

Robotic

Radical Prostatectomy

- Is it really better than open? -



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Is the Robot good for Urologic Oncology?

- Prostate Cancer
 - sufficient data to answer the question
- Renal Cell Carcinoma
 - Initial data accumulating
- Invasive Bladder Cancer
 - Invention curve, no sufficient data

Prostate Cancer

- Isolated cancer control outcomes are insufficient
- Excellent cancer control can be achieved if functional (continence & potency) outcomes are sacrificed
- Outcomes in Prostate Cancer have to be reported as **Trifecta:**
 - Cancer control (PSA free survival)
 - Continence
 - Potency

Retropubic Radical Prostatectomy: Long-term cancer control & recovery of sexual & urinary function (“trifecta”)

Bianco FJ, Scardino PT et al. Urology 2005

- PSA-free survival → 83% at 6 ys F-up
 - pre-OP 1746 total pts, 1983 - 2003
- Continence → 91% & 95% after 1 & 2 ys
 - pre-OP 1288 continent pts
- Potency → 63% & 70% after 1.5 & 2 ys
 - pre-OP 785 potent pts
- Trifecta (SUBJECTIVE) → 60% at 2 ys
 - pre-OP 758 potent & continent pts

Retropubic Radical Prostatectomy:

Pre-OP risk stratification predicts likelihood of concurrent PSA-free survival, continence & potency (“trifecta”)

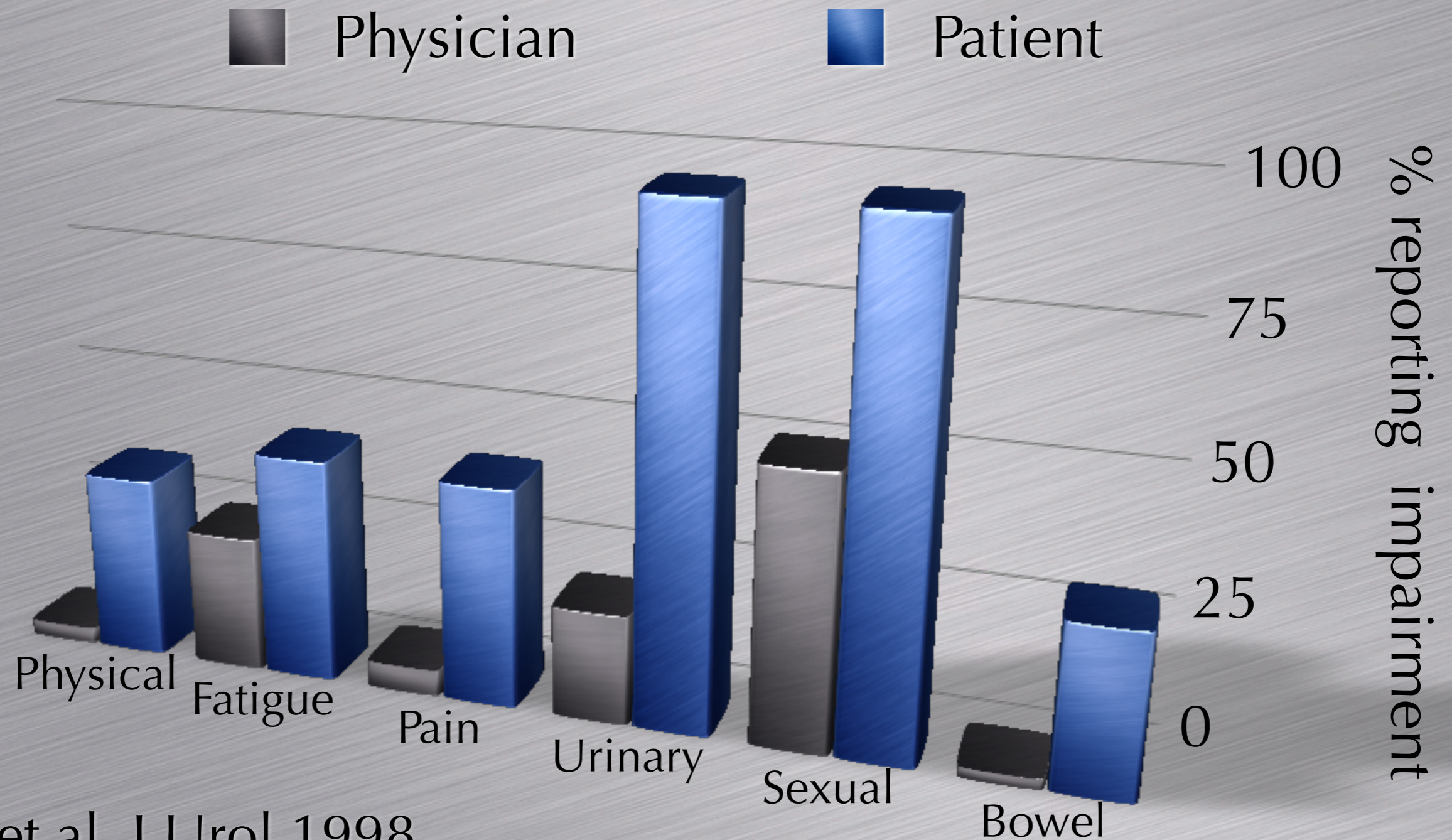
Pierorazio PM, Spencer BA et al. Urology 2007

