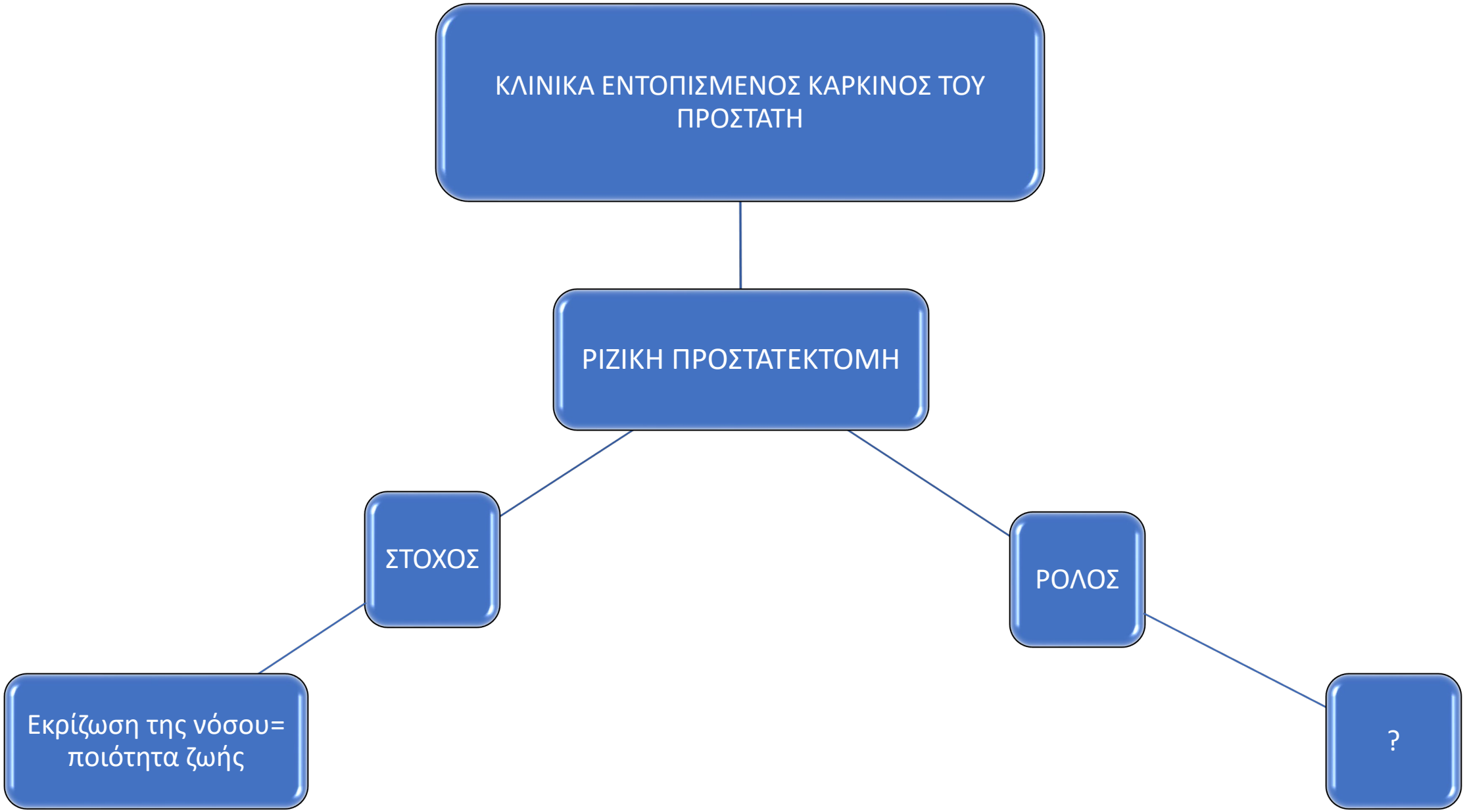
# ΚΛΙΝΙΚΑ ΕΝΤΟΠΙΣΜΕΝΟΣ ΚΑΡΚΙΝΟΣ ΤΟΥ ΠΡΟΣΤΑΤΗ

# ΡΙΖΙΚΗ ΠΡΟΣΤΑΤΕΚΤΟΜΗ

Μάρκος Καραβιτάκης MD, MSc, PhD, FEBU
Ass. Member EAU Guidelines Office


ΚΛΙΝΙΚΑ ΕΝΤΟΠΙΣΜΕΝΟΣ ΚΑΡΚΙΝΟΣ ΤΟΥ ΠΡΟΣΤΑΤΗ
ΡΙΖΙΚΗ ΠΡΟΣΤΑΤΕΚΤΟΜΗ
ΣΤΟΧΟΣ
ΡΟΛΟΣ
Εκρίζωση της νόσου= ποιότητα ζωής
?

Original Contributions

JAMA®
The Journal of the American Medical Association

# Biochemical Outcome After Radical Prostatectomy, External Beam Radiation Therapy, or Interstitial Radiation Therapy for Clinically Localized Prostate Cancer

Anthony V. D'Amico, MD, PhD; Richard Whittington, MD; S. Bruce Malkowicz, MD; Delray Schultz, PhD; Kenneth Blank, MD; Gregory A. Broderick, MD; John E. Tomaszewski, MD; Andrew A. Renshaw, MD; Irving Kaplan, MD; Clair J. Beard, MD; Alan Wein, MD

| Risk assessment | Clinical stage | PSA | Gleason score | 10-year DFS |
|---|---|---|---|---|
| Low | T1–2a | ≤10 ng/mL | ≤6 | 83% |
| Intermediate | T2b | 10–≤20 ng/mL | 7 | 46% |
| High | ≥T2c | > 20 ng/mL | ≥8 | 29% |

Abbreviations: DFS, disease-free survival; PSA, prostate-specific antigen.

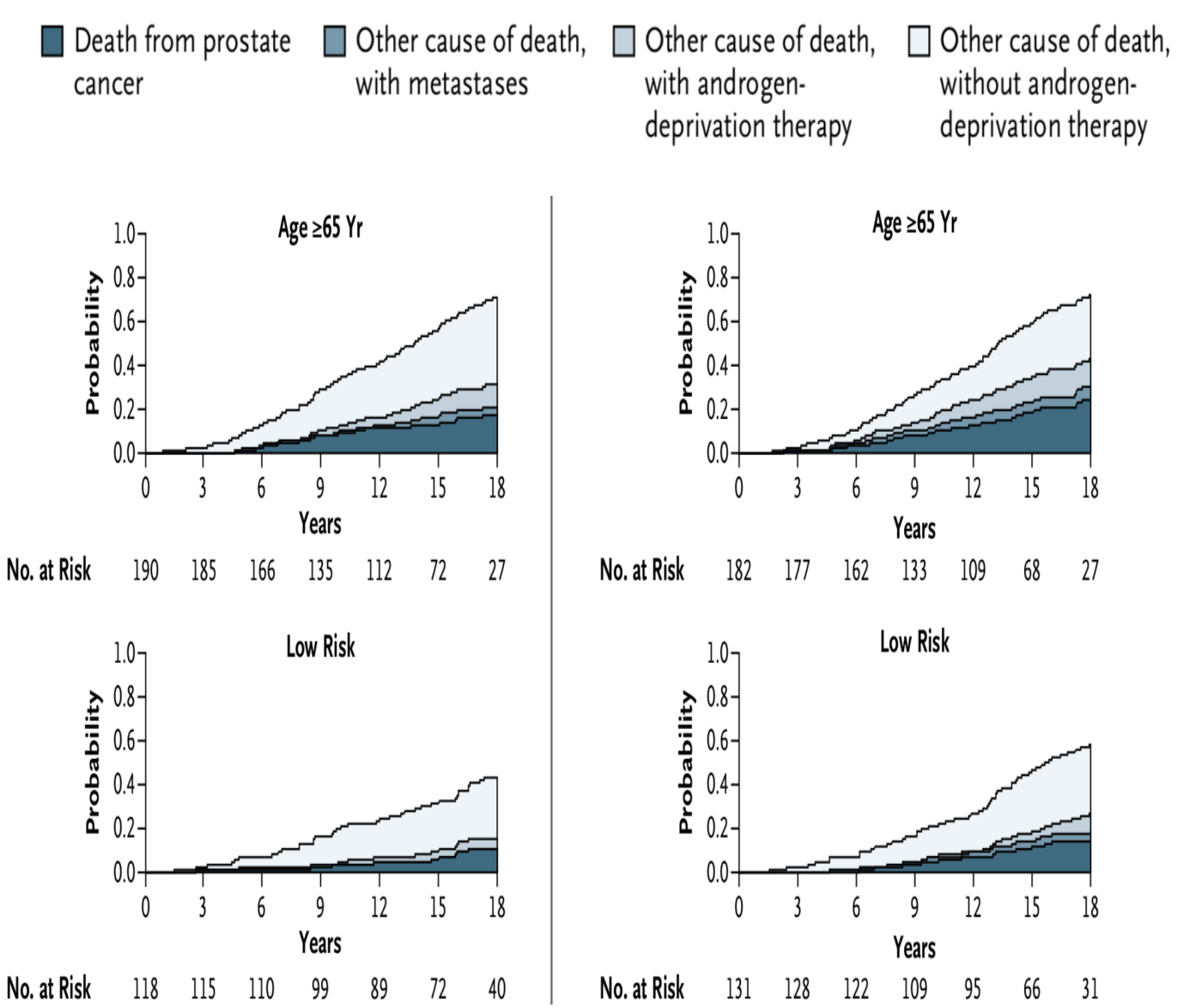
JAMA 1998 Sep 16;280(11):969-74.

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

# Radical Prostatectomy or Watchful Waiting in Prostate Cancer — 29-Year Follow-up

- 1989-1999
- Low/intermediate risk
- RP (347) vs WW (348)
- FU 13.4 y
- Mean PSA:13
- Screen detected cancers 12%
- All cause mortality: 56.1% vs 68.9% (p<0.001)
- PCSM: 17.7% vs 28.7% (p 0.001)
- Mets: 26.1% vs 38.3% (p<0.001)
- ADT 42.5% vs 67.4%
- 12% screen detected cancers




Low risk subgroup: death from any cause and distant metastases but not death from prostate cancer significantly reduced

N Engl J Med. 2018 Dec 13;379(24):2319-2329

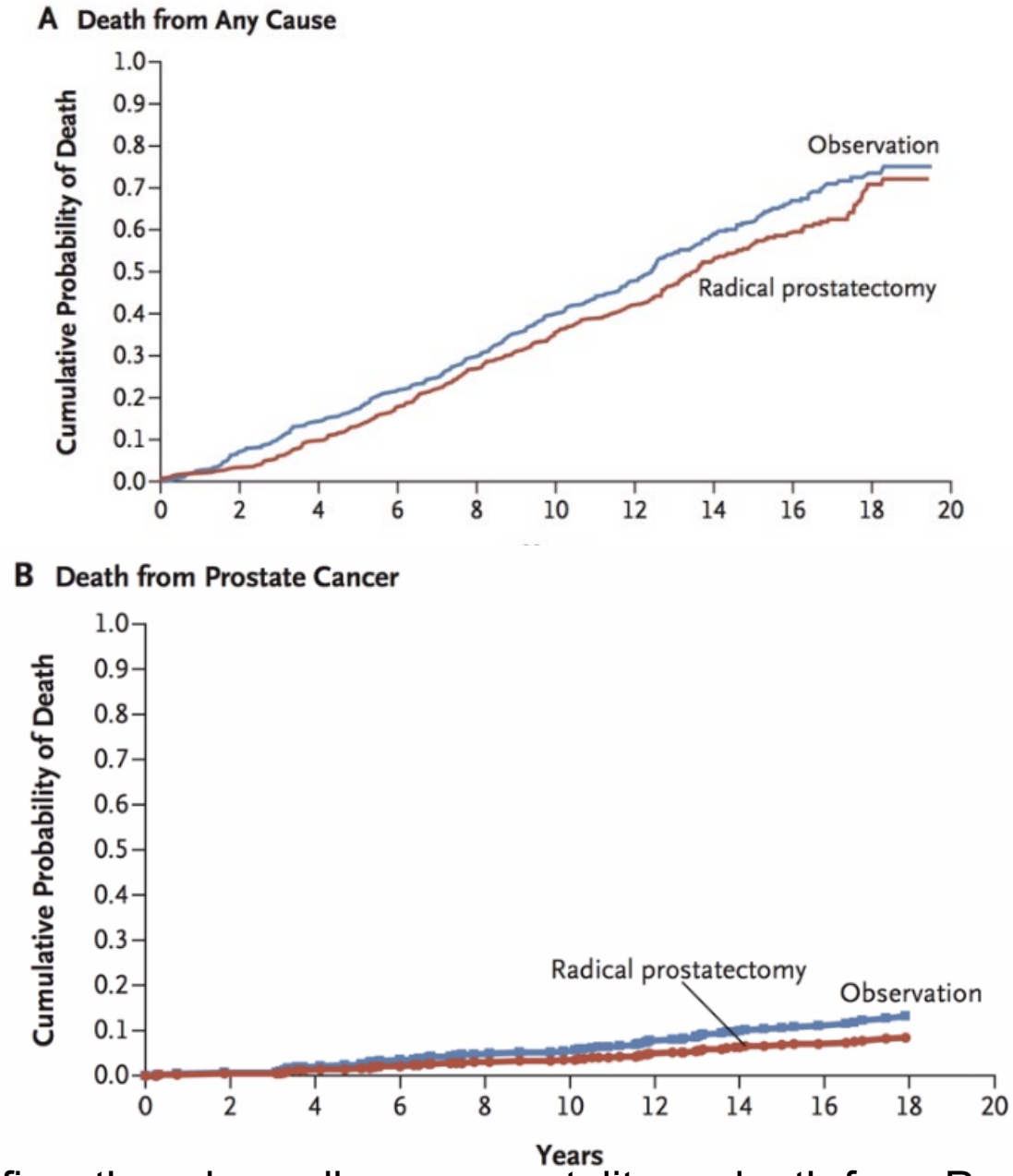
The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

# Follow-up of Prostatectomy versus Observation for Early Prostate Cancer

Timothy J. Wilt, M.D., M.P.H., Karen M. Jones, M.S., Michael J. Barry, M.D., Gerald L. Andriole, M.D., Daniel Culkin, M.D., Thomas Wheeler, M.D., William J. Aronson, M.D., and Michael K. Brawer, M.D.

- 1994-2002
- Low/intermediate risk
- RP (364) vs observation (367)
- FU 19.5 yrs
- Mean PSA 7.8
- Screen detected cancers:50
- All cause mortality 61.3% vs 66.8%
- PCSM 7.4% vs 11.4%
- Progression 40.9% vs 68.4%
- ADT 21.7% vs 44.4%




Low risk subgroup: no benefit of treatment (RP did not significantly reduce all-cause mortality or death from Pca)

N Engl J Med. 2017 Jul 13;377(2):132-142

# Generalizability of the Prostate Cancer Intervention Versus Observation Trial (PIVOT) Results to Contemporary North American Men with Prostate Cancer

*Deepansh Dalela*[a], *Patrick Karabon*[a,b], *Jesse Sammon*[a], *Akshay Sood*[a], *Björn Löppenberg*[a,c], *Quoc-Dien Trinh*[c], *Mani Menon*[a], *Firas Abdollah*[a,*]

| Characteristic | NCDB ($n$ = 355 366) | PIVOT ($n$ = 731) | $p$ value |
|---|---|---|---|
| Age, yr, $n$ (%) | | | |
| 40–49 | 22 374 (6.3) | 4 (0.6) | <0.001 |
| 50–59 | 138 419 (39) | 71 (9.7) | |
| 60–69 | 161 234 (45) | 414 (57) | |
| 70–75 | 33 339 (9.4) | 242 (33) | |
| Race, $n$ (%) | | | |
| Non-Hispanic black | 42 594 (12) | 232 (32) | <0.001 |
| Non-Hispanic white | 283 057 (80) | 452 (62) | |
| Other | 29 715 (8.4) | 47 (6.4) | |
| CCI, $n$ (%) | | | |
| 0 | 330 226 (93) | 410 (56) | <0.001 |
| 1 | 22 584 (6.4) | 211 (29) | |
| >1 | 2556 (0.7) | 107 (15) | |
| PSA, ng/ml, $n$ (%) | | | |
| <4.0 | 63 473 (18) | 82 (11) | <0.001 |
| 4.0–10.0 | 213 158 (60) | 397 (54) | |
| 10.1–19.9 | 29 449 (8.3) | 176 (24) | |
| 20.0–49.9 | 11 080 (3.1) | 75 (10) | |
| Unknown | 38 206 (11) | 1 (0.1) | |
| Clinical T stage, $n$ (%) | | | |
| cT1NOS | 1539 (0.4) | 0 (0.0) | <0.001 |
| cT1a | 1391 (0.4) | 15 (2.1) | |
| cT1b | 962 (0.3) | 14 (1.9) | |
| cT1c | 256 323 (72) | 368 (50) | |
| cT2a | 32 340 (9.1) | 181 (25) | |
| cT2b | 9964 (2.8) | 91 (12) | |
| cT2c | 52 847 (15) | 57 (7.8) | |
| Unknown/other | NA | 5 (0.7) | |
| Biopsy Gleason score, $n$ (%) | | | |
| <4 | 1450 (0.4) | 157 (22) | <0.001 |
| 5–6 | 167 416 (47) | 358 (49) | |
| 7 | 148 572 (42) | 133 (18) | |
| 8–10 | 20 961 (7.6) | 51 (7.0) | |
| Unknown | 10 967 (3.1) | 32 (4.4) | |
| Histologic grade, $n$ (%) | | | |
| Well differentiated | 1450 (0.4) | 157 (22) | <0.001 |
| Moderately well differentiated | 315 988 (89) | 508 (70) | |
| Poorly differentiated | 26 961 (7.6) | 51 (7.0) | |
| Unknown | 10 967 (3.1) | 15 (2.0) | |
| D'Amico risk category, $n$ (%) | | | |
| Low risk | 118 355 (33) | 296 (40) | 0.001 |
| Intermediate risk | 132 609 (37) | 249 (34) | |
| High risk | 82 643 (23) | 157 (22) | |
| Unknown | 21 759 (6.1) | 29 (3.9) | |

Eur Urol 2017 Apr;71(4):511-514.

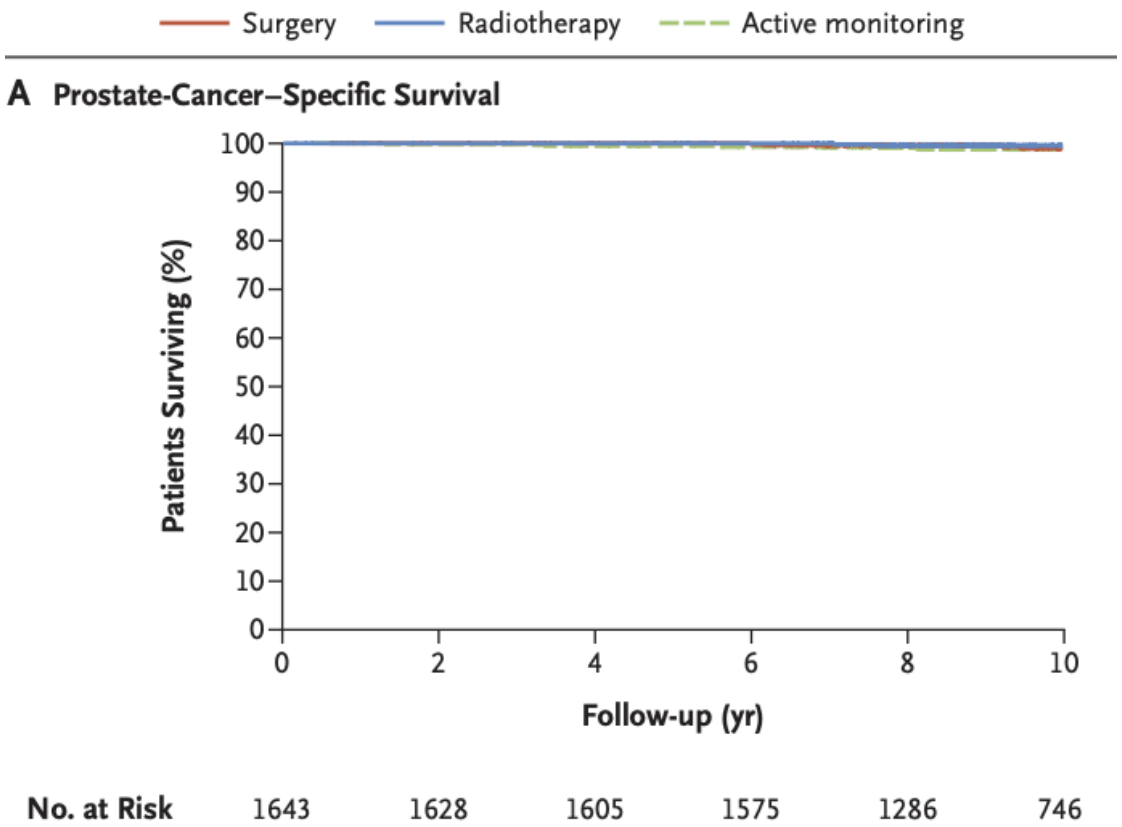
The NEW ENGLAND JOURNAL of MEDICINE

ESTABLISHED IN 1812 OCTOBER 13, 2016 VOL. 375 NO. 15

# 10-Year Outcomes after Monitoring, Surgery, or Radiotherapy for Localized Prostate Cancer

F.C. Hamdy, J.L. Donovan, J.A. Lane, M. Mason, C. Metcalfe, P. Holding, M. Davis, T.J. Peters, E.L. Turner, R.M. Martin, J. Oxley, M. Robinson, J. Staffurth, E. Walsh, P. Bollina, J. Catto, A. Doble, A. Doherty, D. Gillatt, R. Kockelbergh, H. Kynaston, A. Paul, P. Powell, S. Prescott, D.J. Rosario, E. Rowe, and D.E. Neal, for the ProtecT Study Group*

- 1999-2009
- Mainly low/intermediate risk
- RP (553) vs RT (545) vs **active monitoring** (545)
- FU 10
- PSA 4.6
- Screen detected cancer 76%
- All cause mortality 10.1 vs 10.3 vs 10.9 per 1000 (p=.87)
- PCSM 0.9 vs0.7 vs 1.5 per 1000 (p=.48)
- **Progression 8.9 vs 9 vs 22.9 per 1000 (p<0.001)**
- **Mets 2.4 vs 3 vs 6.3 per 1000 (p=.004**)




N Engl J Med. 2016 Oct 13;375(15):1415-1424

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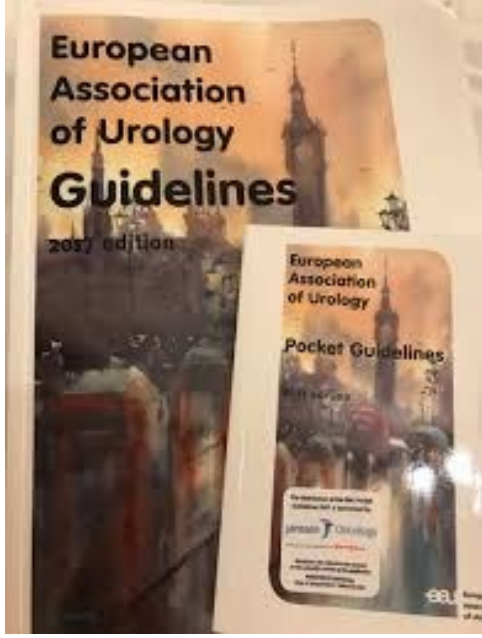



| **Active treatment** | |
|---|---|
| Offer surgery and radiotherapy as alternatives to AS to patients suitable for such treatments and who accept a trade-off between toxicity and prevention of disease progression. | Weak |

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

# Radical Prostatectomy versus Watchful Waiting in Early Prostate Cancer

Anna Bill-Axelson, M.D., Ph.D., Lars Holmberg, M.D., Ph.D., Mirja Ruutu, M.D., Ph.D., Hans Garmo, Ph.D., Jennifer R. Stark, Sc.D., Christer Busch, M.D., Ph.D., Stig Nordling, M.D., Ph.D., Michael Häggman, M.D., Ph.D., Swen-Olof Andersson, M.D., Ph.D., Stefan Bratell, M.D., Ph.D., Anders Spångberg, M.D., Ph.D., Juni Palmgren, Ph.D., Gunnar Steineck, M.D., Ph.D., Hans-Olov Adami, M.D., Ph.D., and Jan-Erik Johansson, M.D., Ph.D., for the SPCG-4 Investigators*

intermediate risk subgroup:

- Death from any cause RR: 0.71; 95% CI: 0.53-0.95)
- death from PCa (RR: 0.38; 95% CI: 0.23-0.62)
- distant metastases (RR: 0.49; 95% CI: 0.32-0.74)

Significantly reduced

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

# Follow-up of Prostatectomy versus Observation for Early Prostate Cancer

Timothy J. Wilt, M.D., M.P.H., Karen M. Jones, M.S., Michael J. Barry, M.D., Gerald L. Andriole, M.D., Daniel Culkin, M.D., Thomas Wheeler, M.D., William J. Aronson, M.D., and Michael K. Brawer, M.D.

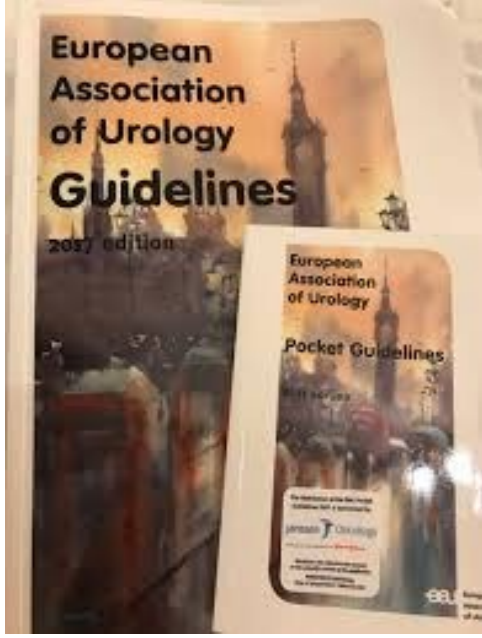
among men with intermediate-risk tumours, RP significantly reduced all-cause mortality (HR: 0.69 [95% CI: 0.49-0.98]), but not death from PCa (0.50; 95% CI: 0.21-1.21) at ten year

intermediate risk

- all-cause mortality (HR: 0.69 [95% CI: 0.49-0.98])
- death from PCa (0.50; 95% CI: 0.21-1.21)

Only patients with serum PSA > 10 ng/mL or high-risk PCa had a significant OS benefit from RP, with a RR reduction in mortality of 33% and 31%

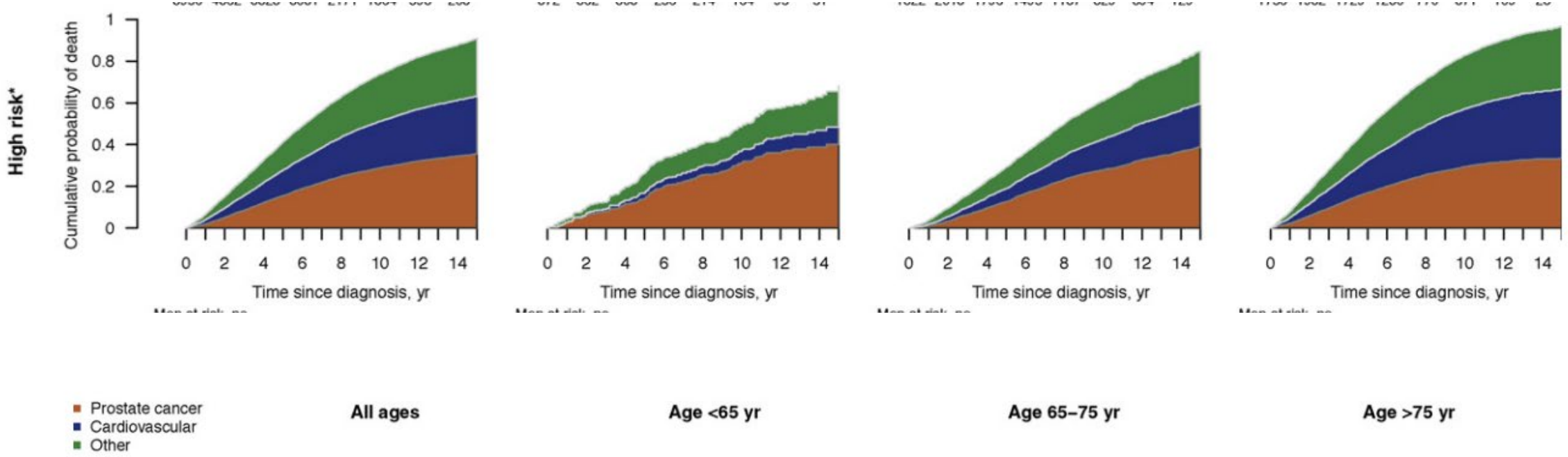
# ΝΟΣΟ ΕΝΔΙΑΜΕΣΟΥ ΚΙΝΔΥΝΟΥ




| **Radical prostatectomy (RP)** | |
|---|---|
| Offer RP to patients with intermediate-risk disease and a life expectancy > ten years. | Strong |

# Long-term Outcomes Among Noncuratively Treated Men According to Prostate Cancer Risk Category in a Nationwide, Population-based Study

*Jennifer R. Rider*[a,*], *Fredrik Sandin*[b], *Ove Andrén*[c], *Peter Wiklund*[d], *Jonas Hugosson*[e], *Pär Stattin*[f]

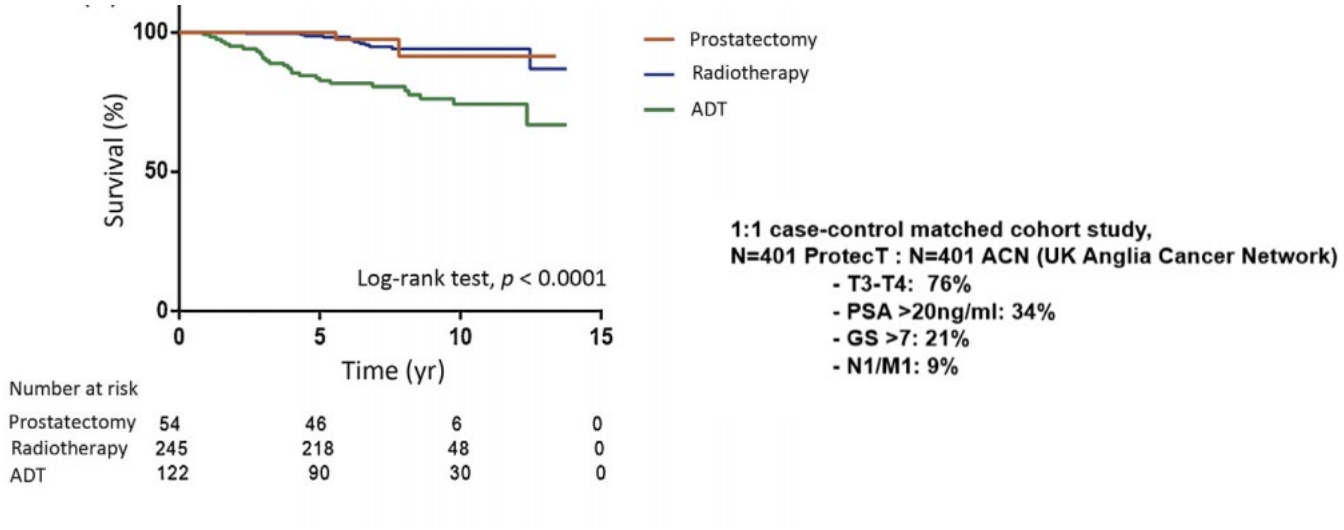



At 15 yr after diagnosis, the cumulative risk of PCa death was 8.9% (95% confidence interval [CI], 7.4–10.5) for low-risk disease; 19.6% (95% CI, 18.0–21.2) for intermediate-risk disease; 35.5% (95% CI, 34.2.2–36.8) for high-risk disease

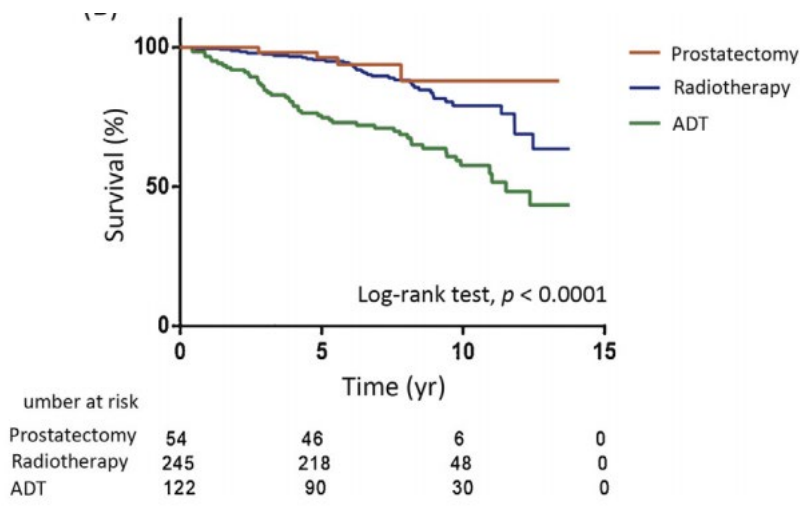
Eur Urol 2013 Jan;63(1):88-96.

# Mortality Among Men with Advanced Prostate Cancer Excluded from the ProtecT Trial

*Thomas J. Johnston[a,†,*], Greg L. Shaw[a,b], Alastair D. Lamb[a,b,†], Deepak Parashar[c], David Greenberg[d], Tengbin Xiong[a], Alison L. Edwards[a], Vincent Gnanapragasam[a], Peter Holding[e], Phillipa Herbert[a], Michael Davis[f], Elizabeth Mizielinsk[f], J. Athene Lane[f], Jon Oxley[g], Mary Robinson[h], Malcolm Mason[i], John Staffurth[i], Prasad Bollina[j], James Catto[k], Andrew Doble[l], Alan Doherty[m], David Gillatt[n], Roger Kockelbergh[o], Howard Kynaston[p], Steve Prescott[q], Alan Paul[q], Philip Powell[r], Derek Rosario[k], Edward Rowe[n], Jenny L. Donovan[f,†], Freddie C. Hamdy[e,†], David E. Neal[a,e,†,*], for the ProtecT study group[§]*



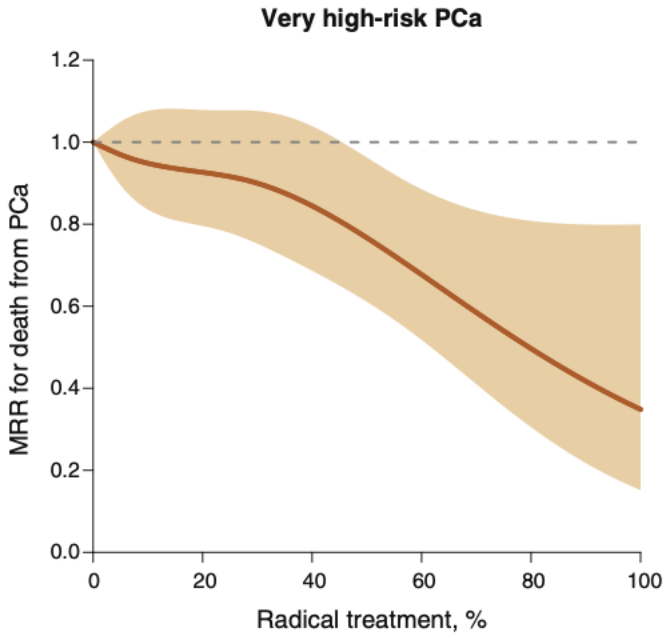

1:1 case-control matched cohort study,
N=401 ProtecT : N=401 ACN (UK Anglia Cancer Network)
- T3-T4: 76%
- PSA >20ng/ml: 34%
- GS >7: 21%
- N1/M1: 9%

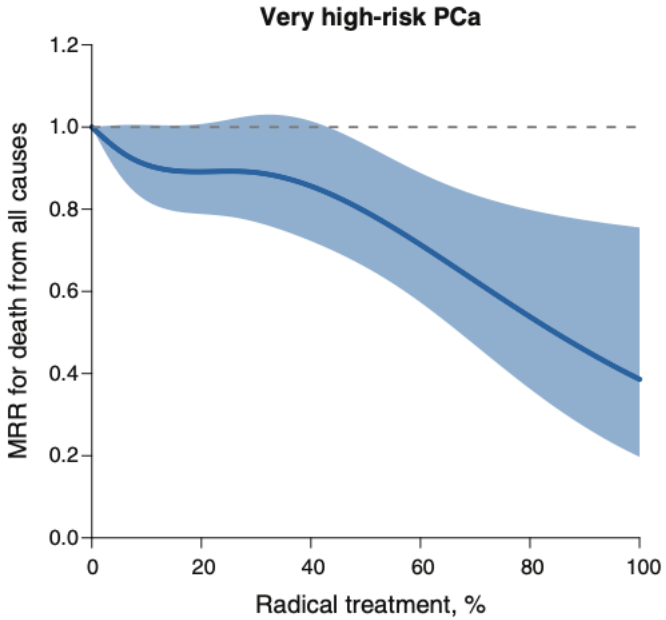



Eur Urol. 2017 Mar;71(3):381-388.

# Association of Radical Local Treatment with Mortality in Men with Very High-risk Prostate Cancer: A Semiecologic, Nationwide, Population-based Study

*Pär Stattin*[a,b,*], *Fredrik Sandin*[c], *Frederik Birkebæk Thomsen*[d], *Hans Garmo*[c,e], *David Robinson*[b,f], *Ingela Franck Lissbrant*[g], *Håkan Jonsson*[h], *Ola Bratt*[i,j]




Mortality rate ratio for death from prostate cancer (PCa) (orange) and all causes (blue) with 95% confidence interval in men with very high-risk (local clinical stage T4 and/or prostate-specific antigen [PSA] level 50–200 ng/ml, any N, and all M0) or locally advanced (local clinical stage T3 and PSA level

Eur Urol. 2017 Jul;72(1):125-134.

# Surgery Provides Better Oncologic Outcomes than Radiation for the Treatment of Prostate Cancer

## CON

"Given the higher 30, 60 and 90-day mortality rates, higher rates of erectile dysfunction, increased risk of incontinence and the lack of good evidence that RP improves survival compared to RT with or without ADT, I caution urologists against what they "know for sure" and confidently offering surgery as the "best treatment" for men older than 65 years with high risk prostate cancer."

**Mack Roach, III**
*Department of Radiation Oncology*
*UCSF Helen Diller Family Comprehensive Cancer Center*
*San Francisco, California*

## PRO

"…for younger, healthier patients with intermediate high risk prostate cancer, the evidence indicates that surgery should be considered the primary treatment modality with respect to optimizing cancer specific survival."

