 prostate cancer. Choline PET-CT identified 1 suspicious pelvic lymph node next to the left external iliac vessels. The patient underwent robot-assisted transperitoneal extended PLND.

Results: In the video we present surgical technique of PLND (only the right side). Operation time was 175 minutes, estimated blood loss was 30 mL. The patient suffered from transient penoscrotal edema, which recuperated after 7 days. Of 19 lymph nodes removed, one harbored prostate cancer. Within 4 weeks of surgery PSA dropped to <0.03 ng/mL and remains undetectable 12 months after surgery.

Conclusions: In selected patients salvage PLND can induce a durable PSA response.

VE19
Robotic assisted radical cystectomy and extended pelvic lymph node dissection
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Introduction & Objectives: Robot assisted radical cystectomy is gaining population among urologists. The objective of this video is to highlight surgical steps of radical cystectomy with an extended "separate packages" lymph node dissection in a male patient.

Material & Methods: Surgical steps of radical cystectomy were: isolation of both ureters, Douglas incision and dissection of posterior plane, isolation and control of bladder and prostatic pedicles, ligation and section of distal ureters for frozen section, access to Retzius space, management of dorsal vein complex, section of urethra and urethral catheter closure. A step by step lymph node dissection was demonstrated, starting from cava vein and aortic bifurcation, pro-
ceeding on lateral aspect of right common iliac artery, then completing the right external iliac and the obturator node dissection. Subsequently, the presacral nodes were removed from the aortic bifurcation, toward the hypogastric nodes. The left common iliac dissection was performed before deflecting medially the sigma and completing the left pelvic node dissection as done for the right side. Packages were marked with different size hem-o-locks and removed into two separate endocatch bags.

Results: Intraoperative blood loss was 250 ml, operative time was 55 and 85 minutes for cystectomy and pelvic lymphadenectomy, respectively.

Conclusions: The video demonstrates the feasibility of robot assisted radical cystectomy with a meticulous extended pelvic lymph node dissection.

VE20
Robotic assisted re-do partial nephrectomy and partial adrenalectomy in a patient with von Hippel Lindau disease
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Introduction & Objectives: We present the case of a simultaneous robotic assisted redo partial nephrectomy and partial adrenalectomy in a patient with von Hippel Lindau disease.

Material & Methods: A 32 year old female with von Hippel Lindau disease presented with a new onset 2.8 cm hypervascular right adrenal mass consistent with pheochromocytoma and an enlarging 2.8 cm right inferior pole renal mass. Her past medical history included cerebellar hemangioblastoma and a previous right partial nephrectomy for a G2pT1a clear cell RCC with negative margins. Her BMI was 44 and pre-operative eGFR was 110.

Results: This video shows our technique of simultaneous robotic assisted redo right partial nephrectomy with partial adrenalectomy. Surgery was performed under alpha blockade with doxazosin. The patient had an uneventful postoperative course and was discharged on day 3. Pathology of the renal mass showed a G2pT1a clear cell RCC with negative margins. Pathology of the adrenal mass showed a pheochromocytoma with negative margins.

Conclusions: To our knowledge, we demonstrate the first case of simultaneous robotic assisted partial nephrectomy and adrenalectomy in a patient with von Hippel Lindau disease, showing the technique is both feasible and effective.

VE21
Robotic fistulectomy and advancement flap for rectal-neobladder fistula

Introduction & Objectives: Rectal injury is a severe complication after prostatectomy or bladder cancer surgery. Most of rectal injuries will behave as delayed fistulas. Although several techniques have been described, there is no consensus on how to solve them. Objective: We present the robotic transanal approach with excision of the fistula and an advancement full thickness flap to resolve it.

Material & Methods: A 55 years old man with a fistocystectomy with Studer neobladder presents rectal-neobladder fistula after surgery 4 years ago. He had a good tolerance until his renal function worsened. Cistography and cistoscopy showed a small 5 mm fistula, 4 cm from the anal margin. We describe the patient position, Da Vinci robot and trocars position and tips-and-tricks in dissection and suture technique. All the surgery is performed through a robot transanal device.

Conclusions: Transanal minimally invasive surgery (TAMIS) is a valid alternative to treat vesicorectal fistulas. This technique is effective and reproducible and the robotic approach facilitates its performance.

