

# Robotic surgery in Finland - Urology

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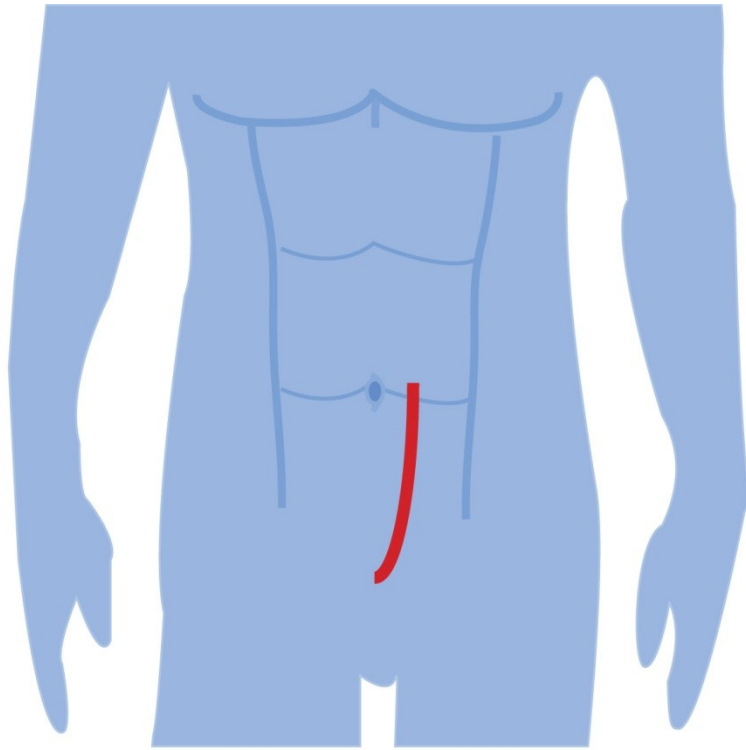
# Urological robotic surgery

- 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
- Immersive telerobotic environment ideal for surgical precision and reconstructive applications

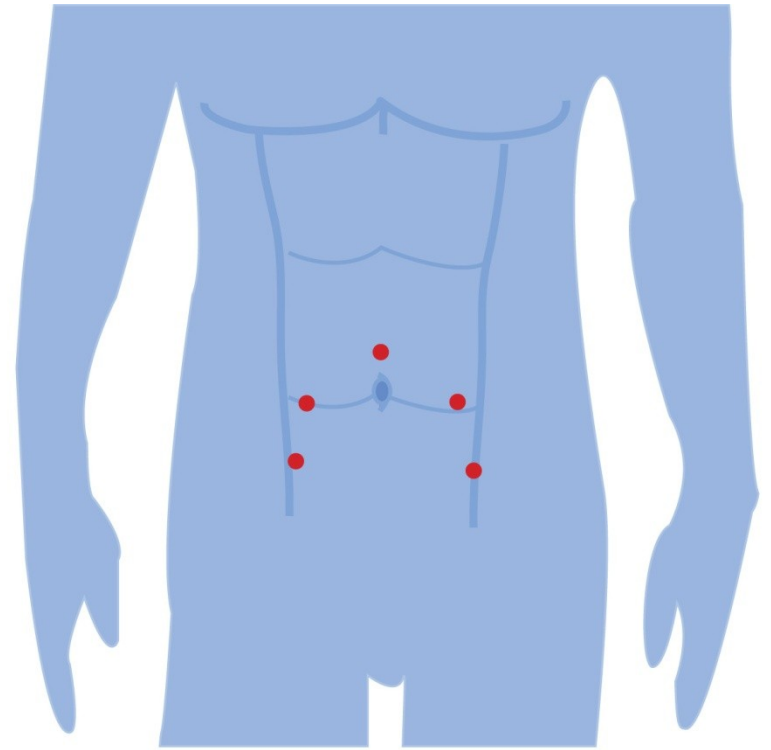
# History of robotic assisted laparoscopic radical prostatectomy (RALP)