**Laurence Klotz**
*Division of Urology*
*Sunnybrook Health Sciences Centre*
*University of Toronto*
*Toronto, Ontario, Canada*

**Christopher P. Evans**
*Department of Urology*
*University of California, Davis School of Medicine*
*Sacramento, California*

**J Urol 2016:196:1-4**

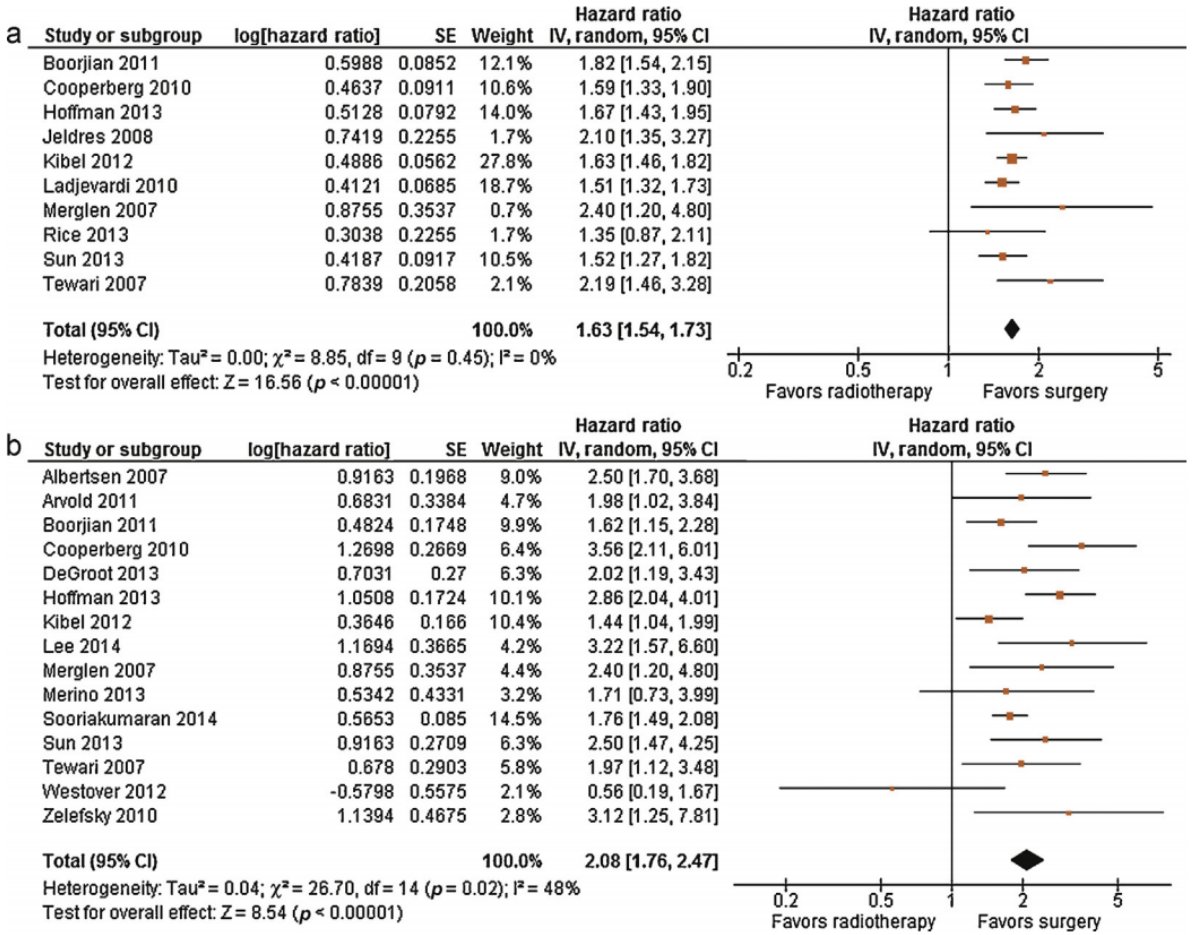
| RP vs XRT: Summary of mortality results from propensity analyses | | | | |
|---|---|---|---|---|
| **Author** | **N=** | | **PCM, HR XRT vs RP** | **OS HR (*P<.05)** |
| Tewari 2007 | 453 | GS >=8 | 2.10 | |
| Albertsen 2007 | 1,618 | | 2.5 | 1.7* |
| Merglen 2007 | 844 | 1989-98 | 2.3 | 1.5* |
| Zelefsky 2010 | 2,380 | | 3.0 (Met rate) | |
| Cooperberg 2010 | 7,538 | | 2.21 | 1.58* |
| Kibel A 2012 | 10,429 | | XRT vs RP 1.5 | XRT vs RP 1.6* |
| Abdollah 2012 | 68,665 | SEER 1992-05 | At 10 yrs, HR 2.8<br>High risk: 11.5% vs 6.8% | |
| Nepple 2013 | 10,361 | | 1.66 | 1.71 EBRT* |
| Shao 2014 | 66,492 | SEER | 1.5; 1.4 low, 1.9 high | |
| Lee 2014 | 376 | High risk | 3.2 | |
| Sooriakumuran 2014 | 34,052 | | 1.76 | |
| Dorr 2014 | 20,935 | | 1.97 | |
| Sun 2014 | 66,087 | SEER | 2.5 (> 10 yr LE) | 1.5* |

# Surgery Versus Radiotherapy for Clinically-localized Prostate Cancer: A Systematic Review and Meta-analysis

*Christopher J.D. Wallis* [a,b,c], *Refik Saskin* [c,d], *Richard Choo* [e], *Sender Herschorn* [a,b], *Ronald T. Kodama* [a,b], *Raj Satkunasivam* [a,b], *Prakesh S. Shah* [c,f,g], *Cyril Danjoux* [h], *Robert K. Nam* [a,b,c,*]

The risk of overall (10 studies, aHR 1.63, 95% confidence interval 1.54–1.73, $p < 0.00001$; $I^2 = 0\%$) and prostate cancer-specific (15 studies, aHR 2.08, 95% confidence interval 1.76–2.47, $p < 0.00001$; $I^2 = 48\%$) mortality were higher for patients treated with radiotherapy compared with those treated with surgery.

| | Overall mortality | | Prostate cancer-specific mortality | |
|---|---|---|---|---|
| | Adjusted HR (95% CI, *p* value) | $I^2$ | Adjusted HR (95% CI, *p* value) | $I^2$ |
| Risk category | | | | |
| **Low risk** | 1.47 (1.19–1.83, $p = 0.0004$) | 59% | 1.70 (1.36–2.13, $p < 0.00001$) | 0% |
| **Intermediate risk** | 1.50 (1.24–1.82, $p < 0.0001$) | NA | 1.80 (1.45–2.25, $p < 0.0001$) | 0% |
| **High risk** | 1.88 (1.64–2.16, $p < 0.00001$) | 0% | 1.83 (1.51–2.22, $p = 0.0001$) | 42% |




Eur Urol. 2016 Jul;70(1):21-30.

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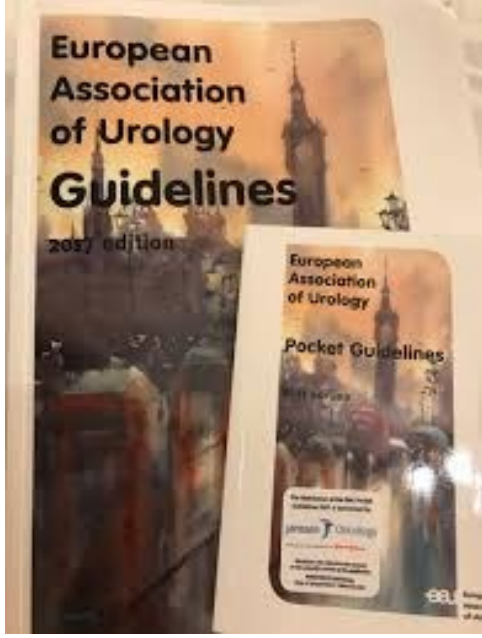



| **Radical Prostatectomy (RP)** | |
|---|---|
| Offer RP to patients with high-risk localised PCa and a life expectancy of > ten years only as part of multi-modal therapy. | Strong |

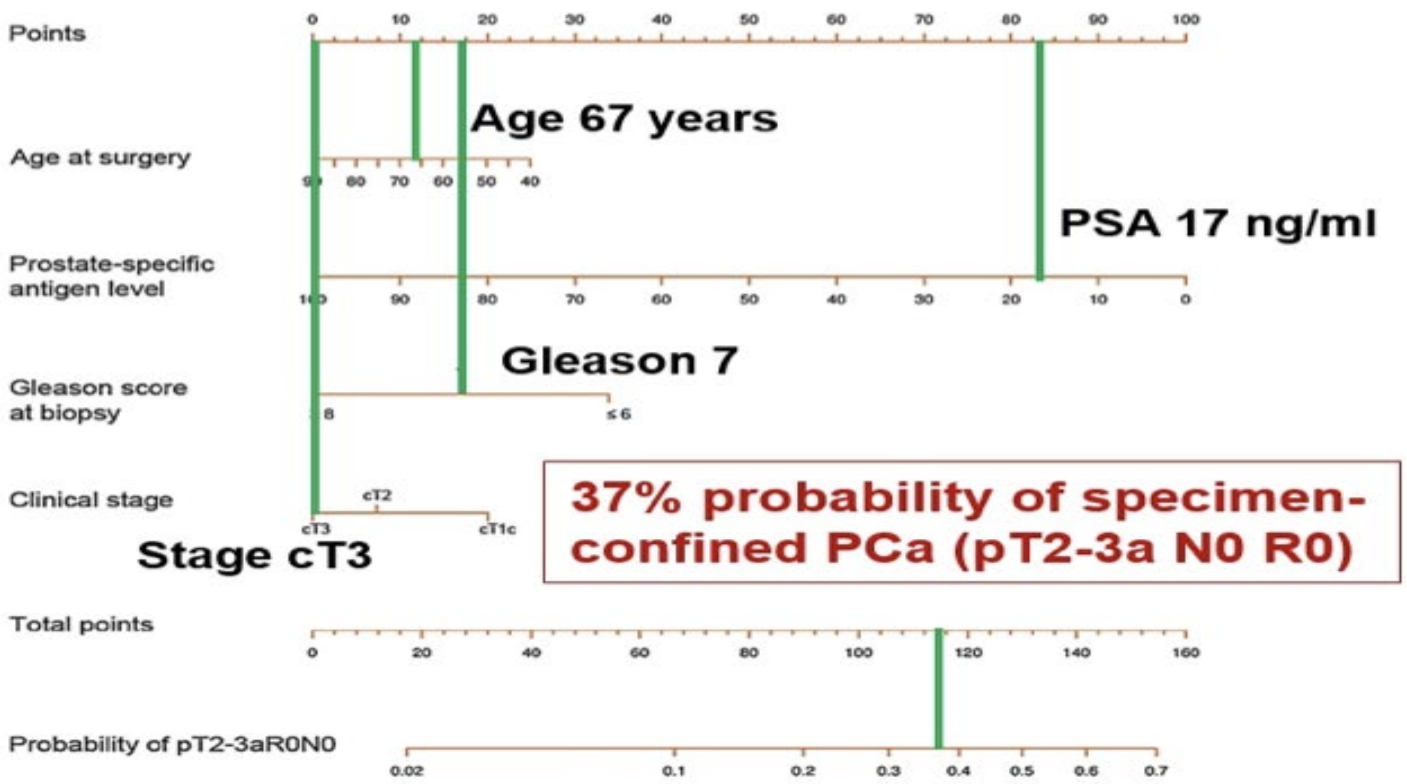
EUROPEAN UROLOGY 61 (2012) 584–592

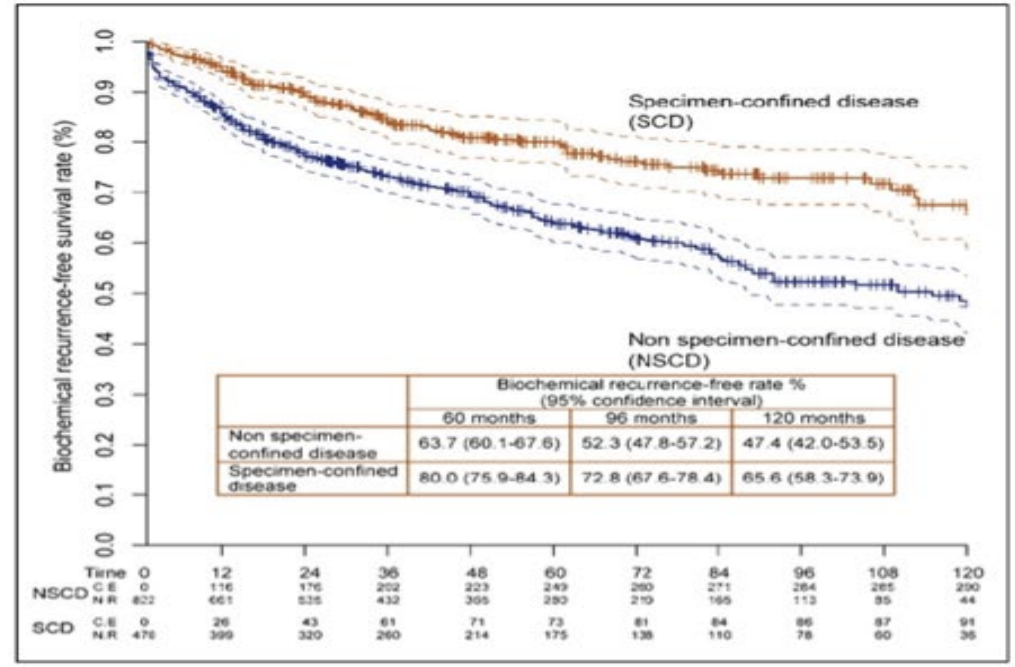
EMPaCT

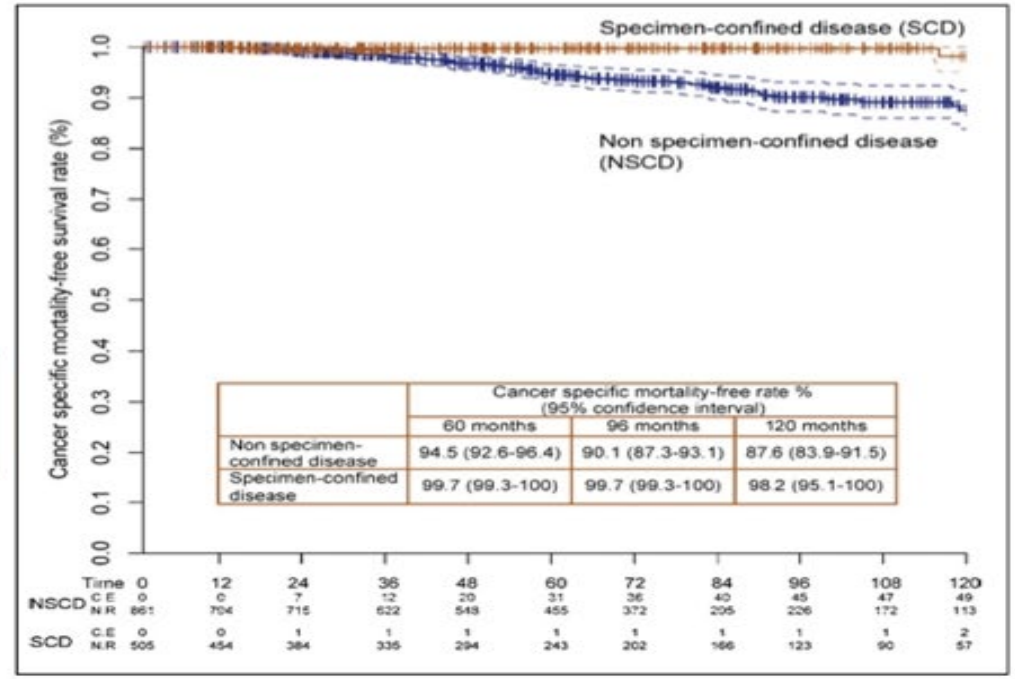
Prostate Cancer

# Identifying the Best Candidate for Radical Prostatectomy Among Patients with High-Risk Prostate Cancer

*Alberto Briganti [a,*,1], Steven Joniau [b,1], Paolo Gontero [c], Firas Abdollah [a], Niccolò M. Passoni [a], Bertrand Tombal [d], Giansilvio Marchioro [e], Burkhard Kneitz [f], Jochen Walz [g], Detlef Frohneberg [h], Chris H. Bangma [i], Markus Graefen [j], Alessandro Tizzani [c], Bruno Frea [k], R. Jeffrey Karnes [l], Francesco Montorsi [a], Hein Van Poppel [b], Martin Spahn [f]*



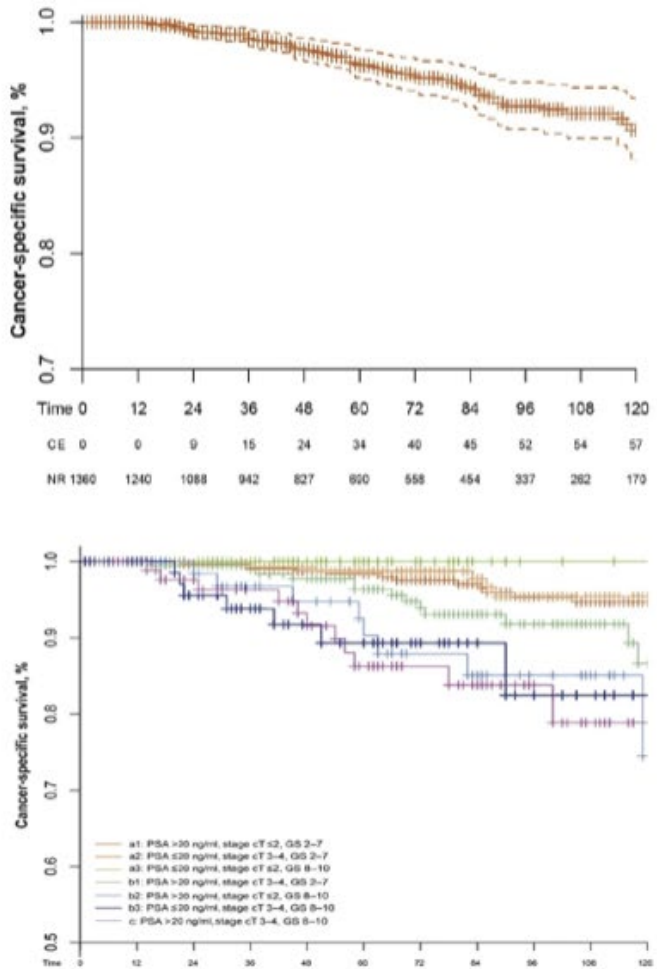



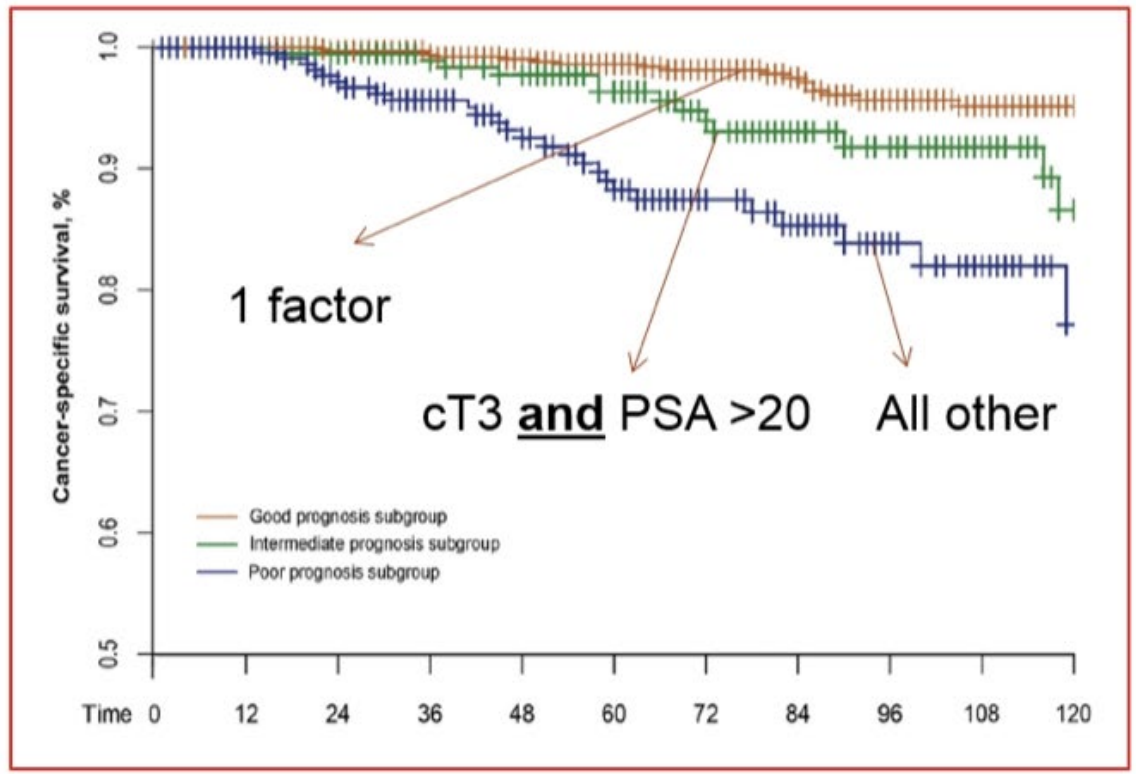



# Stratification of High-risk Prostate Cancer into Prognostic Categories: A European Multi-institutional Study

*Steven Joniau[a,*,†], Alberto Briganti[b,†], Paolo Gontero[c], Giorgio Gandaglia[b], Lorenzo Tosco[a], Steffen Fieuws[d], Bertrand Tombal[e], Giansilvio Marchioro[f], Jochen Walz[g], Burkhard Kneitz[h], Pia Bader[i], Detlef Frohneberg[i], Alessandro Tizzani[c], Markus Graefen[g], Paul van Cangh[d], R. Jeffrey Karnes[j], Francesco Montorsi[b], Hein Van Poppel[a], Martin Spahn[k],*

*European Multicenter Prostate Cancer Clinical and Translational Research Group (EMPaCT)*




Joniau S and Briganti A, et al. Eur Urol 2015

European Urology

European Urology 44 (2003) 656–660

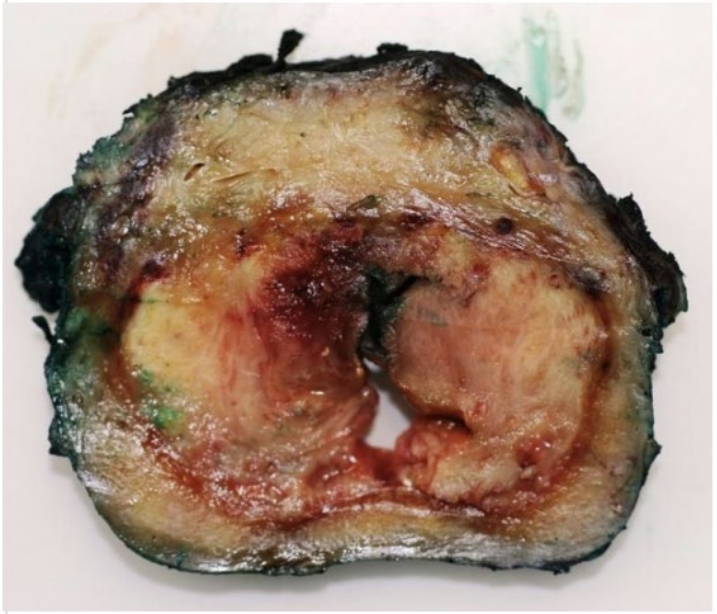
# Combined Reporting of Cancer Control and Functional Results of Radical Prostatectomy☆

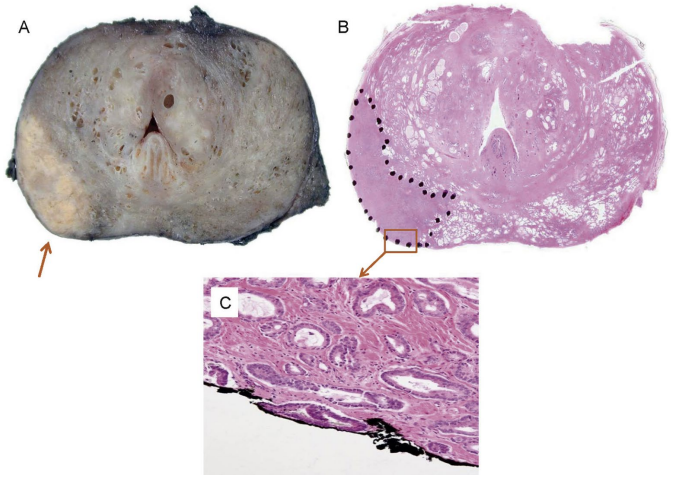
Laurent Salomon[a,*], Fabien Saint[a], Aristotelis G. Anastasiadis[b], Philippe Sebe[a], Dominique Chopin[a], Clément-Claude Abbou[a]

[a]*Department of Urology, Henri Mondor Hospital, Assistance Publique des Hôpitaux de Paris, EMI 03-37, 51 avenue du Maréchal de Lattre de Tassigny, 94010 Creteil Cedex, France*

[b]*Department of Urology, University of Tübingen, Tübingen, Germany*

- 4 points if the PSA level <0.2 ng/ml or 0 points if PSA >0.2 ng/ml
- 2 points if he is continent or 0 points if he is incontinent
- 1 point if he has erections or 0 points if he is impotent.

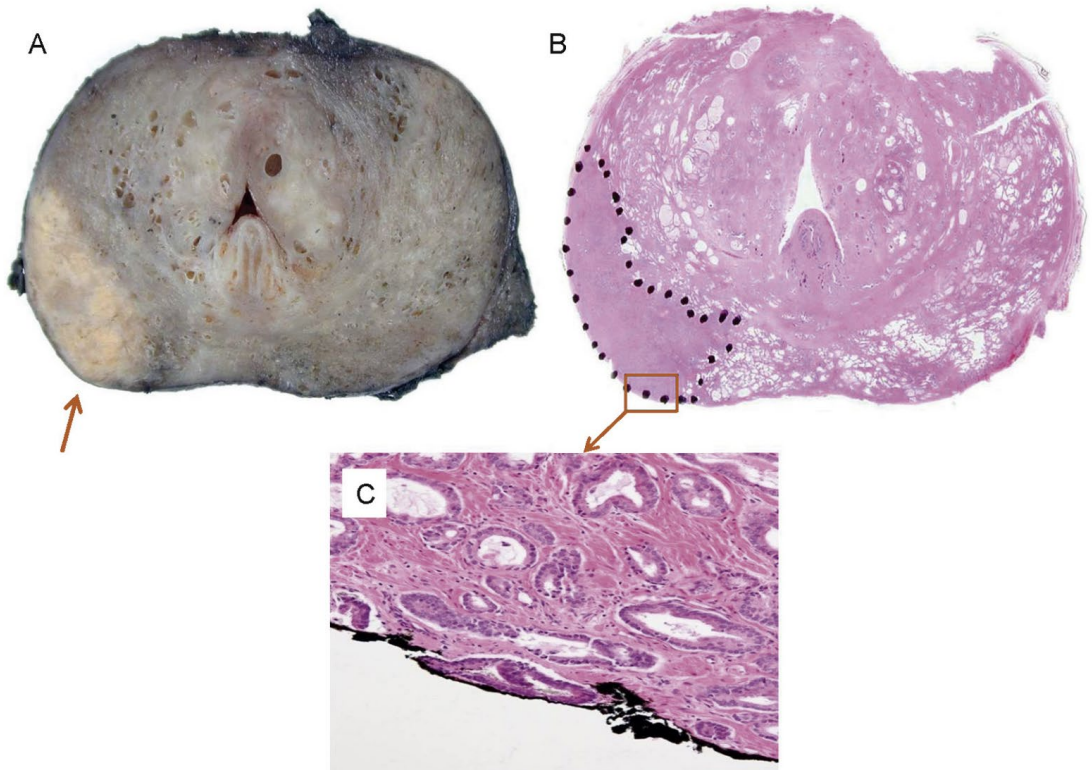


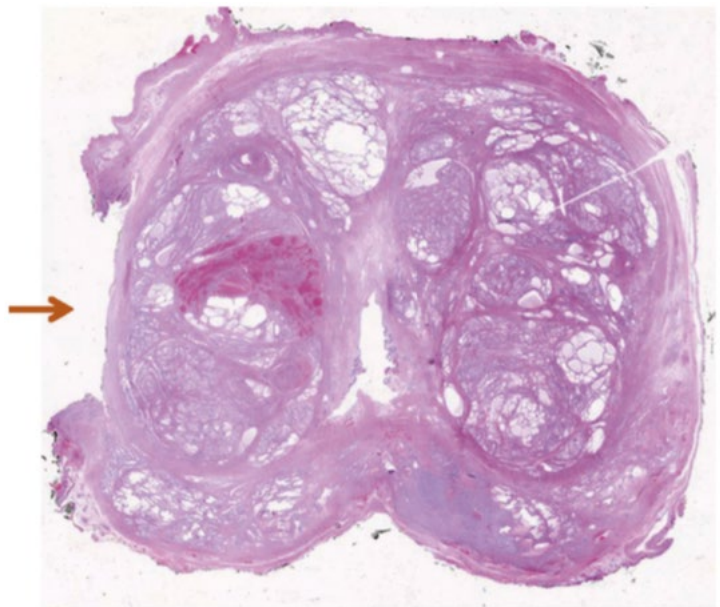



# ΘΕΤΙΚΑ ΧΕΙΡΟΥΡΓΙΚΑ ΟΡΙΑ

# Positive Surgical Margins in Areas of Capsular Incision in Otherwise Organ-confined Disease at Radical Prostatectomy: Histologic Features and Pitfalls

*Ai-Ying Chuang, MD*† ‡ and Jonathan I. Epstein, MD‡§‖*



J Urol 2007 Oct;178(4 Pt 1):1306-10.

# Impact of capsular incision on biochemical recurrence after radical perineal prostatectomy

KW Kwak[1], HM Lee[2] and HY Choi[2]

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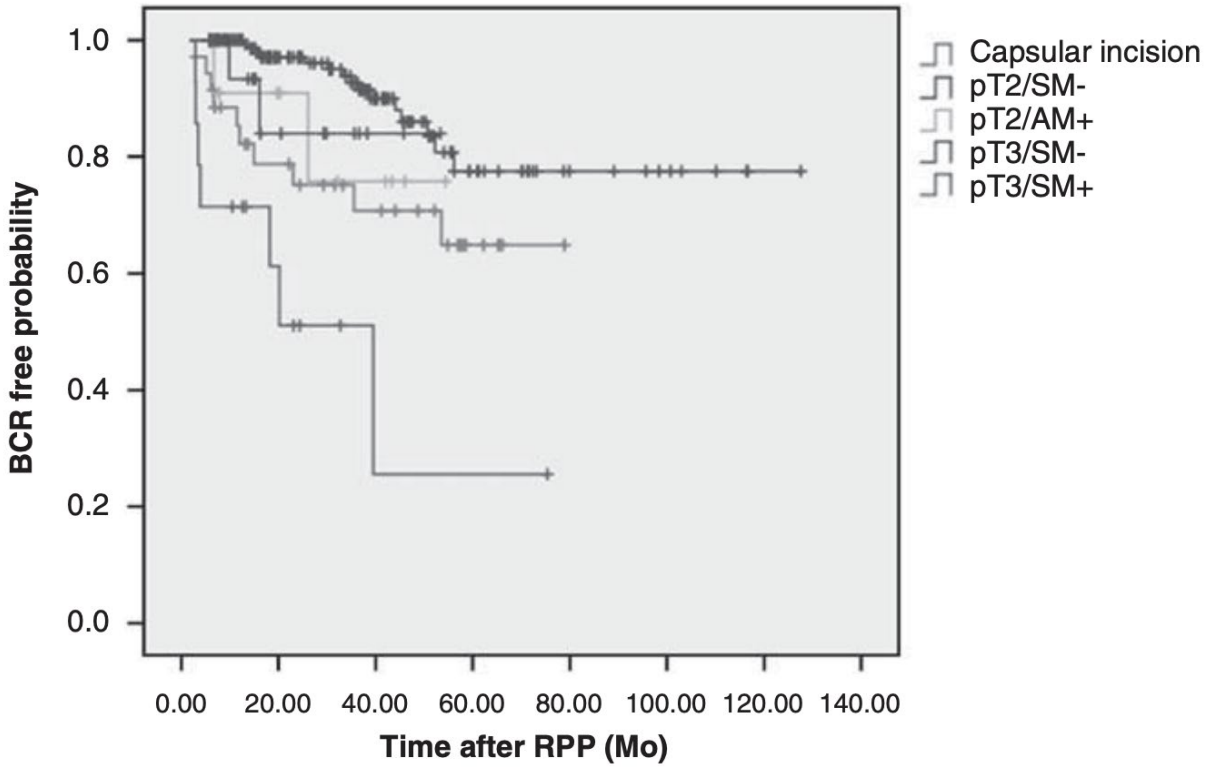
[2]*Department of Urology, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, Korea*

men with CI had a higher likelihood of BCR than did the men with pT2/SM– (Po0.0001), were comparable with those with pT2/AM þ and pT3a/SM– (P ¼ 0.614 and 0.318), but better than those with pT3a/SM þ (P ¼ 0.044), after adjusting for the pre-operative PSA and Gleason score on the pathology




Prostate Cancer and Prostatic Diseases (2010) 13, 28–33

# Positive Surgical Margins After Radical Prostatectomy: A Systematic Review and Contemporary Update

*Ofer Yossepowitch [a,*], Alberto Briganti [b], James A. Eastham [c], Jonathan Epstein [d], Markus Graefen [e], Rodolfo Montironi [f], Karim Touijer [c]*

| Study | Year | *n* | PSMs, no. (%) | Median follow-up, yr | HR for BCR (95% CI), *p* value | HR for MP (95% CI), *p* value | HR for PCSM (95% CI), *p* value |
|---|---|---|---|---|---|---|---|
| Mauermann et al. [32] | 2012 | 1712 | 281* (16.4) | 6.2 | 1.7 (1.2–2.3), 0.001 | 1.07 (0.3–3.4), 0.9 | 1.4 (0.36–5.4), 0.63 |
| | | | 310* (18.1) | 6.2 | 2 (1.5–2.7), <0.0001 | 0.9 (0.3–3.1), 0.98 | 1.15 (0.29–4.47), 0.84 |
| Pfitzenmaier et al. [33] | 2008 | 406 | 70 (17) | 5.2 | 3.2 (2.1–4.8), <0.001 | 6.6 (1.9–23), 0.003 | NR |
| Boorjian et al. [30] | 2010 | 11 729 | 3651 (31.1) | 8.2 | 1.6 (1.5–1.8), <0.0001 | NS, 0.95 | NS, 0.15 |
| Wright et al. [34] | 2010 | 65 633 | 21.2% | 4.2 | NR | NR | 1.7 (1.3–2.2), NR** |
| Chalfin et al. [31] | 2012 | 4461 | 462 (10.4) | 10 | 5 (3.7–6.7), <0.001 | NR | 1.4 (1.0–1.9), 0.036 |

PSM = positive surgical margin; HR = hazard ratio; NR = not reported; NS = not significant; BCR = biochemical recurrence; MP = metastatic progression; PCSM = prostate cancer–specific mortality; CI = confidence interval.

* There were 281 patients with a solitary positive margin and 310 patients with multiple positive margins.

** The *p* values were not reported; statistical significance was reached only in patients with high-grade tumors or extracapsular extension.

# Tumor Grade at Margins of Resection in Radical Prostatectomy Specimens Is an Independent Predictor of Prognosis

**Fadi Brimo, Alan W. Partin, and Jonathan I. Epstein**

A strong association was noted between biochemical recurrence and the GS at the positive surgical margin (P = .007)

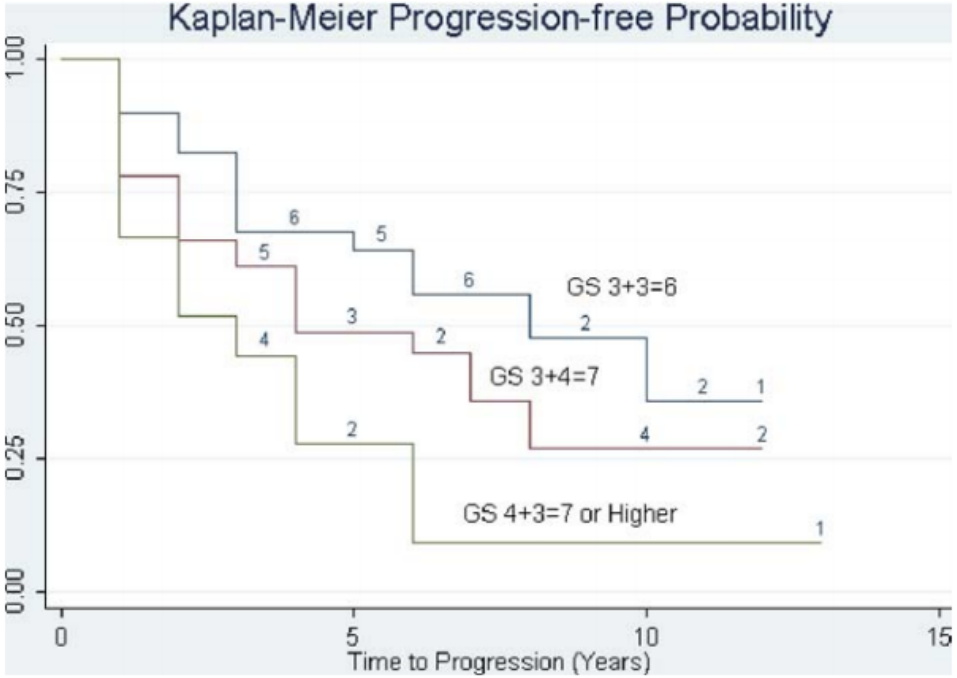


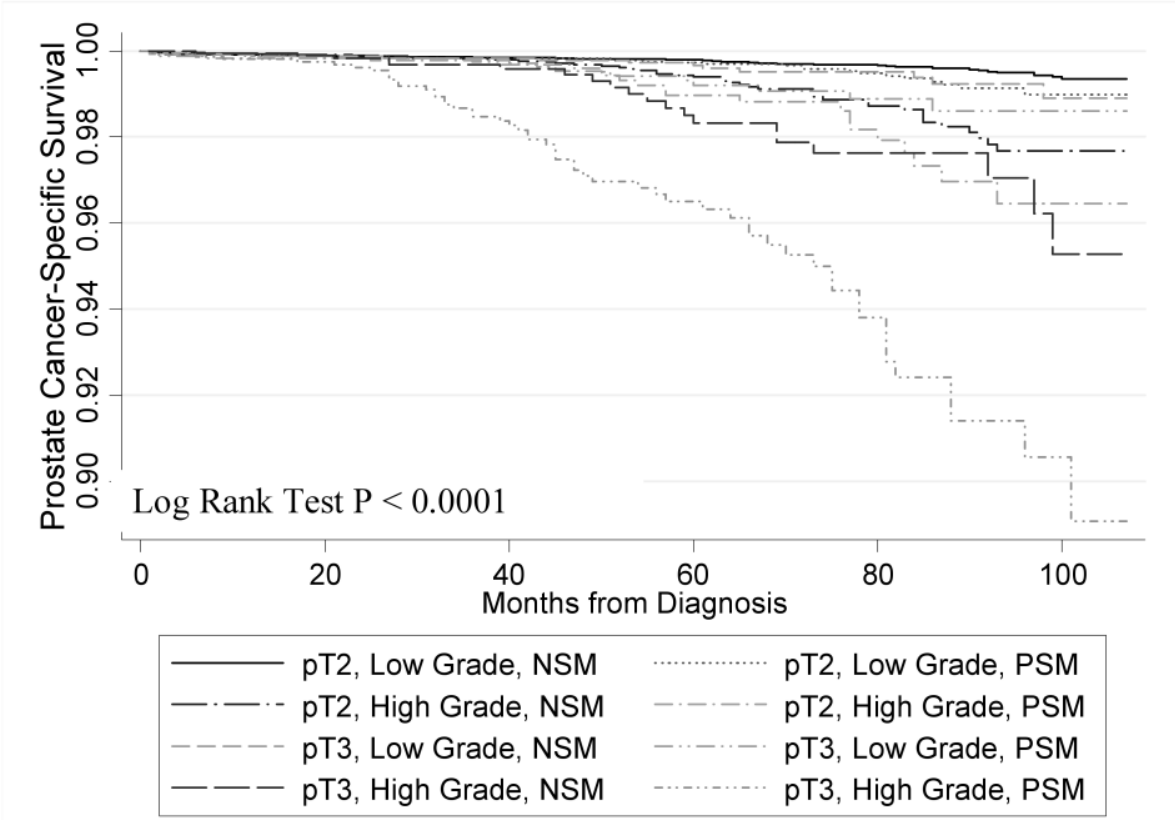

**Figure 3.** PSA progression-free probability curves demonstrating differences in outcome according to grade of cancer present at positive surgical margin ($P = .006$).

Urology 2010 Nov;76(5):1206-9

# Positive surgical margins at radical prostatectomy predict prostate cancer-specific mortality: support for optimizing surgical technique and pathological evaluation at radical prostatectomy

**Jonathan L Wright**[1,2], **Bruce L. Dalkin**[1], **Lawrence D True**[3], **William J Ellis**[1], **Janet L Stanford**[2], **Paul H Lange**[1], and **Daniel W Lin**[1,2]

PSM is associated with an increased risk of PCSM, although it only reached statistical significance in those with higher grade tumors (HR for PSM: 1.97, 95% CI 1.41 – 2.76); pT3a tumors (HR for PSM: 2.42, 95% CI 1.58 – 3.72) and for those tumors that are both pT3a and higher grade (HR for PSM: 2.72, 95% CI 1.62 – 4.54)




J Urol 2010 Jun;183(6):2213-8

*Histopathology* 2010, **56**, 464–471. DOI: 10.1111/j.1365-2559.2010.03497.x

# The length of positive surgical margins correlates with biochemical recurrence after radical prostatectomy

Inge M van Oort,[1] H Maxim Bruins,[1] Lambertus A L M Kiemeney,[1,2,4] Ben C Knipscheer,[5] J Alfred Witjes[1] & Christina A Hulsbergen-van de Kaa[3]

*Radboud University Nijmegen Medical Centre, [1]Department of Urology, [2]Department of Epidemiology, Biostatistics and HTA, [3]Department of Pathology and [4]Comprehensive Cancer Centre East Nijmegen and [5]Schepersziekenhuis, Emmen, The Netherlands*

Date of submission 19 February 2009
Accepted for publication 14 July 2009

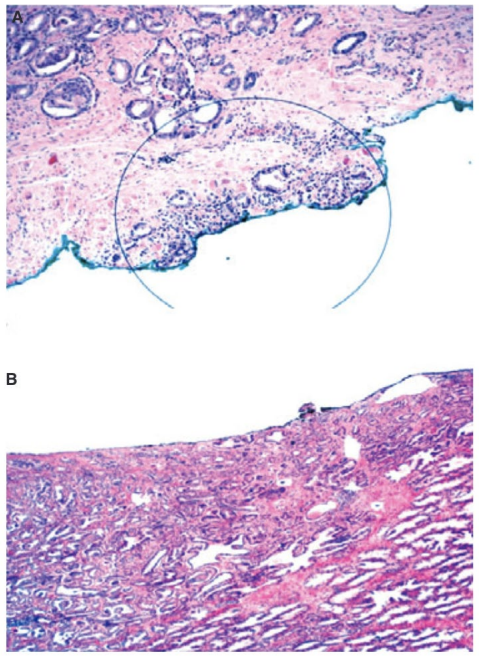
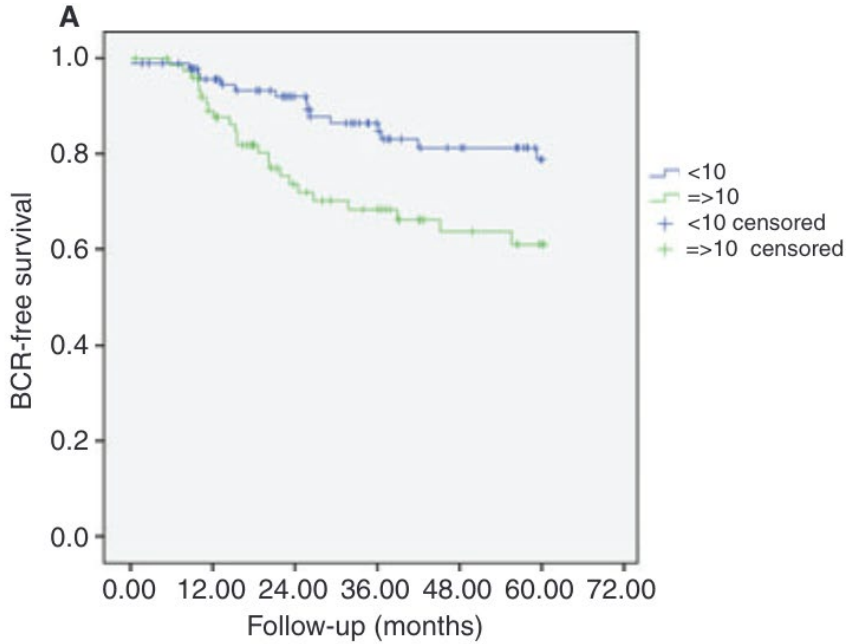
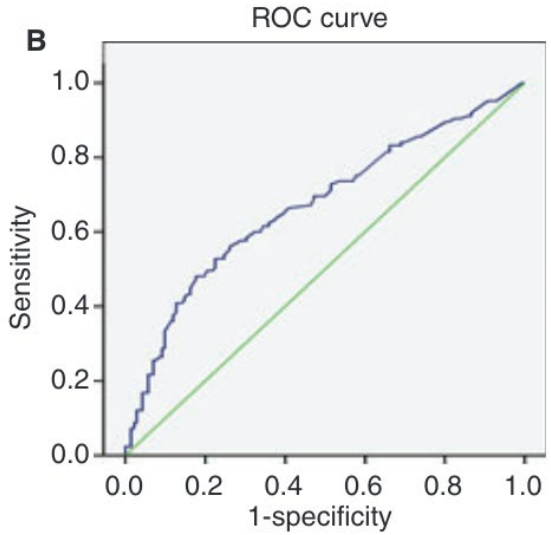



**Figure 1.** A, Positive resection margin at the apex (H&E). The tumour is covered with green ink over an area with a diameter of one high-power field of 40x objective (0.6 mm; represented by the circle). B, Positive resection margin at dorsal site (H&E). Tumour reaches in the inked surface over a large area (8 mm; slightly less than one low-power field of 2.5x objective).