VE22
Robotic ileocistoplasty combined with supratrigonal cystectomy

Introduction & Objectives: Enteric bladder augmentation is the preferred option of treatment in cases of diminished bladder capacity causing renal function impairment.

Material & Methods: We present a rare case of a 60-year-old male who was admitted in our hospital with history of nephrolithiasis, bilateral hidronephrosis and a thick bladder wall. Repeated urine cultures including mycobacteriae where negatives, as well as urine cytology and bladder biopsy. He curses with acute renal insufficiency, bilateral grade 2 hidronephrosis, thickened bladder wall and high left ureteral stenosis. Bilateral nephrostomy was performed with subsequent normalization of renal function. Posteriorly, we decided to carry out a supratrigonal cystectomy with combined Carney II type substitution ileocystoplasty. We explain patient position, Da Vinci robot and trocars position and tips-and-tricks in dissection and suture technique.

Conclusions: In the last years, robotic assisted surgery has emerged as an interesting option for urologists to perform different types of urinary diversions. Improvements in ergonomics, vision and suture technique provide extra help for complex cases as intracorporeal ileocystoplasty.

VE23
Robotic inferior vena cava thrombectomy
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Introduction & Objectives: The surgical approach of inferior vena cava (IVC) thrombus is usually open. At selected institutions, the robotic approach is being explored. We present here a case of robotic IVC thrombectomy.

Material & Methods: The video shows the robotic approach of IVC thrombus in a 82 years old man with right kidney cancer extended to the vena cava.

Results: Thrombectomy time was 160 min, IVC clamp time was 55 min and nephrectomy time was 110 min. Thrombus Size was 3 cm. Estimated blood loss was 800 cc. No intraoperative and postoperative transfusions were necessary. POD1 Haemoglobin was 12.7 and Scratinine 1.88. Patient was discharged 3 days after surgery.

Conclusions: At selected institutions robotic surgery for selected level I and II caval thrombi is feasible. Further, clinical experience is necessary to determine the appropriate place of robotic surgery in managing these complex patients with caval involvement.

VE24
Robotic Millin prostatectomy
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Introduction & Objectives: This video highlights surgical steps of a robotic Millin prostatectomy for benign prostatic hyperplasia.

Material & Methods: With patient in steep Trendelemburg position a 5 trocar transperitoneal access was performed. Once prepared the Retzius space a transverse incision of the ventral prostate was performed and the dissection plane was developed anteriorly and pro-
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leuprorelin acetate akin to salvage radical prostatectomy: Initial robotic prostatectomy following neoadjuvant TAK-700 and VE25

Robotic prostatectomy following neoadjuvant TAK-700 and leuprorelin acetate akin to salvage radical prostatectomy: Initial experience from the NEPTUNE study


Introduction & Objectives: The NEPTUNE study is a National Cancer Research Institute (NCRI) and Cancer Research UK endorsed randomized phase II study of neoadjuvant TAK-700 and Leuprorelin acetate versus surgery alone for intermediate and high risk prostate cancer. In this abstract we report the technical nuances of robotic prostatectomy in this clinical trial setting.

Material & Methods: A significant proportion of men undergoing radical prostatectomy for high risk prostate cancer experience biochemical failure requiring subsequent adjuvant therapy in the form of radiation therapy or endocrine therapy. The development of more effective testosterone targeted therapy such as TAK-700 has prompted a re-evaluation of use of these agents in the neoadjuvant setting prior to radical prostatectomy in an attempt to reduce the need for adjuvant therapy. Within the the NEPTUNE study, patients opting to undergo surgery for intermediate and high risk prostate cancer are randomised to undergo either immediate robotic radical prostatectomy or alternatively 24 weeks of therapy with TAK-700 (100 mg twice daily) and leuprorelin acetate (3.75 mg every 28 days) following by robotic radical prostatectomy.

Results: Following TAK-700 and leuprorelin acetate therapy, tissue plans around the prostate are very similar to those experienced when performing a “salvage radical prostatectomy”. The endopelvic fascia is densely adherent to the prostate. In addition, dissection of the seminal vesicles demonstrates marked fibrosis while the layers of the denovilliers fascia are fused to both the prostate and the rectum making dissection difficult. Despite these changes, full bilateral nerve sparing remains feasible. Pathological findings following administration of TAK-700 demonstrate marked therapy affect with downstaging of tumour volume.