- 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

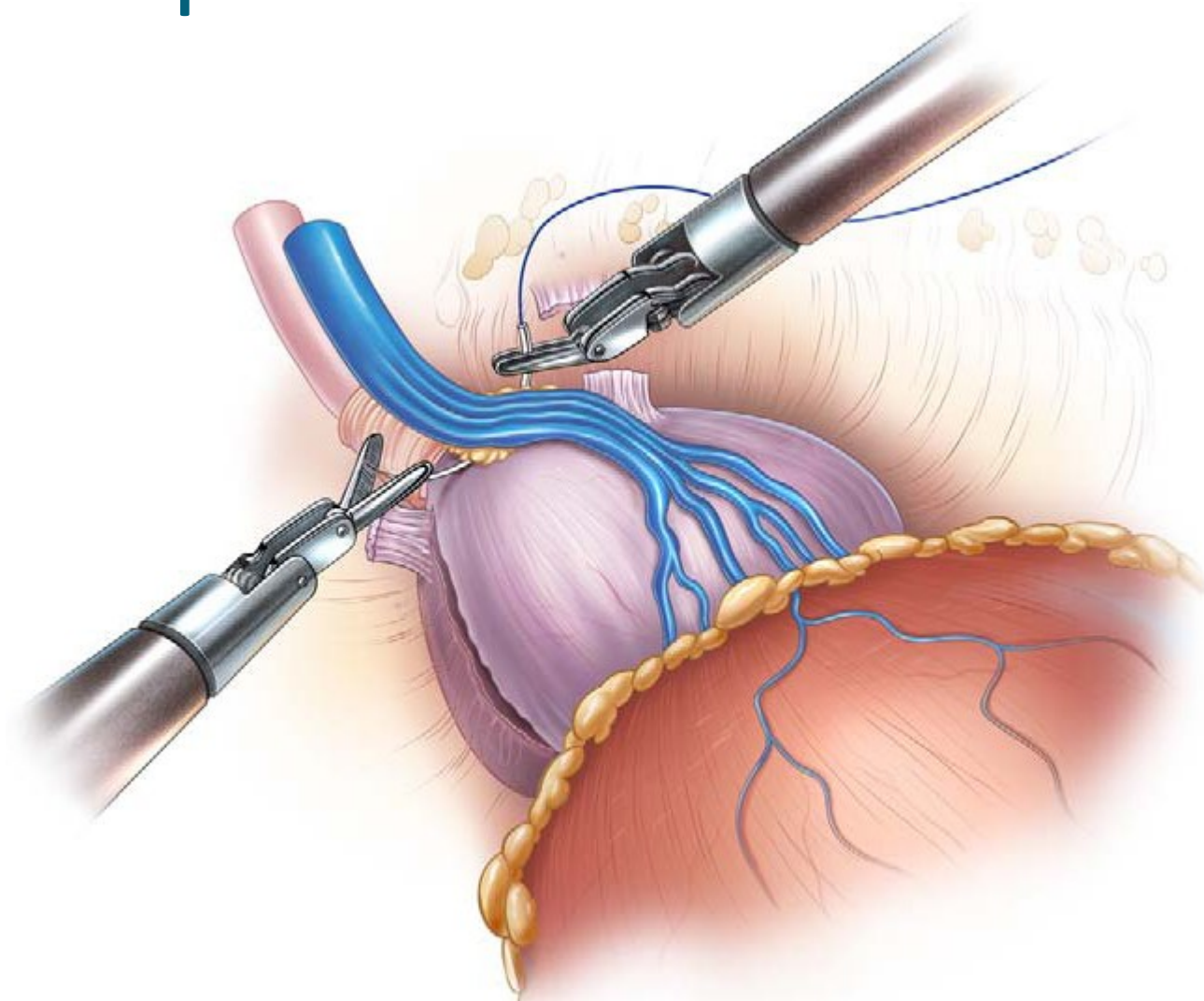


*da Vinci* Prostatectomy Incisions