On multivariable analysis BCR was associated with an increasing length of +SM (<or=10 mm versus >10 mm; hazard ratio 2.15; 95% confidence interval 1.12, 4.15; P = 0.022).




Histopathology. 2010 Mar;56(4):464-71

# The learning curve for surgical margins after open radical prostatectomy: implications for the use of margin status as an oncologic endpoint

**Vickers AJ**[1], **Bianco FJ**[2], **Cronin AM**[1], **Eastham JA**[2], **Klein EA**[3], **Kattan MW**[3], and **Scardino PT**[1]

[1]Memorial Sloan-Kettering Cancer Center

[2]Columbia University

[3]Cleveland Clinic

The probability of a positive surgical margin was 40% for a surgeon with 10 prior cases, which decreased to 25% for a surgeon with 250 (absolute difference 15%, 95% CI 11 to 18)

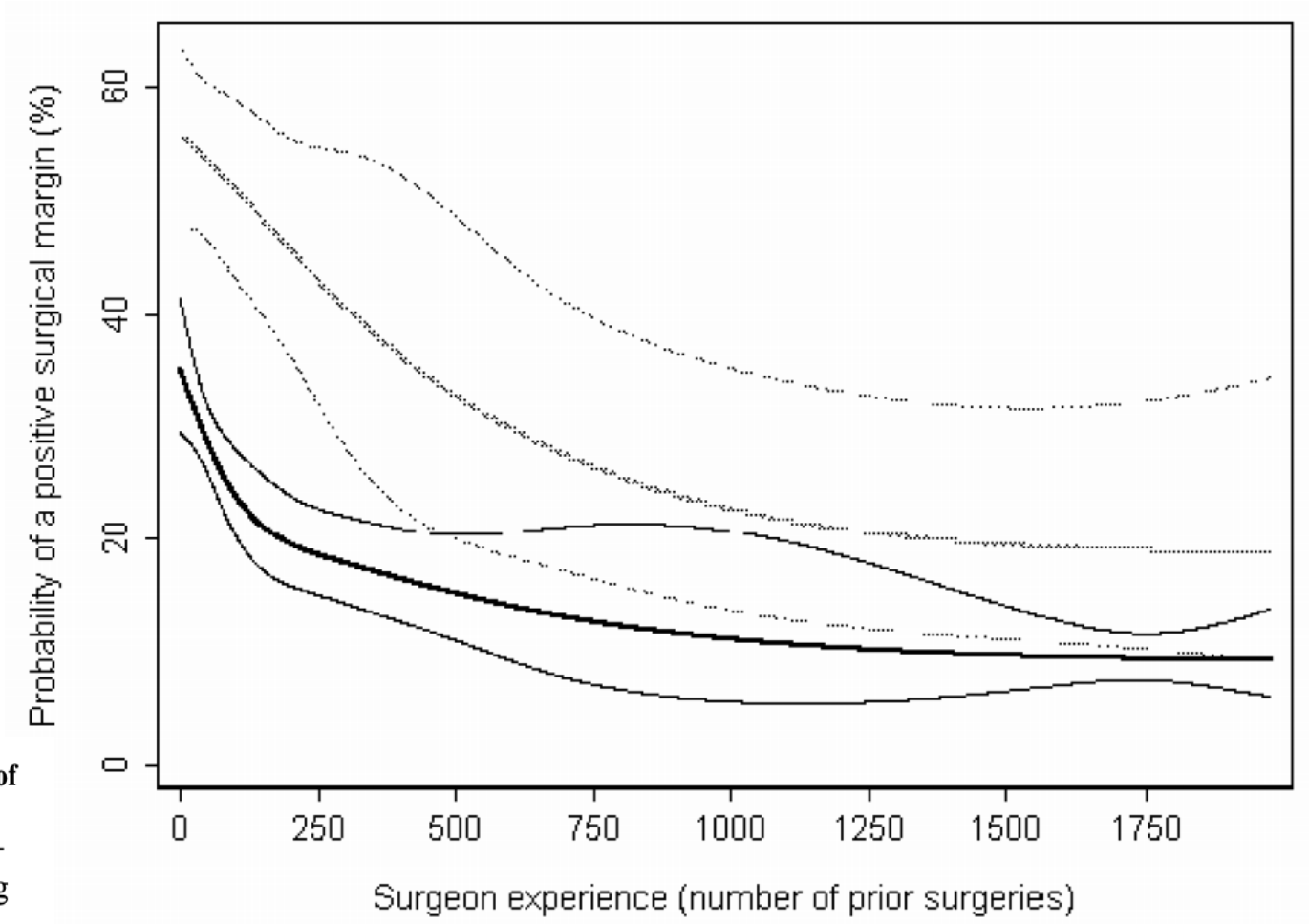



**Figure 2. The surgical learning curve for a positive surgical margin, stratified by presence of organ-confined disease**

Predicted probability and 95% confidence intervals (organ confined: black curves; non-organ confined: gray curves) of a positive surgical margin are plotted against increasing surgical experience. Probabilities are for a patient with typical cancer severity (mean prostate-specific antigen level, pathologic stage, and grade) within each group, treated in 1997 (approximately equal numbers of patients were treated before and after 1997).

J Urol 2010 Apr;183(4):1360-5.

# Positive Surgical Margins After Robotic Assisted Radical Prostatectomy: A Multi-Institutional Study

Vipul R. Patel,* Rafael F. Coelho, Bernardo Rocco, Marcelo Orvieto, Ananthakrishnan Sivaraman, Kenneth J. Palmer, Darien Kameh, Luigi Santoro, Geoff D. Coughlin, Michael Liss, Wooju Jeong, John Malcolm, Joshua M. Stern, Saurabh Sharma, Kevin C. Zorn, Sergey Shikanov, Arieh L. Shalhav, Gregory P. Zagaja, Thomas E. Ahlering, Koon H. Rha, David M. Albala,† Michael D. Fabrizio, David I. Lee and Sanket Chauhan

| Parameter | OR (95% CI) | p Value |
|---|---|---|
| | *Overall* | |
| Age | 0.997 (0.987–1.007) | 0.6059 |
| BMI | 1.032 (1.016–1.049) | <0.001 |
| PSA (ng/ml): | | |
| 4 or Less vs 4.01–10 | 1.616 (1.338–1.952) | <0.001 |
| 4 or Less vs greater than 10 | 2.918 (2.276–3.739) | <0.001 |
| Gleason: | | |
| 6 or Less vs 7 | 0.978 (0.836–1.144) | 0.7820 |
| 6 or Less vs 8 or Greater | 0.830 (0.640–1.076) | 0.1599 |
| pT2 vs: | | |
| pT3 | 4.588 (3.934–5.350) | <0.001 |
| pT4 | 8.884 (4.238–18.620) | <0.001 |
| Prostate size | 0.984 (0.979–0.988) | <0.001 |
| | *pT2* | |
| Age | 0.998 (0.984–1.012) | 0.746 |
| BMI | 1.044 (1.022–1.066) | <0.001 |
| PSA (ng/ml): | | |
| 4 or Less vs 4.01–10 | 1.913 (1.480–2.473) | <0.001 |
| 4 or Less vs greater than 10 | 3.814 (2.632–5.526) | <0.001 |
| Gleason: | | |
| 6 or Less vs 7 | 0.962 (0.772–1.199) | 0.732 |
| 6 or Less vs 8 or Greater | 0.577 (0.331–1.005) | 0.07 |
| Prostate size | 0.976 (0.970–0.982) | <0.001 |

J Urol 2011 Aug;186(2):511-6.

# Systematic Review and Meta-analysis of Studies Reporting Oncologic Outcome After Robot-assisted Radical Prostatectomy

*Giacomo Novara*[a,*], *Vincenzo Ficarra*[a,b], *Simone Mocellin*[a], *Thomas E. Ahlering*[c], *Peter R. Carroll*[d], *Markus Graefen*[e], *Giorgio Guazzoni*[f], *Mani Menon*[g], *Vipul R. Patel*[h], *Shahrokh F. Shariat*[i], *Ashutosh K. Tewari*[i], *Hendrik Van Poppel*[j], *Filiberto Zattoni*[a], *Francesco Montorsi*[k], *Alexandre Mottrie*[b], *Raymond C. Rosen*[l], *Timothy G. Wilson*[m]

| First author | Institution | Cases, *n* | Study design | Sampling protocol | Pathologic stage, % | | | | Overall PSM rate, % | PSM rate, % | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | pT2 | pT3a | pT3b | pT4 | | pT2 | pT3a | pT3b | pT4 |
| | | | | Patient BMI | | | | | | | | | |
| Wiltz, 2009 [49] | University of Chicago, Chicago, IL, USA | BMI <25: 216 | Prospective comparative study, level 3 | 3-mm section | 83 | 12 | 5 | . | 17 | 12 | 29 | 64 | – |
| | | BMI 25–30: 464 | | | 80 | 16 | 4 | | 17 | 12 | 27 | 31 | |
| | | BMI >30: 265 | | | 77 | 17 | 6 | | 22 | 15 | 46 | 47 | |
| Moskovic, 2010 [50] | Mount Sinai Medical Center, New York, NY, USA | BMI <25: 270 | Prospective comparative study, level 3 | Not reported | 82 | 12 | 5 | 1 | 16 | | – | | |
| | | BMI 25–30: 600 | | | 80 | 14 | 5 | 1 | 18 | | | | |
| | | BMI >30: 242 | | | 81 | 13 | 6 | 0 | 17 | | | | |
| Zilberman, in press [51] | Duke University Medical Center, Durham, NC, USA | BMI <25: 100 | Prospective comparative study, level 3 | Not reported | | | – | | 17 | | – | | |
| | | BMI 25–29.9: 286 | | | | | | | 24 | | | | |
| | | BMI 30–34.9: 135 | | | | | | | 19 | | | | |
| | | BMI >35: 34 | | | | | | | 21 | | | | |
| | | | | PV | | | | | | | | | |
| Link, 2008 [52] | City of Hope, Duarte, CA, USA | PV <30: 69 | Prospective comparative study, level 3 | 5-mm section | | | – | | 35* | | – | | |
| | | 30–49: 883 | | | | | | | 28* | | | | |
| | | 50–69: 568 | | | | | | | 18* | | | | |
| | | ≥70: 327 | | | | | | | 21* | | | | |
| Allaparthi, 2010 [53] | Turfts University, Brighton, MS, USA | PV <30 $cm^3$: 10 | Prospective comparative study, level 3 | Whole mount, 1-mm section | 70 | 30 | 0 | – | 40* | | – | | |
| | | PV 30–49 $cm^3$: 182 | | | 66 | 29 | 5 | | 22* | | | | |
| | | PV 50–79 $cm^3$: 91 | | | 77 | 17 | 6 | | 11* | | | | |
| | | PV ≥80 $cm^3$: 12 | | | 100 | 0 | 0 | | 8* | | | | |
| Martinez, 2010 [54] | University of Western Ontario, London, Ontario, Canada | PV < 40 $cm^3$: 75 | Prospective comparative study, level 3 | Not reported | 70 | 30 | | – | 24 | 15 | 46 | | – |
| | | PV 40–60 $cm^3$: 51 | | | 74 | 26 | | | 31 | 28 | 39 | | |
| | | PV >60 $cm^3$: 24 | | | 92 | 8 | | | 12 | 13 | 0 | | |
| Skolarus, 2010 [55] | University of Michigan Health System, Ann Arbor, MI, USA | PV <50 $cm^3$: 582 | Retrospective comparative study, level 4 | Not reported | | | – | | 19* | | – | | |
| | | PV 50–100 $cm^3$: 279 | | | | | | | 11* | | | | |
| | | PV >100 $cm^3$: 24 | | | | | | | 0 | | | | |
| Huang, 2011 [56] | Harvard Medical School, Boston, MA, USA | Prostate size 24–41 g: 221 | Prospective comparative study, level 3 | Not reported | 86 | 11 | 3 | – | 14 | | – | | |
| | | Prostate size 42–50 g: 240 | | | 80 | 13 | 6 | – | 15 | | | | |
| | | Prostate size 51–62 g: 240 | | | 85 | 11 | 4 | – | 14 | | | | |
| | | Prostate size >62 g: 239 | | | 86 | 10 | 3 | – | 10 | | | | |
| | | | | Prior surgery | | | | | | | | | |
| Ginzburg, 2010 [57] | Connecticut Health Center, Farmington, CT, USA | Prior abdominal surgery: 251 | Retrospective comparative study, level 4 | Not reported | 81 | 12 | 5 | 2 | 21 | 15 | 10 | | |
| | | No prior surgery: 588 | | | 80 | 16 | 3 | 1 | 27 | 22 | 20 | | |
| Huang, 2011 [56] | Harvard Medical School, Boston, MA, USA | Prior BPH surgery: 59 | Prospective comparative study, level 3 | Not reported | | | – | | 15 | | – | | |
| | | No prior BPH surgery: 892 | | | | | | | 13 | | | | |
| | | | | Presence of median lobe | | | | | | | | | |
| Huang, 2011 [56] | Harvard Medical School, Boston, MA, USA | Median lobe: 42 | Prospective comparative study, level 3 | Not reported | | | – | | 10 | | – | | |
| | | No median lobe: 909 | | | | | | | 14 | | | | |

BMI = body mass index; BPH = benign prostatic hyperplasia; PV = prostate volume.

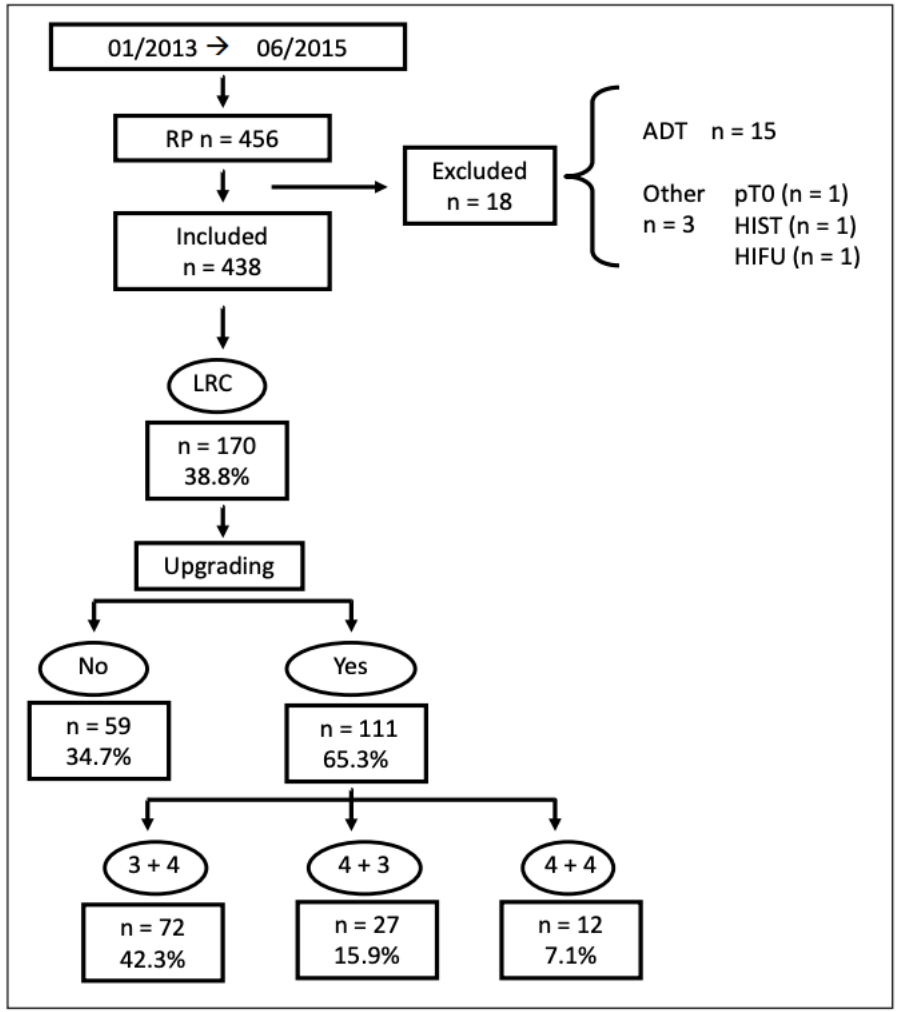
Eur Urol 2012 Sep;62(3):382-404

# Low-Risk Prostate Cancer and Tumor Upgrading in the Surgical Specimen: Analysis of Clinical Factors Predicting Tumor Upgrading in a Contemporary Series of Patients Who were Evaluated According to the Modified Gleason Score Grading System

Antonio B. Porcaro[a] Salvatore Siracusano[a] Nicolò de Luyk[a] Paolo Corsi[a]
Marco Sebben[a] Alessandro Tafuri[a] Daniele Mattevi[a] Leonardo Bizzotto[a]
Irene Tamanini[a] Maria A. Cerruto[a] Guido Martignoni[b] Matteo Brunelli[b]
Walter Artibani[a]

[a]Urologic Clinic; [b]Department of Patholog, University Hospital, Ospedale Policlinico, Azienda Ospedaliera Universitaria Integrata, Verona, Italy

- There were 170 cases (38.8%) of low-risk PCa and tumors were upgraded in 111 patients (65.3%).
- Only prostate specific antigen (PSA) and the proportion of positive cores (P+) were independent predictors of tumor upgrading.




Curr Urol. 2017 Aug;10(3):118-125.

# USING THE PERCENTAGE OF BIOPSY CORES POSITIVE FOR CANCER, PRETREATMENT PSA, AND HIGHEST BIOPSY GLEASON SUM TO PREDICT PATHOLOGIC STAGE AFTER RADICAL PROSTATECTOMY: THE CENTER FOR PROSTATE DISEASE RESEARCH NOMOGRAMS

KEVIN J. GANCARCZYK, HONGYU WU, DAVID G. McLEOD, CHRISTOPHER KANE, LEO KUSUDA, RAYMOND LANCE, JUDY HERRING, JOHN FOLEY, DALTON BALDWIN, JAY T. BISHOFF, DOUGLAS SODERDAHL, AND JUDD W. MOUL

**TABLE VI.** ***Reduced logistic regression analysis to predict pathologic outcome***

| | Odds Ratio | 95% CI | *P* Value |
|---|---|---|---|
| PSA (ng/mL) | | | <0.0001 |
| ≤4 | 1.00 | | |
| >4–10 | 0.60 | 0.44–0.82 | |
| >10–20 | 0.35 | 0.24–0.51 | |
| Biopsy Gleason sum | | | <0.0001 |
| 2–4 | 1.00 | | |
| 5–6 | 0.71 | 0.54–0.94 | |
| 7 | 0.45 | 0.32–0.62 | |
| 8–10 | 0.30 | 0.18–0.48 | |
| Percent positive cores | | | 0.0065 |
| <30 | 1.00 | | |
| 30–59 | 0.84 | 0.67–1.05 | |
| ≥60 | 0.59 | 0.43–0.82 | |

KEY: *CI = confidence interval; PSA = prostate-specific antigen.*

example using the CPDR nomograms:

- 62-year-old man
- PSA of 4.1 ng/mL
- biopsy Gleason sum 6, with at least 60% of his biopsy cores positive (at least 6 of 10 total cores)
- Probability:
  - OC disease 52%
  - Cap 39%
  - SV 5%
  - N 5%.

Urology 2003 Mar;61(3):589-95

Urological Oncology

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# Prediction of pathological stage based on clinical stage, serum prostate-specific antigen, and biopsy Gleason score: Partin Tables in the contemporary era

Jeffrey J. Tosoian, Meera Chappidi, Zhaoyong Feng, Elizabeth B. Humphreys, Misop Han, Christian P. Pavlovich, Jonathan I. Epstein, Alan W. Partin and Bruce J. Trock

*The James Buchanan Brady Urological Institute and Department of Urology at the Johns Hopkins University School of Medicine, Baltimore, MD, USA*

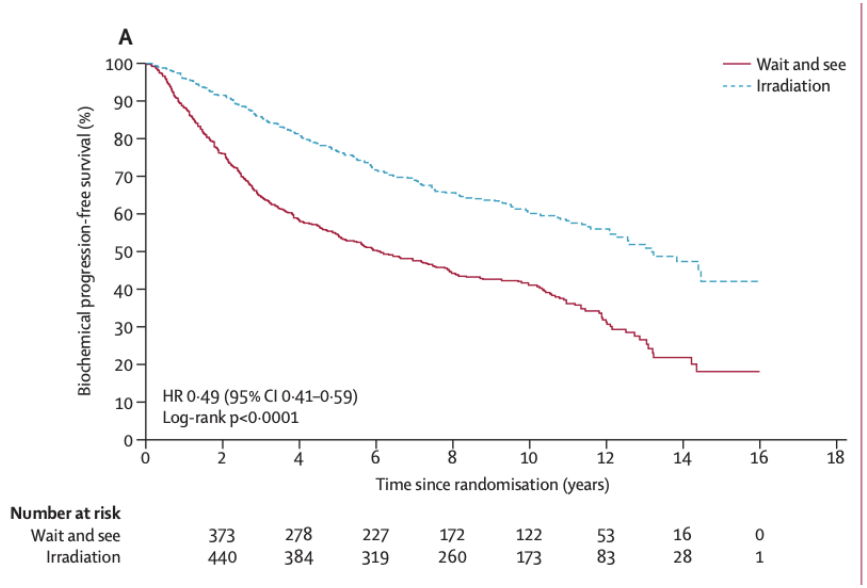
BJU 2017 May;119(5):676-683

| Clinical stage and PSA | Pathological stage (*n*) | Biopsy Gleason score | | | |
|---|---|---|---|---|---|
| | | 6 (GG1) | 3 + 4 = 7 (GG2) | 4 + 3 = 7 or 8 (GG3–4) | 9–10 (GG5) |
| T1c (*n* = 3514) | | | | | |
| 0–4.0 | OC (928) | 92 (90–93) | 77 (74–80) | 67 (62–72) | 50 (41–57) |
| | ECE (132) | 8 (6–9) | 20 (17–23) | 24 (21–28) | 31 (24–39) |
| | SV+ (23) | 1 (0–1) | 2 (1–3) | 7 (4–10) | 13 (7–20) |
| | LN+ (5) | 0 (0–0) | 1 (0–1) | 2 (1–4) | 6 (3–11) |
| 4.1–6.0 | OC (1055) | 90 (89–92) | 74 (71–77) | 64 (60–68) | 47 (39–55) |
| | ECE (215) | 9 (7–10) | 23 (20–26) | 28 (24–31) | 35 (27–42) |
| | SV+ (32) | 1 (0–1) | 2 (1–3) | 6 (4–9) | 12 (8–19) |
| | LN+ (12) | 0 (0–0) | 1 (0–1) | 2 (1–4) | 5 (2–9) |
| 6.1–10.0 | OC (591) | 87 (85–89) | 67 (63–71) | 53 (49–58) | 35 (28–44) |
| | ECE (182) | 12 (10–14) | 28 (24–31) | 32 (27–36) | 36 (28–44) |
| | SV+ (37) | 1 (1–2) | 4 (2–6) | 11 (8–15) | 19 (12–27) |
| | LN+ (12) | 0 (0–1) | 1 (0–2) | 4 (2–6) | 9 (5–15) |
| >10.0 | OC (165) | 80 (75–84) | 52 (46–58) | 35 (30–41) | 19 (13–26) |
| | ECE (83) | 17 (13–20) | 34 (29–40) | 33 (27–39) | 30 (22–40) |
| | SV+ (24) | 3 (1–4) | 8 (5–12) | 20 (14–27) | 28 (18–38) |
| | LN+ (18) | 1 (0–2) | 5 (3–8) | 11 (7–17) | 22 (13–34) |
| T2a (*n* = 651) | | | | | |
| 0–4.0 | OC (188) | 88 (86–91) | 70 (65–74) | 58 (53–64) | 41 (32–50) |
| | ECE (59) | 11 (9–13) | 27 (22–31) | 31 (26–36) | 38 (29–48) |
| | SV+ (5) | 1 (0–1) | 2 (1–4) | 7 (4–11) | 13 (7–21) |
| | LN+ (6) | 0 (0–0) | 1 (0–2) | 3 (1–6) | 7 (3–15) |
| 4.1–6.0 | OC (124) | 87 (83–89) | 66 (62–71) | 55 (50–61) | 38 (30–48) |
| | ECE (60) | 12 (10–15) | 30 (25–35) | 35 (30–40) | 42 (33–51) |
| | SV+ (6) | 1 (0–1) | 2 (1–4) | 7 (4–10) | 12 (7–20) |
| | LN+ (3) | 0 (0–0) | 1 (0–2) | 3 (1–5) | 6 (3–12) |
| 6.1–10.0 | OC (94) | 82 (78–86) | 58 (52–64) | 45 (39–51) | 28 (21–37) |
| | ECE (38) | 16 (13–20) | 36 (30–42) | 39 (33–45) | 42 (33–53) |
| | SV+ (11) | 1 (1–2) | 4 (2–6) | 11 (7–16) | 18 (11–29) |
| | LN+ (2) | 0 (0–1) | 2 (1–3) | 4 (2–8) | 10 (5–18) |
| >10.0 | OC (23) | 73 (67–79) | 43 (36–50) | 28 (22–35) | 14 (9–21) |
| | ECE (18) | 22 (17–28) | 42 (35–49) | 39 (31–47) | 34 (24–46) |
| | SV+ (10) | 3 (1–6) | 9 (5–13) | 20 (12–28) | 26 (15–39) |
| | LN+ (4) | 1 (0–3) | 6 (2–11) | 13 (6–21) | 24 (12–38) |
| T2b/c (*n* = 294) | | | | | |
| 0–4.0 | OC (46) | 79 (73–83) | 52 (44–58) | 37 (30–44) | 21 (15–28) |
| | ECE (35) | 19 (15–25) | 40 (32–47) | 40 (33–48) | 40 (30–51) |
| | SV+ (7) | 1 (1–2) | 5 (3–7) | 12 (7–18) | 18 (10–27) |
| | LN+ (6) | 1 (0–2) | 4 (2–7) | 10 (5–16) | 21 (11–33) |
| 4.1–6.0 | OC (36) | 76 (69–81) | 48 (41–55) | 35 (28–42) | 20 (14–27) |
| | ECE (30) | 22 (17–28) | 44 (37–51) | 44 (37–52) | 44 (34–54) |
| | SV+ (7) | 1 (1–2) | 4 (2–7) | 11 (7–17) | 17 (10–26) |
| | LN+ (4) | 0 (0–2) | 4 (2–7) | 9 (5–15) | 19 (10–29) |
| 6.1–10.0 | OC (20) | 69 (61–75) | 38 (31–45) | 25 (19–31) | 13 (8–18) |
| | ECE (32) | 27 (21–34) | 48 (40–56) | 44 (36–51) | 38 (28–49) |
| | SV+ (7) | 3 (1–5) | 7 (4–12) | 17 (11–24) | 22 (13–33) |
| | LN+ (12) | 1 (0–4) | 6 (3–12) | 14 (8–22) | 26 (15–40) |
| >10.0 | OC (8) | 54 (45–63) | 23 (17–29) | 12 (8–16) | 5 (3–8) |
| | ECE (14) | 34 (26–42) | 46 (37–55) | 33 (25–43) | 23 (16–34) |
| | SV+ (13) | 6 (3–10) | 12 (7–20) | 22 (14–32) | 23 (14–36) |
| | LN+ (17) | 5 (1–14) | 18 (9–30) | 32 (21–44) | 48 (32–62) |

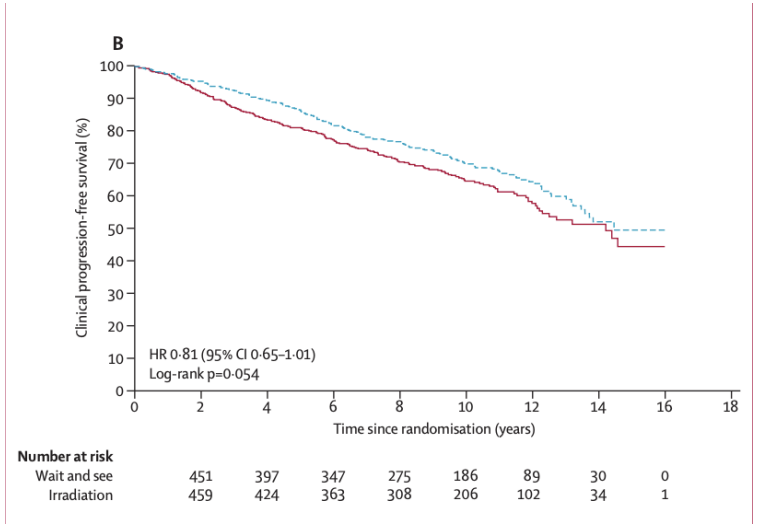
# Postoperative radiotherapy after radical prostatectomy for high-risk prostate cancer: long-term results of a randomised controlled trial (EORTC trial 22911)

*Michel Bolla, Hein van Poppel, Bertrand Tombal, Kris Vekemans, Luigi Da Pozzo, Theo M de Reijke, Antony Verbaeys, Jean-François Bosset, Roland van Velthoven, Marc Colombel, Cees van de Beek, Paul Verhagen, Alphonsus van den Bergh, Cora Sternberg, Thomas Gasser, Geertjan van Tienhoven, Pierre Scalliet, Karin Haustermans, Laurence Collette, for the European Organisation for Research and Treatment of Cancer, Radiation Oncology and Genito-Urinary Groups*

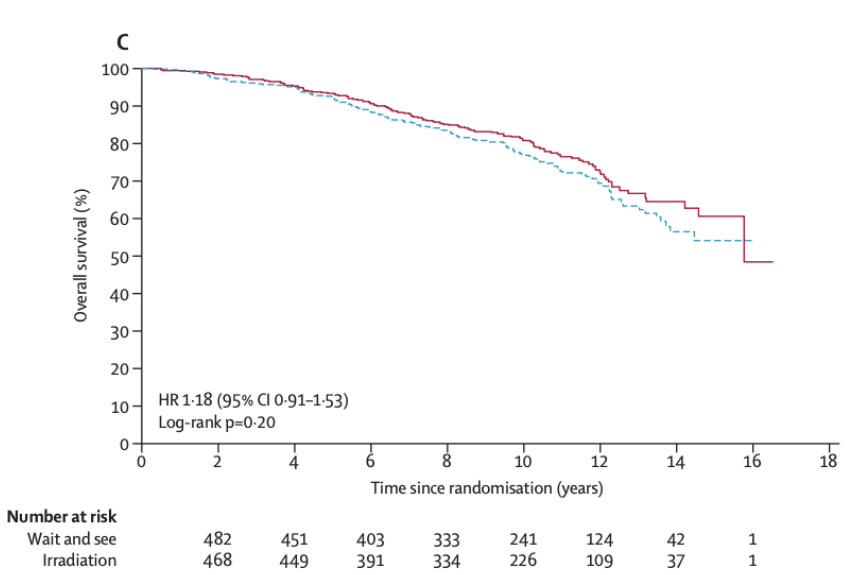
Lancet. 2012 Dec 8;380(9858):2018-27




Biochemical progression-free survival; total number of events (biochemical progression, clinical progression, or death) was 198 of 502 patients who received immediate irradiation compared with 311 of 503 patients on the wait-and-see policy




Clinical progression-free survival; total number of events (clinical progression or death) was 157 of 502 patients who received immediate irradiation compared with 181 of 503 patients on the wait-and-see policy.

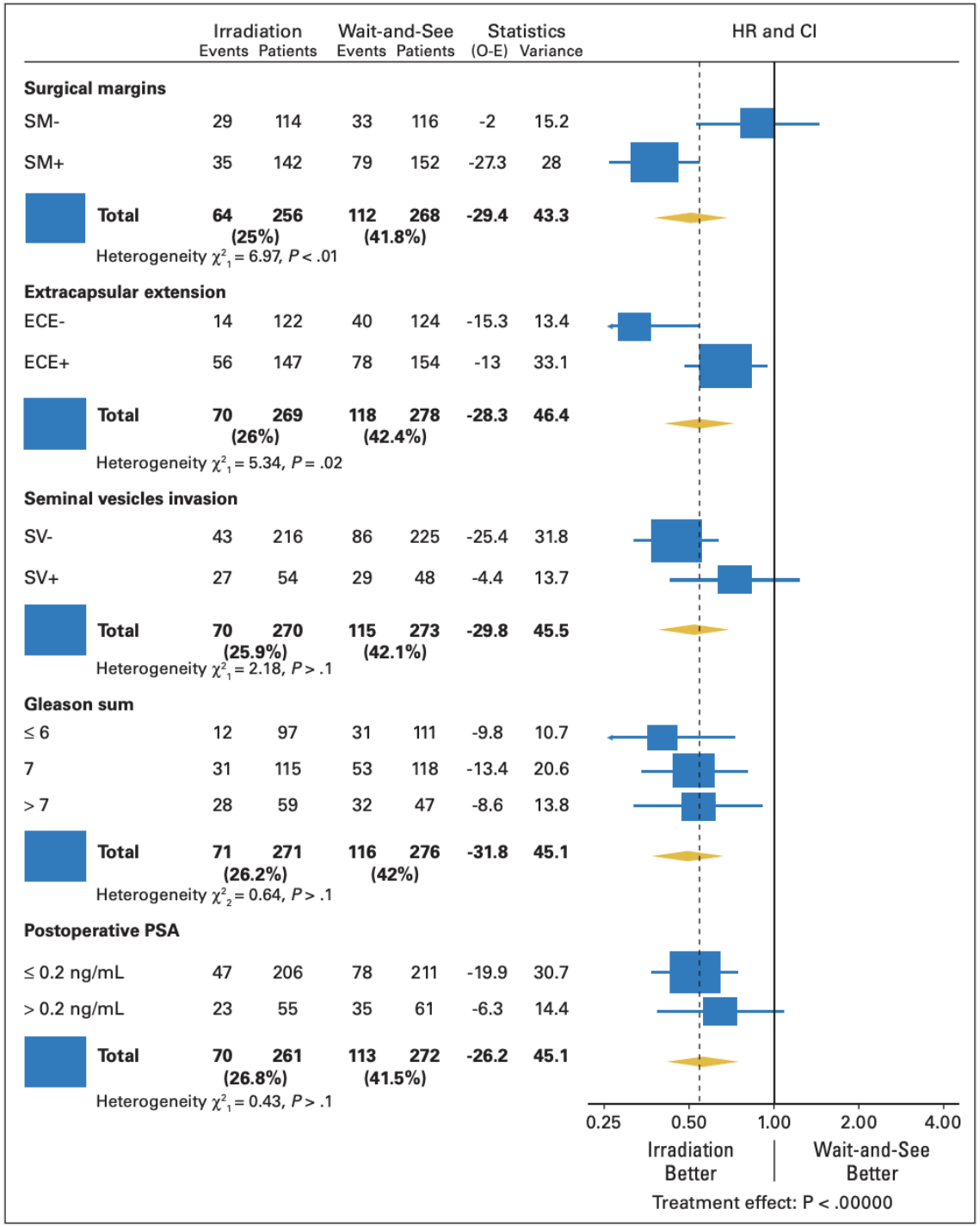



Overall survival; total number of events (death) was 130 of 502 patients who received immediate irradiation compared with 115 of 503 patients on the wait-and-see policy. HR=hazard ratio.

# Identification of Patients With Prostate Cancer Who Benefit From Immediate Postoperative Radiotherapy: EORTC 22911

*Theodorus H. Van der Kwast, Michel Bolla, Hein Van Poppel, Paul Van Cangh, Kris Vekemans, Luigi Da Pozzo, Jean-Francois Bosset, Karl H. Kurth, Fritz H. Schröder, and Laurence Collette*

- Margin status assessed by review pathology was the strongest predictor of prolonged biochemical disease-free survival with immediate postoperative radiotherapy (heterogeneity, P .01)
- by year 5, immediate postoperative irradiation could prevent 291 events/1,000 patients with positive margins versus 88 events/1,000 patients with negative margins.
- The hazard ratio for immediate irradiation was 0.38 (95% CI, 0.26 to 0.54) and 0.88 (95% CI, 0.53 to 1.46) in the groups with positive and negative margins, respectively




J Clin Oncol. 2007 Sep 20;25(27):4178-86

# The Impact of Solitary and Multiple Positive Surgical Margins on Hard Clinical End Points in 1712 Adjuvant Treatment–Naive pT2–4 N0 Radical Prostatectomy Patients

*Julian Mauermann*[a], *Vincent Fradet*[a], *Louis Lacombe*[a], *Thierry Dujardin*[a], *Rabi Tiguert*[a], *Bernard Tetu*[b], *Yves Fradet*[a,*]

[a] *Department of Surgery (Urology), Centre Hospitalier Universitaire de Québec (CHUQ), Laval University, Quebec City, QC, Canada;* [b] *Department of Pathology, Centre Hospitalier Universitaire de Québec (CHUQ), Laval University, Quebec City, QC, Canada*

- Ten-year Kaplan-Meier estimates for BCR-free survival were 82% for margin-negative patients, 72% for patients with sPSMs, and 59% for patients with mPSMs (p<0.0001).
- Time to metastatic disease, CRPC, PCa-specific mortality (PCSM), or all-cause mortality did not differ significantly among the three groups (p=0.991, p=0.988, p=0.889, and p=0.218, respectively).
- On multivariable analysis, sPSMs and mPSMs were associated with BCR (hazard ratio [HR]: 1.711; p=0.001 and HR: 2.075; p<0.0001), but sPSMs and mPSMs could not predict metastatic disease (p=0.705 and p=0.242), CRPC (p=0.705 and p=0.224), PCSM (p=0.972 and p=0.260), or all-cause death (p=0.102 and p=0.067).