- n = 416 pts
- Risk stratification by D’Amico criteria
- PSA-free survival after 5 ys F-up
96% low risk, 90% intermediate, 79% high
- Continence → constant 93% - 94% at 1 y
- Potency at 1 y
81% low risk, 67% intermediate, 69% high
- Trifecta (SUBJECTIVE) → 62% at 1 y
76% low risk, 53% intermediate, 40% high

Differences in urologist and patient assessments of HRQoL in men with prostate cancer

The CaPSURE database

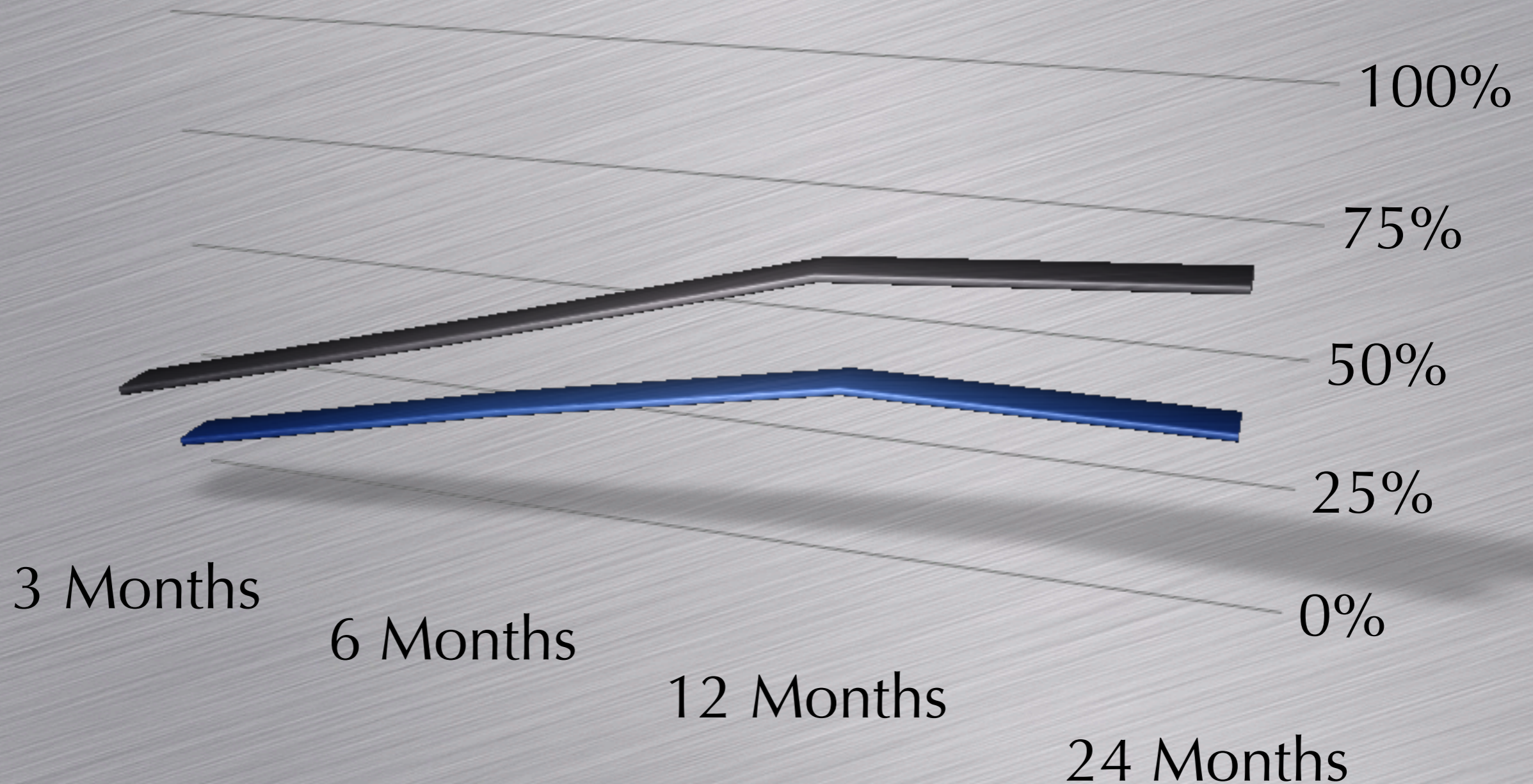
Physician vs Patient perception of QoL impairment