# RALP



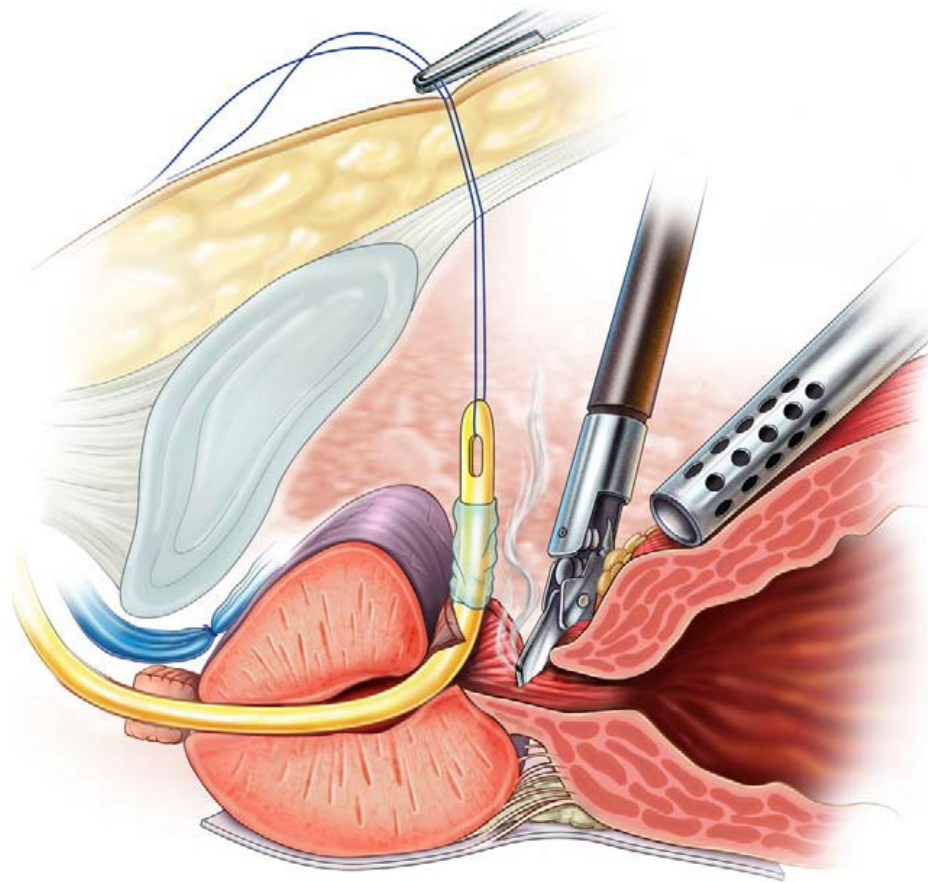
# Ligation of plexus Santorini



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 ( 2 0 0 9 ) 1358-1367