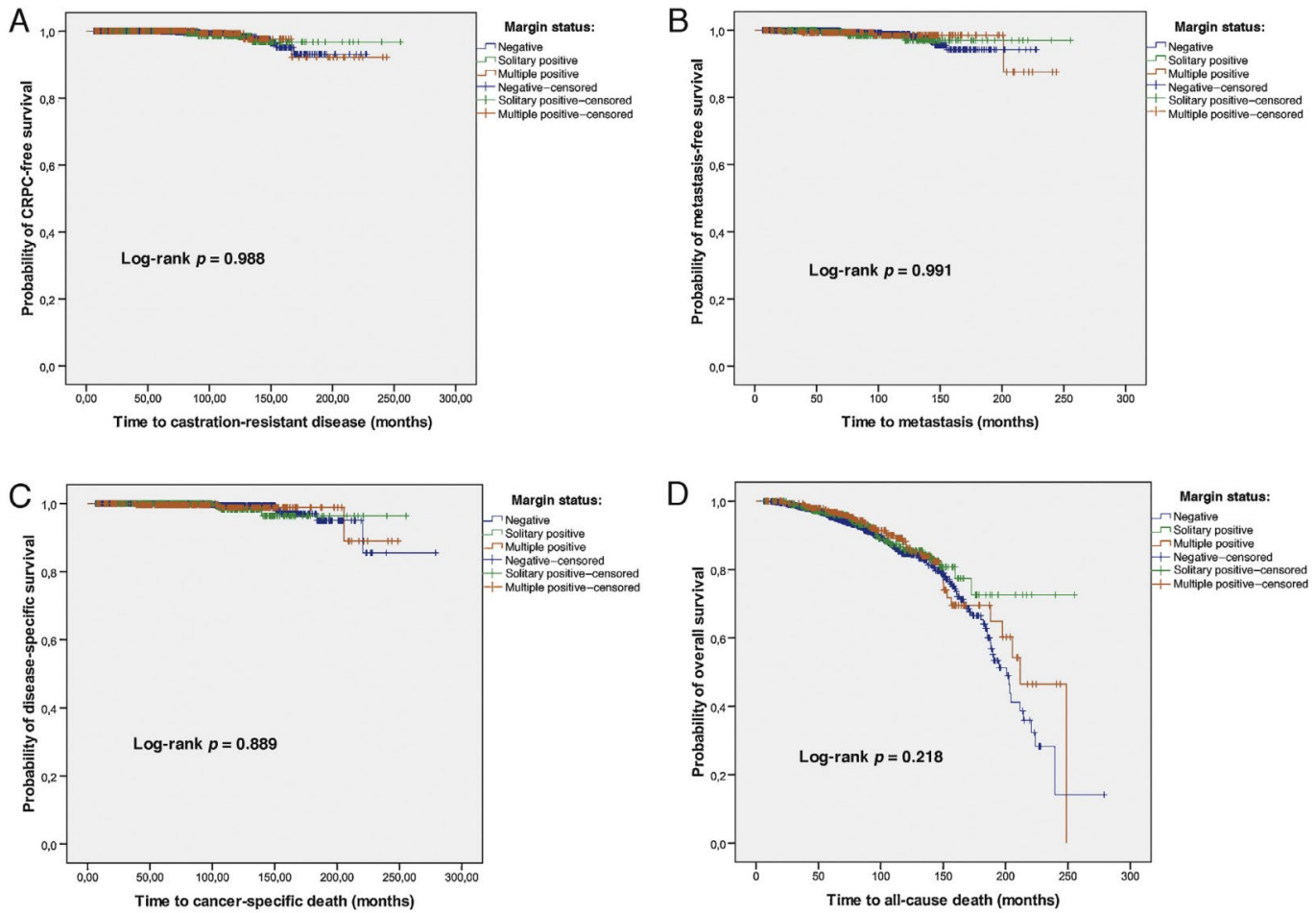



**Fig. 2 – Kaplan-Meier analysis for (A) time to castration-resistant prostate cancer (CRPC), (B) time to metastatic disease, (C) time to cancer-specific death, and (D) time to all-cause death, stratified by margin status.**

Eur Urol. 2013 Jul;64(1):19-25

Platinum Priority – Prostate Cancer
*Editorial by Michel Bolla on pp. 552–553 of this issue*

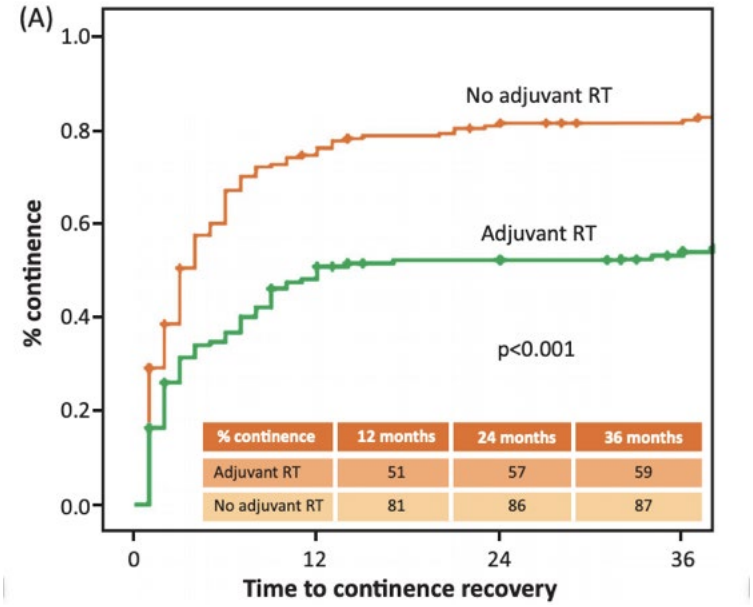
# Impact of Adjuvant Radiation Therapy on Urinary Continence Recovery After Radical Prostatectomy

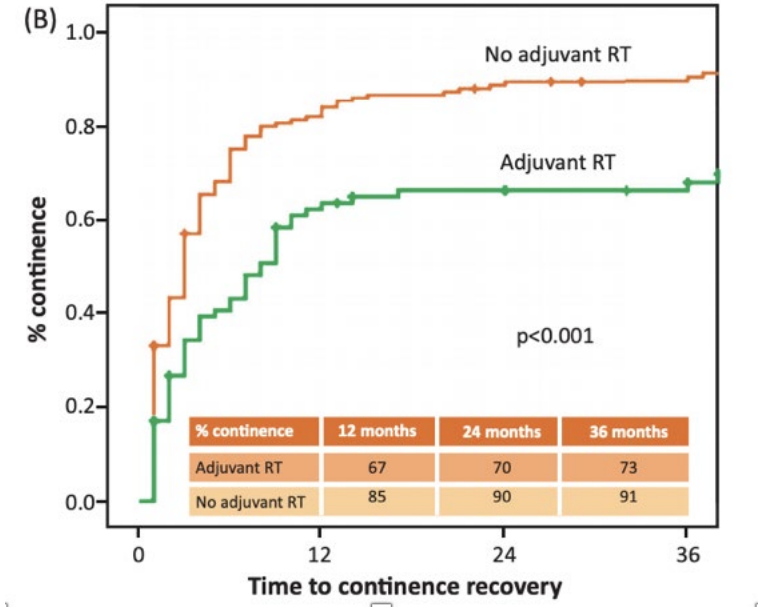
***Nazareno Suardi* *, Andrea Gallina, Giuliana Lista, Giorgio Gandaglia, Firas Abdollah, Umberto Capitanio, Paolo Dell'Oglio, Alessandro Nini, Andrea Salonia, Francesco Montorsi, Alberto Briganti***

*Department of Urology, Urological Research Institute, University Vita-Salute San Raffaele, Milan, Italy*

The 1- and 3-yr UC recovery was 51% and 59% for patients submitted to aRT versus 81% and 87% for patients not receiving aRT, respectively (p<0.001).

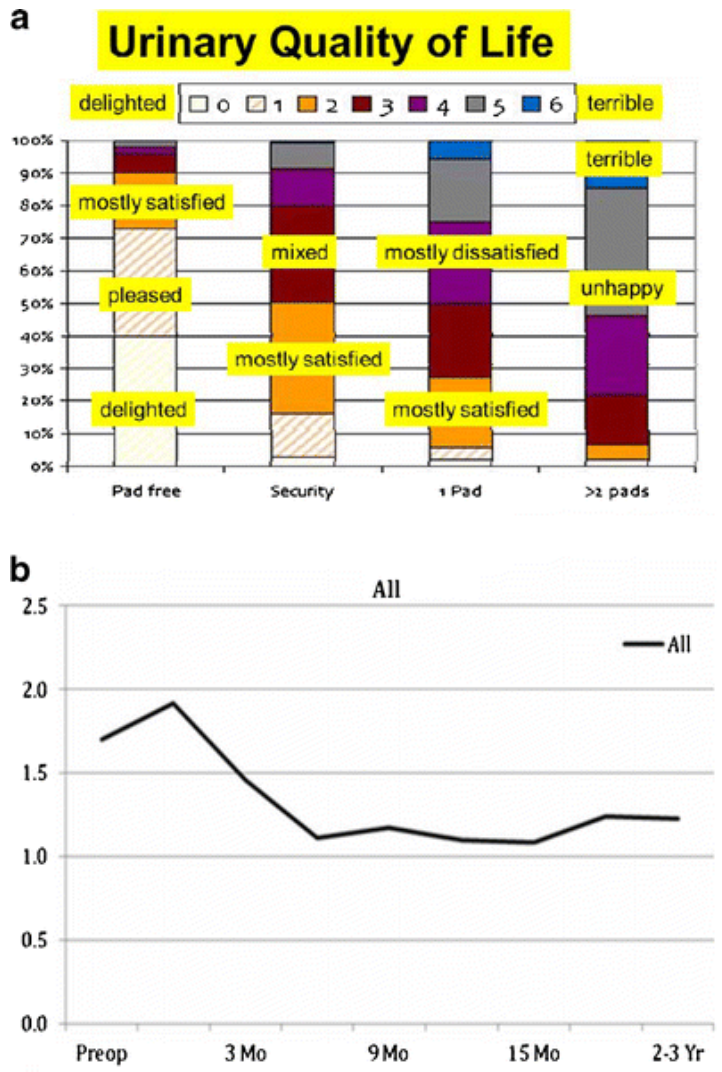
Patients treated with aRT had a 1.6-fold higher risk of incontinence




Eur Urol 2014 Mar;65(3):546-51.

Continence definition after radical prostatectomy using urinary quality of life: evaluation of patient reported validated questionnaires.




J Urol. 2010 Apr;183(4):1464-8

# Systematic Review and Meta-analysis of Studies Reporting Urinary Continence Recovery After Robot-assisted Radical Prostatectomy

*Vincenzo Ficarra*[a,b,*], *Giacomo Novara*[a], *Raymond C. Rosen*[c], *Walter Artibani*[d], *Peter R. Carroll*[e], *Anthony Costello*[f], *Mani Menon*[g], *Francesco Montorsi*[h], *Vipul R. Patel*[i], *Jens-Uwe Stolzenburg*[j], *Henk Van der Poel*[k], *Timothy G. Wilson*[l], *Filiberto Zattoni*[a], *Alexandre Mottrie*[b]

**Table 1 – Urinary continence rates reported in the robot-assisted radical prostatectomy series including <100 cases and published between 2008 and 2011**

| First author | Cases | Study design | Continence definition | Data collection | Urinary continence rates, % | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | 3 mo | 6 mo | 12 mo | 24–36 mo |
| Finley, 2009 [13] | 666 | Prospective case series | 0 pad | Validated questionnaire | 69 | – | – | – |
| Lee, 2010 [14] | 107 | Prospective case series | 0 pad | Not reported | – | – | 91 | – |
| Novara, 2010 [15] | 308 | Prospective case series | 0 pad | Validated questionnaire | – | – | 90 | – |
| Shikanov, 2010 [16] | 1436 | Prospective case series | 0 pad | Validated questionnaire | – | – | 69 | – |
| Martin, 2011 [17] | 315 | Prospective case series | 0 pad | Validated questionnaire | – | – | 78 | – |
| Patel, 2011 [18] | 1111 | Prospective case series | 0 pad | Validated questionnaire | 86 | 94 | 96 | – |
| Xylinas, 2011 [19] | 500 | Prospective case series | 0 | Validated questionnaire | – | – | 78 | 88 |
| Analyses | 4442 | All | 0 | All | 78 (69–86) | 94 | 84 (69–96) | 88 |
| Park, 2008 [20] | 200 | Unclear | Unclear | Unclear | – | 97 | – | – |
| Link, 2008 [21] | 1847 | Prospective case series | 0–1 safety pad | Interview | – | – | 92.5 | – |
| Greco, 2009 [22] | 180 | Prospective case series | 0–1 safety pad | Institutional questionnaire | 65 | 79 | 89 | – |
| Murphy, 2009 [23] | 400 | Prospective case series | 0–1 safety pad | Unclear | – | – | 91 | 95 |
| Samadi, 2010 [24] | 1181 | Prospective case series | 0–1 safety pad | Not reported | – | – | 91.3 | – |
| Analyses | 3808 | All | 0–1 safety pad or unclear | All | 65 | 88 (79–97) | 91 (89–92) | 95 |

All studies are level 4 evidence.

Eur Urol 2012 Sep;62(3):405-17.

# Pathophysiology and Contributing Factors in Postprostatectomy Incontinence: A Review

*John Heesakkers* [a], *Fawzy Farag* [b,*], *Ricarda M. Bauer* [c], *Jaspreet Sandhu* [d], *Dirk De Ridder* [e], *Arnulf Stenzl* [f]

| Factor | Positive impact | Negative impact | No effect | Study | LE |
|---|---|---|---|---|---|
| Age | | * | | Novara [50] | 3 |
| | | * | | Karakiewicz [51] | 3 |
| | | * | | Matsushita [52] | 3 |
| | | | * | Kadono [53] | 3 |
| | | | * | Catalona [54] | 3 |
| Pre-existing LUTS | | * | | Rodriguez [60] | 3 |
| Functional bladder changes | | * | | Lee [48] | 3 |
| | | * | | Dubbelman [71] | 3 |
| | | * | | Song [47] | 2b |
| TURP before RP | | * | | Elder [58] | 3 |
| | | | * | Palisaar [59] | 4 |
| Prostate size | | * | | Boczko [64] | 3 |
| | | * | | Konety [65] | 3 |
| | | | * | Kadono [53] | 3 |
| Membranous urethral length | * | | | Nguyen [67] | 2b |
| | * | | | Paparel [68] | 3 |
| | * | | | Matsushita [52] | 3 |
| | | | * | Borin [69] | 2b |
| | | | * | Hakimi [72] | 3 |
| Body mass index | | * | | Wolin [55] | 3 |
| | | * | | Wiltz [56] | 3 |
| | | * | | Matsushita [52] | 3 |
| | | | * | Kadono [53] | 3 |
| Salvage RP after RT | | * | | Chade [70] | |

LE = level of evidence; RP = radical prostatectomy; TURP = transurethral resection of prostate; RT = radiation therapy; LUTS = lower urinary tract symptoms.

| | Positive impact | Negative impact | No effect | Study | LE |
|---|---|---|---|---|---|
| Fibrosis | | * | | Paparel [68] | 3 |
| | | * | | Tuygun [28] | 3 |
| Stricture | | * | | Sacco [29] | |
| Extensive dissection | | * | | Srivastava [73] | 3 |
| Bladder neck sparing | * | | | Stolzenburg [5] | 3 |
| | * | | | Selli [7] | 3 |
| | | | * | Marien [41] | 4 |
| Rocco stitch | * | | | Rocco [19] | 2a |
| | | | * | Kim [21] | 3 |
| Anterior fixation | * | | | Hurtes [16] | 1b |
| | * | | | Stolzenburg [17] | 2a |
| | * | | | Schlomm [18] | 2b |
| | * | | | Soljanik [6] | 3 |
| Laxity of the posterior support | | * | | Bauer [74] | 2b |
| | | * | | Rehder [75] | 2b |
| | | | * | Suskind [27] | 3 |
| Neurovascular bundle damage | | * | | Montorsi [45] | 2b |
| | | * | | Catarin [37] | 2a |
| | | * | | Ozdemir [38] | 3 |
| | | * | | Kaye [39] | 3 |
| | | * | | Sacco [29] | 3 |
| | | * | | Stolzenburg [17] | 2a |
| | | * | | Burkhard [40] | 2b |
| Devascularization | | * | | Ozdemir [38] | 3 |
| | | * | | Myers [76] | 4 |
| | | * | | Yucel [77] | 3 |

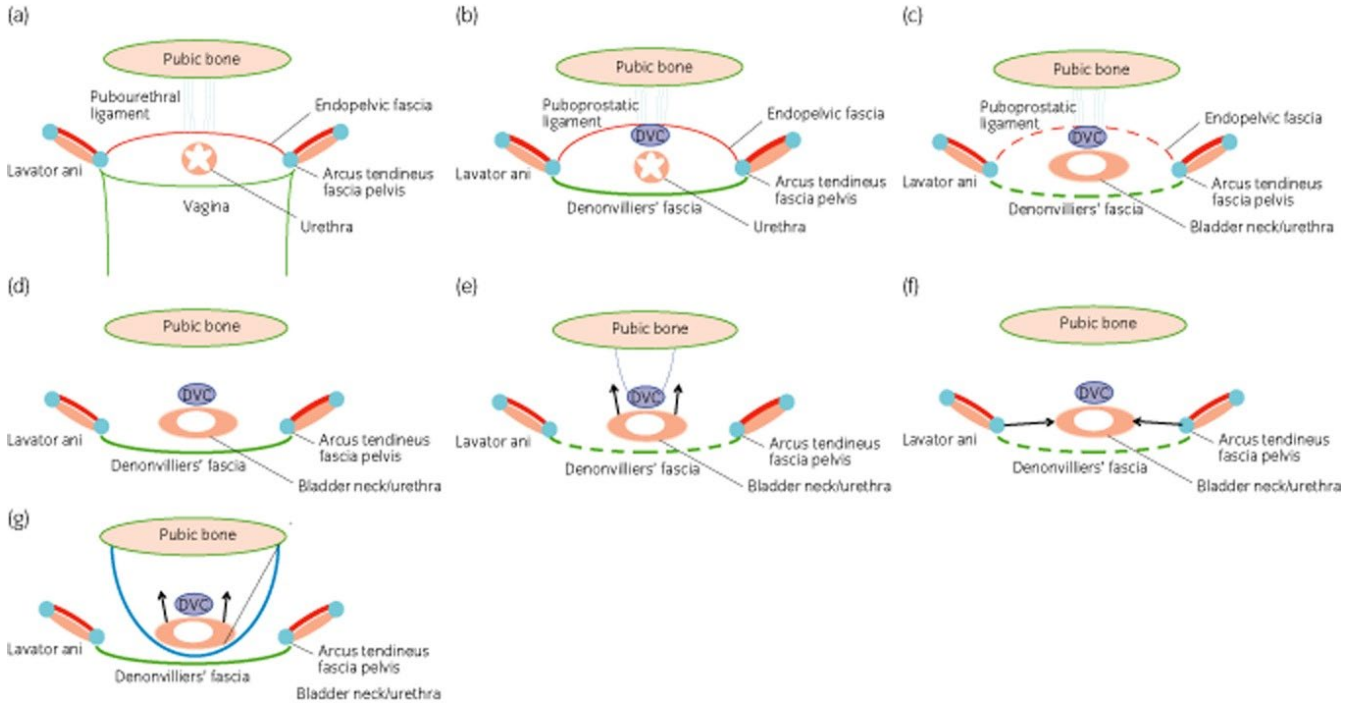
LE = level of evidence.

Eur Urol. 2017 Jun;71(6):936-944.

# Urinary incontinence after robot-assisted radical prostatectomy: Pathophysiology and intraoperative techniques to improve surgical outcome

Yoshiyuki Kojima,[1] Norio Takahashi,[1] Nobuhiro Haga,[1] Masanori Nomiya,[1] Tomohiko Yanagida,[1] Kei Ishibashi,[1] Ken Aikawa[1] and David I Lee[2]

[1]Department of Urology, Fukushima Medical University School of Medicine, Fukushima, Japan; and [2]Division of Urology, Penn Presbyterian Medical Center, University of Pennsylvania, Philadelphia, Pennsylvania, USA




Int J Urol 2013 Nov;20(11):1052-63.

# Urinary incontinence after robot-assisted radical prostatectomy: Pathophysiology and intraoperative techniques to improve surgical outcome

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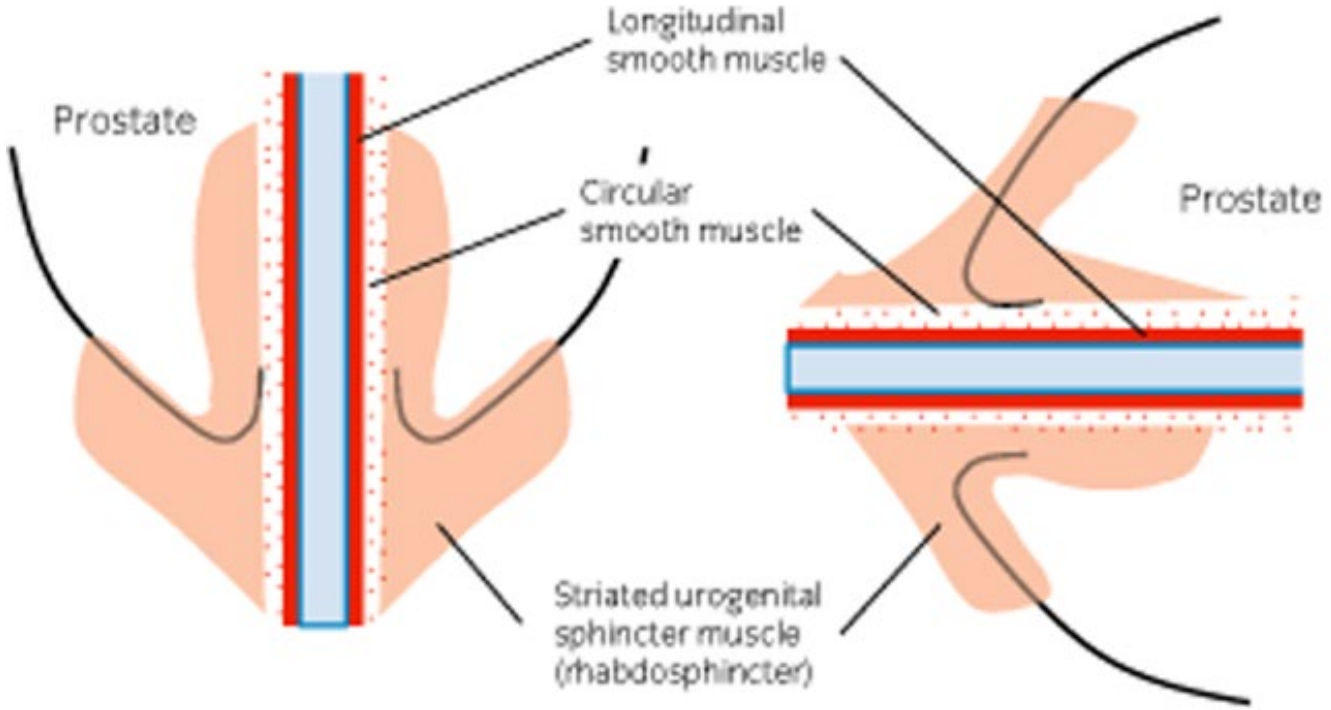
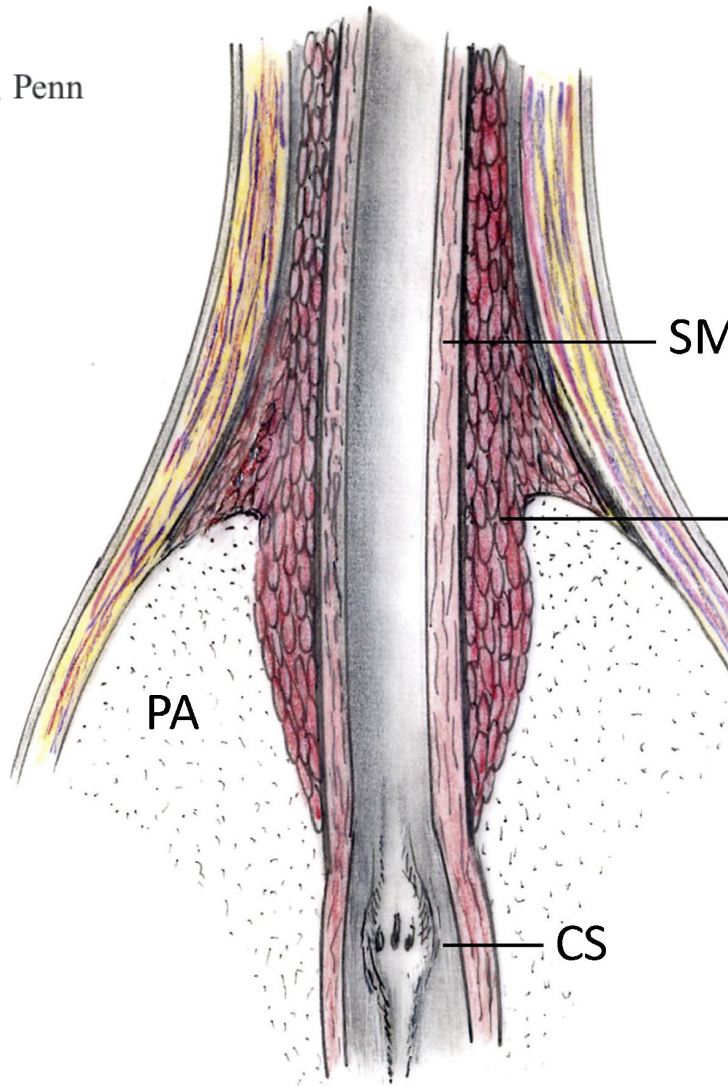
[1]Department of Urology, Fukushima Medical University School of Medicine, Fukushima, Japan; and [2]Division of Urology, Penn Presbyterian Medical Center, University of Pennsylvania, Philadelphia, Pennsylvania, USA




Int J Urol 2013 Nov;20(11):1052-63.

# Surgical Techniques to Optimize Early Urinary Continence Recovery Post Robot Assisted Radical Prostatectomy for Prostate Cancer

Ashwin N. Sridhar[1,2] · Mohammed Abozaid[1] · Prabhakar Rajan[1] · Prasanna Sooriakumaran[1,3] · Greg Shaw[1] · Senthil Nathan[1,2] · John D. Kelly[1,2] · Tim P Briggs[1]

| Surgical technique | Helps UC recovery | No effect | Maximum level of evidence |
|---|---|---|---|
| Bladder neck preservation | * | | 1a |
| NVB preservation | * | | 1b |
| Meticulous apical dissection | * | | 2b |
| Sparing of external sphincter | * | | 2b |
| Preservation of supporting structures | * | | 2b |
| Maximal preservation of urethral length | * | | 2b |
| Posterior reconstruction | * | | 1a |
| Total anatomical reconstruction | * | | 1b |
| Secure VU anastomosis | * | | 3 |
| Regenerative materials | * | | 2b |
| Autologous slings | | * | 1b |

Curr Urol Rep. 2017 Sep;18(9):71

# Recovery of Urinary Function After Radical Prostatectomy: Identification of Trajectory Cluster Groups

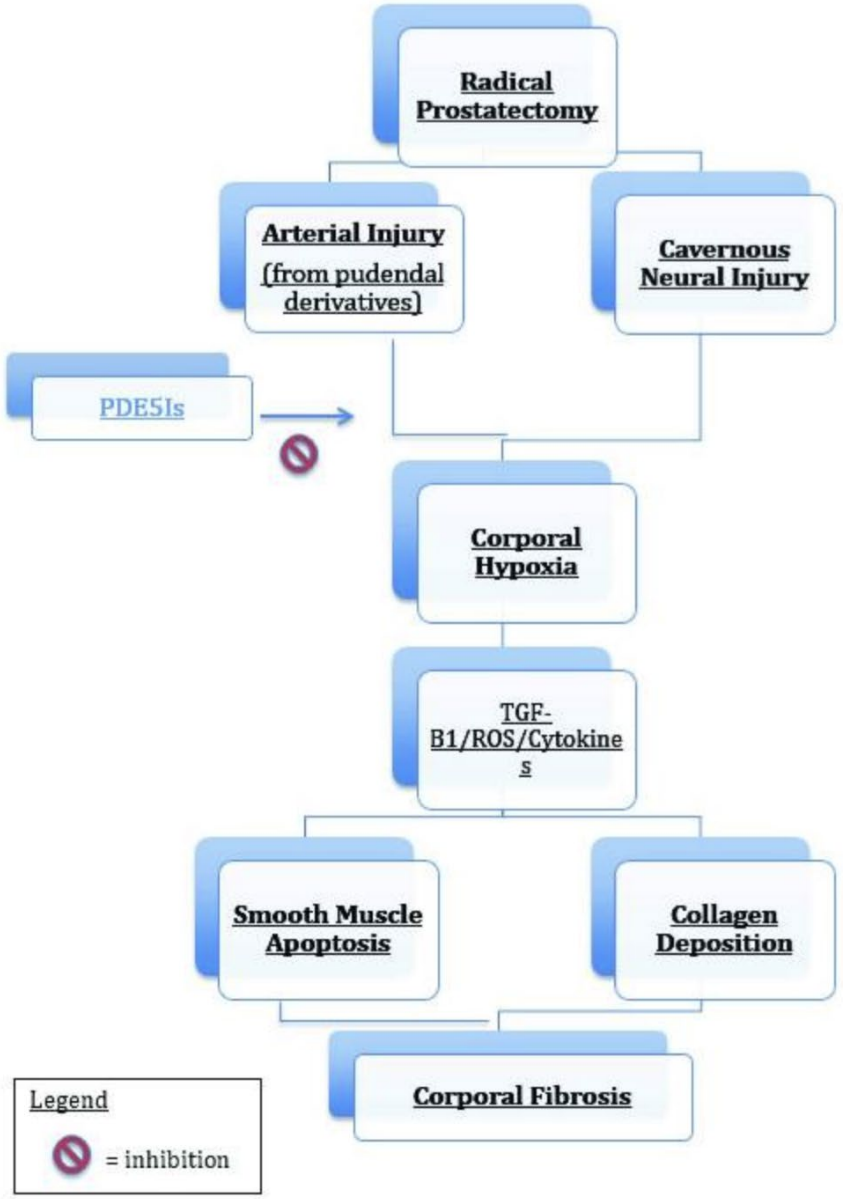
Christopher B. Anderson, Melissa R. Kaufman, Mary S. Dietrich, Daniel A. Barocas, Sam S. Chang, Michael S. Cookson, Joseph A. Smith, Peter E. Clark, and S. Duke Herrell

**Table 2. Adjusted multiple logistic regression analysis of likelihood of being in poor group vs other 2 groups**

| | OR (95% CI) | p Value |
|---|---|---|
| Age | 1.07 (1.03–1.12) | 0.001 |
| No. medical comorbidities | 2.10 (1.50–2.96) | <0.001 |
| Past or current smoker | 0.76 (0.442–1.32) | 0.331 |
| PSA | 0.99 (0.95–1.05) | 0.883 |
| Prostate vol | 1.01 (0.99–1.02) | 0.128 |

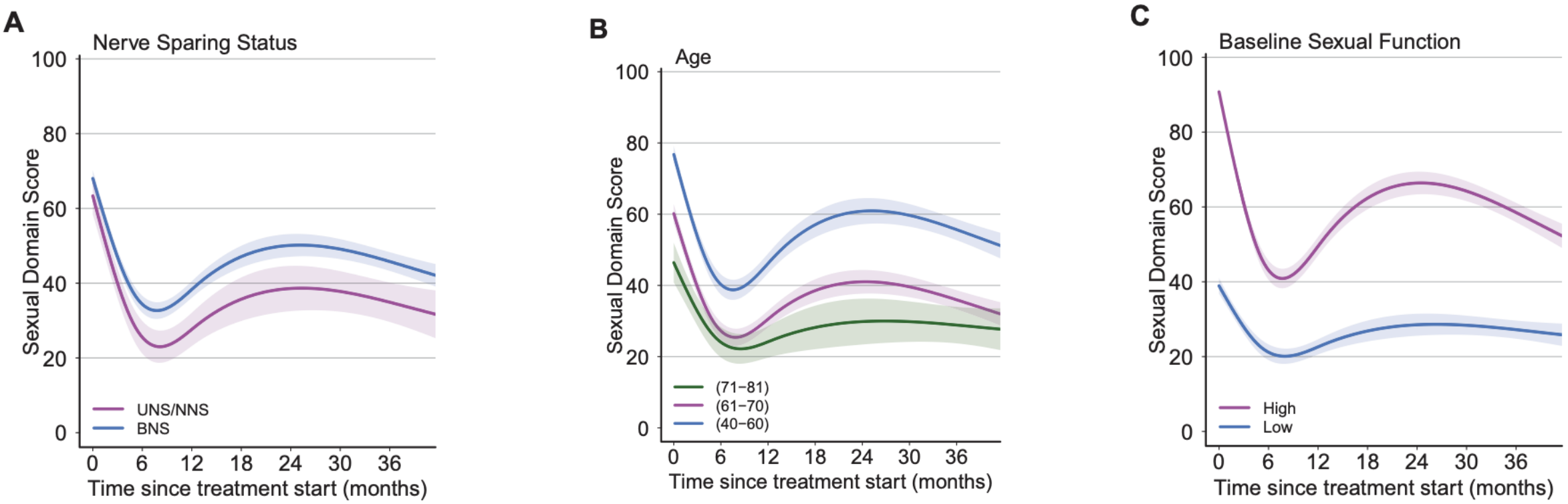
J Urol 2012 Apr;187(4):1346-51

# Στυτική δυσλειτουργία μετά από ριζική προστατεκτομή



# The Effect of Nerve Sparing Status on Sexual and Urinary Function: 3-Year Results from the CEASAR Study

Svetlana Avulova,* Zhiguo Zhao, Daniel Lee, Li-Ching Huang, Tatsuki Koyama, Karen E. Hoffman, Ralph M. Conwill, Xiao-Cheng Wu, Vivien Chen, Matthew R. Cooperberg, Michael Goodman, Sheldon Greenfield, Ann S. Hamilton, Mia Hashibe, Lisa E. Paddock, Antoinette Stroup, Matthew J. Resnick, David F. Penson and Daniel A. Barocas†




Unadjusted trajectory plots of sexual function (A to C) and urinary incontinence (D to F ) EPIC-26 domain scores as function of time stratified by degree of NS, age and baseline sexual function.

J Urol 2018 May;199(5):1202-1209

# A Critical Analysis of the Current Knowledge of Surgical Anatomy of the Prostate Related to Optimisation of Cancer Control and Preservation of Continence and Erection in Candidates for Radical Prostatectomy: An Update

*Jochen Walz*[a,*], *Jonathan I. Epstein*[b], *Roman Ganzer*[c], *Markus Graefen*[d], *Giorgio Guazzoni*[e], *Jihad Kaouk*[f], *Mani Menon*[g], *Alexandre Mottrie*[h], *Robert P. Myers*[i], *Vipul Patel*[j], *Ashutosh Tewari*[k], *Arnauld Villers*[l], *Walter Artibani*[m]

**Table 1 – Overview of the different dissection planes for nerve sparing during radical prostatectomy and their influence on safety margin and nerve-sparing quality**

| Author | Dissection plane | | | | |
|---|---|---|---|---|---|
| | Safety margin to avoid PSM | | | | |
| | Low | ← | | → | High |
| | Nerve-sparing quality | | | | |
| | Good | ← | | → | Poor |
| Previous article Walz et al [1] | Intrafascial | | Interfascial | | Extrafascial |
| Pasadena consensus, Montorsi et al [44] | Full nerve sparing | | Partial nerve sparing | Minimal nerve sparing | NA |
| Tewari et al [40] | Grade 1 | | Grade 2 | Grade 3 | Grade 4 |
| Schatloff et al [50] | Grade 5 | Grade 4 | Grade 3 | Grade 2 | Grade 1 |

NA = not applicable; PSM = positive surgical margin.

Eur Urol 2016 Aug;70(2):301-11

# The Risks and Benefits of Cavernous Neurovascular Bundle Sparing during Radical Prostatectomy: A Systematic Review and Meta-Analysis

Laura N. Nguyen, Linden Head, Kelsey Witiuk, Nahid Punjani, Ranjeeta Mallick, Sonya Cnossen, Dean A. Fergusson, Ilias Cagiannos, Luke T. Lavallée,* Christopher Morash and Rodney H. Breau†

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Nerve sparing did not increase the risk of positive surgical margins in patients with pT2 (RR 0.92, 95% CI 0.75–1.13) or pT3 disease (RR 0.83, 95% CI 0.71–0.96), **potentially due to appropriate patient selection.**

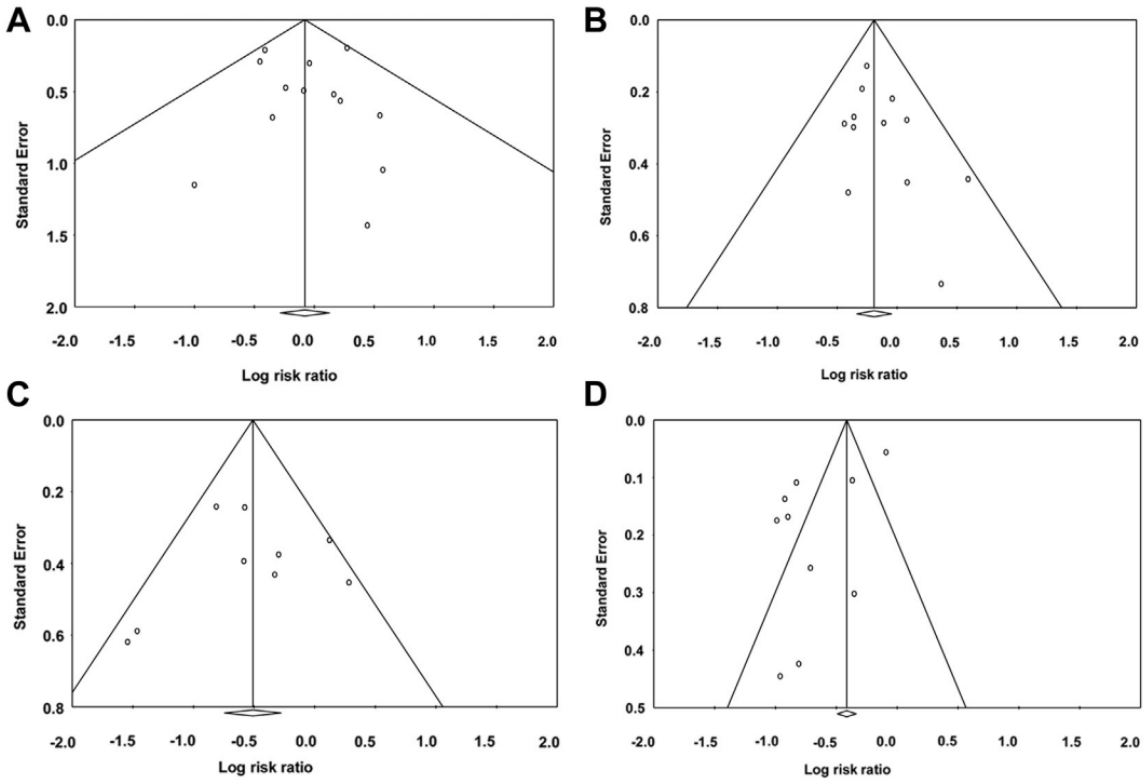


**Figure 2.** Funnel plot of standard error vs log risk ratio for positive surgical margins in patients with organ confined (pT2) disease (*A*), positive surgical margins in patients with extraprostatic (pT3) disease (*B*), urinary incontinence at 12 months (*C*) and erectile dysfunction at 12 months (*D*).