Trifecta outcomes after Robotic Prostatectomy

University of Chicago - Shikanov et al. Urology 2009
380 preoperative potent & continent men

— Subjective Trifecta — Objective Trifecta



Continence, potency and oncological outcomes after robotic-assisted radical prostatectomy: early trifecta results of a high-volume surgeon

Vipul R. Patel*, et al. BJU Int 2010

- 404 men
- Preoperative potent & continent
- Bilateral nerve-sparing robotic prostatectomy
- **Objective trifecta outcome at 1.5 years 86%**
- Trifecta achieve faster in young patients

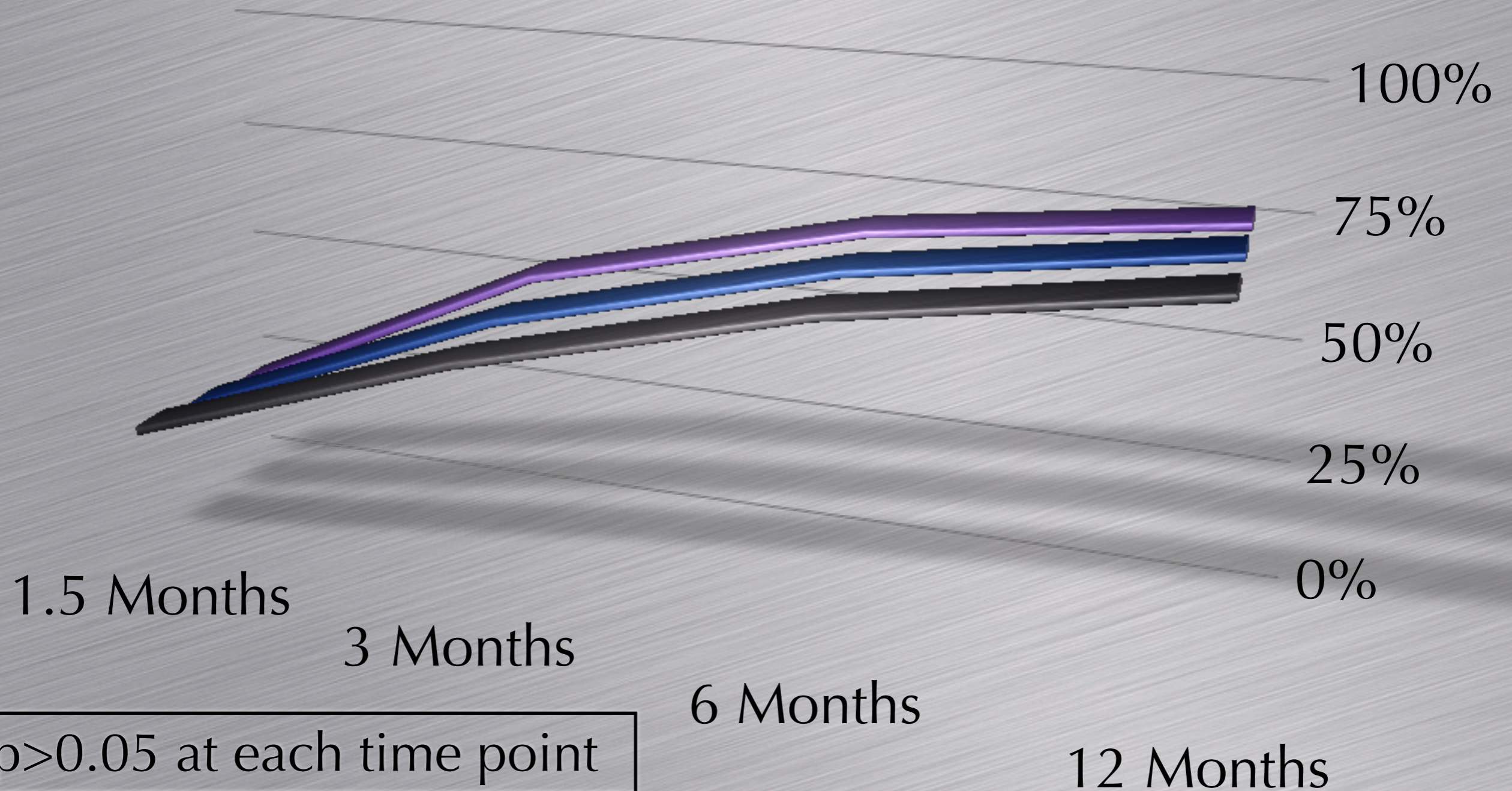
Trifecta outcomes after Robotic Prostatectomy