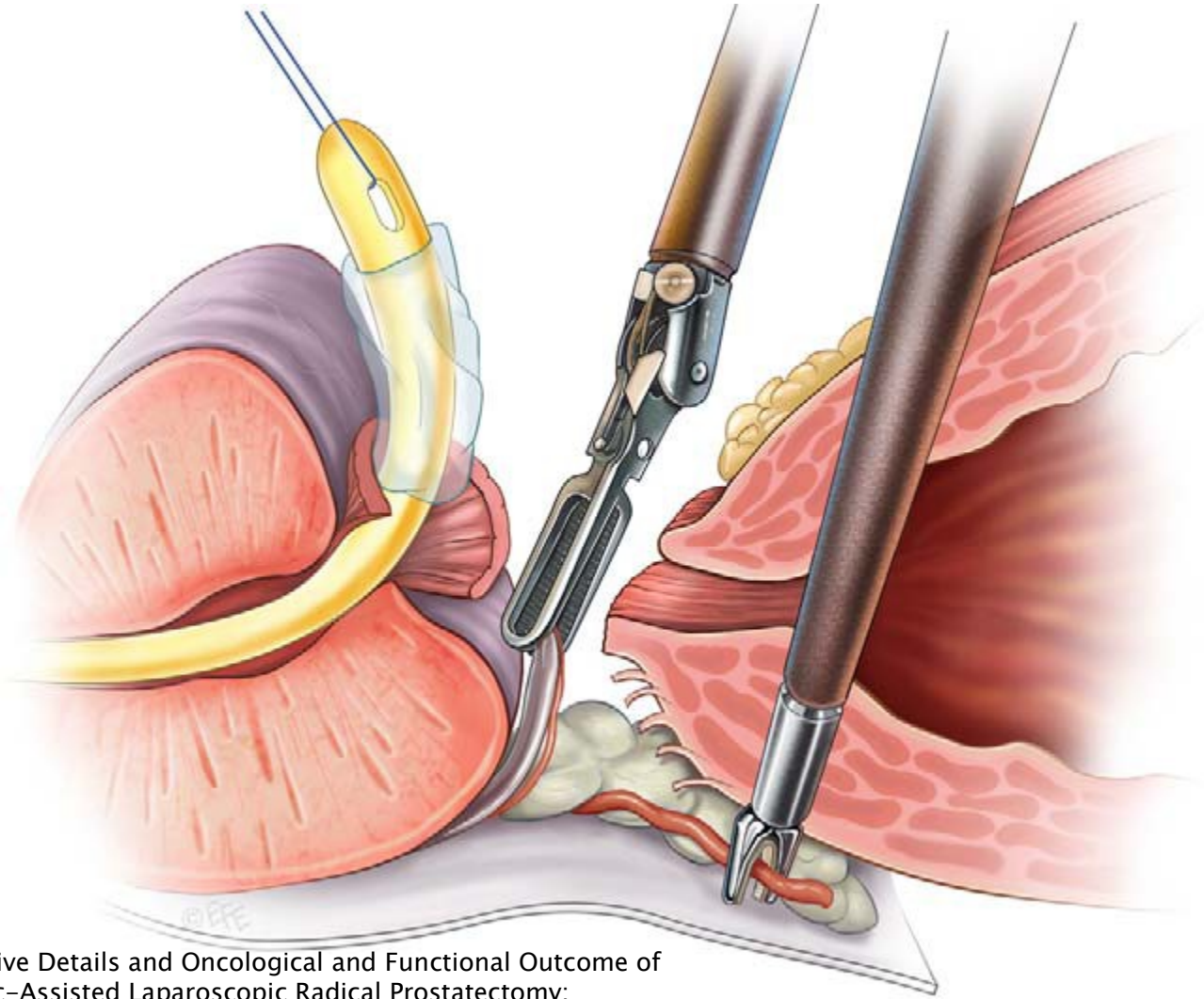
# Anterior opening of the bladder neck



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# Posterior opening of the bladder neck