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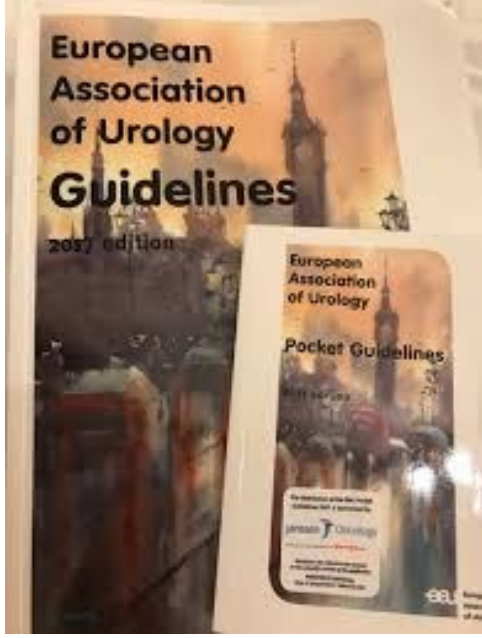
# NERVE SPARING RADICAL PROSTATECTOMY




| | |
|---|---|
| Do not perform nerve sparing surgery when there is a risk of extracapsular extension (based on cT stage, Gleason score, nomogram, multiparametric magnetic resonance imaging). | Strong |

Urological Oncology

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# Prediction of pathological stage based on clinical stage, serum prostate-specific antigen, and biopsy Gleason score: Partin Tables in the contemporary era

Jeffrey J. Tosoian, Meera Chappidi, Zhaoyong Feng, Elizabeth B. Humphreys, Misop Han, Christian P. Pavlovich, Jonathan I. Epstein, Alan W. Partin and Bruce J. Trock

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BJU Int 2017 May;119(5):676-683

| Clinical stage and PSA | Pathological stage (*n*) | Biopsy Gleason score | | | |
|---|---|---|---|---|---|
| | | 6 (GG1) | 3 + 4 = 7 (GG2) | 4 + 3 = 7 or 8 (GG3–4) | 9–10 (GG5) |
| T1c (*n* = 3514) | | | | | |
| 0–4.0 | OC (928) | 92 (90–93) | 77 (74–80) | 67 (62–72) | 50 (41–57) |
| | ECE (132) | 8 (6–9) | 20 (17–23) | 24 (21–28) | 31 (24–39) |
| | SV+ (23) | 1 (0–1) | 2 (1–3) | 7 (4–10) | 13 (7–20) |
| | LN+ (5) | 0 (0–0) | 1 (0–1) | 2 (1–4) | 6 (3–11) |
| 4.1–6.0 | OC (1055) | 90 (89–92) | 74 (71–77) | 64 (60–68) | 47 (39–55) |
| | ECE (215) | 9 (7–10) | 23 (20–26) | 28 (24–31) | 35 (27–42) |
| | SV+ (32) | 1 (0–1) | 2 (1–3) | 6 (4–9) | 12 (8–19) |
| | LN+ (12) | 0 (0–0) | 1 (0–1) | 2 (1–4) | 5 (2–9) |
| 6.1–10.0 | OC (591) | 87 (85–89) | 67 (63–71) | 53 (49–58) | 35 (28–44) |
| | ECE (182) | 12 (10–14) | 28 (24–31) | 32 (27–36) | 36 (28–44) |
| | SV+ (37) | 1 (1–2) | 4 (2–6) | 11 (8–15) | 19 (12–27) |
| | LN+ (12) | 0 (0–1) | 1 (0–2) | 4 (2–6) | 9 (5–15) |
| >10.0 | OC (165) | 80 (75–84) | 52 (46–58) | 35 (30–41) | 19 (13–26) |
| | ECE (83) | 17 (13–20) | 34 (29–40) | 33 (27–39) | 30 (22–40) |
| | SV+ (24) | 3 (1–4) | 8 (5–12) | 20 (14–27) | 28 (18–38) |
| | LN+ (18) | 1 (0–2) | 5 (3–8) | 11 (7–17) | 22 (13–34) |
| T2a (*n* = 651) | | | | | |
| 0–4.0 | OC (188) | 88 (86–91) | 70 (65–74) | 58 (53–64) | 41 (32–50) |
| | ECE (59) | 11 (9–13) | 27 (22–31) | 31 (26–36) | 38 (29–48) |
| | SV+ (5) | 1 (0–1) | 2 (1–4) | 7 (4–11) | 13 (7–21) |
| | LN+ (6) | 0 (0–0) | 1 (0–2) | 3 (1–6) | 7 (3–15) |
| 4.1–6.0 | OC (124) | 87 (83–89) | 66 (62–71) | 55 (50–61) | 38 (30–48) |
| | ECE (60) | 12 (10–15) | 30 (25–35) | 35 (30–40) | 42 (33–51) |
| | SV+ (6) | 1 (0–1) | 2 (1–4) | 7 (4–10) | 12 (7–20) |
| | LN+ (3) | 0 (0–0) | 1 (0–2) | 3 (1–5) | 6 (3–12) |
| 6.1–10.0 | OC (94) | 82 (78–86) | 58 (52–64) | 45 (39–51) | 28 (21–37) |
| | ECE (38) | 16 (13–20) | 36 (30–42) | 39 (33–45) | 42 (33–53) |
| | SV+ (11) | 1 (1–2) | 4 (2–6) | 11 (7–16) | 18 (11–29) |
| | LN+ (2) | 0 (0–1) | 2 (1–3) | 4 (2–8) | 10 (5–18) |
| >10.0 | OC (23) | 73 (67–79) | 43 (36–50) | 28 (22–35) | 14 (9–21) |
| | ECE (18) | 22 (17–28) | 42 (35–49) | 39 (31–47) | 34 (24–46) |
| | SV+ (10) | 3 (1–6) | 9 (5–13) | 20 (12–28) | 26 (15–39) |
| | LN+ (4) | 1 (0–3) | 6 (2–11) | 13 (6–21) | 24 (12–38) |
| T2b/c (*n* = 294) | | | | | |
| 0–4.0 | OC (46) | 79 (73–83) | 52 (44–58) | 37 (30–44) | 21 (15–28) |
| | ECE (35) | 19 (15–25) | 40 (32–47) | 40 (33–48) | 40 (30–51) |
| | SV+ (7) | 1 (1–2) | 5 (3–7) | 12 (7–18) | 18 (10–27) |
| | LN+ (6) | 1 (0–2) | 4 (2–7) | 10 (5–16) | 21 (11–33) |
| 4.1–6.0 | OC (36) | 76 (69–81) | 48 (41–55) | 35 (28–42) | 20 (14–27) |
| | ECE (30) | 22 (17–28) | 44 (37–51) | 44 (37–52) | 44 (34–54) |
| | SV+ (7) | 1 (1–2) | 4 (2–7) | 11 (7–17) | 17 (10–26) |
| | LN+ (4) | 0 (0–2) | 4 (2–7) | 9 (5–15) | 19 (10–29) |
| 6.1–10.0 | OC (20) | 69 (61–75) | 38 (31–45) | 25 (19–31) | 13 (8–18) |
| | ECE (32) | 27 (21–34) | 48 (40–56) | 44 (36–51) | 38 (28–49) |
| | SV+ (7) | 3 (1–5) | 7 (4–12) | 17 (11–24) | 22 (13–33) |
| | LN+ (12) | 1 (0–4) | 6 (3–12) | 14 (8–22) | 26 (15–40) |
| >10.0 | OC (8) | 54 (45–63) | 23 (17–29) | 12 (8–16) | 5 (3–8) |
| | ECE (14) | 34 (26–42) | 46 (37–55) | 33 (25–43) | 23 (16–34) |
| | SV+ (13) | 6 (3–10) | 12 (7–20) | 22 (14–32) | 23 (14–36) |
| | LN+ (17) | 5 (1–14) | 18 (9–30) | 32 (21–44) | 48 (32–62) |

# Nerve-sparing radical retropubic prostatectomy: techniques and clinical considerations

P Gontero[1,2]* & RS Kirby[1,2]

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**Table 1** Preoperative and intraoperative selection criteria for not performing an NS procedure and the reported positive surgical margins rate

| | Sofer *et al*[58] | Walsh[59] | Alsikafi and Brendler[44] | Graefen *et al*[47] | Scardino and Kim[51] | Shah *et al*[60] |
|---|---|---|---|---|---|---|
| **Preoperative selection criteria** | | | | | | |
| Clinical stage >T2 | + | + | + | + | + | + |
| PSA >10 ng/ml | + | | | | | |
| GS=7 | | | + | | | |
| GS>7 | + | | | + | | |
| GS⩽6 if >50% tumour in biopsy[a] | | | | | | + |
| GS=7 if >30% tumour in biopsy[a] | | | | | | + |
| GS⩾8–10 if >10% tumour in biopsy[a] | | | | | | + |
| Partin tables | | + | | | + | |
| Site of >50% tumour on biopsy[a] | | | + | | | |
| Site of perineural invasion[a] | | +/− | + | | | + |
| **Intraoperative selection criteria** | | | | | | |
| Site of palpable tumour[a] | | | + | | | |
| Site of positive biopsy[a] | | | | + | | |
| Induration of the lateral pelvic fascia[a] | | + | | | + | |
| Adherence of the NVB to the prostate[a] | | + | | | + | |
| **Positive surgical margins** | 24% | 5% | 11% | 15.9% | 5% | 8% |

[a]The NVB can be spared on the controlateral side.
GS = Gleason score.

Prostate Cancer and Prostatic Dis. 2005;8(2):133-9

# Influence of Magnetic Resonance Imaging in the Decision to Preserve or Resect Neurovascular Bundles at Robotic Assisted Laparoscopic Radical Prostatectomy

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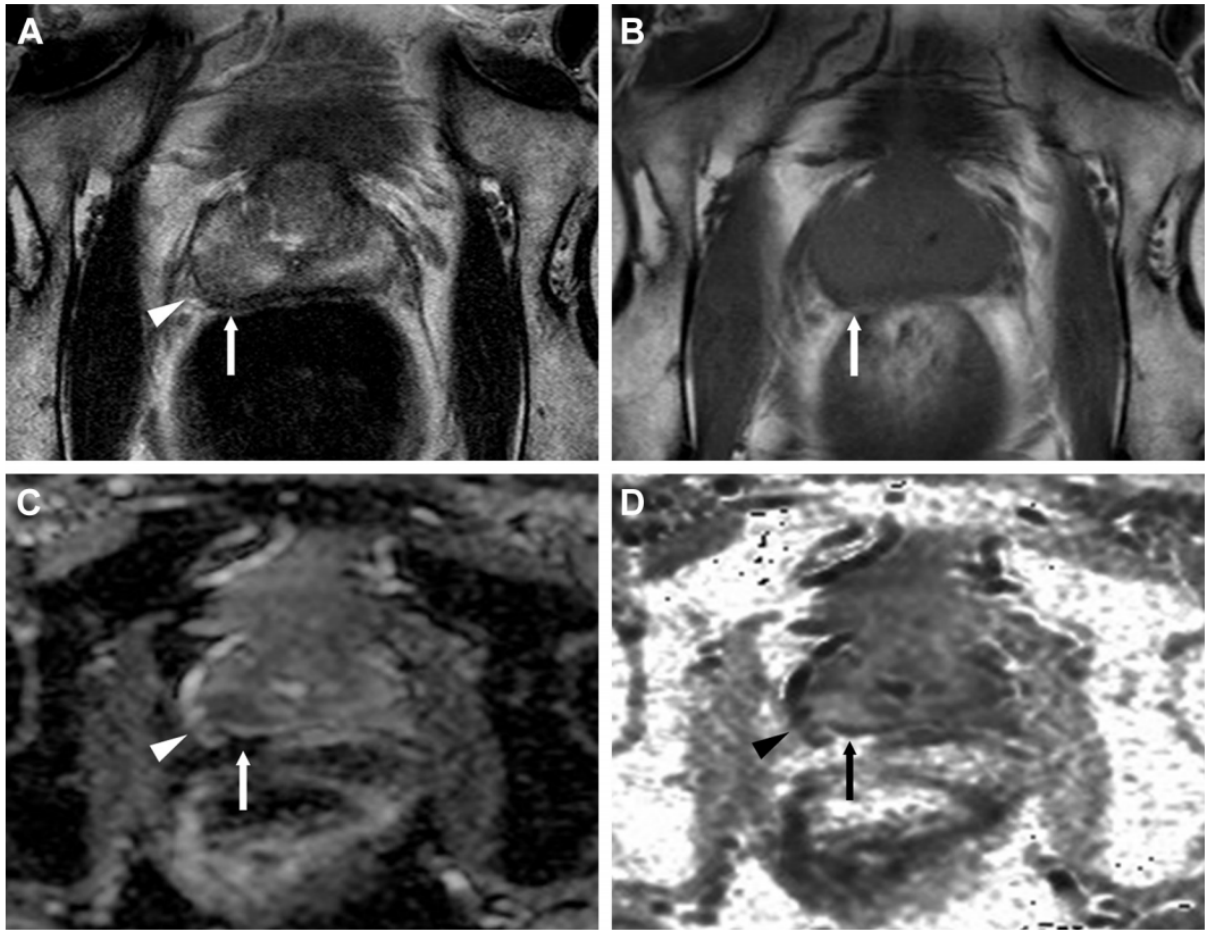
*From the Department of Urology, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, Korea*

**Table 3.** *Surgical plan change after review of MRI results and appropriateness of surgical plan change*

| | No. Pts | No. Appropriateness (%) |
|---|---|---|
| Without surgical plan change | 260 | 247 (95) |
| With surgical plan change | 93 | |
| NVB sparing surgery (more conservative): | | |
| No → unilat | 28 | 27 (96) |
| No → bilat | 10 | 8 (80) |
| Unilat → bilat | 15 | 13 (87) |
| Totals | 53 | 48 (91) |
| NVB sparing surgery (more aggressive): | | |
| Bilat → no | 8 | 4 (50) |
| Bilat → unilat | 18 | 12 (67) |
| Unilat → no | 14 | 9 (64) |
| Totals | 40 | 25 (63) |




Robotic assisted laparoscopic radical prostatectomy was changed to a more preservable neurovascular bundle sparing procedure in 53 patients (57%) and changed to a more aggressive neurovascular bundle resecting procedure in 40 patients (43%).
For the patients with a change to more conservative surgery, the appropriateness was 91%.

# Clinical utility of MRI in the decision-making process before radical prostatectomy: Systematic review and meta-analysis

**Mieszko Kozikowski*, Wojciech Malewski, Wojciech Michalak, Jakub Dobruch**

Department of Urology, Centre of Postgraduate Medical Education, Warsaw, Poland

| Study | Decision on NVB-sparing | | | | NVB-sparing technique | | | | | PSM |
|---|---|---|---|---|---|---|---|---|---|---|
| First author | Decision unchanged | Decision changed | More aggressive NVB resection | More preserving NVB-sparing | Any NVB-sparing | Bilateral NVB-sparing | Unilateral NVB-sparing | Partial NVB-sparing | Non-sparing | |
| H. Hricak [10] | 61% NVB* | 39% NVB* | 25% NVB* | 14% NVB* | 83% NVB* | - | - | 19% NVB | 17% NVB | - |
| A.P. Labanaris [11] | 66% | 44% | 15% | 29% | 79% | 77% | 1% | - | 16% | - |
| T.D. McClure [12] | 73% | 27% | 11% | 17% | 85% NVB* | - | - | - | 15% NVB* | 7% |
| V. Panebianco [13] | 70% | 30% | 30% | 0% | 91% | 74% | 17% | - | 9% | 8% |
| B.H. Park [14] | 74% | 26% | 11% | 15% | 78% | 57% | 21% | - | 22% | 13% |
| E. Rud [8] | 63% | 27% | 27% | 0% | 31% NVB | 9% | 11% | 11% | 69% NVB* | 19% |
| J.P. Radtke** [15] | 69% | 31% | 18% | 13% | 75% | - | - | - | 25% | 27% |
| R. Schiavina [16] | 53% | 47% | 55% | 45% | 81% | 56% | 25% | - | 19% | 12% |
| M. Kozikowski [17] | 55% | 45% | 34% | 11% | 71% | 21% | 50% | - | 29% | 15% |

NVB neurovascular bundle; PSM positive surgical margin.

* Analysis performed on side, not on patient basis.

** Hypothetical data on NVB-sparing and PSM.

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# Predicting Erectile Function Recovery after Bilateral Nerve Sparing Radical Prostatectomy: A Proposal of a Novel Preoperative Risk Stratification

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Department of Urology, Vita-Salute University San Raffaele, Milan, Italy

**Table 3** Univariable and multivariable Cox regression analyses predicting erectile function recovery (IIEF-EF domain score ≥22) after radical prostatectomy

| | Univariable Cox regression models | | Multivariable Cox regression models | | Multivariable Cox regression models | |
|---|---|---|---|---|---|---|
| Predictors | HR | *P* value | HR | *P* value | HR | *P* value |
| Age at surgery | — | <0.001 | — | 0.003 | — | 0.003 |
| 65.0–69.9 vs. ≤65 | 0.27 | <0.001 | 0.45 | 0.001 | 0.47 | 0.001 |
| ≥70 vs. ≤65 | 0.23 | <0.001 | 0.36 | 0.001 | 0.37 | 0.001 |
| Preoperative IIEF-EF | — | <0.001 | — | <0.001 | — | <0.001 |
| 11–17 vs. 1–10 | 0.51 | 0.22 | 0.55 | 0.3 | 0.52 | 0.4 |
| 18–21 vs. 1–10 | 0.81 | 0.64 | 0.89 | 0.8 | 0.78 | 0.8 |
| 22–25 vs. 1–10 | 2.94 | <0.001 | 3.04 | <0.001 | 3.2 | <0.001 |
| ≥26 vs. 1–10 | 4.26 | <0.001 | 3.83 | <0.001 | 3.33 | <0.001 |
| Charlson Score | — | 0.03 | — | 0.04 | — | — |
| 1 vs. 0 | 0.77 | 0.13 | 0.72 | 0.07 | — | — |
| ≥2 vs. 0 | 0.57 | 0.02 | 0.61 | 0.04 | — | — |
| Ischemic heart disease | 0.95 | 0.03 | — | — | 0.98 | 0.2 |
| Peripheral vascular disease | 1.01 | 0.81 | — | — | 1.3 | 0.93 |
| Diabetes mellitus | 0.71 | 0.04 | — | — | 0.89 | 0.04 |
| Chronic pulmonary disease | 1.01 | 0.64 | — | — | 1.2 | 0.24 |
| BMI (kg/m2) | — | 0.5 | — | 0.7 | — | 0.7 |
| 25–30 vs. <25 | 0.90 | 0.5 | 1.05 | 0.8 | 1.1 | 0.8 |
| 25–30 vs. >30 | 0.68 | 0.3 | 0.8 | 0.5 | 0.9 | 0.5 |

IIEF-EF = erectile function domain of the International Index of Erectile Function; BMI = body mass index; HR = hazard ratio.

J Sex Med 2010 Jul;7(7):2521-31.

# Preservation of the Neurovascular Bundles Is Associated with Improved Time to Continence After Radical Prostatectomy But Not Long-term Continence Rates: Results of a Systematic Review and Meta-analysis

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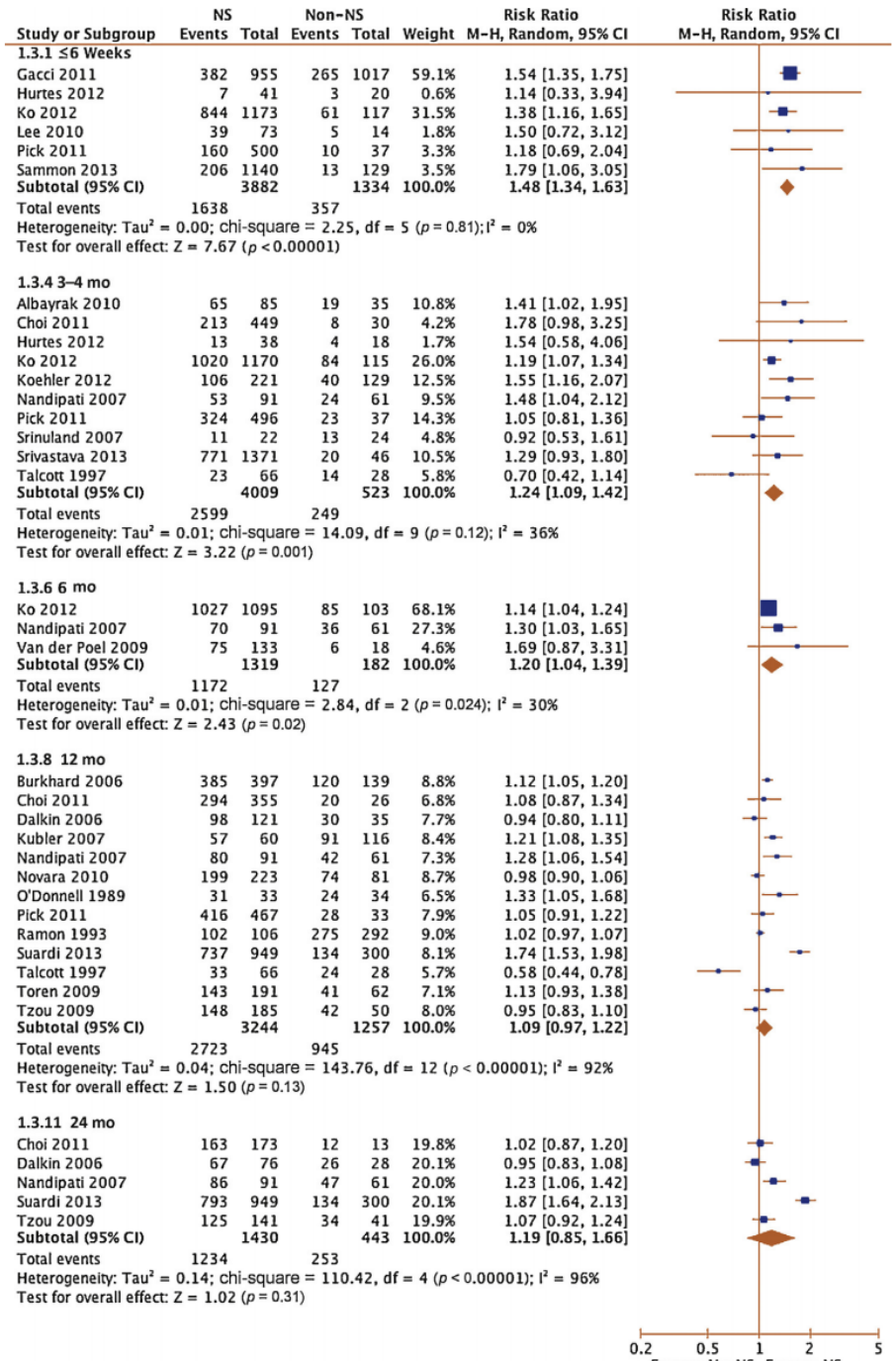
- avoiding damage to the nerves around the prostate improves urinary continence in the first 6 mo after surgery.
- After this time, there is no difference in continence between men who had these nerves removed and those who had them saved




Eur Urol 2015 Oct;68(4):692-704

# ΛΕΜΦΑΔΕΝΕΚΤΟΜΗ ΣΤΟΝ ΚΑΡΚΙΝΟ ΤΟΥ ΠΡΟΣΤΑΤΗ

Γιατί

Πότε

Πως

# Performance Characteristics of Computed Tomography in Detecting Lymph Node Metastases in Contemporary Patients with Prostate Cancer Treated with Extended Pelvic Lymph Node Dissection

*Alberto Briganti*[a,*], *Firas Abdollah*[a], *Alessandro Nini*[a], *Nazareno Suardi*[a], *Andrea Gallina*[a], *Umberto Capitanio*[a], *Marco Bianchi*[a], *Manuela Tutolo*[a], *Niccolò Maria Passoni*[a], *Andrea Salonia*[a], *Renzo Colombo*[a], *Massimo Freschi*[b], *Patrizio Rigatti*[a], *Francesco Montorsi*[a]

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| | Sensitivity, % | Specificity, % | NPV, % | PPV, % | Accuracy, % |
|---|---|---|---|---|---|
| Overall population, $n = 1541$ | 13.0 | 96.0 | 89.1 | 32.9 | 54.6 |
| Low-risk patients, $n = 471$ | 8.3 | 96.3 | 97.6 | 5.6 | 52.3 |
| Intermediate-risk patients, $n = 689$ | 3.6 | 97.3 | 92.1 | 10.5 | 50.5 |
| High-risk patients, $n = 381$ | 17.9 | 94.3 | 72.7 | 58.3 | 56.1 |
| LNI calculated risk ≥30,* $n = 193$ | 22.0 | 95.5 | 78.3 | 62.4 | 58.7 |
| LNI calculated risk ≥50,* $n = 161$ | 23.9 | 94.7 | 76.2 | 63.6 | 59.3 |

NPV = negative predictive value; PPV = positive predictive value; LNI = lymph node invasion.
† Patients are stratified according to tumor characteristics.
* LNI risk was calculated using a previously published prediction model [16].

Performance characteristics of computed tomography scan in predicting lymph node invasion in 1541 patients treated with radical prostatectomy and extended pelvic lymph node dissection at a single institution between 2003 and 2010y

Eur Urol 2012 Jun;61(6):1132-8

# The diagnostic accuracy of CT and MRI in the staging of pelvic lymph nodes in patients with prostate cancer: a meta-analysis

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| | | | | | |
|---|---|---|---|---|---|
| MRI | | | | | |
| Mukamel[24] | 1986 | 10 | 25%(0/1) | 65%(6/9) | 0.62 |
| Biondetti[25] | 1987 | 29 | 83%(2/2) | 97%(16/16) | 165 |
| Hricak[26] | 1987 | 85 | 45%(4/9) | 99%(76/76) | 125.18 |
| Bezzi[33] | 1988 | 51 | 68%(9/13) | 94%(36/38) | 30.82 |
| Rifkin[34] | 1990 | 185 | 6%(1/23) | 95%(155/162) | 1.38 |
| Kier[35] | 1993 | 27 | 17%(0/2) | 90%(23/25) | 1.88 |
| Jager[6] | 1996 | 63 | 59%(9/15) | 97%(47/48) | 46.28 |
| Perotti[36] | 1996 | 56 | 13%(0/3) | 90%(48/53) | 1.26 |
| Borley[32] | 2003 | 42 | 29%(3/11) | 98%(31/31) | 25.94 |
| Harisinghani[37] | 2003 | 80 | 46%(15/33) | 78%(37/47) | 2.99 |

*N* is the number of patients who fulfilled the inclusion criteria. In the original report *N* may be larger. Sensitivity and specificity are calculated from these numbers and conventional correction was applied by adding 0.5 to each cell in the 2 × 2 tables to prevent division by zero. DOR, diagnostic odds ratio.

Clinical Radiology (2008) 63, 387e395

# Utility of Choline Positron Emission Tomography/Computed Tomography for Lymph Node Involvement Identification in Intermediate- to High-risk Prostate Cancer: A Systematic Literature Review and Meta-analysis

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| Study | No. of patients | Sensitivity, % (95% CI) | Specificity, %, (95% CI) | PPV, % (95% CI) | NPV, % (95% CI) | Accuracy, % (95% CI) | True positive | True negative | False positive | False negative |
|---|---|---|---|---|---|---|---|---|---|---|
| Kotzerke et al. [26] | 12 | 50 (19–100) | 90 (71–100) | 50 (19–100) | 90 (71–100) | 83 (62–100) | 1 | 9 | 1 | 1 |
| de Jong et al. [23] | 25 | 80 (45–100) | 95 (85–100) | 80 (45–100) | 95 (86–100) | 92 (81–100) | 4 | 19 | 1 | 1 |
| de Jong et al. [16] | 67 | 80 (60–100) | 96 (91–100) | 86 (68–100) | 94 (88–100) | 93 (86–99) | 12 | 50 | 2 | 3 |
| Hacker et at [20] | 20 | 10 (8–29) | 80 (55–100) | 33 (4–63) | 47 (16–78) | 45 (23–67) | 1 | 8 | 2 | 9 |
| Schiavina et al. [24] | 57 | 60 (35–85) | 98 (93–100) | 90 (75–100) | 87 (77–97) | 88 (79–96) | 9 | 41 | 1 | 6 |
| Husarik et al. [21] | 43 | 20 (15–55) | 100 | 100 | 90 (81–100) | 91 (82–99) | 1 | 38 | 0 | 4 |
| Beheshti et al. [15] | 130 | 45 (30–60) | 96 (91–100) | 82 (70–94) | 79 (71–88) | 80 (73–87) | 18 | 86 | 4 | 22 |
| Poulsen et al. [25] | 25 | 100 | 95 (87–100) | 75 (26–100) | 100 | 96 (88–100) | 3 | 21 | 1 | 0 |
| Budiharto et al. [22] | 36 | 19 (3–38) | 95 (85–100) | 75 (54–96) | 59 (38–81) | 61 (45–77) | 3 | 19 | 1 | 13 |
| Contractor et al.* [27] | 26 | 78 (51–100) | 82 (64–100) | 70 (40–99) | 88 (72–100) | 81 (66–96) | 7 | 14 | 3 | 2 |

CI = confidence interval; PPV = positive predictive value; NPV = negative predictive value.
* The values refer to positron emission tomography/computed tomography findings.

| | Pooled value | 95% confidence interval |
|---|---|---|
| Sensitivity | 49.2 | 39.9–58.4 |
| Specificity | 95 | 92–97.1 |
| Positive likelihood ratio | 8.346 | 4.499–15.482 |
| Negative likelihood ratio | 0.549 | 0.366–0.824 |
| Diagnostic odds ratio | 18.999 | 7.109–50.773 |

Eur Urol. 2013 Jun;63(6):1040-8

# The Benefits and Harms of Different Extents of Lymph Node Dissection During Radical Prostatectomy for Prostate Cancer: A Systematic Review

*Nicola Fossati*[a,1], *Peter-Paul M. Willemse*[b,1], *Thomas Van den Broeck*[c], *Roderick C.N. van den Bergh*[d], *Cathy Yuhong Yuan*[e], *Erik Briers*[f], *Joaquim Bellmunt*[g,h], *Michel Bolla*[i], *Philip Cornford*[j], *Maria De Santis*[k], *Ekelechi MacPepple*[l], *Ann M. Henry*[m], *Malcolm D. Mason*[n], *Vsevolod B. Matveev*[o], *Henk G. van der Poel*[p], *Theo H. van der Kwast*[q], *Olivier Rouvière*[r], *Ivo G. Schoots*[s,t], *Thomas Wiegel*[u], *Thomas B. Lam*[v,w], *Nicolas Mottet*[x], *Steven Joniau*[c,*]

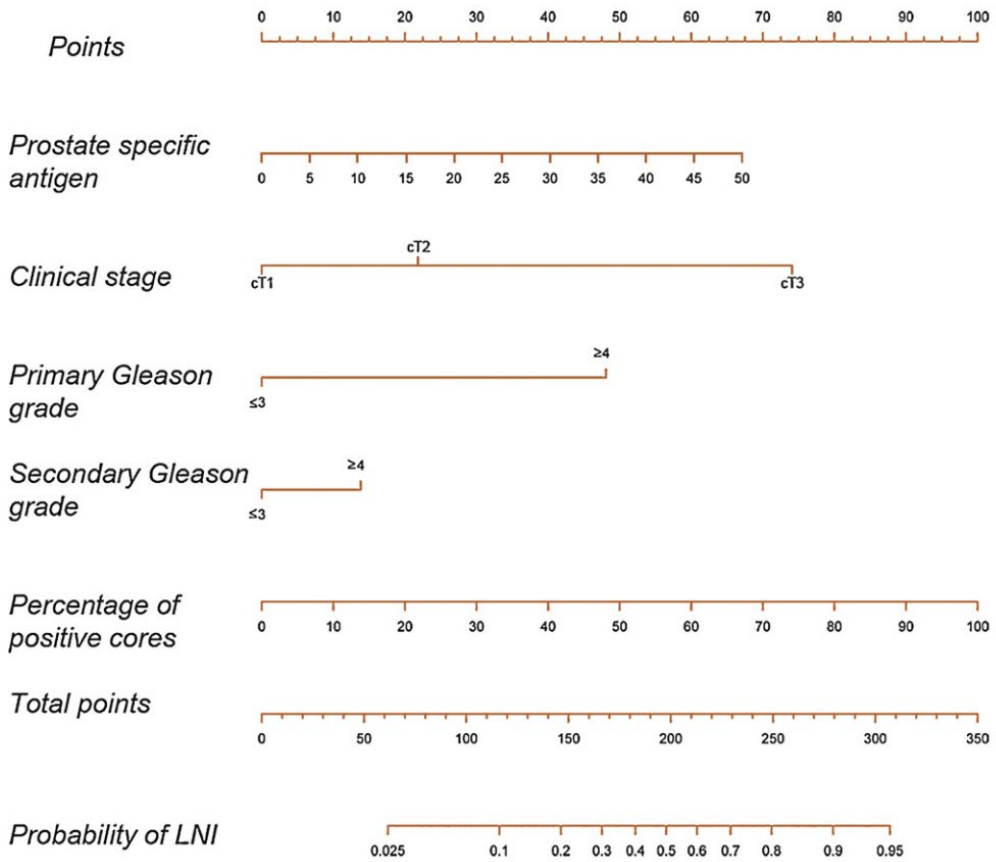
| Study ID; design; country; recruitment period | Subpopulation (if applicable) | Intervention | Comparator | Outcomes measured | *N* at baseline | | Outcome results | | Reported *p* values | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Int | Com | Int | Com | | |
| | | | | Wound infections | | | 3.7% (*n* = 4) | 0% (*n* = 0) | | |
| | | | | Sepsis | | | 1.9% (*n* = 2) | 0% (*n* = 0) | | |
| | | | | Complication rate | | | 30.6% (*n* = 33) | 12.5% (*n* = 8) | 0.007 | |
| Musch 2008, retrospective comparative, Germany, 1993–2006 | NA | ePLND | lPLND | Lymphocele | 434 | 867 | HR: 2.88 [95% CI: 1.735–4.773] | | <0.0001 | MVA corrected for age, BMI, ASA |
| | | | | Reintervention | | | HR: 2.37 [95% CI: 1.494–3.750] | | <0.0001 | |
| Klevecka 2007, retrospective comparative, Germany, 1993–2004 | NA | ePLND | lPLND | Lymphocele | 236 | 740 | 8.1% (*n* = 19) | 2.8% (*n* = 21) | <0.001 | Univariate analysis only |
| | | | | DVT | | | 1.3% (*n* = 3) | 1.4% (*n* = 10) | 0.93 | |
| | | | | PE | | | 0.9% (*n* = 2) | 0.8% (*n* = 6) | 0.96 | |
| | | | | Reintervention | | | 10.2% (*n* = 24) | 3.1% (*n* = 23) | <0.0001 | |
| | | | | Postoperative bleeding | | | 3.4% (*n* = 8) | 1.6% (*n* = 12) | 0.10 | |
| | | | | Secondary wound healing | | | 2.1% (*n* = 5) | 2.2% (*n* = 16) | 0.97 | |
| Clark 2003, RCT, USA | NA | ePLND | lPLND | Lymphocele | 123 | 123 | 3.3% (*n* = 4) (3/4 at side of extended) | | NR | Pts randomized to one side limited, one side extended |
| | | | | Leg edema | | | 4.1% (*n* = 5) (3/5 at side of extended) | | | |
| | | | | DVT | | | 1.6% (*n* = 2) (2/2 at side of extended) | | | |
| | | | | Pelvic abscess | | | 0.8% (*n* = 1) (1/1 at side of extended) | | | |
| | | | | Ureteral injury | | | 0.8% (*n* = 1) (1/1 at side of extended) | | | |
| | | | | Overall unilateral complication rate | | | 75% of total complications on side of extended dissection | | 0.08 | |
| Heidenreich 2002, retrospective comparative, Germany, 1999–2000 | NA | ePLND | sPLND | Blood loss (ml) | 103 | 100 | 650 (R: 200–1950) | 590 (R: 150–2100) | NR | – |
| | | | | OT (min) | | | 179 (R: 140–235) | 125 (R: 85–150) | <0.03 | |
| | | | | Rectal lesions | | | 1.1% (*n* = 1) | 1% (*n* = 1) | NR | |
| | | | | Lymphocele | | | 10.6% (*n* = 9) | 6% (*n* = 6) | NR | |
| | | | | DVT | | | 4.2% (*n* = 4) | 6% (*n* = 6) | NR | |
| | | | | PE | | | 2.1% (*n* = 2) | 2% (*n* = 2) | NR | |
| | | | | Obturator nerve lesion | | | 1.1% (*n* = 1) | 2% (*n* = 2) | NR | |

# πότε

| | |
|---|---|
| **EAU** | **Using the Briganti nomogram, Memorial Sloan Kettering Cancer Center, or Roach Formula, a risk of nodal metastases of >5% is an indication to perform an extended PLND** |
| AUA | “Generally reserved for patients with higher risk of nodal involvement” |
| NCCN | Recommends the Memorial Sloan Kettering Cancer Center nomogram with using 2% risk of positive nodes as a cutoff for performing a PLND |

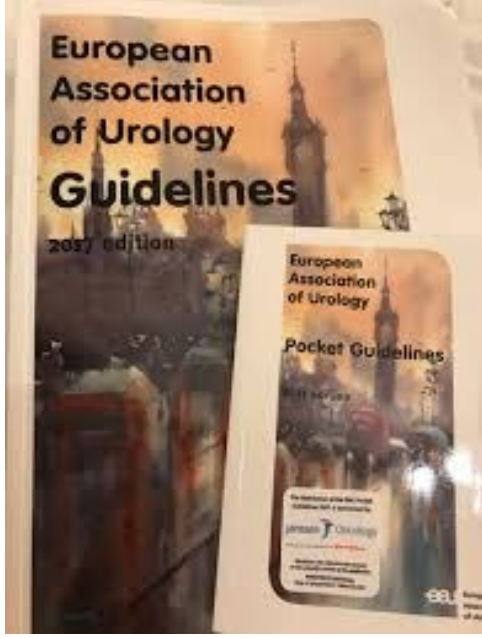
# Updated Nomogram Predicting Lymph Node Invasion in Patients with Prostate Cancer Undergoing Extended Pelvic Lymph Node Dissection: The Essential Importance of Percentage of Positive Cores

*Alberto Briganti*[a,*], *Alessandro Larcher*[a], *Firas Abdollah*[a], *Umberto Capitanio*[a], *Andrea Gallina*[a], *Nazareno Suardi*[a], *Marco Bianchi*[a], *Maxine Sun*[c], *Massimo Freschi*[b], *Andrea Salonia*[a], *Pierre I. Karakiewicz*[c], *Patrizio Rigatti*[a], *Francesco Montorsi*[a]




Eur Urol. 2012 Mar;61(3):480-7

# PLND

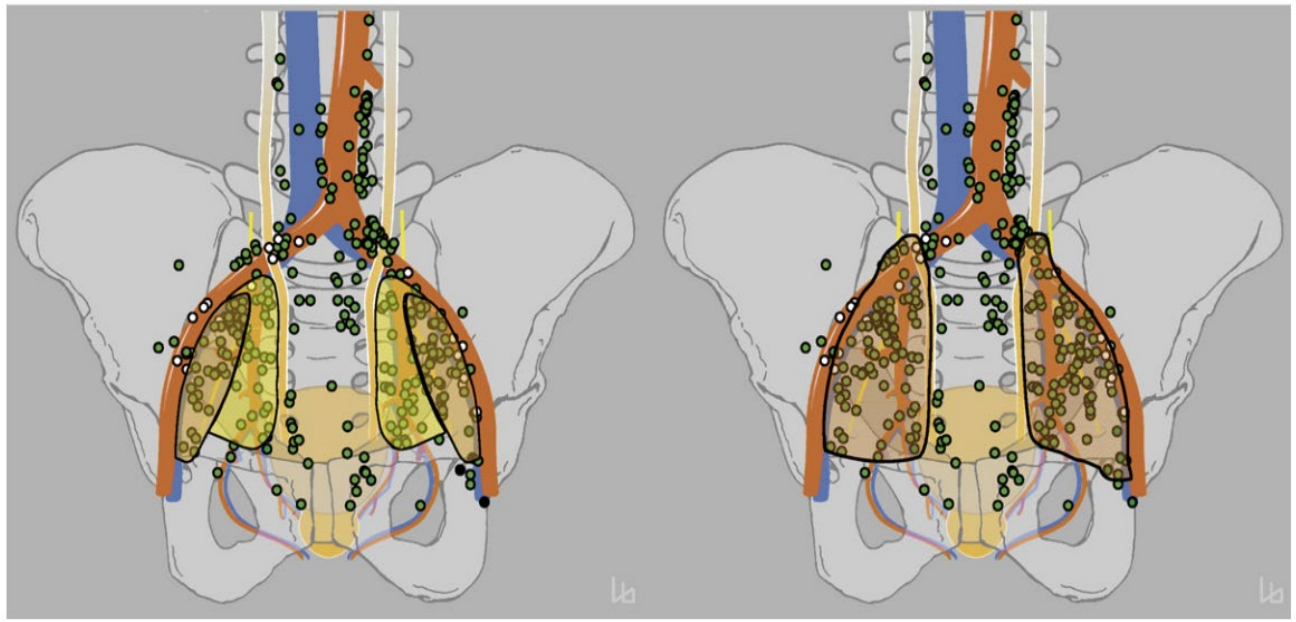


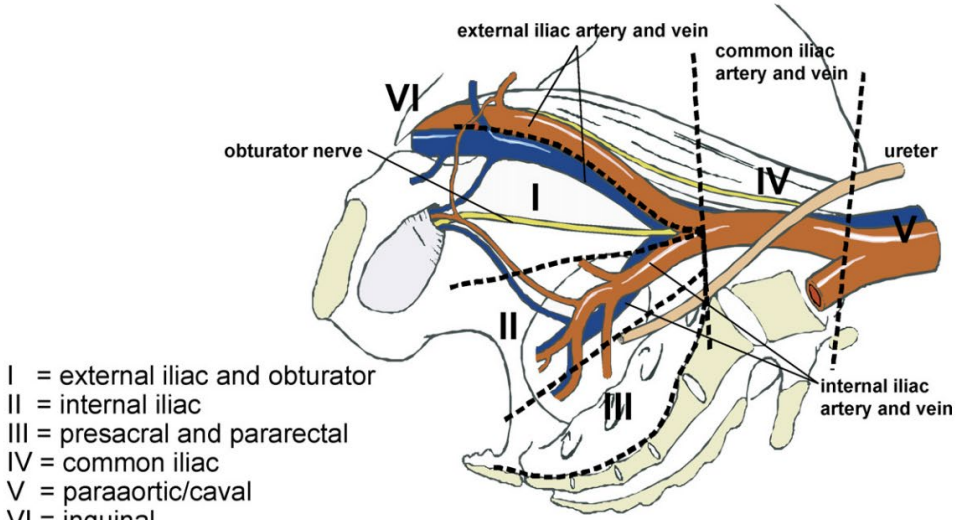

| | |
|---|---|
| Perform an extended lymph node dissection (LND), when a LND is deemed necessary. | Strong |

| | |
|---|---|
| **EAU** | Extended PLND including removal of the nodes overlying the external iliac artery and vein, the nodes within the obturator fossa located cranially and caudally to the obturator nerve and the nodes medial and lateral to the internal iliac artery |
| AUA | No recommendations |
| NCCN | Extended technique, including removal of all node-bearing tissue from an area bounded by the external iliac vein anteriorly, pelvic side wall laterally, bladder wall medially, floor of pelvis posteriorly, Cooper's ligament distally and internal iliac artery proximally |

# The Template of the Primary Lymphatic Landing Sites of the Prostate Should Be Revisited: Results of a Multimodality Mapping Study

*Agostino Mattei* [a], *Frank G. Fuechsel* [b], *Nivedita Bhatta Dhar* [a], *Sebastian H. Warncke* [a], *George N. Thalmann* [a], *Thomas Krause* [b], *Urs E. Studer* [a,*]






Boundaries of pelvic lymph node dissection (PLND) subdivided into different regions. "Limited" PLND removes tissue along the external iliac vein and from the obturator fossa corresponding to region I. "Extended" template PLND removes tissue along the major pelvic vessels (external iliac vein, obturator fossa and internal iliac artery and vein) corresponding to regions I and II.