Conclusions: Robotic radical prostatectomy with bilateral nerve sparing is possible following neoadjuvant administration TAK-700 – an example of a new era testosterone suppression therapy. However, treatment effect results in a markedly more difficult dissection akin to that of “salvage prostatectomy”.

VE26
Robotic pyeloplasty and synchronous removal of many kidney stones: A piece of cake with robotic surgery

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Introduction & Objectives: We present a challenging case of ureteropelvic junction (UPJ) obstruction with its renal pelvis and every calix full of small sized many soft stones that we did not identify preoperatively and which was a very surprising intraoperative finding.

Material & Methods: A 35 year-old female patient was referred with the diagnosis of right UPJ obstruction. She had right flank pain for 6 months and urinary tract infection. She did not have history of urinary tract stone disease, abdominal or other surgery. Urine analysis revealed > 50 leukocytes/HPF. Urine culture was sterile. Abdominal ultrasound (USG) revealed right hydropnephrosis with extremely dilated calices and presence of 4 or 5 stones in 5 mm size in right renal pelvis. Intravenous urography (IVU) showed no renal opacity but right hydropnephrosis, extremely dilated calices and a huge right kid- ney. Nuclear renal scan with diuretic washout demonstrated obstruc- tive right kidney with T1/2 ~ 20 minutes. Abdominal CT was not done preoperatively.

Results: We performed right transperitoneal robotic pyeloplasty. When we excised the obstructed UPJ and opened the renal pelvis, we were very surprised to see that almost the whole renal pelvis and all of the renal calices were full of 5 mm sized many soft kidney stones. By using the advantage of the robotic wristed hand movements, we cleared all the stones in the renal pelvis and easily entered every calix and removed all of the small sized stones that we think is almost im- possible to achieve with standard laparoscopy. Dilated renal pelvis was excised, a JJ stent was inserted and anastomosis with the spat- ulated ureter was completed successfully without any complication. Operation time was 1.5 hours. Blood loss was 50 cc. Postoperative follow-up was uneventful. Patient was discharged on postoperative day-2. 3rd-month nuclear scan showed non-obstructive right kidney. CT urography showed stone-free state.

Conclusions: Robotic pyeloplasty is a safe minimally invasive procedure that has excellent surgical and functional outcomes. Preoperative USG and IVU can miss most of the small non-opaque and soft stones as happened in our case that might be a surprising intraoperative situation to handle for the surgeon. Therefore, we think that preoperative CT is also essential in all patients for detecting particularly non-opaque and small stones. Surgical robot allows precise, gentle and quick tissue handling with 3D magnified image capability, higher grades of wristed hand movements and decreased hand tremor that gives the opportunity of easily entering every distal calix and removal of all small sized stones leading to a stone-free state. In addition, robotic approach has the advantages of enabling quicker tissue dissection, reconstruction, intracorporeal suturing, antegrade double-J stenting and excellent ergonomics for the console surgeon.

VE27
Saphenous vein sparing robot assisted video endoscopic inguinal lymphadenectomy (R-VEIL): Steps as video demonstration


Introduction & Objectives: Groin lymph node dissection (GND) in carcinoma of penis is associated with high incidence of wound re- lated complications like flap necrosis, infection etc. R-VEIL is a surgi-
cally, there were no complications related to the robotic system, and the patients were discharged on postoperative day 1.

Conclusions: The combination of robotic and laparoscopic techniques in simultaneous bilateral nephrectomy is feasible, safe, and effective. This approach has the potential to offer significant advantages over open or laparoscopic surgery, including reduced morbidity, faster recovery, and improved cosmetic outcomes. Further research is needed to confirm these findings and to investigate the potential for wider application of this approach in the management of renal tumors.
assisted intracorporeal radical cystectomy, lymph node dissection and fully intracorporeal ileal conduit reconstruction that we apply in patients with muscle-invasive urothelial urinary bladder cancer. The video shows in detail all steps of the procedure from port placement (seven-port transperitoneal approach) over the ablative steps (bladder and prostate resection and pelvic lymph node dissection) to the fully intracorporeal robot-assisted ileal conduit reconstruction.