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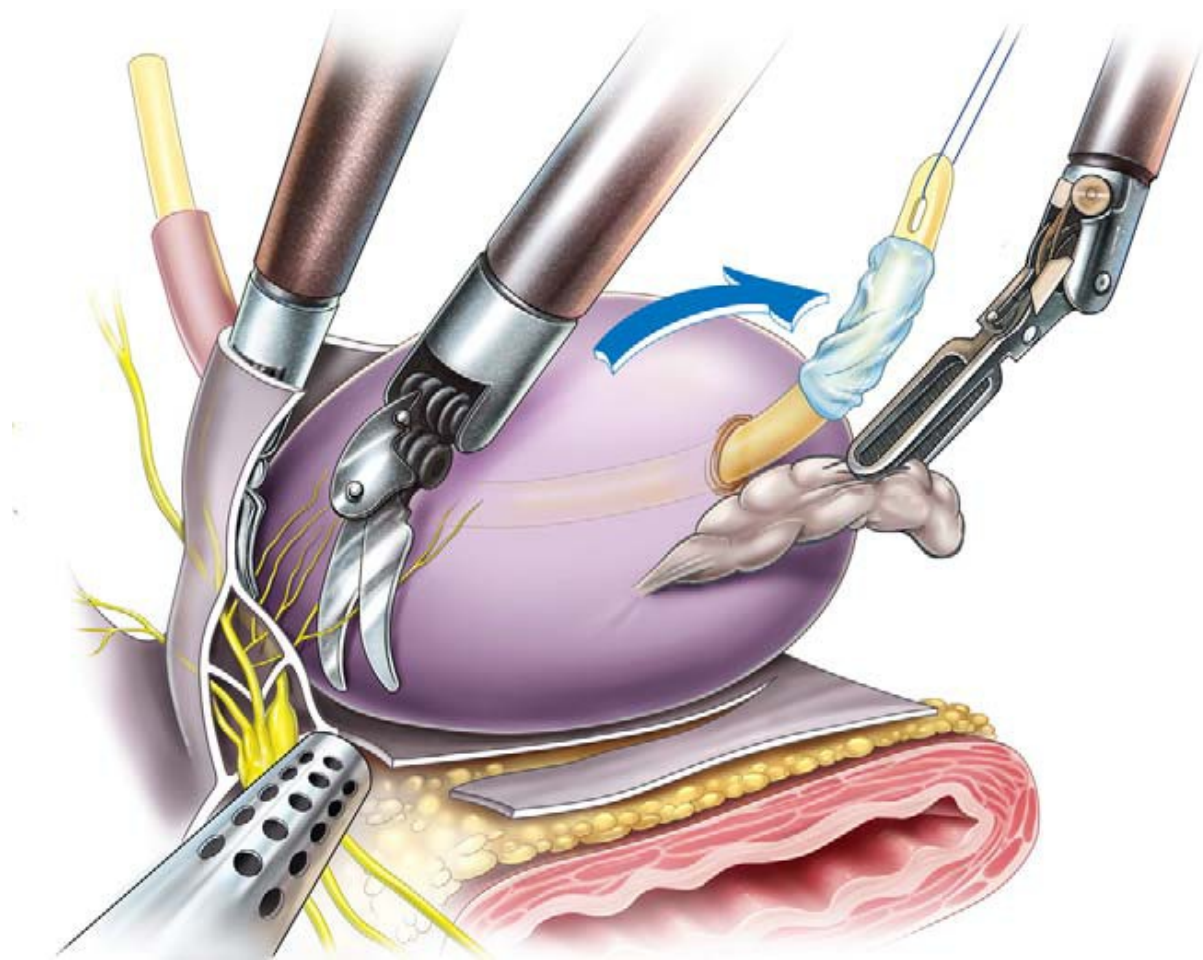