**Fig. 1 – Regions of pelvic lymph node dissection.**

Έξω λαγόνιο 38% Έσω λαγόνιο 25% Προιερή 8% Παραορθικά 16% Παραορτικά 12%

# IMPACT OF EXTENT OF LYMPHADENECTOMY ON SURVIVAL AFTER RADICAL PROSTATECTOMY FOR PROSTATE CANCER

SUE A. JOSLYN AND BADRINATH R. KONETY

**TABLE III.** ***Cox regression analysis of effects of number of nodes examined on risk of death (hazard ratio) in all patients (controlling for age, race, stage, grade, and radiotherapy use)***

| Mortality | Hazard Ratio (95% CI) | *P* Value |
|---|---|---|
| Cancer specific | | |
| Nodes examined (n) | | |
| None | 1.00 (Ref.) | |
| 1–3 | 0.85 (0.68–1.06) | 0.1580 |
| 4–6 | 0.77 (0.64–0.93) | 0.0069* |
| 7–9 | 0.82 (0.67–0.99) | 0.0390* |
| ≥10 | 0.81 (0.70–0.94) | 0.0047* |
| All causes | | |
| Nodes examined (n) | | |
| None | 1.00 (Ref.) | |
| 1–3 | 0.964 (0.804–1.155) | 0.6879 |
| 4–6 | 0.854 (0.730–1.000) | 0.0496 |
| 7–9 | 0.914 (0.781–1.070) | 0.2657 |
| ≥10 | 0.892 (0.786–1.013) | 0.0777 |

*KEY: CI = confidence interval; Ref. = reference.*
** Statistically significant.*

**TABLE IV.** ***Cox regression analysis of effects of number of nodes examined on risk of prostate cancer death only in patients with negative nodes (controlling for age, race, stage, grade, and radiotherapy use)***

| Lymph Nodes Examined (n) | HR (95% CI) | *P* Value |
|---|---|---|
| None | 1.00 (Ref.) | |
| 1–3 | 0.96 (0.76–1.21) | 0.7373 |
| 4–6 | 0.86 (0.70–1.05) | 0.1321 |
| 7–9 | 0.87 (0.71–1.07) | 0.1957 |
| ≥10 | 0.85 (0.72–0.99) | 0.0382* |

*KEY: HR = hazard ratio (relative risk of death); CI = confidence interval; Ref. = reference.*

Patients undergoing excision of at least 4 lymph nodes (node-positive and node-negative patients) or more than 10 nodes (only node-negative patients) had a lower risk of prostate cancer-specific death at 10 years than did those who did not undergo lymphadenectomy

Urology 2006;68:121–5

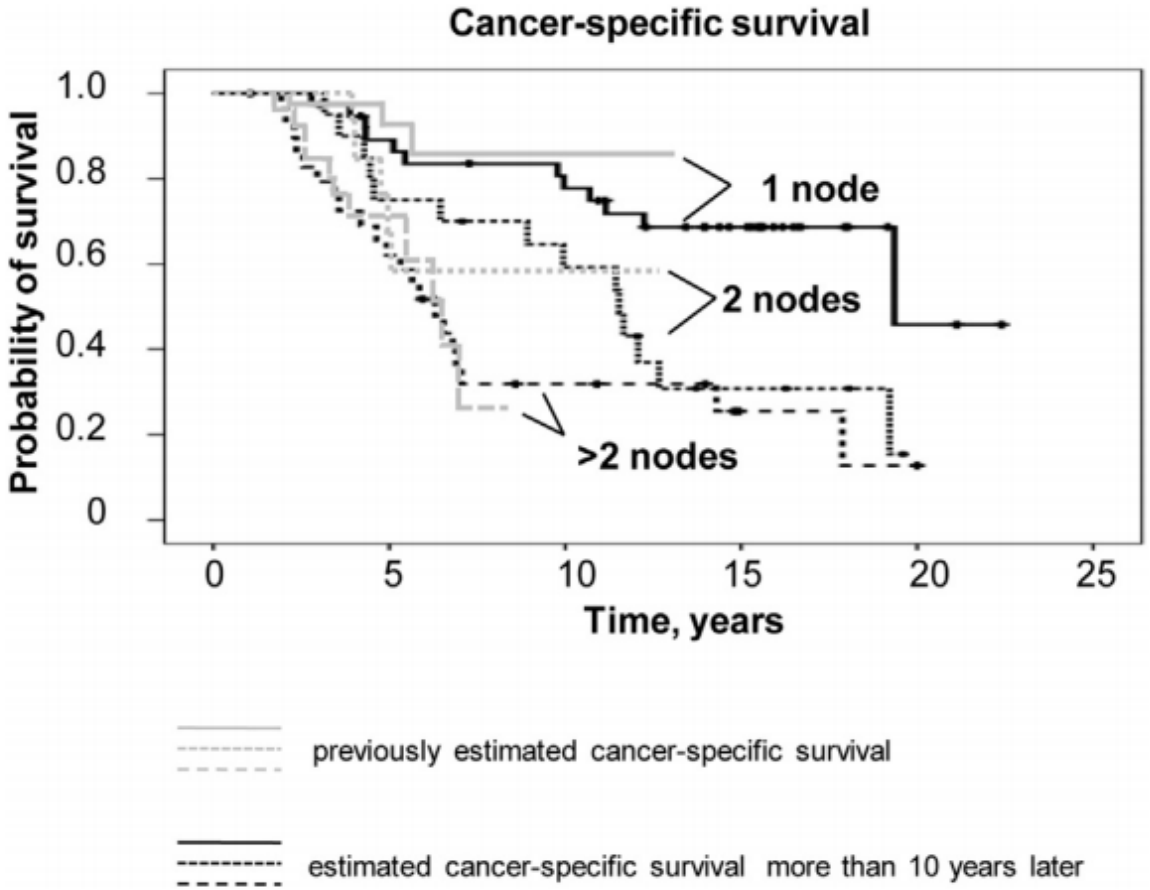
# Removal of Limited Nodal Disease in Patients Undergoing Radical Prostatectomy: Long-Term Results Confirm a Chance for Cure

Roland Seiler, Urs E. Studer, Konrad Tschan, Pia Bader and Fiona C. Burkhard*

*From the Department of Urology, University of Bern, Bern, Switzerland*

## CONCLUSIONS:

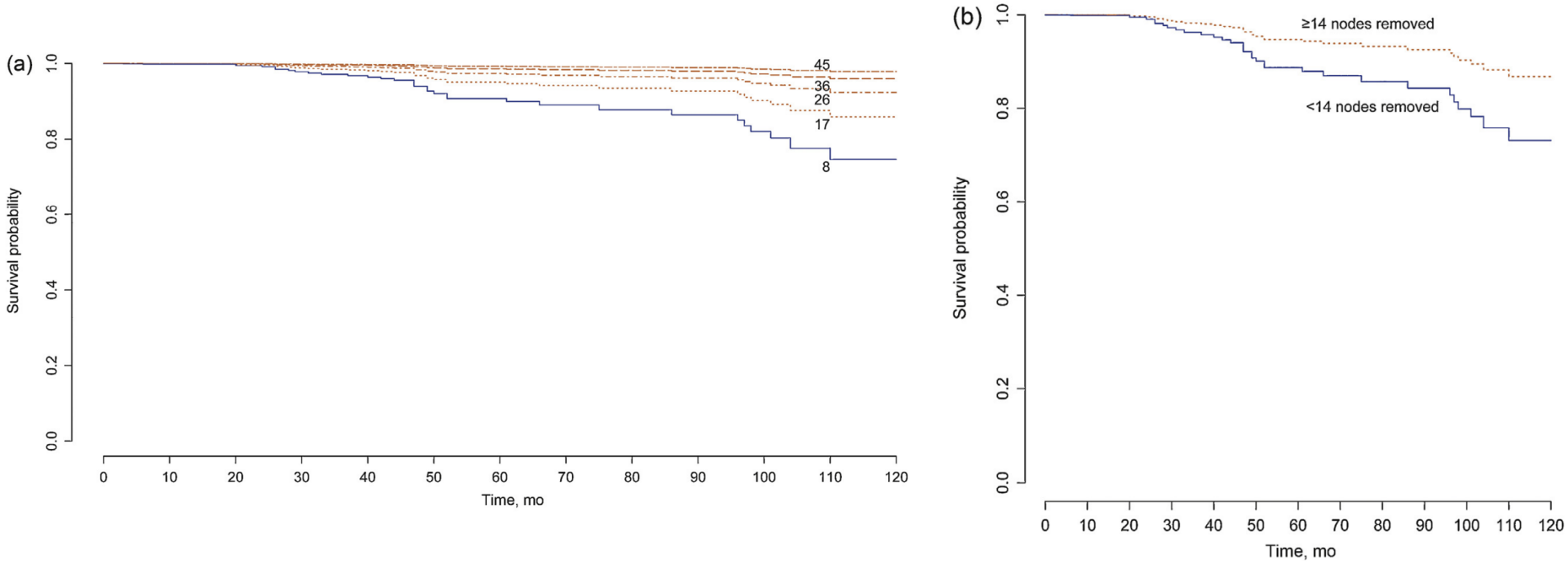
Biochemical relapse is likely in patients with limited nodal disease after radical prostatectomy and pelvic lymph node dissection, but for 46% of patients this does not imply death from prostate cancer. Patients with 1 positive node have a good (75%) 10-year cancer specific survival probability and a 20% chance of remaining biochemical relapse-free even without immediate adjuvant therapy.




J Urol 2014;191: 1280–5.

# More Extensive Pelvic Lymph Node Dissection Improves Survival in Patients with Node-positive Prostate Cancer

*Firas Abdollah*[a], *Giorgio Gandaglia*[a], *Nazareno Suardi*[a], *Umberto Capitanio*[a], *Andrea Salonia*[a], *Alessandro Nini*[a], *Marco Moschini*[a], *Maxine Sun*[b], *Pierre I. Karakiewicz*[b], *Sharhokh F. Shariat*[c], *Francesco Montorsi*[a], *Alberto Briganti*[a,*]

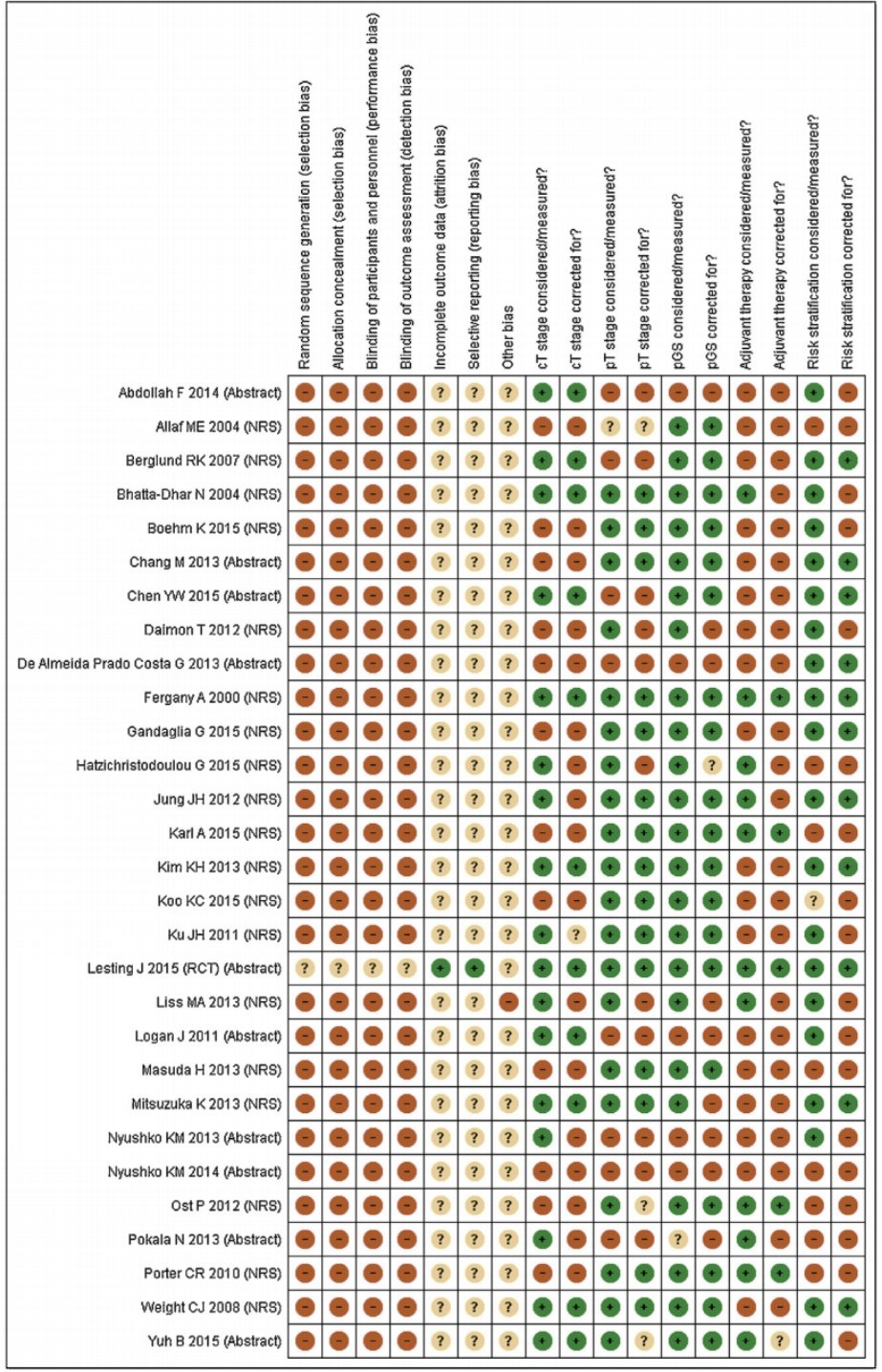


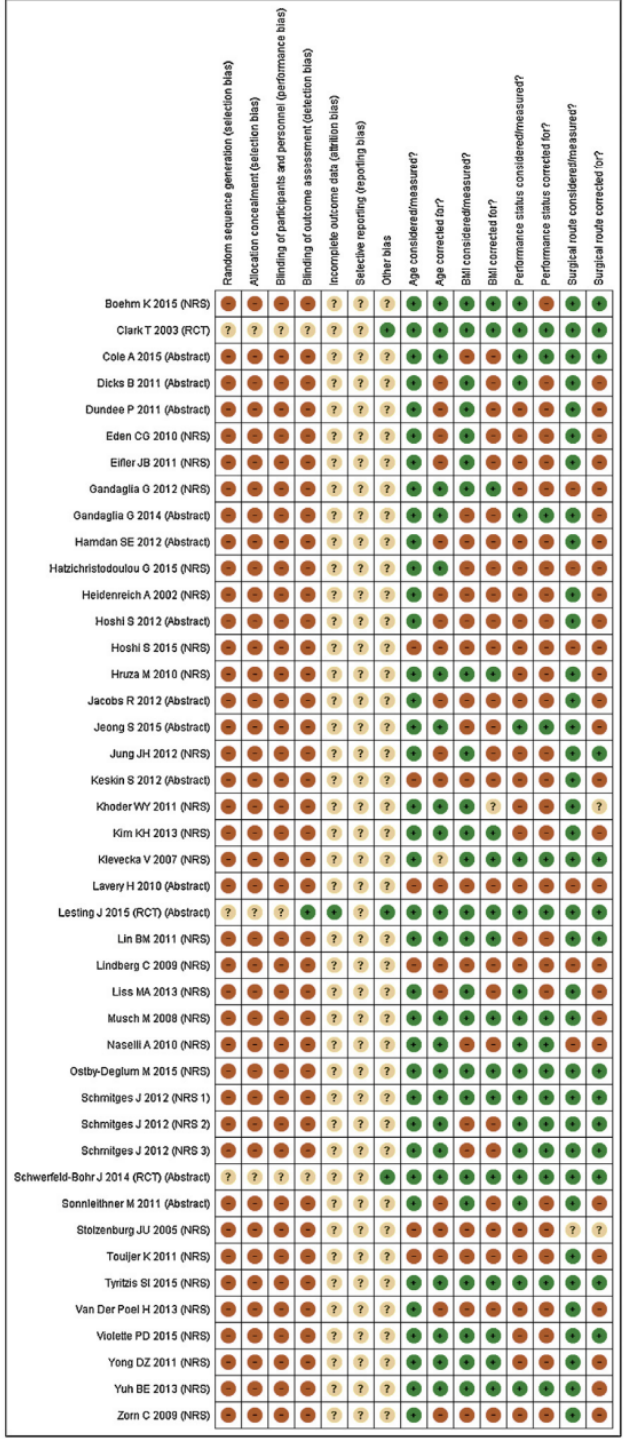

By multivariable analyses, the number of RLNs independently predicted lower CSM rate (hazard ratio [HR]: 0.93; p = 0.02). Other predictors of CSM were Gleason score 8–10 (HR: 3.3), number of positive nodes (HR: 1.2), and aRT treatment (HR: 0.26; all p 0.006).

Eur Urol 2014;67:212–9.

# The Benefits and Harms of Different Extents of Lymph Node Dissection During Radical Prostatectomy for Prostate Cancer: A Systematic Review

*Nicola Fossati[a,1], Peter-Paul M. Willemse[b,1], Thomas Van den Broeck[c], Roderick C.N. van den Bergh[d], Cathy Yuhong Yuan[e], Erik Briers[f], Joaquim Bellmunt[g,h], Michel Bolla[i], Philip Cornford[j], Maria De Santis[k], Ekelechi MacPepple[l], Ann M. Henry[m], Malcolm D. Mason[n], Vsevolod B. Matveev[o], Henk G. van der Poel[p], Theo H. van der Kwast[q], Olivier Rouvière[r], Ivo G. Schoots[s,t], Thomas Wiegel[u], Thomas B. Lam[v,w], Nicolas Mottet[x], Steven Joniau[c,*]*



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*Nicola Fossati[a,1], Peter-Paul M. Willemse[b,1], Thomas Van den Broeck[c], Roderick C.N. van den Bergh[d], Cathy Yuhong Yuan[e], Erik Briers[f], Joaquim Bellmunt[g,h], Michel Bolla[i], Philip Cornford[j], Maria De Santis[k], Ekelechi MacPepple[l], Ann M. Henry[m], Malcolm D. Mason[n], Vsevolod B. Matveev[o], Henk G. van der Poel[p], Theo H. van der Kwast[q], Olivier Rouvière[r], Ivo G. Schoots[s,t], Thomas Wiegel[u], Thomas B. Lam[v,w], Nicolas Mottet[x], Steven Joniau[c,*]*

| Study ID; design; country; recruitment period | Subgroup if applicable | Intervention | Comparator | Outcome(s) | Int (n) | Comp (n) | Intervention: outcome | Comparator: outcome | *p* value | Comment |
|---|---|---|---|---|---|---|---|---|---|---|
| **No PLND versus any PLND** | | | | | | | | | | |
| Karl 2015, retrospective comparative, Germany, 1994–2013 | NA | PLND | No PLND | BFFS | 357 | 179 | Univariate analysis: HR: 1.69 [1.25–2.29]<br>MVA: HR: 1.29 [0.94–1.78] | | Univariate analysis: 0.001 MVA: 0.12 | – |
| Gandaglia 2015, retrospective comparative, 2000–2013 | Patients eligible for active surveillance according to PRIAS | PLND | No PLND | BCR | 381 | 1329 | MVA: HR: 0.72 [95% CI: 0.37–1.38] | | 0.3 | MVA corrected for: age, iPSA, PSM, pT, pGS, pN status |
| Koo 2015, retrospective comparative, South Korea, 2005–2009 | PSM + and undetectable PSA <6 wk | PLND | No PLND | BFFS | 403 | 327 | Univariate analysis: 1.099 [95% CI: 0.564–2.141] | | 0.08 | – |
| Boehm 2015, retrospective comparative, 1992–2011 | NA | PLND | No PLND | BFFS | 6810 | 4884 | HR: 0.81 (95% CI: 0.72–0.9) | | <0.05 | pNx versus pN0 (pN + excluded) |
| | | | | MFS | | | HR: 0.62 (95% CI: 0.41–0.92) | | <0.05 | |
| | | | | OS | | | HR: 0.92 (95% CI: 0.74–1.14) | | 0.46 | |
| *Chen 2015, retrospective comparative, GCS, USA* | Intermediate-risk PCa only (but GS based on pGS, not bGS) | PLND | No PLND | CSS | 26571 | 17541 | Unadjusted model: HR: 1.23 [0.83–1.80]<br>IPTW-adjusted Cox model: HR: 0.93 [0.65–1.33]<br>Propensity score–adjusted Cox model: HR: 1.05 [0.71–1.55]<br>Cox competing-risk mode: HR: 1.06 [0.71–1.57] | | NS | (When-adjusted: age, race, marital status, year of diagnosis, PSA, cT, pGS) |
| *Abdollah 2014, retrospective comparative, EAU, Italy* | NA | PLND | No PLND | 5-yr BFFS | 1406 | | 93.3% | 90.6% | 0.4 | All RP |
| | | | 7-yr BFFS | | | | 86.9% | 90.6% | | |
| Liss 2013, retrospective comparative, Germany, 2007–2011 | NA | ePLND sPLND | No PLND | BFFS | 54 | 231 207 | 29.6% (*n* = 16) 14.7% (*n* = 34) | 3.4% (*n* = 7) | <0.001 | – |
| Mitsuzuka 2013, retrospective comparative, Japan, 2000–2009 | Low risk disease | PLND | No PLND | MFS | 147 | 75 | 100% | 100% | NR | Median follow-up<br>PLND: 60 mo<br>No PLND: 26 mo |
| | | | | CSS | | | 100% | 100% | NR | |
| | | | | OS | | | 98.6% (*n* = 145) | 98.7% (*n* = 74) | NR | |
| | | | | BFFS | | NR | NR | | 0.65 | |
| Masuda 2013, retrospective comparative, Japan, 2000–2010 | pT2–3 N0/x | PLND | No PLND | BFFS | 187 | 202 | MVA<br>Total cohort: HR: 1.26 (95% CI: 0.70–2.30)<br>pT2 disease: HR: 1.00 (95% CI: 0.43–2.26)<br>pT3 disease: HR: 1.86 (95% CI: 0.75–5.28)<br>pT2 R0 disease: HR: 0.50 (95% CI: 0.18–1.35) | | 0.45<br>1.0<br>0.19<br>0.17 | Excluded N1 |
| *De Almeida Prado Costa 2013, retrospective comparative, WCE, France* | NA | PLND | No PLND | BFFS | 630 | 1663 | 79% | 69% | 0.11 | – |
| *Chang 2013, retrospective comparative, AUA, Canada* | NA | PLND | No PLND | CSS | 335 | 335 | 0.50 (95% CI: 0.05–5.52) | | 0.57 | Follow-up 50.7 mo |
| *Pokala 2013, retrospective comparative, AUA, USA* | NA | PLND | No PLND | BFFS | 46286 | 29130 | NR | | NS | – |
| | | | | 5-yr CSS | 6 | | 98% | 98% | NR | |
| | | | | 10-yr CSS | | | 92% | 94% | NR | |
| Daimon 2012, retrospective comparative, Japan, 2002–2006 | NA | lPLND | No PLND | BFFS (5-yr) | 85 | 54 | 90.1% (*n* = 77) | 82.4% (*n* = 44) | 0.28 | |
| | | | | BFFS (7-yr) | | | 88.3% (*n* = 75) | 82.4% (*n* = 44) | 0.28 | |
| Ost, retrospective comparative, Belgium/Italy, 1999–2008 | NA | ePLND | No PLND | BFFS (7-yr) | 179 | 46 | 84% | 83% | NR | |
| | | | | | | | HR: 0.8 [95% CI: 0.2–2.6] | | UnADJ: 0.96<br>ADJ: 0.69 | |

# Impact of Adjuvant Radiotherapy on Survival of Patients With Node-Positive Prostate Cancer

*Firas Abdollah, R. Jeffrey Karnes, Nazareno Suardi, Cesare Cozzarini, Giorgio Gandaglia, Nicola Fossati, Damiano Vizziello, Maxine Sun, Pierre I. Karakiewicz, Mani Menon, Francesco Montorsi, and Alberto Briganti*

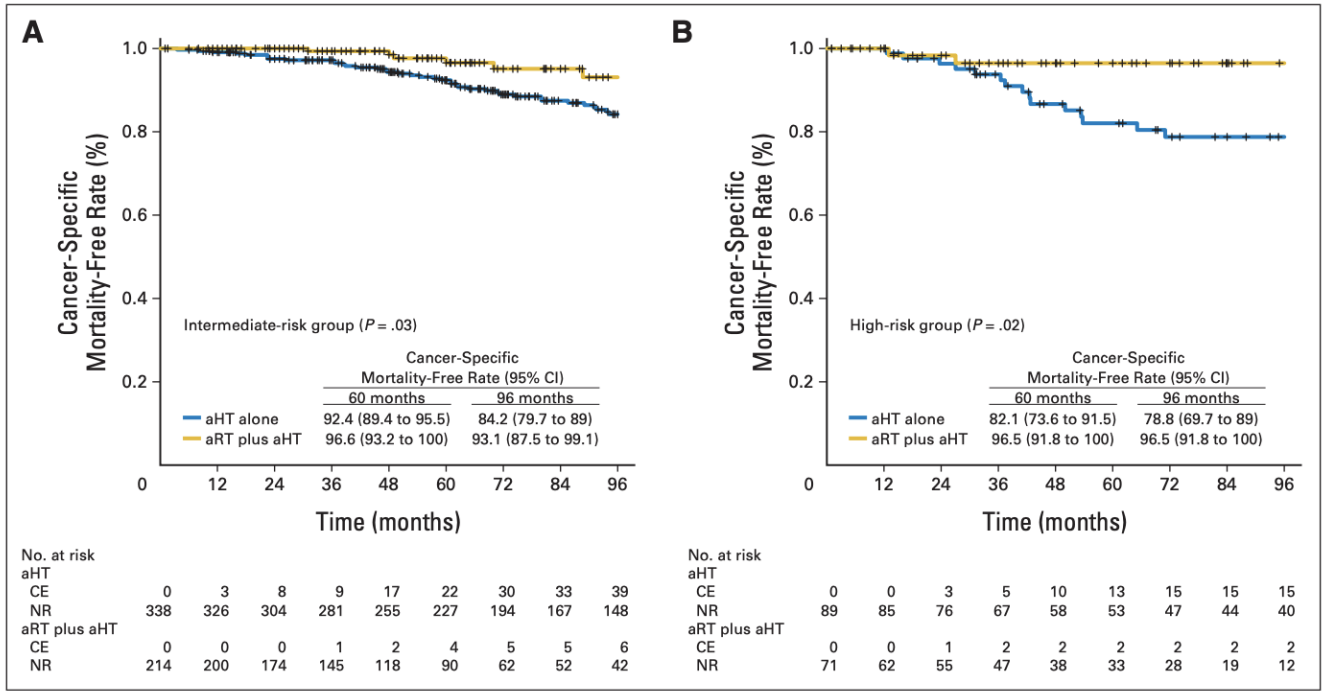



**Fig 2.** Kaplan-Meier curves depicting cancer-specific mortality-free rate in 1,107 patients with pN1 prostate cancer treated with surgery and adjuvant radiotherapy (aRT) plus adjuvant hormonal therapy (aHT) versus aHT alone. Patients were stratified according to the regression tree risk categories. Results are shown for (A) the intermediate-risk group and (B) the high-risk group. CE, cumulative events; NR, No. at risk.

Conclusion The beneficial impact of aRT on survival in patients with pN1 prostate cancer is highly influenced by tumor characteristics. Men with low-volume nodal disease ( two PLNs) in the presence of intermediate- to high-grade, non–specimen-confined disease and those with intermediate-volume nodal disease (three to four PLNs) represent the ideal candidates for aRT after surgery

J Clin Oncol 2014;32:3939–47

# Robot-assisted laparoscopic prostatectomy versus open radical retropubic prostatectomy: 24-month outcomes from a randomised controlled study

*Geoffrey D Coughlin, John W Yaxley, Suzanne K Chambers, Stefano Occhipinti, Hema Samaratunga, Leah Zajdlewicz, Patrick Teloken, Nigel Dunglison, Scott Williams, Martin F Lavin, Robert A Gardiner*

- first controlled study comparing open radical prostatectomy and RARP
- RARP cases were performed by one surgeon having a 200-case experience as compared with 1500-case experience for the open radical prostatectomy surgeon
- Primary endpoints: urinary function and sexual function assessed by the EPIC questionnaires nss
- robot-assisted laparoscopic prostatectomy showed a significantly lower crude rate of biochemical progression compared with open radical retropubic prostatectomy within 24 months of the surgical procedure
- Secondary endopoints favoring RARP: operative time, mean blood loss, hospital stay, lower pain day 1 and day 6, higher physica quality of life
- no significant difference in radiological progression or use of further oncological treatments.
- conclusion: one surgeon doing RARP obtains good and similar functional outcomes compared with those obtained by another experienced open radical prostatectomy surgeon

Lancet2016 Sep 10;388(10049):1057-1066.

# Erectile Function and Oncologic Outcomes Following Open Retropubic and Robot-assisted Radical Prostatectomy: Results from the LAParoscopic Prostatectomy Robot Open Trial

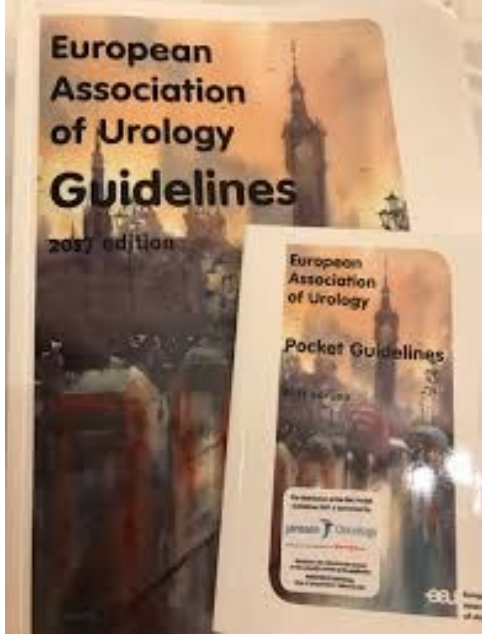
*Prasanna Sooriakumaran*[a,b,*], *Giovannalberto Pini*[c], *Tommy Nyberg*[a], *Maryam Derogar*[d], *Stefan Carlsson*[a], *Johan Stranne*[e], *Anders Bjartell*[f], *Jonas Hugosson*[e], *Gunnar Steineck*[d,g], *Peter N. Wiklund*[a]

| Group | Outcome | n/N (%) | | RRP vs RARP | | | |
|---|---|---|---|---|---|---|---|
| | | | | Unadjusted | Adjusted for: pT+PostopGS+PSA | Unadjusted | Adjusted for: pT+PostopGS+PSA |
| | | RARP | RRP | RR (95% CI) | RR (95% CI) | RD (95% CI), percentage points | RD (95% CI), percentage points |
| pT2 | | | | | | | |
| | Positive surgical margin | 208/1227 (17.0%) | 55/538 (10.2%) | 0.60 (0.46 to 0.80) | 0.59 (0.45 to 0.79) | −6.7 (−10.0 to −3.4) | −6.9 (−10.2 to -3.6) |
| | PSA relapse >0.2 ng/ml within 2 yr | 42/1242 (3.4%) | 18/554 (3.2%) | 0.96 (0.56 to 1.65) | 0.91 (0.52 to 1.58) | −0.1 (−1.9 to +1.7) | −0.3 (−2.1 to +1.4) |
| pT3/4 | | | | | | | |
| | Positive surgical margin | 168/505 (33.3%) | 87/181 (48.1%) | 1.44 (1.19 to 1.76) | 1.42 (1.17 to 1.74) | +14.8 (+6.4 to +23.2) | +14.1 (+5.6 to +22.5) |
| | PSA relapse >0.2 ng/ml within 2 yr | 69/511 (13.5%) | 41/191 (21.5%) | 1.59 (1.12 to 2.25) | 1.66 (1.17 to 2.36) | +8.0 (+1.4 to +14.5) | +8.8 (+2.1 to +15.5) |

- prospective data collection of Swedish Pca pts- no randomization
- 1792 pts RARP vs 753 RRP
- 50 surgeons from 14 centers (7 perform RARP -7 perform RRP)

Eur Urol. 2018 Apr;73(4):618-627

# OPEN VS LAP VS ROBOTIC SURGERY




| **Surgical treatment** | |
|---|---|
| Inform patients that no surgical approach (open, laparoscopic- or robotic radical prostatectomy) has clearly shown superiority in terms of functional or oncological results. | Strong |

Σας ευχαριστω πολύ

# The Benefits and Harms of Different Extents of Lymph Node Dissection During Radical Prostatectomy for Prostate Cancer: A Systematic Review

PLND may in theory be curative for particular patients with limited nodal involvement that is entirely removed at the time of surgery (direct effect) only retrospective studies confirm this

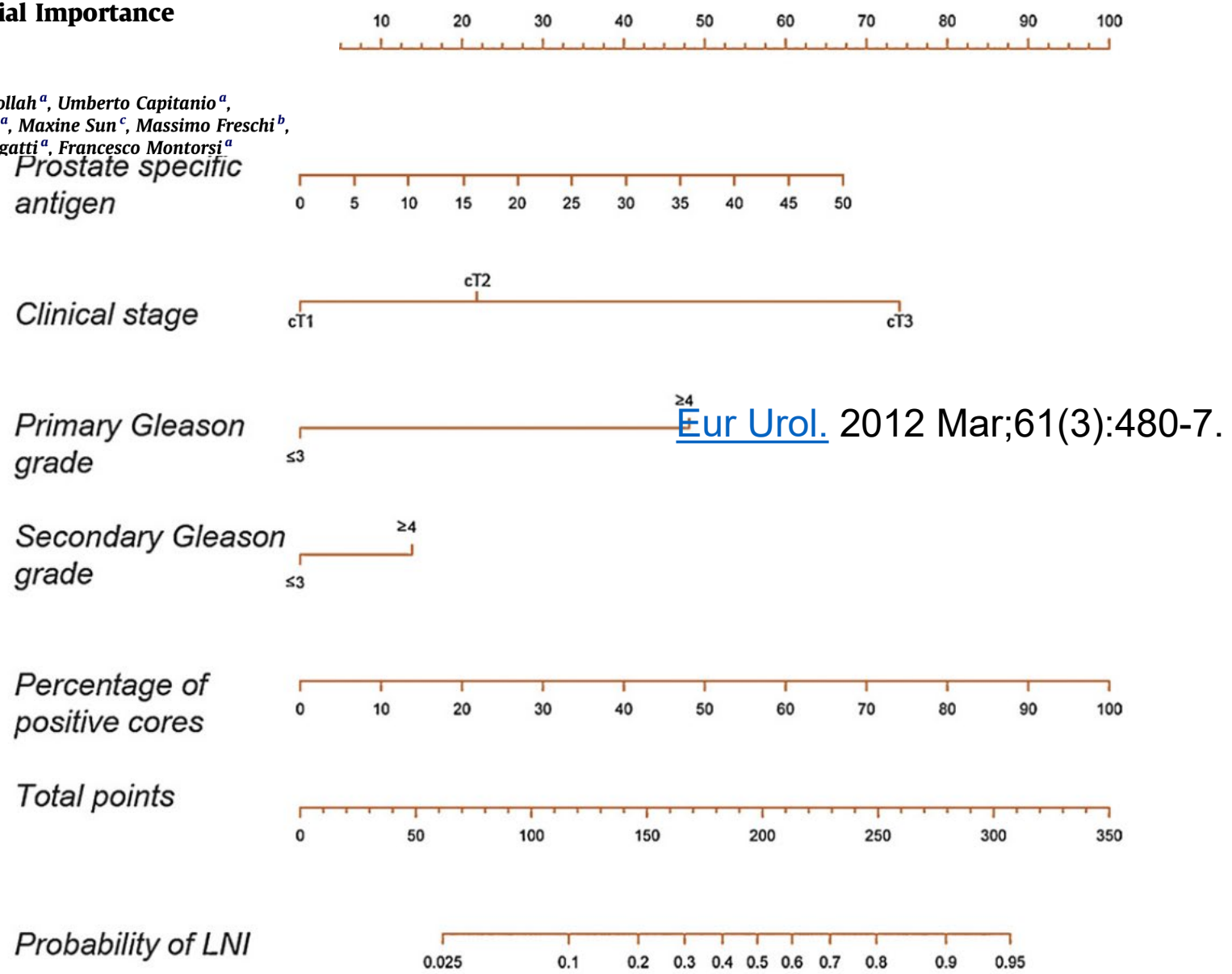
no good-quality evidence indicating that any form of PLND improves outcomes compared to no PLND

PLND was associated with significantly worse intraoperative and perioperative outcomes compared to no PLND i

PLND may represent a stratification tool for identification of patients who benefit from adjuvant treatments that improv survival outcomes

**Updated Nomogram Predicting Lymph Node Invasion in Patients with Prostate Cancer Undergoing Extended Pelvic Lymph Node Dissection: The Essential Importance of Percentage of Positive Cores**

*Alberto Briganti[a,*], Alessandro Larcher[a], Firas Abdollah[a], Umberto Capitanio[a], Andrea Gallina[a], Nazareno Suardi[a], Marco Bianchi[a], Maxine Sun[c], Massimo Freschi[b], Andrea Salonia[a], Pierre I. Karakiewicz[c], Patrizio Rigatti[a], Francesco Montorsi[a]*




Eur Urol. 2012 Mar;61(3):480-7.