The impact of learning curve  no effect

180 preoperative potent & continent men

Poulakis et al. under submission

— First 60 men — Second 60 men — Last 60 men



Trifecta

- Compared to open Robotic Radical Prostatectomy provides **at least equal:**
 - Cancer control
 - Continence
 - Potency (sexual function)
- And this is including the learning curve!
- **But is there any really advantage to Robotic Radical Prostatectomy?**

Comparative Effectiveness of Prostate Cancer Surgical Treatments: A Population Based Analysis of Postoperative Outcomes

William T. Lowrance,* Elena B. Elkin, Lindsay M. Jacks, David S. Yee, Thomas L. Jang, Vincent P. Laudone, Bertrand D. Guillonneau, Peter T. Scardino and James A. Eastham

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- 5923 Medicare beneficiaries (>66 years)
- Radical Prostatectomy 2003-05
- 18% laparoscopic (most robotically as no separate code)
- No difference in:
 - Medical/Surgical complications
 - Postoperative radiation/hormone in 3 years followup
- 35% shorter hospitalization (2 vs 3 days)
- Robotics: lower risk for bladder neck contracture & transfusion

Robotic Prostatectomy results in less complications

Costs?

1st example: University of Chicago, Shalhav et al.

- Financial report 2009:
 - Total revenue by old system \$13 Millions in 7 years (**1.9/y**)
 - 7 year old, 3 arm standard robot
 - Operative time <4 hours @ 6 cases a week
- Currently:
 - Cost \$1.2 Millions paid off within 2 years (**0.6/y**)
 - 2-3 hours with extended pelvine lymphadenectomy
 - 12-14 cases a week, ~640/year
 - Cases # growth from 140/year in 2002

Costs?

2nd example: Doctors' Hospital of Athens, Poulakis et al.

- Financial report 2008:
 - 3arm standard robot
 - Operative time ~4 hours @ 2 cases a week
- Currently (2009 - 2010):
 - Saved € 0.4 Millions paid off within 2 years
 - 2-3 hours with extended pelvine lymphadenectomy
 - 5-6 cases a week, ~280/year
 - Cases # growth from ~120/year in 2008

Open retropubic prostatectomy versus robot-assisted laparoscopic prostatectomy: A comparison of length of sick leave

Scandinavian Journal of Urology and Nephrology, 2009; 43: 259–264

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- 274 working Radical Prostatectomy (RP) patients (127 Robotic + 147 Open)
- 2 large hospitals performing both procedures
- Adjusted for workload, salary, BMI, disease characteristics
- Median time sick leave:
 - Robotic RP → 11 days
 - Open RP → 49 days

Robotic Radical Prostatectomy saves money for society

Pentafecta (Effecting 5)

- Compared to Open, Robotic Radical Prostatectomy provides → **Pentafecta**
- **Same:**
 1. Cancer control
 2. Continence
 3. Sexual function
- **Better:**
 4. Less complications
 5. Reduced costs to society

Evolution of Open Radical Retropubic Prostatectomy— How Have Open Surgeons Responded to the Challenge of Minimally Invasive Surgery?