**Material & Methods:** The robotic cystectomy is performed via a six-port transperitoneal approach. We used 1 camera port (12 mm), 2 robot ports (8 mm), 1 assistant port (12 mm), 1 hybrid port (1 robot port (8 mm) inserted within an assistant port (12 mm)), and a suction port (5 mm).

**Results:** In this case of our series, surgery lasted 297 min, thereof 2001 min console time. The blood loss was 238 ml. Resection margins were tumor-free. There were no intra- or postoperative complications.

**Conclusions:** Robotic-assisted radical cystectomy could be performed with acceptable surgery durations and without intraoperative and postoperative complications. Further procedures have to be performed to evaluate functional and oncologic safety.

**VE31**

**Surgical technique, surgical benchmarks and impact of team constancy on surgical duration in robot-assisted isolated sacrocolpopexy and sacrococcygopexy combined with modified Burch colposuspension procedure**

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**Introduction & Objectives:** In this video we describe step-by-step our technique and intra- and postoperative benchmarks of robot-assisted isolated sacrouteropexy/sacrocolpopexy and sacrococcygopexy/sacrocolpopexy combined with modified Burch colposuspension procedure. This video shows all steps of the procedure in detail: From port placement (five-port transperitoneal approach) over dissection of vesicovaginal and rectovaginal spaces and suture a Y-shaped piece of synthetic mesh to the vagina and promontory.

**Material & Methods:** We enrolled 101 consecutive patients in this observational study. The patients underwent surgery between August 2009 and May 2014 at Alfred Krupp Hospital, Essen, Germany. All procedures were performed by one surgeon. We assessed surgery duration, console duration, blood loss, intra- and postoperative complications. We described frequencies as number and/or percent and continuous data as mean (standard deviation, SD) as appropriate. We also calculated the correlation between the various time duration and experience by linear regression.

**Results:** The mean age was 69 (SD 11) years, the mean BMI 26.8 (SD 5.2). Sixty-nine (69.3%) patients were ASA 1–2, 31 (31.7%) ASA 3. Seventy-seven (76.2%) women had undergone previous abdominal surgery. Most of them (81.8%) had a previous history of hysterectomy (abdominal or vaginal). All procedures could be conducted without conversion to open surgery. Intraoperative complications occurred in six cases (5.9%): A superficial lesion (serosa) of the colon and caecum in three cases and lesion of the bladder in other 3 cases. The overall mean surgery duration was 105 minutes (SD 30), thereof 72 (SD 26.8) minutes console time. The mean blood loss amounted to 31 ml (SD 40). The mean console duration was 58 minutes (SD 22) in patients with isolated sacrouteropexy/sacrocolpopexy and 85 minutes (SD 23) in combined sacrouteropexy/sacrocolpopexy and modified Burch colposuspension procedure (p<0.003). There was a significant correlation between duration and experience for total surgery time (R 0.610, p<0.001) and console time (R 0.666, p<0.001). In contrast, nonconsole time did not decrease with increasing number of cases (R 0.22, p=0.154). Postoperative complications included Clavien-Dindo classification 1 (abdominal complaints) in three patients, CDC 2 (postoperative transfusion of two RCC) in one patient, and CDC 3b (port hernia) in other patient.

**Conclusions:** Both robot-assisted isolated sacrouteropexy/sacrocolpopexy and combined sacrouteropexy/sacrocolpopexy modified Burch colposuspension were safe procedures, resulting in minimal blood loss and were feasible within moderate surgery duration. Surgery duration reduction in our centre solely depended on console surgeon experience. Varying team members in the nonconsole part of the procedure resulted in a stagnation of duration. These results underline the importance of team constancy to reduce surgery durations. However, this observation has to be put in relation to the teaching mission of the institution.

**VE32**

**Technical aspects of robot-assisted laparoscopic prostatectomy in large prostates (≥75 g)**

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**Introduction & Objectives:** Robot-assisted radical prostatectomy (RARP) in patients with large prostate glands is known to be challenging. The increased size of some prostates decreases the working space in the pelvis, creating impaired visibility and limiting the mobility of the prostate. Moreover, it is often difficult to perform a bladder neck sparing procedure and bladder neck reconstruction is required. The objective of this video is show specific technical tips on how to deal with large prostate glands (≥75 g) during RARP and to evaluate the impact of prostate weight on surgical and pathological outcomes during RARP.