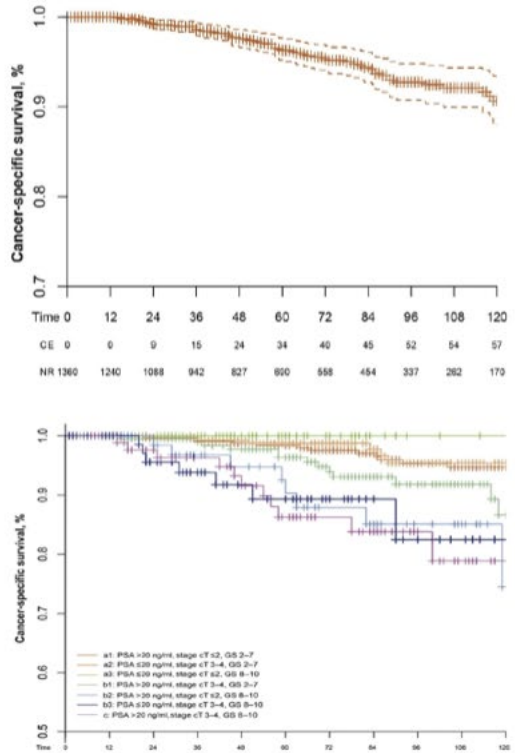
| Definition | | | |
|---|---|---|---|
| **Low-risk** | **Intermediate-risk** | **High-risk** | |
| PSA < 10 ng/mL<br>and GS < 7 (ISUP grade 1)<br>and cT1-2a | PSA 10-20 ng/mL<br>or GS 7 (ISUP grade 2/3)<br><br>or cT2b | PSA > 20 ng/mL<br>or GS > 7 (ISUP grade 4/5)<br><br>or cT2c | any PSA<br>any GS cT3-4 or cN+<br>Any ISUP grade |
| **Localised** | | | **Locally advanced** |

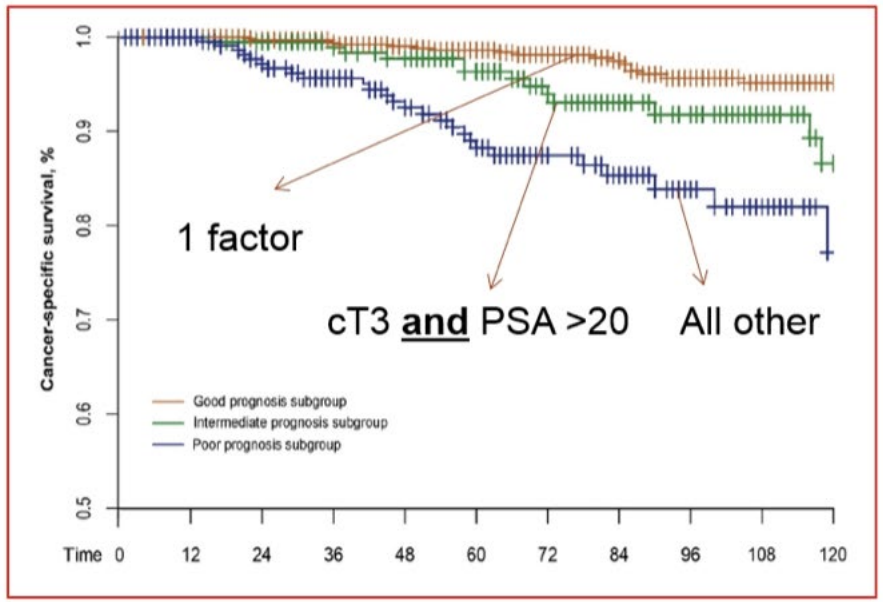
*GS = Gleason score; ISUP = International Society for Urologcal Pathology; PSA = prostate-specific antigen.*

# Stratification of High-risk Prostate Cancer into Prognostic Categories: A European Multi-institutional Study

*Steven Joniau [a,*,†], Alberto Briganti [b,†], Paolo Gontero [c], Giorgio Gandaglia [b], Lorenzo Tosco [a], Steffen Fieuws [d], Bertrand Tombal [e], Giansilvio Marchioro [f], Jochen Walz [g], Burkhard Kneitz [h], Pia Bader [i], Detlef Frohneberg [i], Alessandro Tizzani [c], Markus Graefen [g], Paul van Cangh [d], R. Jeffrey Karnes [j], Francesco Montorsi [b], Hein Van Poppel [a], Martin Spahn [k],*

*European Multicenter Prostate Cancer Clinical and Translational Research Group (EMPaCT)*



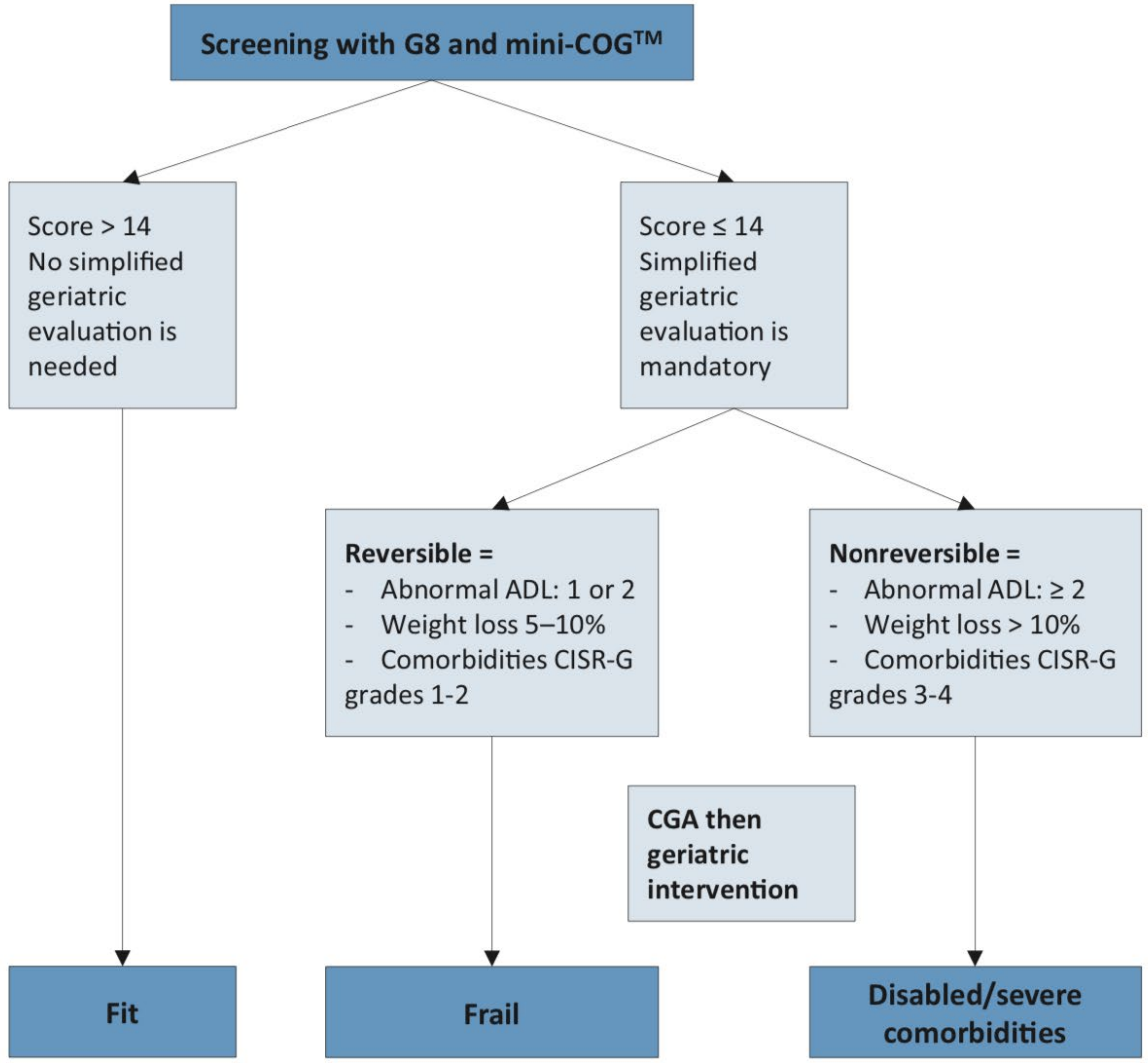




Joniau S and Briganti A, et al. Eur Urol 2015

# Health status screening test

| | Items | Possible responses (score) |
|---|---|---|
| A | Has food intake declined over the past 3 months due to loss of appetite, digestive problems, chewing, or swallowing difficulties? | 0 = severe decrease in food intake |
| | | 1 = moderate decrease in food intake |
| | | 2 = no decrease in food intake |
| B | Weight loss during the last 3 months? | 0 = weight loss > 3 kg |
| | | 1 = does not know |
| | | 2 = weight loss between 1 and 3 kg |
| | | 3 = no weight loss |
| C | Mobility? | 0 = bed or chair bound |
| | | 1 = able to get out of bed/chair but does not go out |
| | | 2 = goes out |
| E | Neuropsychological problems? | 0 = severe dementia or depression |
| | | 1 = mild dementia |
| | | 2 = no psychological problems |
| F | BMI? (weight in kg)/(height in $m^2$) | 0 = BMI < 19 |
| | | 1 = BMI 19 to < 21 |
| | | 2 = BMI 21 to < 23 |
| | | 3 = BMI ≥ 23 |
| H | Takes more than three prescription drugs per day? | 0 = yes |
| | | 1 = no |
| P | In comparison with other people of the same age, how does the patient consider his/her health status? | 0.0 = not as good |
| | | 0.5 = does not know |
| | | 1.0 = as good |
| | | 2.0 = better |
| | Age | 0: > 85 |
| | | 1: 80-85 |
| | | 2: < 80 |
| | Total score | 0-17 |

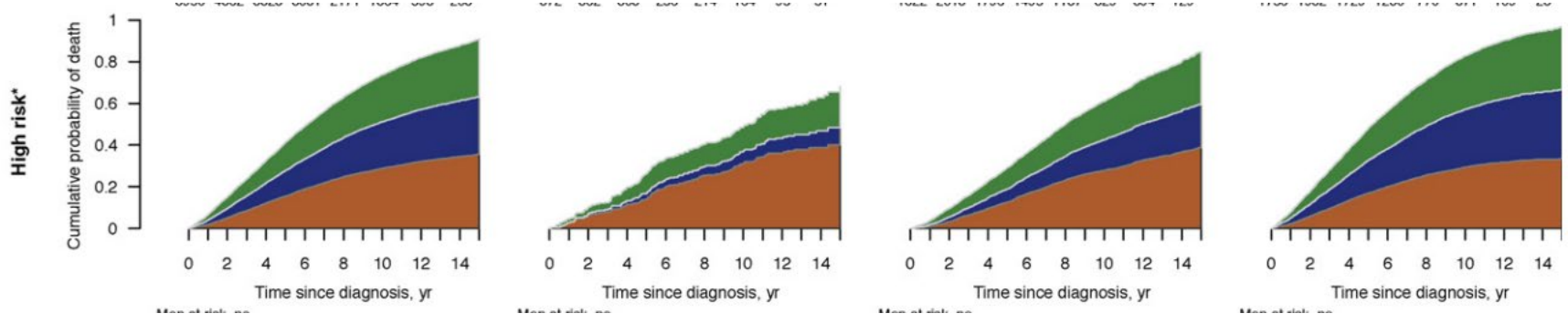
# Decision tree for health status screening (men > 70 years)



# Long-term Outcomes Among Noncuratively Treated Men According to Prostate Cancer Risk Category in a Nationwide, Population-based Study

*Jennifer R. Rider*[a,*], *Fredrik Sandin*[b], *Ove Andrén*[c], *Peter Wiklund*[d], *Jonas Hugosson*[e], *Pär Stattin*[f]

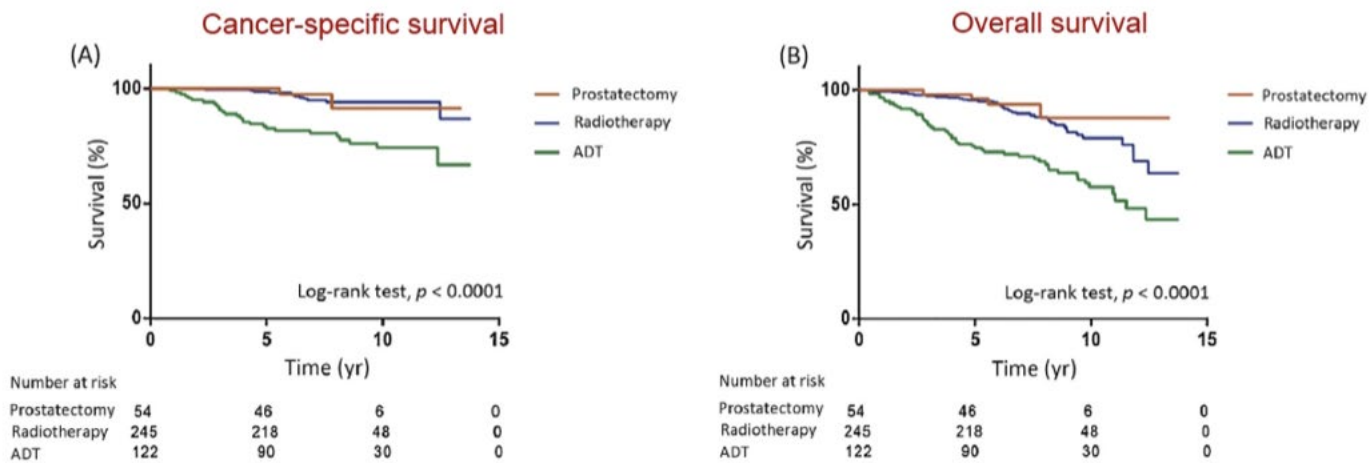
Eur Urol. 2013 Jan;63(1):88-96.



# patients excluded from ProtecT

**1:1 case-control matched cohort study,**
**N=401 ProtecT : N=401 ACN (UK Anglia Cancer Network)**

- **T3-T4: 76%**
- **PSA >20ng/ml: 34%**
- **GS >7: 21%**
- **N1/M1: 9%**




Johnston TJ, et al. Eur Urol 2017

# Surgery Provides Better Oncologic Outcomes than Radiation for the Treatment of Prostate Cancer

## CON

"Given the higher 30, 60 and 90-day mortality rates, higher rates of erectile dysfunction, increased risk of incontinence and the lack of good evidence that RP improves survival compared to RT with or without ADT, I caution urologists against what they "know for sure" and confidently offering surgery as the "best treatment" for men older than 65 years with high risk prostate cancer."

**Mack Roach, III**
*Department of Radiation Oncology*
*UCSF Helen Diller Family Comprehensive Cancer Center*
*San Francisco, California*

## PRO

"...for younger, healthier patients with intermediate high risk prostate cancer, the evidence indicates that surgery should be considered the primary treatment modality with respect to optimizing cancer specific survival."

**Laurence Klotz**
*Division of Urology*
*Sunnybrook Health Sciences Centre*
*University of Toronto*
*Toronto, Ontario, Canada*

**Christopher P. Evans**
*Department of Urology*
*University of California, Davis School of Medicine*
*Sacramento, California*

**J Urol 2016:196:1-4**

| RP vs XRT: Summary of mortality results from propensity analyses | | | | |
|---|---|---|---|---|
| **Author** | **N=** | | **PCM, HR XRT vs RP** | **OS HR (*P<.05)** |
| Tewari 2007 | 453 | GS >=8 | 2.10 | |
| Albertsen 2007 | 1,618 | | 2.5 | 1.7* |
| Merglen 2007 | 844 | 1989-98 | 2.3 | 1.5* |
| Zelefsky 2010 | 2,380 | | 3.0 (Met rate) | |
| Cooperberg 2010 | 7,538 | | 2.21 | 1.58* |
| Kibel A 2012 | 10,429 | | XRT vs RP 1.5 | XRT vs RP 1.6* |
| Abdollah 2012 | 68,665 | SEER 1992-05 | At 10 yrs, HR 2.8<br>High risk: 11.5% vs 6.8% | |
| Nepple 2013 | 10,361 | | 1.66 | 1.71 EBRT* |
| Shao 2014 | 66,492 | SEER | 1.5; 1.4 low, 1.9 high | |
| Lee 2014 | 376 | High risk | 3.2 | |
| Sooriakumuran 2014 | 34,052 | | 1.76 | |
| Dorr 2014 | 20,935 | | 1.97 | |
| Sun 2014 | 66,087 | SEER | 2.5 (> 10 yr LE) | 1.5* |

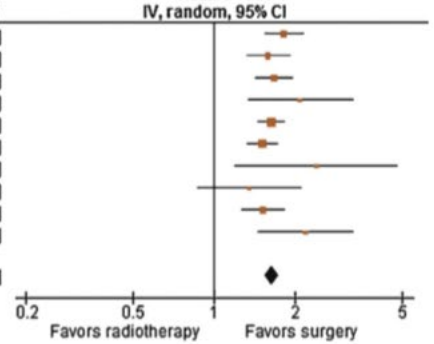
# Surgery Versus Radiotherapy for Clinically-localized Prostate Cancer: A Systematic Review and Meta-analysis

Christopher J.D. Wallis [a,b,c], Refik Saskin [c], Richard Choo [e], Sender Herschorn [a,b], Ronald T. Kodama [a,b], Raj Satkunasivam [a,b], Prakesh S. Shah [c,f,g], Cyril Danjoux [h], Robert K. Nam [a,b,c,*]

a

| Study or subgroup | log[hazard ratio] | SE | Weight | Hazard ratio IV, random, 95% CI |
|---|---|---|---|---|
| Boorjian 2011 | 0.5988 | 0.0852 | 12.1% | 1.82 [1.54, 2.15] |
| Cooperberg 2010 | 0.4637 | 0.0911 | 10.6% | 1.59 [1.33, 1.90] |
| Hoffman 2013 | 0.5128 | 0.0792 | 14.0% | 1.67 [1.43, 1.95] |
| Jeldres 2008 | 0.7419 | 0.2255 | 1.7% | 2.10 [1.35, 3.27] |
| Kibel 2012 | 0.4886 | 0.0562 | 27.8% | 1.63 [1.46, 1.82] |
| Ladjevardi 2010 | 0.4121 | 0.0685 | 18.7% | 1.51 [1.32, 1.73] |
| Merglen 2007 | 0.8755 | 0.3537 | 0.7% | 2.40 [1.20, 4.80] |
| Rice 2013 | 0.3038 | 0.2255 | 1.7% | 1.35 [0.87, 2.11] |
| Sun 2013 | 0.4187 | 0.0917 | 10.5% | 1.52 [1.27, 1.82] |
| Tewari 2007 | 0.7839 | 0.2058 | 2.1% | 2.19 [1.46, 3.28] |
| **Total (95% CI)** | | | **100.0%** | **1.63 [1.54, 1.73]** |

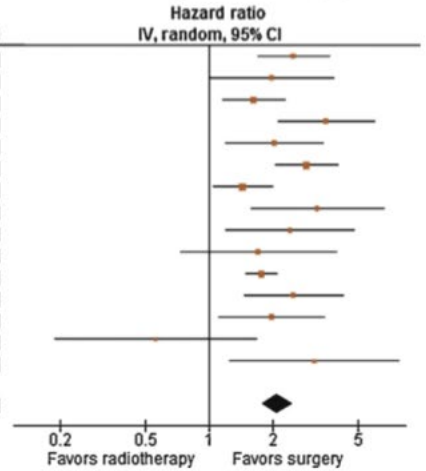
Heterogeneity: Tau² = 0.00; $\chi^2$ = 8.85, df = 9 ($p$ = 0.45); $I^2$ = 0%
Test for overall effect: Z = 16.56 ($p$ < 0.00001)




b

| Study or subgroup | log[hazard ratio] | SE | Weight | Hazard ratio IV, random, 95% CI |
|---|---|---|---|---|
| Albertsen 2007 | 0.9163 | 0.1968 | 9.0% | 2.50 [1.70, 3.68] |
| Arvold 2011 | 0.6831 | 0.3384 | 4.7% | 1.98 [1.02, 3.84] |
| Boorjian 2011 | 0.4824 | 0.1748 | 9.9% | 1.62 [1.15, 2.28] |
| Cooperberg 2010 | 1.2698 | 0.2669 | 6.4% | 3.56 [2.11, 6.01] |
| DeGroot 2013 | 0.7031 | 0.27 | 6.3% | 2.02 [1.19, 3.43] |
| Hoffman 2013 | 1.0508 | 0.1724 | 10.1% | 2.86 [2.04, 4.01] |
| Kibel 2012 | 0.3646 | 0.166 | 10.4% | 1.44 [1.04, 1.99] |
| Lee 2014 | 1.1694 | 0.3665 | 4.2% | 3.22 [1.57, 6.60] |
| Merglen 2007 | 0.8755 | 0.3537 | 4.4% | 2.40 [1.20, 4.80] |
| Merino 2013 | 0.5342 | 0.4331 | 3.2% | 1.71 [0.73, 3.99] |
| Sooriakumaran 2014 | 0.5653 | 0.085 | 14.5% | 1.76 [1.49, 2.08] |
| Sun 2013 | 0.9163 | 0.2709 | 6.3% | 2.50 [1.47, 4.25] |
| Tewari 2007 | 0.678 | 0.2903 | 5.8% | 1.97 [1.12, 3.48] |
| Westover 2012 | -0.5798 | 0.5575 | 2.1% | 0.56 [0.19, 1.67] |
| Zelefsky 2010 | 1.1394 | 0.4675 | 2.8% | 3.12 [1.25, 7.81] |
| **Total (95% CI)** | | | **100.0%** | **2.08 [1.76, 2.47]** |

Heterogeneity: Tau² = 0.04; $\chi^2$ = 26.70, df = 14 ($p$ = 0.02); $I^2$ = 48%
Test for overall effect: Z = 8.54 ($p$ < 0.00001)




**EUROPEAN UROLOGY 70 (2016) 21–30**

Διαγνωστικά
σταδιοποίηση
Πρόγνωση
ενημέρωση
Θεραπευτικά
Άμεσα ?
έμμεσα

# ΔΙΑΓΝΩΣΤΙΚΟΣ/ΣΤΑΔΙΟΠΟΙΗΣΗ

- Πρόγνωση
- Ενημέρωση ασθενούς
- Έναρξη άμεσης επικουρικής θεραπείας
- Σχεδιασμός επικουρικής θεραπείας

# Oncologic and Functional Outcomes after Radical Prostatectomy for High or Very High Risk Prostate Cancer: European Validation of the Current NCCN Guideline

Raisa S. Pompe, Pierre I. Karakiewicz, Zhe Tian, Philipp Mandel, Thomas Steuber, Thorsten Schlomm, Georg Salomon, Markus Graefen, Hartwig Huland and Derya Tilki*

*From the Martini-Klinik Prostate Cancer Center (RSP, PM, TS, TS, GS, MG, HH, DT) and Department of Urology (PM, TS, DT), University Hospital Hamburg-Eppendorf, Hamburg, Germany, and Cancer Prognostics and Health Outcomes Unit, University of Montreal Health Center, Montreal, Quebec, Canada (RSP, PIK, ZT)*

THE JOURNAL OF UROLOGY® Vol. 198, 1-8, August 2017

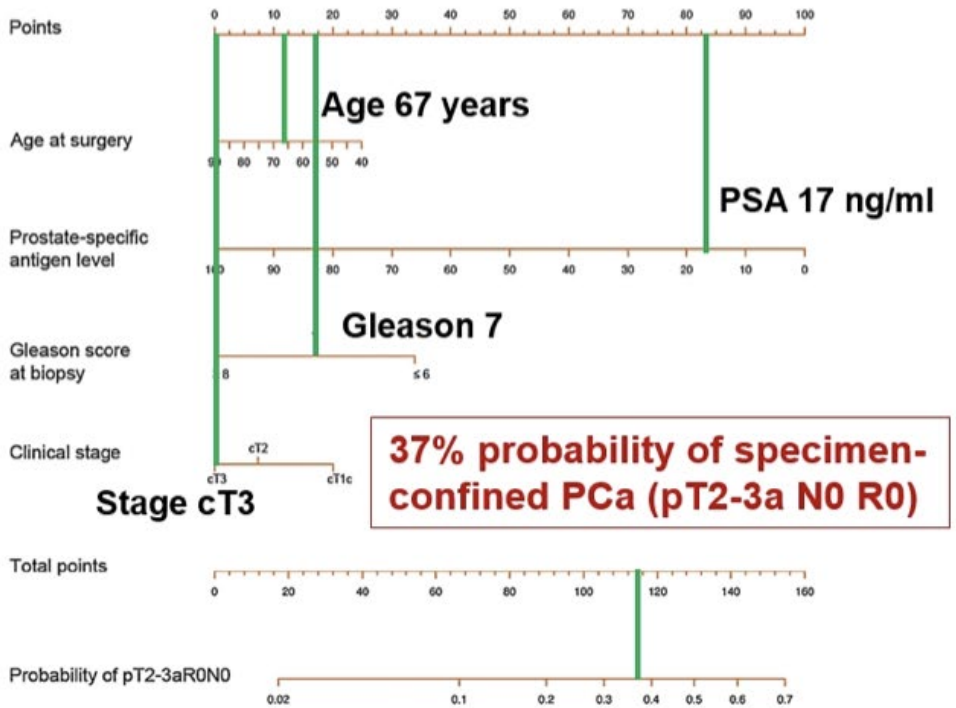
EUROPEAN UROLOGY 61 (2012) 584–592

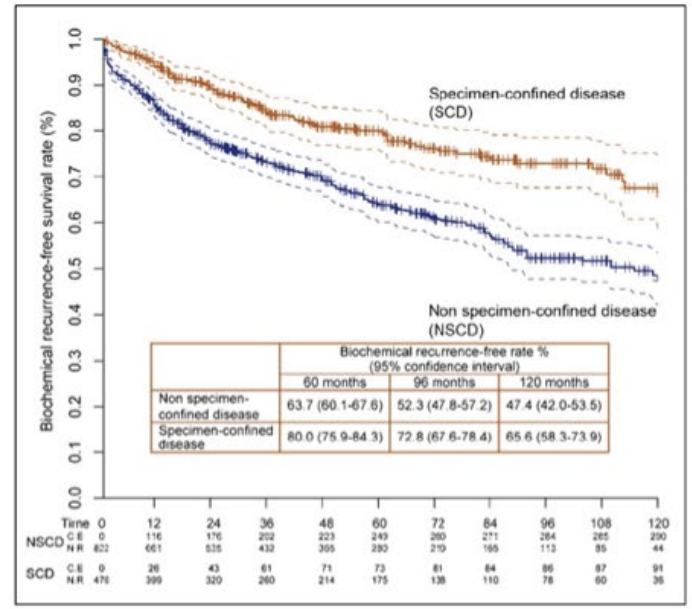
EMPaCT

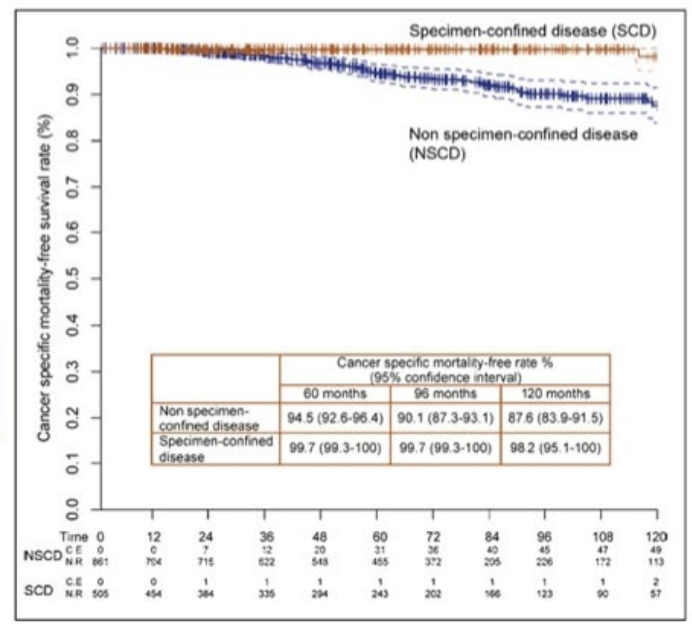
Prostate Cancer

# Identifying the Best Candidate for Radical Prostatectomy Among Patients with High-Risk Prostate Cancer

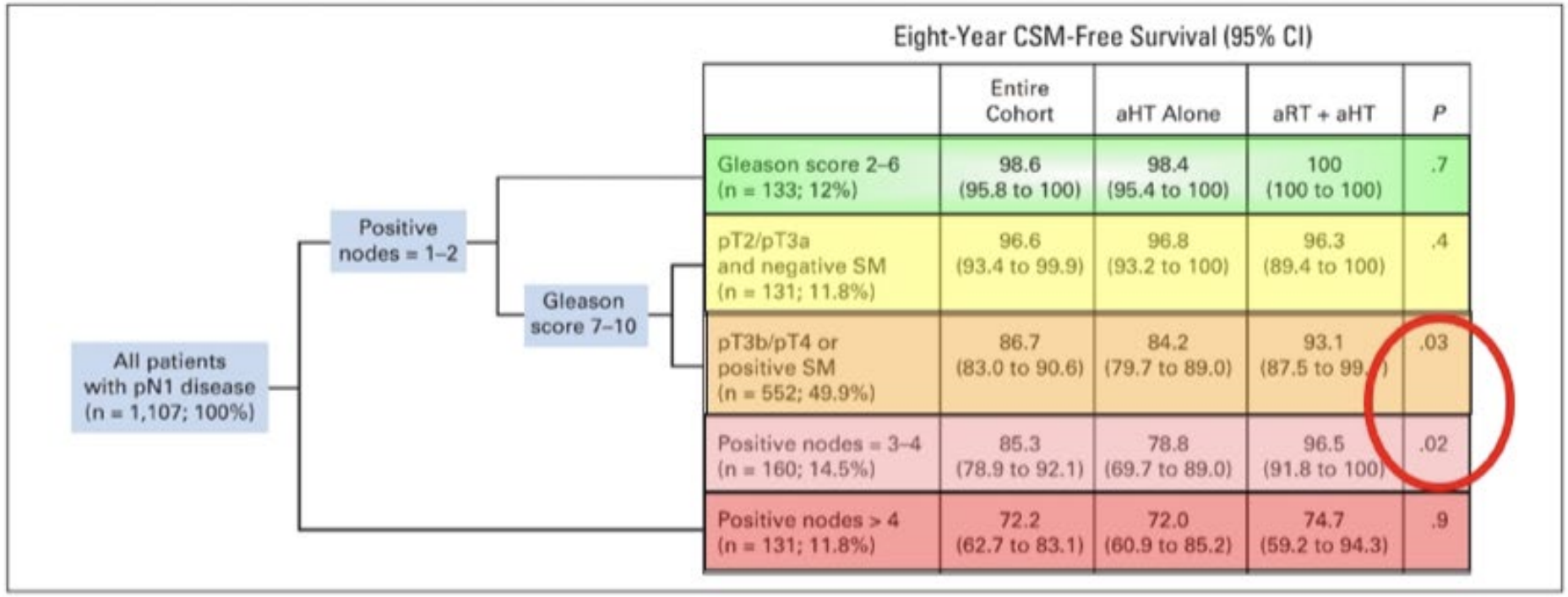
*Alberto Briganti [a,*,1], Steven Joniau [b,1], Paolo Gontero [c], Firas Abdollah [a], Niccolò M. Passoni [a], Bertrand Tombal [d], Giansilvio Marchioro [e], Burkhard Kneitz [f], Jochen Walz [g], Detlef Frohneberg [h], Chris H. Bangma [i], Markus Graefen [j], Alessandro Tizzani [c], Bruno Frea [k], R. Jeffrey Karnes [l], Francesco Montorsi [a], Hein Van Poppel [b], Martin Spahn [f]*



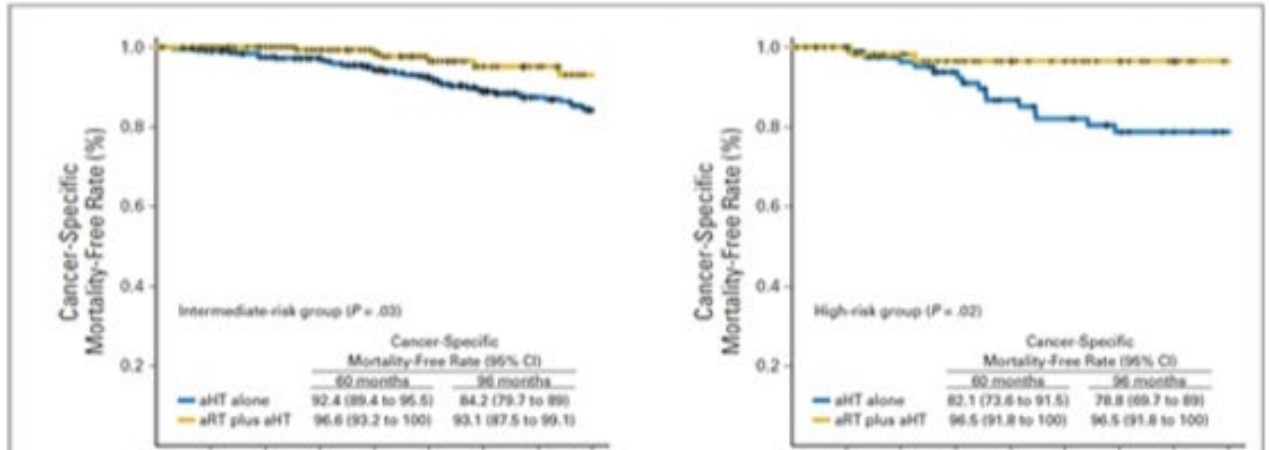



# pN+ and adjuvant RT




Eight-Year CSM-Free Survival (95% CI)

| | Entire Cohort | aHT Alone | aRT + aHT | *P* |
|---|---|---|---|---|
| Gleason score 2–6 (n = 133; 12%) | 98.6 (95.8 to 100) | 98.4 (95.4 to 100) | 100 (100 to 100) | .7 |
| pT2/pT3a and negative SM (n = 131; 11.8%) | 96.6 (93.4 to 99.9) | 96.8 (93.2 to 100) | 96.3 (89.4 to 100) | .4 |
| pT3b/pT4 or positive SM (n = 552; 49.9%) | 86.7 (83.0 to 90.6) | 84.2 (79.7 to 89.0) | 93.1 (87.5 to 99.1) | .03 |
| Positive nodes = 3–4 (n = 160; 14.5%) | 85.3 (78.9 to 92.1) | 78.8 (69.7 to 89.0) | 96.5 (91.8 to 100) | .02 |
| Positive nodes > 4 (n = 131; 11.8%) | 72.2 (62.7 to 83.1) | 72.0 (60.9 to 85.2) | 74.7 (59.2 to 94.3) | .9 |



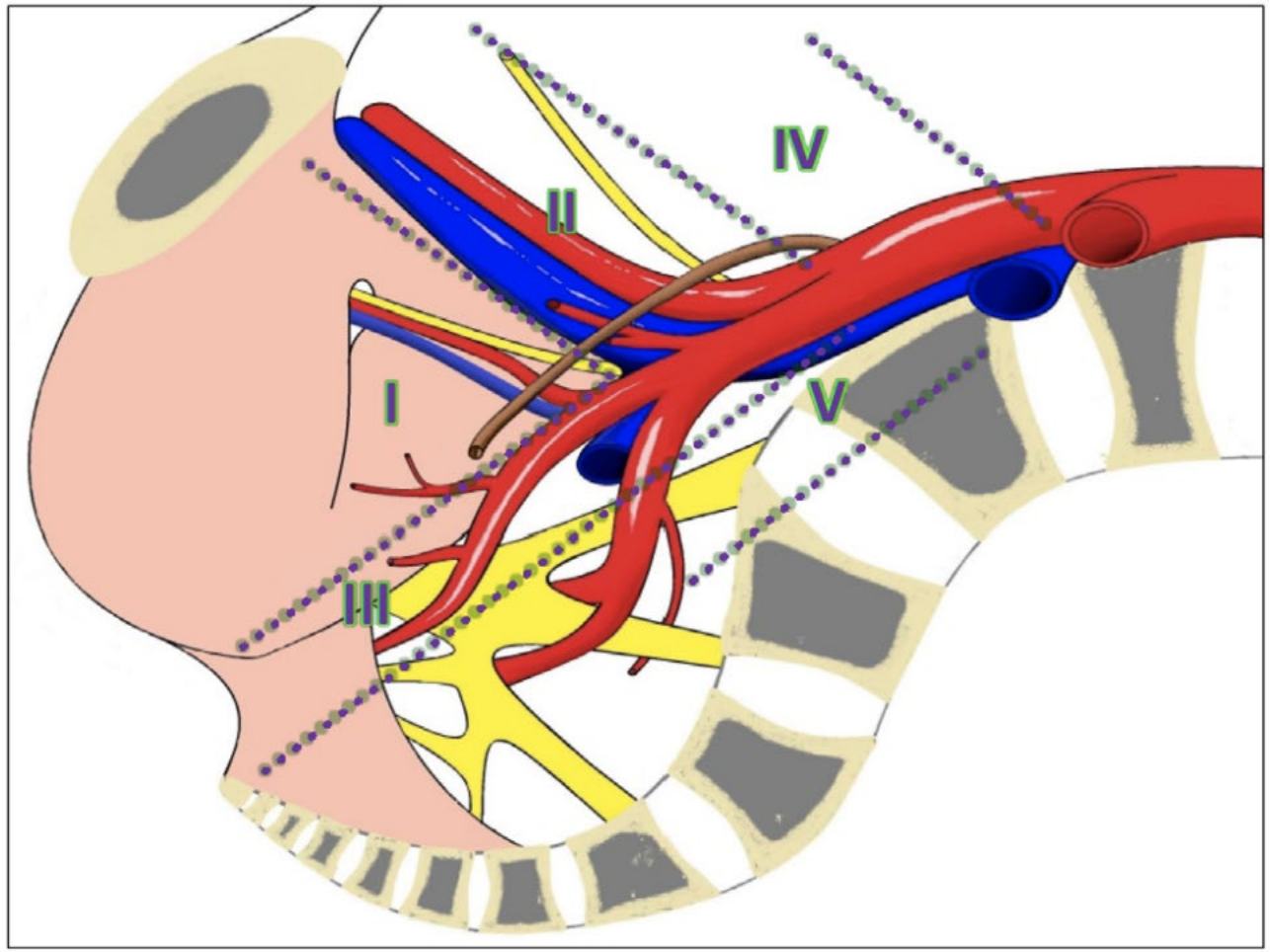
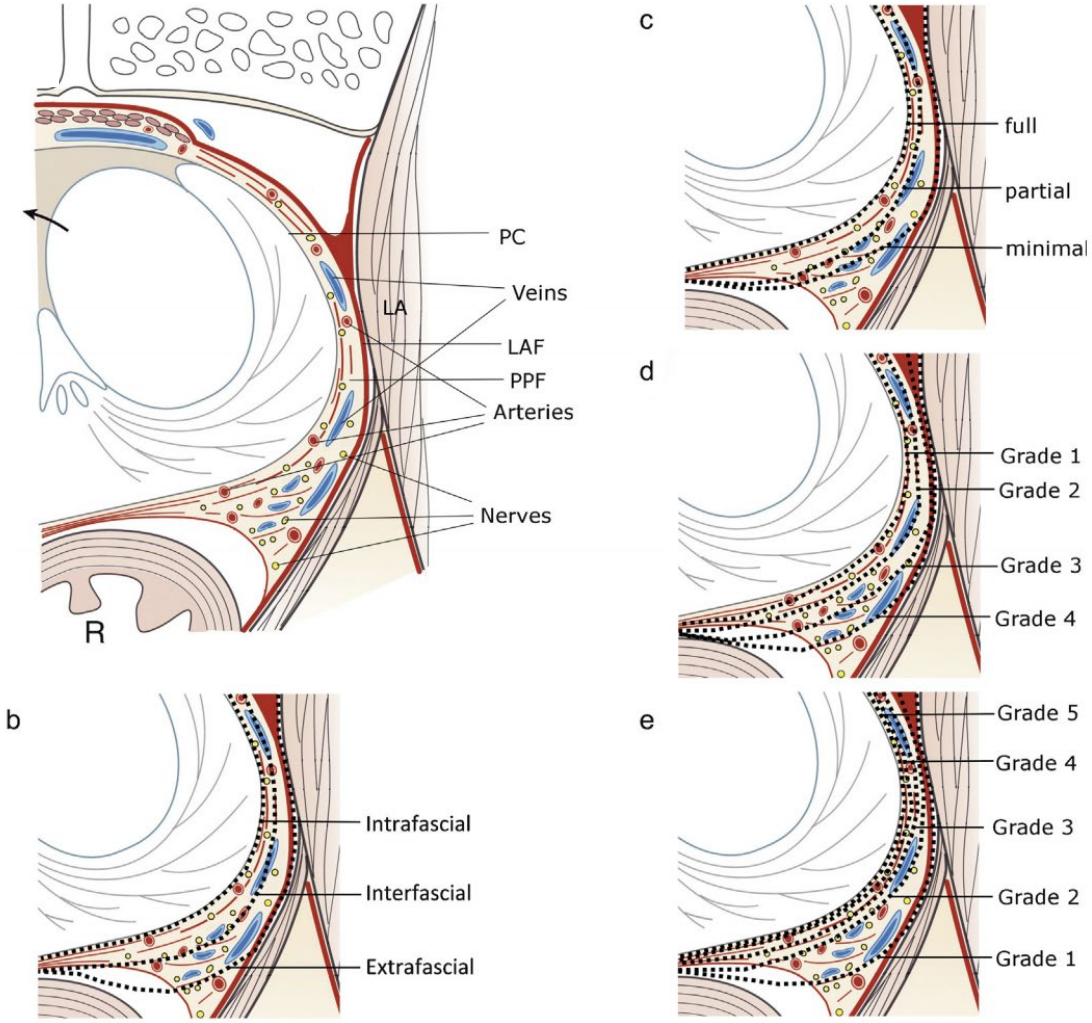



**Fig. 1 – Anatomical areas for the definition of the extent of dissection. I = obturator nodes; II = external iliac nodes; III = internal iliac nodes; IV = common iliac nodes; V = presacral nodes.**

# A Critical Analysis of the Current Knowledge of Surgical Anatomy of the Prostate Related to Optimisation of Cancer Control and Preservation of Continence and Erection in Candidates for Radical Prostatectomy: An Update

*Jochen Walz*[a,*], *Jonathan I. Epstein*[b], *Roman Ganzer*[c], *Markus Graefen*[d], *Giorgio Guazzoni*[e], *Jihad Kaouk*[f], *Mani Menon*[g], *Alexandre Mottrie*[h], *Robert P. Myers*[i], *Vipul Patel*[j], *Ashutosh Tewari*[k], *Arnauld Villers*[l], *Walter Artibani*[m]




Eur Urol 2016 Aug;70(2):301-11

# Mapping of Pelvic Lymph Node Metastases in Prostate Cancer

*Steven Joniau* [a,†,*], *Laura Van den Bergh* [b,†], *Evelyne Lerut* [c], *Christophe M. Deroose* [d], *Karin Haustermans* [b], *Raymond Oyen* [e], *Tom Budiharto* [b], *Filip Ameye* [a], *Kris Bogaerts* [f], *Hein Van Poppel* [a]

node

**dissection template based on these results**

| | N+ patients correctly staged, no. (%, 95% CI) | N+ patients in whom all N+ removed, no. (%, 95% CI) | N+ removed, no. (%) | Nodes removed, no., median (IQR) |
|---|---|---|---|---|
| Obturator LND | 16/34 (47, 29–62) | 5/34 (15, 3–26) | 23/91 (25) | 6 (4–9) |
| Limited LND (external iliac plus obturator regions) | 26/34 (76, 62–88) | 10/34 (29, 15–44) | 47/91 (52) | 12 (8–17) |
| Extended LND (external and internal iliac plus obturator regions) | 32/34 (94, 85–100) | 26/34 (76, 62–88) | 79/91 (87) | 16 (10–21) |
| New suggested LND template (eLND plus presacral regions) | 33/34 (97, 91–100) | 30/34 (88, 76–97) | 87/91 (96) | 18 (12–23) |
| Superextended LND (eLND plus presacral plus common iliac regions) | 33/34 (97, 91–100) | 33/34 (97, 91–100) | 90/91 (99) | 21 (16–27) |
| Superextended LND plus SN | 34/34 (100) | 34/34 (100) | 91/91 (100) | 21 (16–27) |

N+ = node-positive; CI = confidence interval; IQR = interquartile range; LND = lymph node dissection; eLND = extended lymph node dissection; SN = sentinel node.

Eur Urol. 2013 Mar;63(3):450-8.