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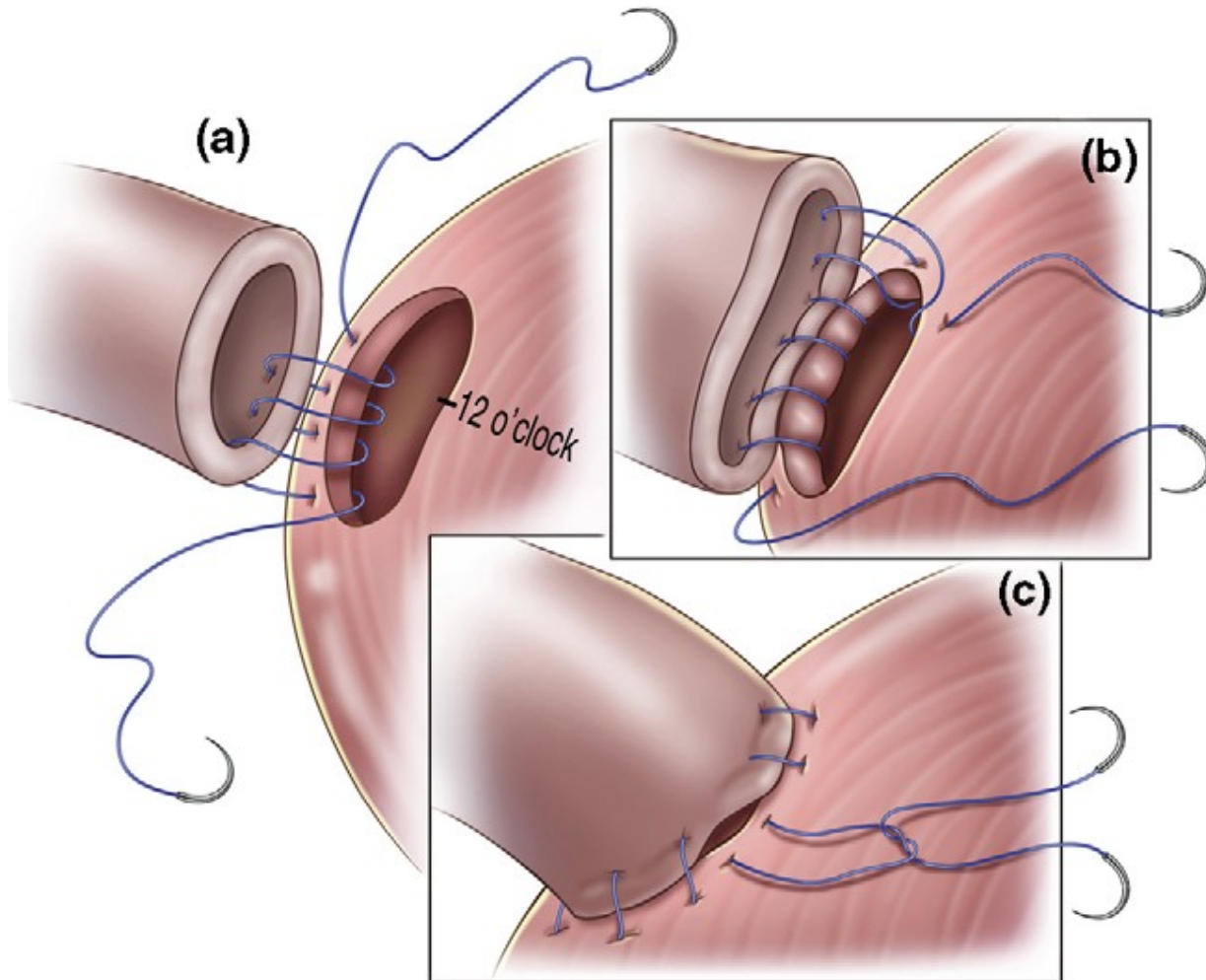
# Dissection of neurovascular bundle