**Material & Methods:** We performed a retrospective analysis of all men undergoing RARP at our centre between October 2003 and September 2013. All perioperative and pathological data were prospectively collected in our database. Men were divided into three groups depending on the weight of the pathological prostate specimen: small (<50 g), medium (50–74 g) and large (≥75 g) prostates. The parameters analysed included age, psa, clinical staging, biopsy Gleason score, D’Amico risk stratification, operative time, estimated blood loss, hospital stay, pathological staging and Gleason score and complication rate. Based on our personal experience along with the video files available for most of the performed RARPs, we created a video compilation that illustrates how to deal with the different aspects of large prostate glands.

**Results:** In our centre, 2042 consecutive men underwent RARP from October 2003 to September 2013. Based on the criteria above, 1178 radical prostatectomy specimens were classified a small, 86 as medium sized and 181 as large. In this video we how to approach the apex, bladder neck, including large median lobes, neurovascular bundle, seminal vesicles and urethrovaginal anastomosis in large prostates. In our series, patients with large prostates were significantly older and had a higher pre-op PSA values than patients with smaller glands (median age 65 vs 62 vs 59 years, median PSA 8.0 vs 6.7 vs 5.8 ng/ml for large, medium and small glands respectively). As described in literature, operation time and estimated blood loss were significantly elevated in the large prostate group (median operation time 185 vs 171 vs 165 min and median blood loss 250 vs 200 vs 190 ml for large, medium and small glands respectively). Transfusion rates were, however, not significantly different. Also peri-operative complication rates (for all Clavien scores) and hospital stay were similar in the three groups. In the large prostate group, there were significantly less positive surgical margins compared to small prostates for pathological for pT2 tumours, with a similar trend in pT3 specimens. (positive margins 7.7%, 9.7% and 15.3% for pT2 tumours and 42.4%, 45.6% and 49.2% in large, medium and small tumours respectively.

**Conclusions:** RARP in men with large prostates can be technically challenging, as illustrated by longer operation times and higher perioperative blood loss. Nevertheless, several surgical techniques can be applied to facilitate surgery on large glands, allowing the operation
to be performed with similar complication rates and at least similar oncological efficacy.

VE33
The effect of bladder neck sparing versus bladder neck reconstruction on early return of continence

Introduction & Objectives: A number of studies have demonstrated a significant improvement in the early return of continence with Bladder Neck Sparing (BNS) compared to Bladder Neck Reconstruction (BNR) following robotic prostatectomy. However, no study to date has used a standard technique for assessing the size of the bladder neck prior to anastomosis. We describe a novel technique using the volume of a urethral catheter balloon to calculate the size of the bladder neck prior to anastomosis. Furthermore, we evaluate the impact of Bladder Neck Sparing versus Bladder Neck Reconstruction on early return of urinary continence.

Material & Methods: 326 patients underwent robotic prostatectomy over a 1-year period by four surgeons. In 115 out of these patients, the volume of the bladder neck prior to anastomosis was measured intra-operatively using the balloon of the urethral catheter to calculate bladder neck size. A bladder neck sparing procedure was considered to have been performed if the bladder neck was no larger than 1 ml. If the bladder neck was calibrated as larger than 1 ml – the bladder neck was reconstructed using lateral plication sutures. Patient demographic, cancer characteristics, oncological and functional outcomes were obtained prospectively. The IQ-CF questionnaire was used to measure patient continence at 6 weeks, 3 months, 6 months and 1 year. A multivariate analysis was performed considering factors such as age, ethnicity, BMI, comorbidities, gland size, cancer stage, grade of nerve spare and surgeon.

Results: At 6 weeks, 43% of patients that had undergone BNS were continent compared to 18% that had BNR (OR 0.3, 95% CI 0.08–1.03, P=0.05). At 3, 6, 12 and 18 months, continence rates were similar for the two approaches (3M: 54% versus 44%, P=0.67, 6M: 71% versus 67%, P=0.76, 12M 91% versus 81%, P=0.33). No difference was noted in the basal positive margin rates (BNS: 3.7% versus BNR: 2.6%, P=0.76).

