Robotic surgery in Finland - Urology

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Urological robotic surgery

- Especially beneficial in surgery of narrow male pelvis
  - 3D 10x magnified vision
  - wristed instrumentation
  - tremor infiltration
  - motion scaling
  - mini-invasive
- Steeper learning curve than in laparoscopic radical prostatectomy
- Immerse telerobotic environment ideal for surgical precision and reconstructive applications
History of robotic assisted laparoscopic radical prostatectomy (RALP)

• 1st in the world (Germany by Binder and Kramer) 2001
• 1st in Nordic countries (Karolinska) 2002
• 1st in Finland (Tampere Univ. Hospital) 2008
• the most common robotic surgery worldwide, more than 350 000 procedures performed
• standard concept in the US, where 80% of radical prostatectomies performed with robot
• same trend in Europe
Radical prostatectomy

Open Prostatectomy Incision

da Vinci Prostatectomy Incisions
RALP
Ligation of plexus Santorini
Anterior opening of the bladder neck
Posterior opening of the bladder neck

Operative Details and Oncological and Functional Outcome of
Robotic-Assisted Laparoscopic Radical Prostatectomy:
400 Cases with a Minimum of 12 Months Follow-up
Declan G. Murphy *, Michael Kerger, Helen Crowe, Justin S. Peters, Anthony J. Costello
European Urology 55 (2009) 1358-1367
Dissection of neurovascular bundle

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Anastomosis
Training programme

• Hands-on courses (dry and wet lab)
• Cadaver courses
• Live-demonstrations
• Clinical training
• Tutoring and mentoring
Training programme

• Surgical volume big enough
  – strictly connected to the learning curve and quality of outcomes
  – minimum 3 – 5 cases per week during the initiation of programme

• Standardisation important
“Learning curves”. Operative time of two urologists for the complete procedure including port placement and system set-up, i.e. total operative time.

Robotic Technology and the Translation of Open Radical Prostatectomy to Laparoscopy: The Early Frankfurt Experience with Robotic Radical Prostatectomy and One Year Follow-up

Wassilios Bentas*, Marc Wolfram, Jon Jones, Ronald Bra¨utigam, Wolfgang Kramer, Jochen Binder

Current situation in Finland

• Tampere University Hospital
  – 3 urologists
  – 95 RALPs (24.9.09)

• Helsinki University Central Hospital
  – 2 urologists
  – 61 RALPs (24.9.09)
RALP offers better results than RRP in terms of

- Urinary continence
- Erectile function
- Recovery, with
- Similar positive surgical margin rates
Data from this systematic review did not allow us to prove the superiority of any surgical approach in terms of functional and oncologic outcomes.

It is likely that the most critical issue is the selection of the best surgeon, rather than the surgical approach.