Sujeet S. Acharya, M.D., Kevin C. Zorn, M.D., Sergey Shikanov, M.D., Alan Thong, M.D.,
Gregory P. Zagaja, M.D., Arieh L. Shalhav, M.D., and Gary D. Steinberg, M.D.

Abstract

Introduction: With the advent of minimally invasive surgery (MIS) for treating urologic malignancies, emphasis has been placed on reducing patient morbidity and resuming normal activity. We sought to clarify whether open surgeons (OS) have modified their techniques, surgical equipment, and perioperative management in response to this trend.

Methods: A survey sent to all members of the Society of Urologic Oncology assessed changes that OS performing radical retropubic prostatectomy have made in analgesia, operative technique, perioperative management, and follow-up patterns. We also assessed OS sense of competition from MIS. Surgeon perception of the influence MIS had on these changes was scored from 0 to 4 (0 = not at all, 1 = slightly, 2 = moderately, 3 = greatly, 4 = completely). Overall and major influence by MIS included scores 1–4 and 3–4, respectively.

Results: Reduced radical retropubic prostatectomy (RRP) case volume because of MIS competition was reported by 20 OS (24%), with 27 OS (32%) starting to perform MIS, and 20 (24%) doing mostly/exclusively MIS. MIS has influenced OS to reduce incision length (overall influence 56%/major influence 33%), operative time (40%/12%), blood loss (31%/17%), and transfusion rate (33%/14%). MIS has influenced OS to use new instruments (48%/44%) or loupes (20%/9%), modify dissection (45%/31%) or anastomotic technique (14%/12%), and increase the use of hemostatic agents (48%/19%). MIS has reduced convalescence in OS patients by reducing length of stay (52%/28%), time to a regular diet (40%/18%), duration of drain (21%/16%) and Foley (32%/15%), time to return to work (49%/25%), and exercise (44%/21%). MIS has changed follow-up of OS patients by increasing the use of clinical pathways (14%/9%) and validated questionnaires (22%/13%).

Conclusions: To date, the influence of MIS on the OS has not been comprehensively assessed. This survey finds that OS report that MIS serves as major competition to the open technique and that it has influenced them to modify their surgical technique, reduce convalescence, and alter follow-up recommendations.

Evolution of Open Radical Retropubic Prostatectomy— How Have Open Surgeons Responded to the Challenge of Minimally Invasive Surgery?

Acharya & Steinberg, J Endourol 11/2009

- Open surgeons try harder
 - Blood loss, hospital stay, incision size
 - Fast and safe adaption of open surgeons
- Procedure migration to high volume centers
- Experience makes a difference
- Not every hospital will have a robot

Take home

- Robotic surgery is better for the treatment of Prostate Cancer!
- It takes a good surgeon and make him better!
- It is only the beginning!

ERUS Master Class on Robotic Prostatectomy

Save
the
date!

→ **Friday 25 February 2011**

Hilton Hotel | Athens, Greece

Find out everything you need to know about robotic prostatectomy.

This interactive course outlines the surgical techniques of different international experts, step by step, enhanced by video material. It will cover trouble shooting and the treatment of complex cases.

It will also answer questions like:

- What about correct patient installation and trocar placement?
- How to avoid or solve complications?
- How to prevent positive margins, incontinence & erectile dysfunction?

Surgeons looking for 'high impact' information about robotic prostatectomy should not miss this ERUS Master Class.



Chair:

Emanuel Panagiotou, MD (Urology Clinic of Hygeia Hospital, Athens, Greece)

Vassilis Poulakis, MD (Urology Clinic of Doctors' Hospital, Athens, Greece)

International expert faculty:

Magnus Annerstedt, MD (Herlev University Hospital, Copenhagen, Denmark)

Ali Riza Kural, MD (Florence Nightingale Hospitals, Istanbul, Turkey)

Francesco Montorsi, MD (IRCCS H San Raffaele, Milano, Italy)

Alex Mottrie, MD (OLV Clinic, Aalst, Belgium)

Peter Wiklund, MD (Karolinska Hospital Urological Clinic, Stockholm, Sweden)

Visit and bookmark www.erusmasterclass.com for more information and to register for the ERUS Master Class.

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