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# Anastomosis



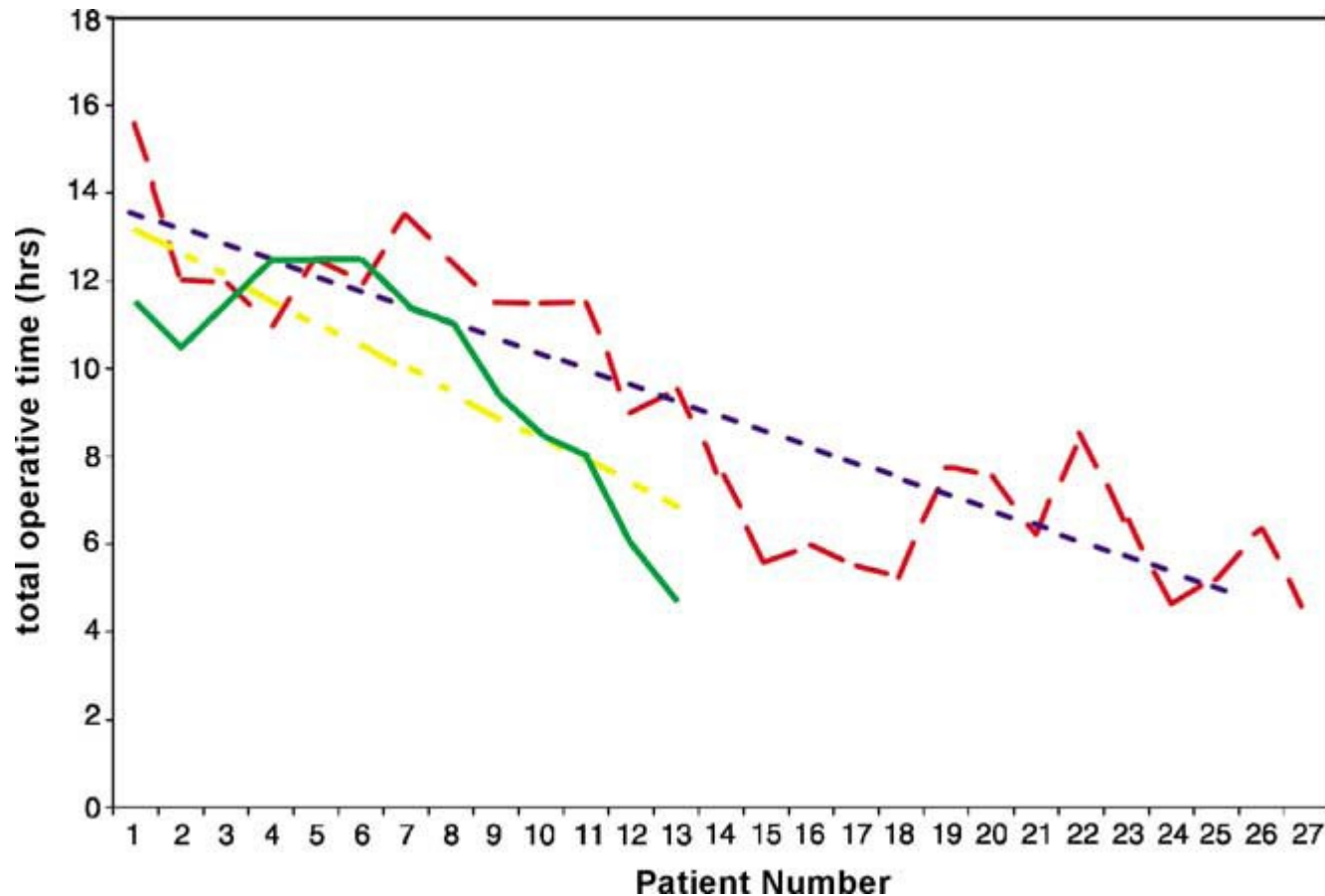
# Training programme

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

# Training programme

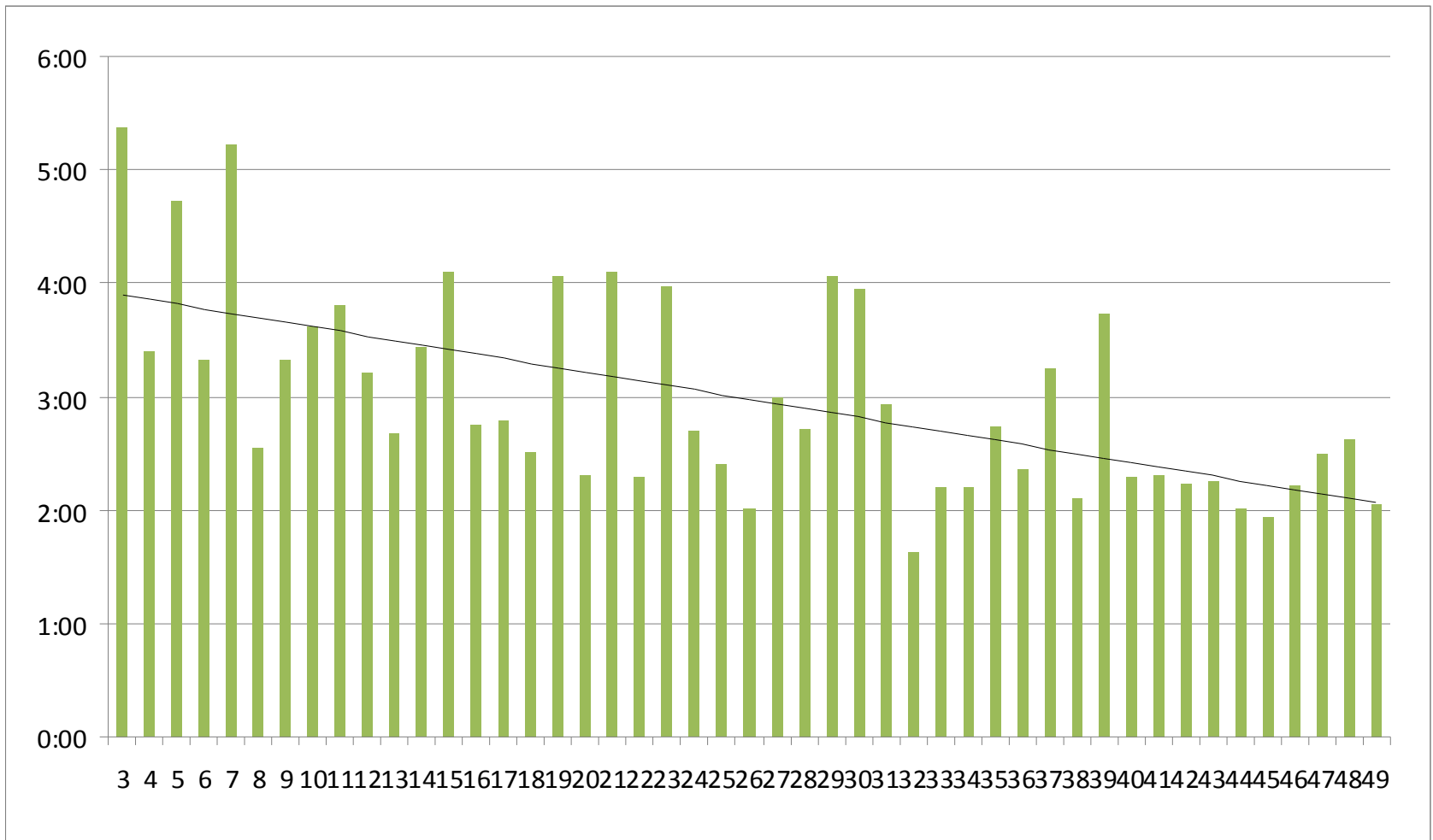
- Surgical volume big enough
  - strictly connected to the learning curve and quality of outcomes
  - minimum 3 – 5 cases per week during the initiation of programme
- Standardisation important

“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 Bantas\*, Marc Wolfram, Jon Jones, Ronald Brautigan, Wolfgang Kramer, Jochen Binder  
European Urology 44 (2003) 175-181

# Consol time





# 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)

# A prospective, non-randomized trial comparing robot-assisted laparoscopic and retropubic radical prostatectomy in one European institution

Vincenzo Ficarra, Giacomo Novara, Simonetta Fracalanza, Carolina D'Elia, Silvia Secco, Massimo Iafrate, Stefano Cavalleri and Walter Artibani

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RALP offers better results than RRP in terms of

- Urinary continence
- Erectile function
- Recovery, with
- Similar positive surgical margin rates

# Retropubic, Laparoscopic, and Robot-Assisted Radical Prostatectomy: A Systematic Review and Cumulative Analysis of Comparative Studies

Vincenzo Ficarra <sup>a,\*</sup>, Giacomo Novara <sup>a</sup>, Walter Artibani <sup>a</sup>, Andrea Cestari <sup>b</sup>, Antonio Galfano <sup>a</sup>, Markus Graefen <sup>c</sup>, Giorgio Guazzoni <sup>b</sup>, Bertrand Guillonneau <sup>d</sup>, Mani Menon <sup>e</sup>, Francesco Montorsi <sup>f</sup>, Vipul Patel <sup>g</sup>, Jens Rassweiler <sup>h</sup>, Hendrik Van Poppel <sup>i</sup>



- 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.