Conclusions: The volume of a catheter balloon can be reliably used to calibrate the size of the bladder neck prior to performing the anastomosis at the time of robotic radical prostatectomy. Bladder neck sparing as opposed to bladder neck reconstruction was found to be associated with improved 6 week continence, thereafter, no difference in continence between the two approaches was noted.

VE34
Totally intracorporeal robot assisted Vescica Ileale Padovana (VIP): A step by step technique
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Introduction & Objectives: Robotic radical cystectomy (RC) with intracorporeal neobladder reconstruction is currently considered a challenging procedure characterized by a long operative time, leading to concern about its wide reproducibility. We present here our technique of Robotic Totally Intracorporeal Vescica Ileale Padovana (VIP) using staplers to configure part of the reservoir.

Material & Methods: From August 2012 to December 2013, we performed robotic totally intracorporeal stapled VIP in 41 patients. The video shows step by step our surgical technique.

Results: Robotic totally intracorporeal urinary diversion was successfully performed in all the patients. Mean age and body mass index were 64.7 yr (SD 7.2) and 27.7 kg/m², (3.6) respectively. Median operative time (console time) was 4.2 h (range: 4–6). Mean estimated blood loss was 210 ml (SD 60), mean time to regular diet was 6 d (range: 5–21 d), mean hospital stay was 9 d (range: 6–45 d), and 30- and 90-d complications were Clavien grade 1–2 (n=15 and 0), Clavien grade 3–5 (n=12 and 9), respectively.

Conclusions: Robot-assisted orthotopic neobladder (VIP) is feasible and safe. The partially stapled neobladder we presented could shorten operative time for totally intracorporeal urinary diversion.

VE35
Video based FAQs: A novel way to disseminate patient information on robotic assisted surgery
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Introduction & Objectives: For several years, we have provided printed patient information literature to patients prior to surgery. With the increase use of digital technology and the advent of the smartphone and tablet computer or iPad we thought it appropriate to provide patients with downloadable digital versions of this information based on a list of common frequently asked questions (FAQs).

Material & Methods: We compiled a list of common FAQs posed by patients prior to robotic assisted prostatectomy. Video sequences were created based on these questions using an iMac and Final Cut video editing software and audio recordings were created in Garage Band (Apple, Cupertino, CA). Images were either from our own recording or purchased commercially (Shutterstock, www.shutterstock.com).

Results: We have created over 30 video sequences approximately 1 minute in length patients FAQs. These videos are now online and downloadable by patients to iOS or Android devices. In this video, we show some examples of our patient information videos which are based on pre, per and post operative questions. Patient feedback has consistently been, very positive.

Conclusions: We believe this video format is appropriate in a modern digital age. In addition, we believe that the format we have adopted is applicable to other operations and specialties. For patients without access to digital technology, we provide an iPad to view the video sequences in clinic.

VE36
Y’pouch neobladder – a simplified method of intracorporeal neobladder after robotic cystectomy

Introduction & Objectives: In the recent years, robotic-assisted radical cystectomy (RARC) has shown similar oncological outcomes compared to the gold standard open radical cystectomy with added benefit of less blood loss and shorter hospital stay. Robotic cystectomy with intracorporeal ileal neobladder is a complex surgical procedure and is usually done in experienced centers. We propose robotic cystectomy with intracorporeal neobladder using the “Y” pouch previously described in open radical cystectomy. The objective is to have streamlined intracorporeal neobladder diversion to shorten operating time and minimize complications.

Material & Methods: Our patient is a 67 years old gentleman with diagnosis of muscle invasive bladder carcinoma. The patient underwent robotic cystectomy, pelvic lymph node dissection and intracorporeal “Y” pouch neobladder. The key surgical steps will be shown in the accompanied video. The key surgical steps of intracorporeal “Y” pouch neobladder are: 1) bowel identification and isolation, 2)urethro-ileal anastomosis, 3)central pouch detubularization and reconstruction, 4) uretero-ileal anastomosis.

Results: There is no perioperative complication. The post-operative
IVU and cystogram showed an intact neobladder with no upper tract dilatations.

**Conclusions:** We think that the "Y" pouch is easier to perform than conventional spherical pouches without compromising on functional outcomes and will be a good alternative for patients undergoing RARC with intracorporeal diversion.

**VE37**  
**Zero ischemia robotic partial nephrectomy for tumors with high nephrometry score**

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**Introduction & Objectives:** Zero ischemia robotic partial nephrectomy is a challenging procedure, requiring advanced surgical skills. This video highlights main surgical steps of this procedure.

**Material & Methods:** The first case was a 4.3 cm right renal tumor with predominant endophytic growth in a solitary kidney, the second one was a 3.5 cm totally endophytic renal tumor. The first procedure was an imperative partial nephrectomy. In both cases hilar vessels were neither isolated nor clamped. Tumor enucleation under controlled hypotensive anaesthesia was performed in both cases.

**Results:** In both cases procedure was successfully completed without perioperative complications. Pathological report confirmed a pT1b and pT1a clear cell RCC, respectively, with negative surgical margins.

**Conclusions:** The video demonstrates feasibility and effectiveness of zero ischemia robotic partial nephrectomy for challenging cases. Key steps of a successful enucleation were a blunt dissection combined with a selective control of small feeding arteries.

**VE38**  
**Zero-ischemia robot assisted partial nephrectomy for high nephrometry score tumors**

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**Introduction & Objectives:** Zero ischemia robotic partial nephrectomy (PN) is considered a challenging procedure. We present here a video to explore the feasibility of off-clamp PN in high nephrometry score renal masses.

**Material & Methods:** A 40 years old woman was admitted to our department for a 6 cm right renal tumor predominantly endophytic. Padua Nephrometry score was 12. ASA score was 2. Preoperative sCreatinine was 0.87, preoperative eGFR was 77. The patient underwent robotic PN without hilar clamping. A transperitoneal approach was used. The right kidney was isolated and flipped in order to allow circumferential exposure of the tumor. A cuff of fatty tissue was preserved to facilitate exposure of the mass during resection. Renal parenchyma was incised and a dissection plane between healthy renal parenchyma and the tumor was found. During dissection specific vascular branches supplying the tumor were identified and treated with electrocautery without any need of clip ligation. A point specific hemostasis was performed and defined areas of bleeding were identified and sutured.

**Results:** The procedure was successfully completed. Operative time was 120 minutes. Estimated blood loss was 300 cc. No intraoperative and postoperative transfusions were necessary. The patient was discharged 3 days after surgery. sCreatinine and eGFR at discharge were 1 mg/dl and 67 ml/min, respectively.

**Conclusions:** Off-clamp PN in high nephrometry score renal masses is feasible in expert hands. Further studies are necessary to evaluate the easy reproducibility of this procedure.
About the Organisers

About the European Association of Urology (EAU)

A vibrant network of urological professionals
Founded in 1972, the European Association of Urology (EAU) is now entering its fourth decade, a period marked by growth in its membership, thanks to the efforts made in the mid-1990s to modernise the EAU’s structure and widen its activities. With the goal to create a dynamic network of medical professionals, membership has been extended and is now open to urologists-in-training, urological scientists and to related disciplines in Europe and abroad. Moreover, the EAU has increased the number of EAU activities that could be of benefit to other medical professionals. Today, the estimated number of practicing urologists in Europe is at 16,000, a significant and fast-growing medical community in which the EAU aims to be a leading partner in discussions that impact on global urological affairs.

Facilitating growth
With the crucial goal to enhance patient care, the EAU’s cores mission is to act as the representative body for all European urologists, thus facilitating the continuous development of urology and all its subspecialties. In order to maintain the high standards of urological care throughout Europe, the EAU stimulates urological research and helps disseminate the results. Another key goal is promoting contributions by its members to medical and scientific literature, thereby highlighting European urological achievements. The EAU also focuses on establishing training and urological practice standards and help contribute in defining European urological health care policies.

A centralised structure
The EAU’s governing structure is the EAU Board composed of an Executive Committee (EC) and the chairs of the EAU Offices. Chaired by the Secretary General Per Anders Abrahamsson and together with the other EC members, the EC oversees the implementation of all programmes and activities. Constituting the current EC are Hein van Poppel, Manfred Wirth and Walter Artibani who all lend their support to the EAU Secretary General.

Committed involvement
Over one hundred European urologists are involved in the boards of the EAU Offices and Committees who all meet periodically to assess the strategies and plans mapped out within the EAU. As administrative body, the EAU Central Office, supports the EC and the EAU offices. An Executive Management team supervises the EAU Central Office with the Operational Manager (Jacqueline Roelofswaard) directing and organising all operational affairs of the EAU Central Office and the Business Manager (Maurice Schlief) implementing the financial and business plans. Located in Arnhem, the Netherlands, the EAU Central Office employs approximately 55 staff.

Active representation
The General Assembly, held annually as the official meeting for EAU members coincides with the Annual EAU Congress. All active EAU members can exercise their vote at the General Assembly where decisions are made by a majority of votes from all who are present. The General Assembly also votes or approves new and honorary members of the EAU, elect members of the EC and nominates new board members.

Fulfilling key tasks
Education and postgraduate training are essential tasks of the EAU. With the aim to promote quality urological education across Europe, the EAU’s education programmes are easily accessible and affordable to all European urologists and urologists-in-training. Strategies and goals for education are developed, organised and supervised by the European School of Urology (ESU), the EAU’s official education office. The ESU organises courses during the Annual EAU Congress and in collaboration with the European National Urological Associations.

A key task of the EAU is to support scientific activities. The Scientific Congress Office prepares the scientific programme of the Annual EAU Congress and its aim is to ensure a high quality level programme. Research fellowship programmes are funded through the European Urological Scholarship Programme (EUSP). Recently, the EAU has also set up a Foundation for Urological Research which aims to serve as a dynamic link between the industry on one hand and scientific and medical research communities on the other hand.

Communicating achievements
Providing effective communication links to promote and disseminate scientific results and information amongst European urologists remains vital. European Urology is the EAU’s official scientific journal, widely disseminated and highly regarded by readers. The EAU Video Committee is the editorial body responsible for the European Urology Video Journal, which distributes selected new videos on urological diseases and techniques.

The official EAU newsletter, European Urology Today, publishes a range of information on European urology and activities as well as specialised information provided by affiliated European urological associations and organisations. Finally, the EAU maintains dedicated internet sites such as Uroweb (www.uroweb.org), which provides general information resources to members, and Urosource (www.urosource.com) which offers a wide database of urological and scientific information.

Joining the EAU
All registered European urologists; European urologists-in-training and medical professionals in affiliated fields are eligible for EAU membership. We are not only on the lookout for innovative talent but our doors are also open to interested non-European urologists. Joining the EAU is not only about European urology; it is also about enhancing and ensuring the future of our speciality with the ultimate goal to provide the best patient care.

To learn more about the EAU and its membership, visit www.uroweb.org.
About the EAU Robotic Urology Section (ERUS)

As the most recent addition to the EAU's sections, the EAU Robotic Urology Section (ERUS) represents the latest field in urological surgery, robotics. Through regular meetings, masterclasses and academic cooperation, we aim to bring together opinion leaders in the field of urologic surgery, with a focus on robot-assisted surgery.

In 2004, 20 physicians convened in France to discuss the newly emerging field of robot-assisted urology. ERUS has since become a scientific platform for urologists interested in the cutting edge of robotic surgery development. Recent annual meetings have attracted over 700 participants. In 2011, ERUS joined the EAU as a section.

What do we do?
ERUS organises regular scientific meetings to promote discussion and give demonstrations through live surgery sessions. These are annual section meetings, as well as EBU-accredited masterclasses that offer training at various levels. We gather, exchange and spread scientific information, and are developing standards for robotic surgery training.

Who is this section for?
This section is for urologists who are specialising in robotic surgery, on all levels. With our Junior ERUS session, participants under the age of 40 can familiarise themselves with the basics of robotic surgery before learning the complexities of the ever-changing subject.

ERUS Masterclass
ERUS regularly collaborates with the European School of Urology to offer 1 or 2-day intensive classes on one specific topic of robotic urology, such as prostatectomy, cystectomy or surgery on the upper urinary tract. These masterclasses are accredited by the European Board of Urology through the EU-ACME programme, and feature international expert speakers and live surgery sessions.

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