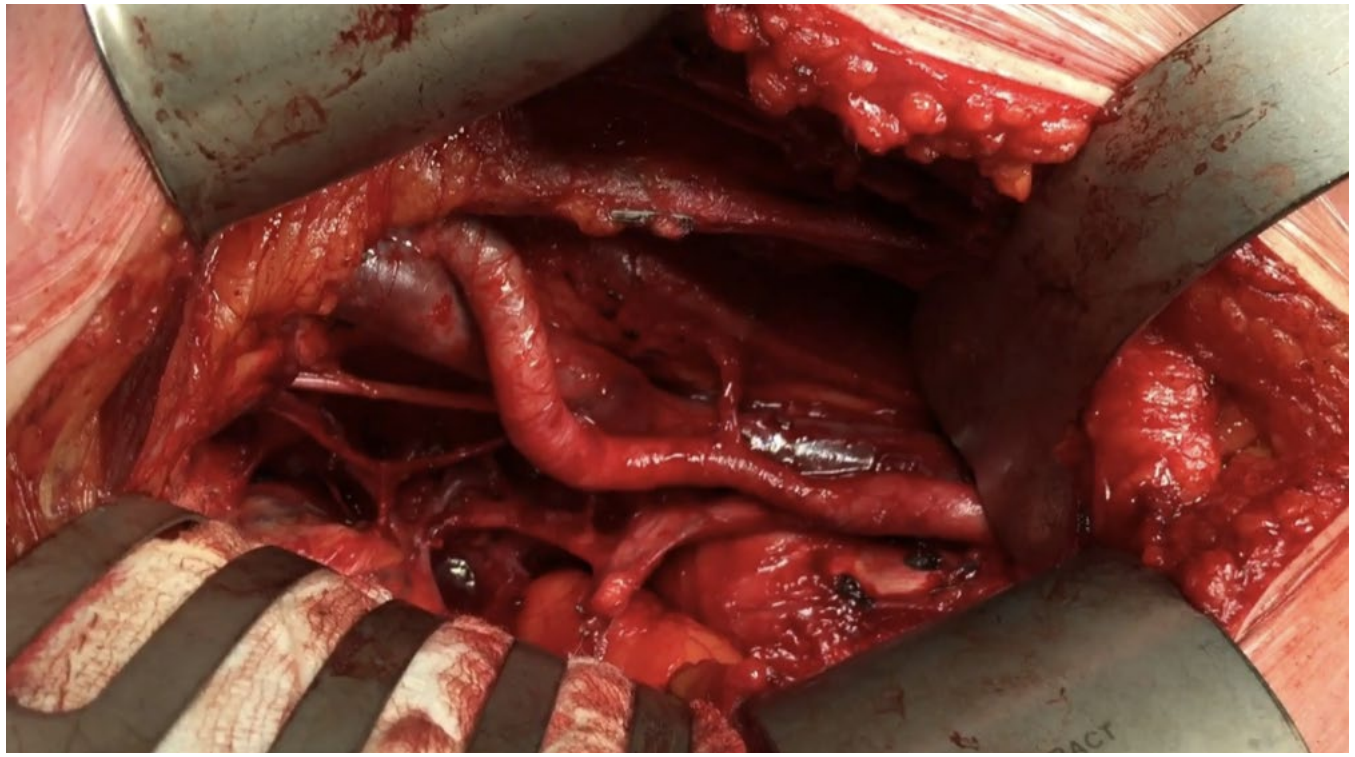
| Study | Dissection | N | Med No nodes (%) |
|---|---|---|---|
| Heidenreich et al | Standard vs. extended | 100 | 11 vs 28 (12 vs 26) |
| Bader et al | Extended | 365 | 21 (24) |
| Clark et al | Unilateral standard vs extended | 123 | (2.4 vs 3.2) |
| Stone et al | Lap standard vs extended | 189 | 9.3 vs 17.8 (7.3 vs 23.1) |
| Allaf et al | Standard vs. extended | 4,000 | 8.9 vs 11.6 (1.1 vs 3.2) |
| Toujier et al | Standard vs. extended | 648 | 9 vs 13 (5 vs 13.2) |

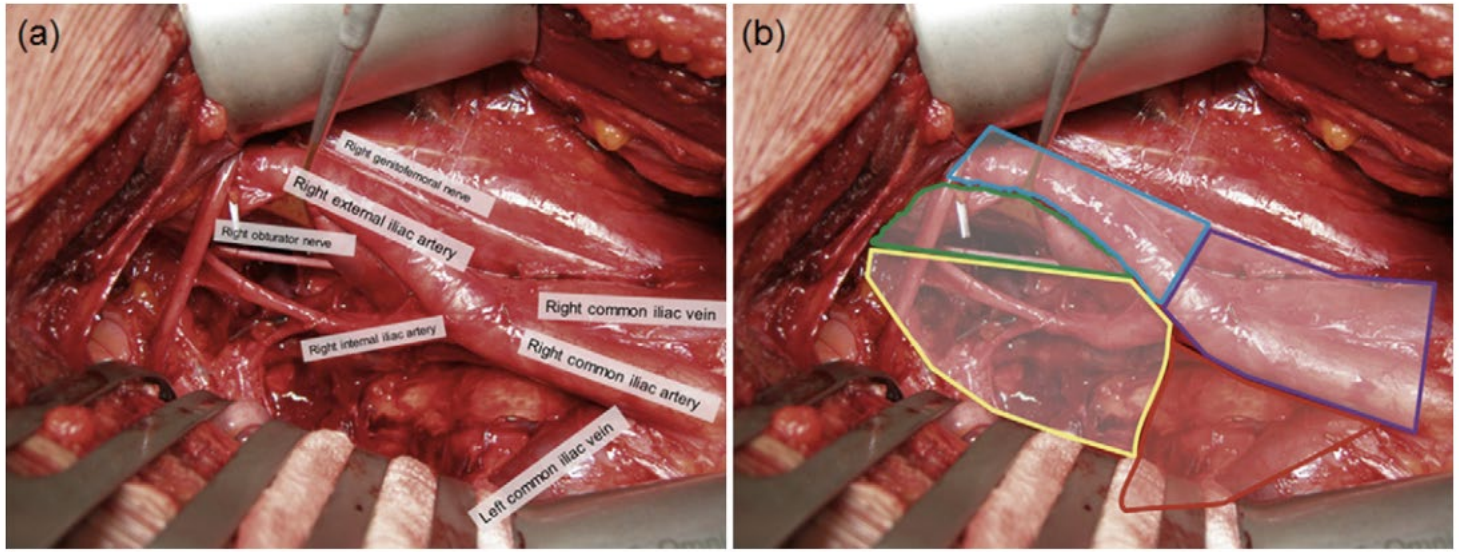
TABLE 2. *Number of patients with positive lymph nodes according to their location*

| Location | No. External Iliac Vein (%) | No. Obturator Fossa (%) | No. Internal Iliac Vessels (%) |
|---|---|---|---|
| External iliac vein | 11 (13)* | 3 (3) | 7 (8) |
| Obturator fossa | 3 (3) | 23 (26)* | 16 (18) |
| Internal iliac vessels | 7 (8) | 16 (18) | 17 (19)* |
| All 3 locations | 11 (13) | 11 (13) | 11 (13) |
| Totals | 32 (36) | 53 (60) | 51 (58) |

* Exclusively in this location.

Bader et al, J Urol 168:514-518, 2002.




(a)
Right genitofemoral nerve
Right external iliac artery
Right obturator nerve
Right common iliac vein
Right internal iliac artery
Right common iliac artery
Left common iliac vein
(b)

# Questioning the 10-year Life Expectancy Rule for High-grade Prostate Cancer: Comparative Effectiveness of Aggressive vs Nonaggressive Treatment of High-grade Disease in Older Men With Differing Comorbid Disease Burdens

**Timothy J. Daskivich, Julie Lai, Andrew W. Dick, Claude M. Setodji, Janet M. Hanley, Mark S. Litwin, Christopher Saigal, and the Urologic Disease in America Project**

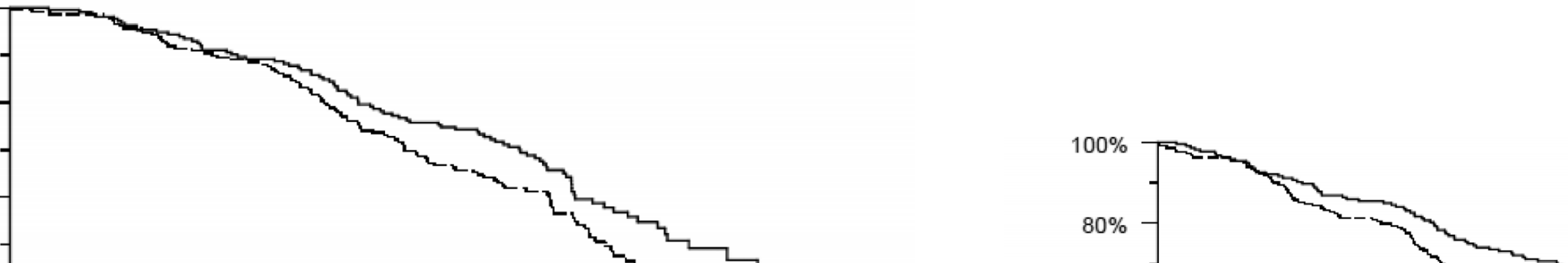
UROLOGY 93: 68–76, 2016

| Gleason 8-10 only* | 5-year Cancer Mortality (%) | 5-year Absolute Risk Reduction (%) | 10-year Cancer Mortality (%) | 10-year Absolute Risk Reduction (%) | Number Needed to Treat to Prevent 1 Cancer Death at 10 years |
|---|---|---|---|---|---|
| Full cohort | | | | | |
| Aggressive treatment | 6.7 | 7.1 | 11.2 | 10.7 | 9 |
| Nonaggressive treatment | 13.8 | | 21.9 | | |
| Charlson 0 | | | | | |
| Aggressive treatment | 6.5 | 7.1 | 11.5 | 11.7 | 9 |
| Nonaggressive treatment | 13.6 | | 23.2 | | |
| Charlson 1 | | | | | |
| Aggressive treatment | 6.8 | 4.6 | 10.3 | 6.9 | 14 |
| Nonaggressive treatment | 11.4 | | 17.2 | | |
| Charlson 2 | | | | | |
| Aggressive treatment | 8.0 | 7.3 | 10.7 | 9.3 | 11 |
| Nonaggressive treatment | 15.3 | | 20.0 | | |
| Charlson 3+ | | | | | |
| Aggressive treatment | 4.2 | 3.0 | 5.3 | 3.8 | 26 |
| Nonaggressive treatment | 7.2 | | 9.1 | | |

# Adjuvant Radiotherapy for Pathologic T3N0M0 Prostate Cancer Significantly Reduces Risk of Metastases and Improves Survival: Long-term Followup of a Randomized Clinical Trial

Ian M. Thompson, MD[1], Catherine M. Tangen, DrPH[2], Jorge Paradelo, MD[3], M. Scott Lucia, MD[4], Gary Miller, MD, PhD[4,*], Dean Troyer, MD[1], Edward Messing, MD[5], Jeffrey Forman, MD[6], Joseph Chin, MD[7], Gregory Swanson, MD[1], Edith Canby-Hagino, MD[8], and E. David Crawford, MD[4]

J Urol. 2009 Mar;181(3):956-62.



| **Surgical treatment** | |
|---|---|
| Inform patients that no surgical approach (open, laparoscopic- or robotic radical prostatectomy) has clearly shown superiority in terms of functional or oncological results. | Strong |

# 'Trifecta' after ... standard defi... ...omy: is there a

Leonardo D. Borregales... ...Vambi, Sarah Kaufman, Jose M. Gaya, Cristian ...

*Department of Urology, Columb...* ...A

| Collapsed definitions of BCR | | |
|---|---|---|
| # | Definition | Incidence, *n* |
| 1 | PSA = 0.2 ng/mL | 1 |
| 2 | 2 Consecutive PSA >0.2 ng/mL | 3 |
| 4 | PSA >0.2 ng/mL | 2 |
| 5 | PSA ≥0.2 ng/mL | 5 |
| 6 | Two consecutive PSA >0.05 ng/mL | 1 |
| 7 | PSA >0.4 ng/mL | 1 |
| 8 | PSA >0.4 then >0.2 after 1996 | 1 |

**Table 3** Summary of definitions used for potency.

| Collapsed definitions of potency | | |
|---|---|---|
| # | Definition | Incidence, *n* |
| 1 | ESI with or without PDE5 inhibitor | 3 |
| 2 | ESI IIEF-5 questionnaire with or without PDE5 inhibitor | 1 |
| 3 | ESI EPIC UCLA-PCI | 1 |
| 4 | ESI 50% of the time with or without PDE5 inhibitor | 2 |
| 5 | ESI >50% of the time with or without PDE5 inhibitor | 2 |
| 6 | IIEF-6 score >18 with or without PDE5 inhibitor | 1 |
| 7 | ESI – SHIM ≥16 in patients preoperativley potent | 1 |
| 8 | ESI SHIM >21 questionnaire | 1 |
| 9 | ESI most of the time with or without PDE5 inhibitor | 1 |
| 10 | 'potent' with or without PDE5 inhibitor | 1 |

BJU Int. 2013 Jul;112(1):60-7.

**Table 4** Summary of definitions used for continence.

| Collapsed definitions of continence | | |
|---|---|---|
| # | Definition | Incidence, *n* |
| 1 | No pads | 4 |
| 2 | EPIC UCLA- PCI questionnaire | 2 |
| 3 | ICIQ- UISF No leak | 1 |
| 4 | Absence or occasional use of pad anticipated vigorous activity | 1 |
| 5 | No pads, or 1 pad for security daily | 2 |
| 6 | No daily pads | 1 |
| 7 | No leakage and no pad requirement | 1 |
| 8 | Dry? | 1 |
| 9 | Dry, No pads. Occasionally for moderate exercise | 1 |

# THE TRIFECTA: GREAT CONCEPT, LOUSY STATISTIC

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Accepted for publication 10 May 2012

conservative resection, may increase the risk of recurrence.

The problem with the trifecta comes when it is used as a statistic, with authors calculating a specific trifecta rate. For example, Shikanov *et al.* [1] reported a trifecta rate of 76% at 2 years in a case series of 380 patients. Indeed, a recent systematic review reported on 12 separate attempts to calculate a trifecta rate [2], including, perhaps predictably, a trifecta nomogram [3], as well as an extension of the concept to a 'pentafecta', defined as the trifecta plus negative surgical margins and no surgical complications [4].

Despite its intuitive appeal, the trifecta is a poor measure of radical prostatectomy outcomes. There are several reasons why the trifecta should not be used as an endpoint in prostate cancer research. These are discussed below.

## 1. THE TRIFECTA IS STATISTICALLY INVALID

Recurrence and functional recovery occur over time; in statistical terms, they are 'time-to-event' variables. There are two different types of time-to-event variable, failure and incidence, and it is not straightforward to combine them; yet this is exactly what is required by a trifecta analysis. A patient who recovers erectile and urinary function at 1 year, but recurs at 2 years, would be non-trifecta at 6 months, and regain function repeatedly over time. For example, if we were to use a score of 24 on the International Index of Erectile Function-6 as the criterion for potency, one patient might have consecutive scores of 22, 25, 26, 23, 24, 23; if the patient were continent and recurrence-free, these scores would translate as non-trifecta, trifecta, trifecta, non-trifecta, trifecta, non-trifecta. By contrast, once a patient has recurred he is always considered to have recurred. So the trifecta mixes incidence and failure variables, with the former but not the latter being reversible.

## 2. THE TRIFECTA IS MEANT TO INCLUDE THREE ENDPOINTS, BUT IS DRIVEN PREDOMINATELY BY ERECTILE OUTCOMES

More men recover urinary as compared with erectile function. In particular, whilst most patients who experience persistent incontinence are also impotent (~90% in an informal analysis of data from the Memorial Sloan-Kettering Cancer Center), only a small proportion of patients who regain erectile function report pad use (~10%). As a result, urinary outcomes have little effect on trifecta rates. It can also be shown that recurrence also has a smaller effect on trifecta than erectile dysfunction because it is less common. As a simple illustration, imagine that surgeon A has a long-term potency rate of 40% with 90% cancer control; surgeon B has slightly better potency (50%) but much poorer rates of cancer control (72%). Although these are

## 3. THE TRIFECTA IS OVERLY INFLUENCED BY SHORT-TERM OUTCOMES

Recovery of urinary and erectile function typically occurs in the first year or two after surgery; recurrence occurs over 10 years or more. Any surgeon still in practice reporting trifecta results will inevitably have more patients followed for 2 years than for 10, which means that trifecta results are driven more strongly by functional recovery than cancer recurrence. Surgeon A and B above have the same long-term trifecta rates; however, because surgeon B has better functional recovery rates, he will be able to report better trifecta outcomes.

## 4. THE TRIFECTA GIVES EQUAL WEIGHTING TO EACH ENDPOINT

Trifecta outcomes would be the same for a surgeon with 50% potency rates and 90% freedom from recurrence as for a surgeon with rates of 90% for potency but 50% for recurrence. Patients might well trade-off an increase in recurrence rates for a decrease in the risk of impotence, but only if the latter was much larger than the former. Yes, patients do want to be recurrence-free and to recover erectile and urinary function; no, they do not consider each endpoint to be equally important.

In conclusion, the trifecta neatly encapsulates the goal of radical prostatectomy, but it is statistically invalid as an endpoint in clinical research and

2012 BJU INTERNATIONAL | 110, 771–77

# Pathophysiology and Contributing Factors in Postprostatectomy Incontinence: A Review

*John Heesakkers* [a], *Fawzy Farag* [b,*], *Ricarda M. Bauer* [c], *Jaspreet Sandhu* [d], *Dirk De Ridder* [e], *Arnulf Stenzl* [f]

**Table 2 – Surgical factors contributing to postprostatectomy incontinence**

| | Positive impact | Negative impact | No effect | Study | LE |
|---|---|---|---|---|---|
| Fibrosis | | * | | Paparel [68] | 3 |
| | | * | | Tuygun [28] | 3 |
| Stricture | | * | | Sacco [29] | |
| Extensive dissection | | * | | Srivastava [73] | 3 |
| Bladder neck sparing | * | | | Stolzenburg [5] | 3 |
| | * | | | Selli [7] | 3 |
| | | | * | Marien [41] | 4 |
| Rocco stitch | * | | | Rocco [19] | 2a |
| | | | * | Kim [21] | 3 |
| Anterior fixation | * | | | Hurtes [16] | 1b |
| | * | | | Stolzenburg [17] | 2a |
| | * | | | Schlomm [18] | 2b |
| | * | | | Soljanik [6] | 3 |
| Laxity of the posterior support | | * | | Bauer [74] | 2b |
| | | * | | Rehder [75] | 2b |
| | | | * | Suskind [27] | 3 |
| Neurovascular bundle damage | | * | | Montorsi [45] | 2b |
| | | * | | Catarin [37] | 2a |
| | | * | | Ozdemir [38] | 3 |
| | | * | | Kaye [39] | 3 |
| | | * | | Sacco [29] | 3 |
| | | * | | Stolzenburg [17] | 2a |
| | | * | | Burkhard [40] | 2b |
| Devascularization | | * | | Ozdemir [38] | 3 |

# Pathophysiology and Contributing Factors in Postprostatectomy Incontinence: A Review

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Eur Urol. 2017 Jun;71(6):936-944.

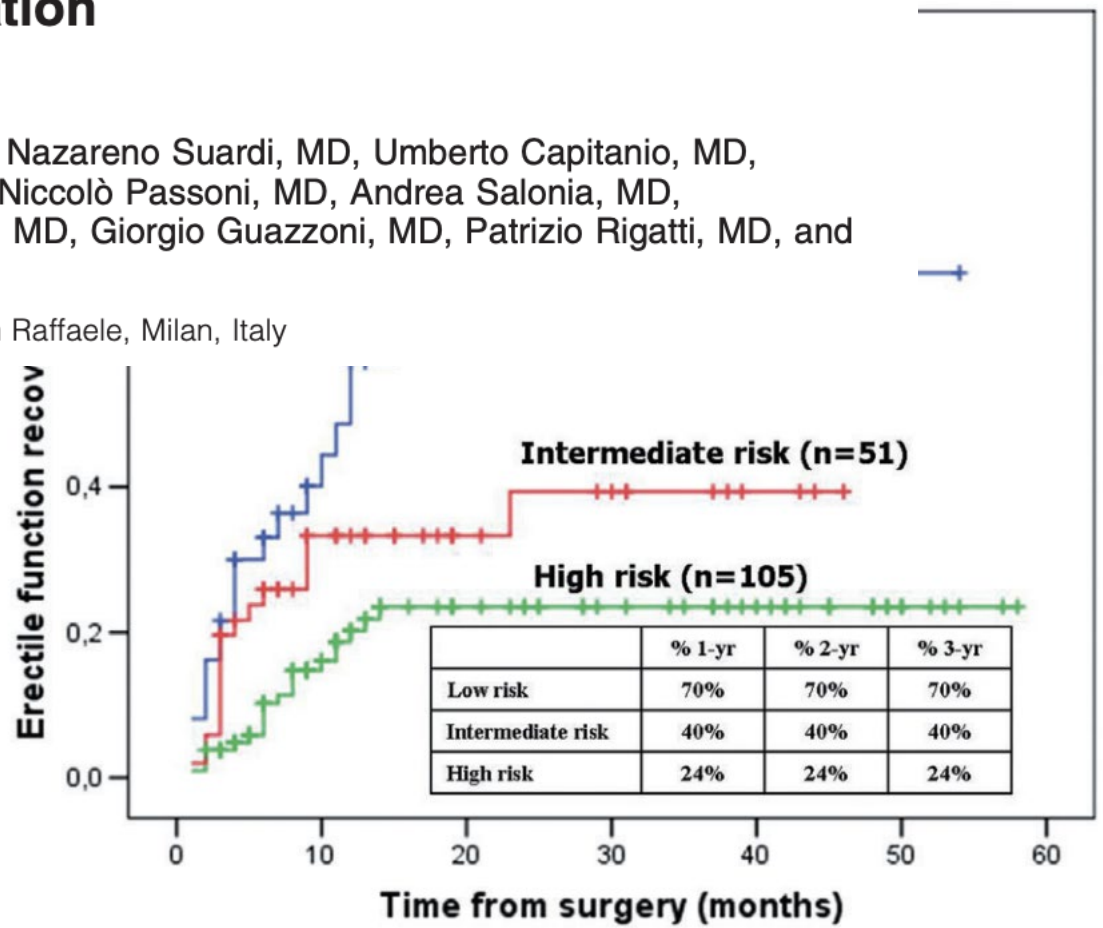
| | | | | | LE |
|---|---|---|---|---|---|
| | | | | | 3 |
| | | | | | 3 |
| | | | | Matsushita [52] | 3 |
| | | | * | Kadono [53] | 3 |
| | | | * | Catalona [54] | 3 |
| Pre-existing LUTS | | * | | Rodriguez [60] | 3 |
| Functional bladder changes | | * | | Lee [48] | 3 |
| | | * | | Dubbelman [71] | 3 |
| | | * | | Song [47] | 2b |
| TURP before RP | | * | | Elder [58] | 3 |
| | | | * | Palisaar [59] | 4 |
| Prostate size | | * | | Boczko [64] | 3 |
| | | * | | Konety [65] | 3 |
| | | | * | Kadono [53] | 3 |
| Membranous urethral length | * | | | Nguyen [67] | 2b |
| | * | | | Paparel [68] | 3 |
| | * | | | Matsushita [52] | 3 |
| | | | * | Borin [69] | 2b |
| | | | * | Hakimi [72] | 3 |
| Body mass index | | * | | Wolin [55] | 3 |
| | | * | | Wiltz [56] | 3 |
| | | * | | Matsushita [52] | 3 |
| | | | * | Kadono [53] | 3 |
| Salvage RP after RT | | * | | Chade [70] | |

LE = level of evidence; RP = radical prostatectomy; TURP = transurethral resection of prostate; RT = radiation therapy; LUTS = lower urinary tract symptoms.

# Predicting Erectile Function Recovery after Bilateral Nerve Sparing Radical Prostatectomy: A Proposal of a Novel Preoperative Risk Stratification

Alberto Briganti, MD, Andrea Gallina, MD, Nazareno Suardi, MD, Umberto Capitanio, MD, Manuela Tutolo, MD, Marco Bianchi, MD, Niccolò Passoni, MD, Andrea Salonia, MD, Renzo Colombo, MD, Valerio Di Girolamo, MD, Giorgio Guazzoni, MD, Patrizio Rigatti, MD, and Francesco Montorsi, MD

Department of Urology, Vita-Salute University San Raffaele, Milan, Italy




| | % 1-yr | % 2-yr | % 3-yr |
|---|---|---|---|
| Low risk | 70% | 70% | 70% |
| Intermediate risk | 40% | 40% | 40% |
| High risk | 24% | 24% | 24% |

# Predicting Erectile Function Recovery after Bilateral Nerve Sparing Radical Prostatectomy: A Proposal of a Novel Preoperative Risk Stratification

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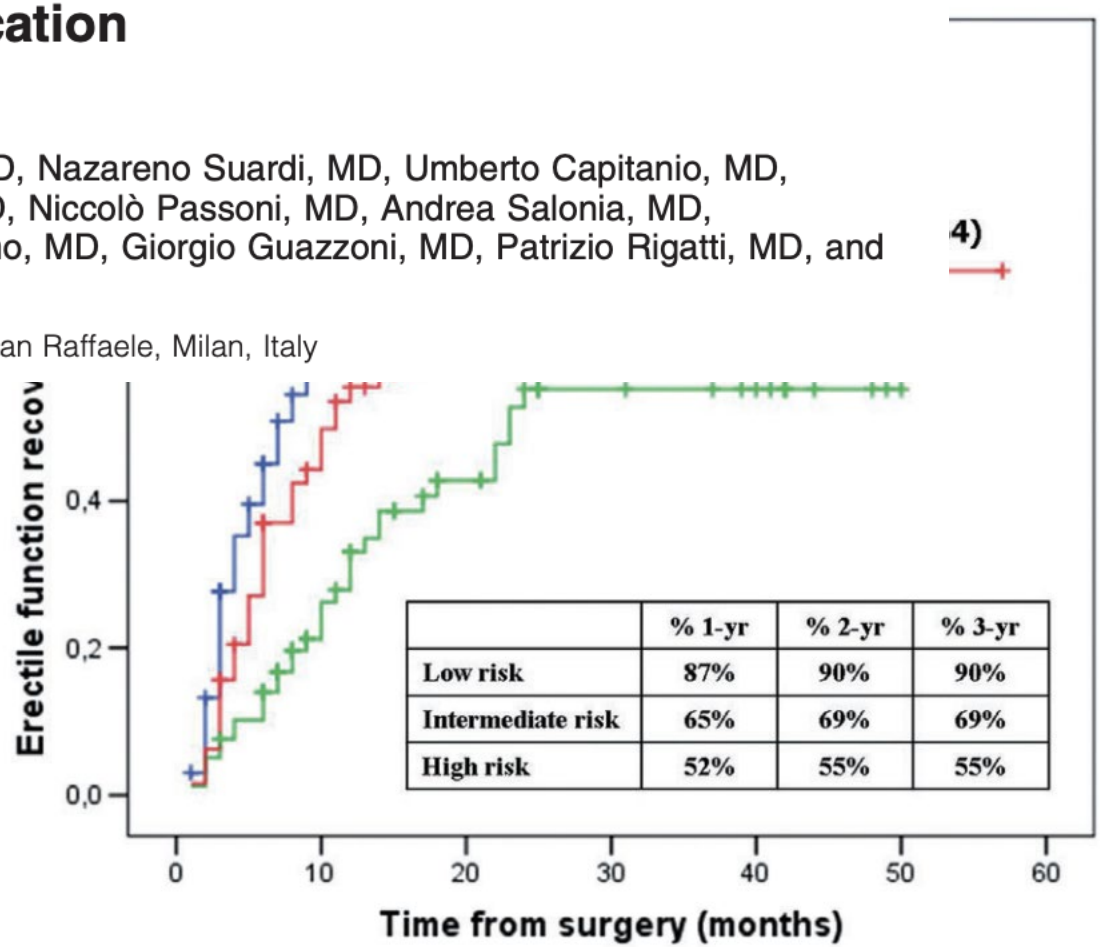
Department of Urology, Vita-Salute University San Raffaele, Milan, Italy




| | % 1-yr | % 2-yr | % 3-yr |
|---|---|---|---|
| Low risk | 87% | 90% | 90% |
| Intermediate risk | 65% | 69% | 69% |
| High risk | 52% | 55% | 55% |

# Prostate-Specific
# Stage, and G
# Pathological
# state Cancer

e

); Eric N. P. Subong, MS; Patrick C. W
ter T. Scardino, MD; J. D. Pearson, PhD

JAMA. 1997 May 14;277(18):1445-51.

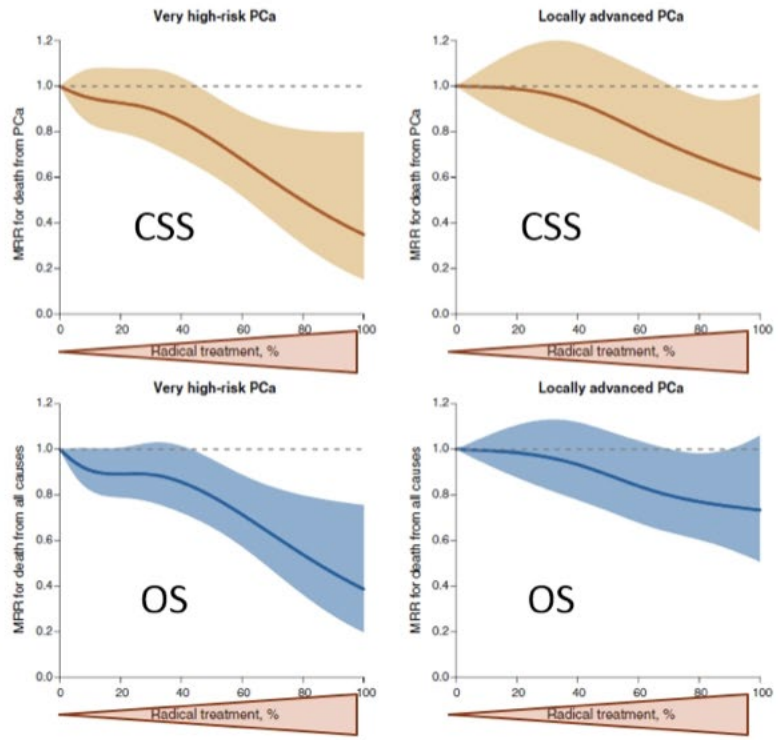
| Gleason Score | PSA, 0.0-4.0 ng/mL — Clinical Stage | | | | | | | PSA, 4.1-10.0 ng/mL — Clinical Stage | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | T1a | T1b | T1c | T2a | T2b | T2c | T3a | T1a | T1b | T1c | T2a | T2b | T2c | T3a |
| **Organ-Confined Disease** | | | | | | | | | | | | | | |
| 2-4 | 90 (84-95) | 80 (72-86) | 89 (86-92) | 81 (75-86) | 72 (65-79) | 77 (69-83) | . . . | 84 (75-92) | 70 (60-79) | 83 (78-88) | 71 (64-78) | 61 (52-69) | 66 (57-74) | 43 (27-58) |
| 5 | 82 (73-90) | 66 (57-73) | 81 (76-84) | 68 (63-72) | 57 (50-62) | 62 (55-69) | 40 (26-53) | 72 (60-85) | 53 (44-63) | 71 (67-75) | 55 (51-60) | 43 (38-49) | 49 (42-55) | 27 (17-39) |
| 6 | 78 (68-88) | 61 (52-69) | 78 (74-81) | 64 (59-68) | 52 (46-57) | 57 (51-64) | 35 (22-48) | 67 (55-82) | 47 (38-57) | 67 (64-70) | 51 (47-54) | 38 (34-43) | 43 (38-49) | 23 (14-34) |
| 7 | . . . | 43 (34-53) | 63 (58-68) | 47 (41-52) | 34 (29-39) | 38 (32-45) | 19 (11-29) | 49 (34-68) | 29 (21-38) | 49 (45-54) | 33 (29-38) | 22 (18-26) | 25 (20-30) | 11 (6-17) |
| 8-10 | . . . | 31 (20-43) | 52 (41-62) | 36 (27-45) | 24 (17-32) | 27 (18-36) | . . . | 35 (18-62) | 18 (11-28) | 37 (28-46) | 23 (16-31) | 14 (9-19) | 15 (10-22) | 6 (3-10) |
| **Established Capsular Penetration** | | | | | | | | | | | | | | |
| 2-4 | 9 (4-15) | 19 (13-26) | 10 (7-14) | 18 (13-23) | 25 (19-32) | 21 (14-28) | . . . | 14 (7-23) | 27 (18-37) | 15 (11-20) | 26 (19-33) | 35 (26-43) | 29 (21-37) | 44 (30-59) |
| 5 | 17 (9-26) | 32 (24-40) | 18 (15-22) | 30 (26-35) | 40 (34-46) | 34 (27-40) | 51 (38-65) | 25 (14-36) | 42 (32-51) | 27 (23-30) | 41 (36-46) | 50 (45-55) | 43 (37-50) | 57 (46-68) |
| 6 | 19 (11-29) | 35 (27-43) | 21 (18-25) | 34 (30-38) | 43 (38-48) | 37 (31-43) | 53 (41-65) | 27 (15-39) | 44 (35-53) | 30 (27-33) | 44 (41-48) | 52 (48-56) | 46 (40-51) | 57 (47-67) |
| 7 | . . . | 44 (35-54) | 31 (26-36) | 45 (40-50) | 51 (46-57) | 45 (38-52) | 52 (40-63) | 36 (20-51) | 48 (38-60) | 40 (35-44) | 52 (48-57) | 54 (49-59) | 48 (42-54) | 48 (37-58) |
| 8-10 | . . . | 43 (32-56) | 34 (27-44) | 47 (38-56) | 48 (40-57) | 42 (33-52) | . . . | 34 (17-58) | 42 (28-57) | 40 (33-49) | 49 (42-57) | 46 (39-53) | 40 (31-48) | 34 (24-46) |
| **Seminal Vesicle Involvement** | | | | | | | | | | | | | | |
| 2-4 | 0 (0-2) | 1 (0-3) | 1 (0-1) | 1 (0-2) | 2 (1-5) | 2 (1-5) | . . . | 1 (0-4) | 2 (0-6) | 1 (0-3) | 2 (1-5) | 4 (1-9) | 5 (1-10) | 10 (3-23) |
| 5 | 1 (0-3) | 2 (0-4) | 1 (1-2) | 2 (1-3) | 3 (2-4) | 3 (2-6) | 7 (3-14) | 2 (0-5) | 3 (1-7) | 2 (1-3) | 3 (2-5) | 5 (3-8) | 6 (4-10) | 12 (6-20) |
| 6 | 1 (0-3) | 2 (0-4) | 1 (1-2) | 2 (1-3) | 3 (2-4) | 4 (2-5) | 7 (4-13) | 2 (0-6) | 3 (1-6) | 2 (2-3) | 3 (2-4) | 5 (4-7) | 6 (4-9) | 11 (6-18) |
| 7 | . . . | 6 (1-13) | 4 (2-7) | 6 (4-9) | 10 (6-14) | 12 (7-17) | 19 (10-31) | 6 (0-19) | 9 (2-18) | 8 (5-11) | 10 (8-13) | 15 (11-19) | 18 (13-24) | 26 (17-36) |
| 8-10 | . . . | 11 (2-23) | 9 (5-16) | 12 (7-19) | 17 (11-25) | 21 (12-31) | . . . | 10 (0-34) | 15 (4-29) | 15 (10-22) | 19 (13-26) | 24 (17-31) | 28 (20-37) | 35 (23-48) |
| **Lymph Node Involvement** | | | | | | | | | | | | | | |
| 2-4 | 0 (0-1) | 0 (0-1) | 0 (0-0) | 0 (0-0) | 0 (0-1) | 0 (0-1) | . . . | 0 (0-2) | 1 (0-3) | 0 (0-1) | 0 (0-1) | 1 (0-2) | 1 (0-2) | 1 (0-5) |
| 5 | 0 (0-2) | 1 (0-2) | 0 (0-0) | 0 (0-1) | 1 (0-2) | 1 (0-2) | 2 (0-4) | 1 (0-5) | 2 (1-5) | 0 (0-1) | 1 (0-1) | 2 (1-3) | 2 (1-3) | 3 (1-7) |
| 6 | 1 (0-7) | 2 (1-5) | 0 (0-1) | 1 (0-1) | 2 (1-3) | 2 (1-4) | 5 (2-9) | 3 (0-15) | 5 (2-11) | 1 (1-2) | 2 (1-3) | 4 (3-6) | 4 (3-6) | 9 (5-15) |
| 7 | . . . | 6 (2-13) | 1 (1-3) | 2 (1-4) | 5 (2-8) | 5 (2-9) | 9 (4-17) | 8 (0-32) | 12 (5-23) | 3 (2-5) | 4 (3-6) | 9 (6-12) | 9 (6-13) | 15 (8-23) |
| 8-10 | . . . | 14 (5-27) | 4 (2-7) | 5 (2-9) | 10 (5-17) | 10 (4-18) | . . . | 18 (0-55) | 23 (10-43) | 8 (4-12) | 9 (5-13) | 16 (11-24) | 17 (10-26) | 24 (13-38) |

*Numbers represent percent predictive probability (95% confidence interval). Ellipses indicate lack of sufficient data to calculate probability. PSA indicates prostate-specific antigen.

# Role of local treatment in very high-risk and locally advanced PCa - PCBaSe

**T4 and/or PSA level 50–200 ng/ml, any N, and M0**

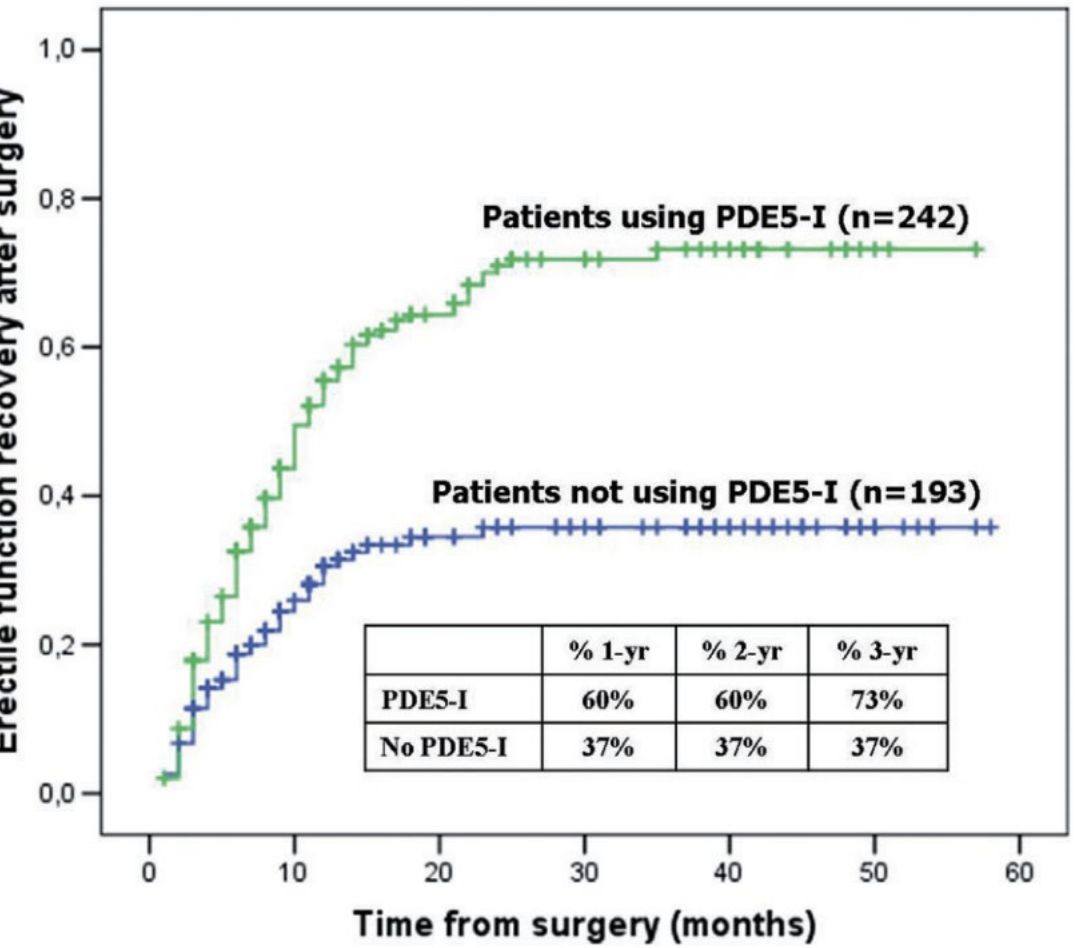
**N=7,500**



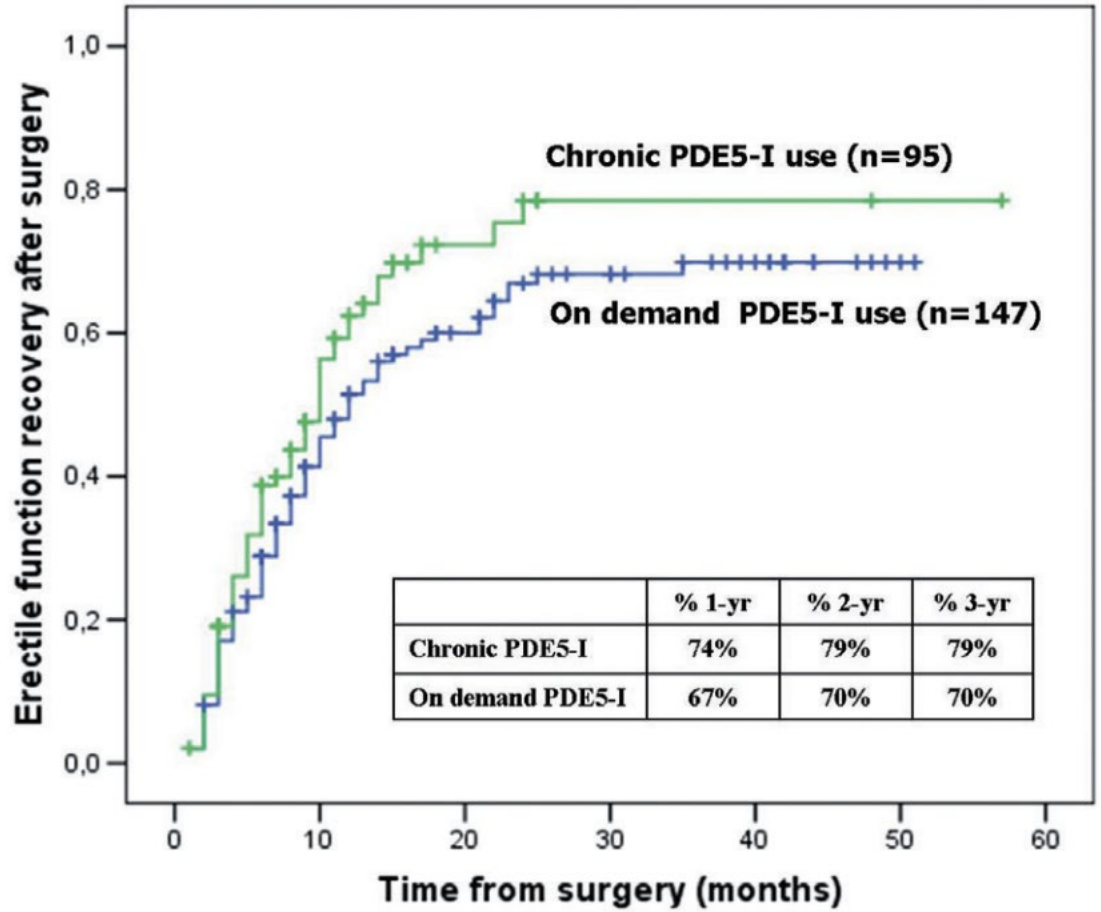

**T3 and PSA level <50 ng/ml, any N, and M0**

**N=10,316**

Stattin P, et al. Eur Urol 2017




| | % 1-yr | % 2-yr | % 3-yr |
|---|---|---|---|
| PDE5-I | 60% | 60% | 73% |
| No PDE5-I | 37% | 37% | 37% |




| | % 1-yr | % 2-yr | % 3-yr |
|---|---|---|---|
| Chronic PDE5-I | 74% | 79% | 79% |
| On demand PDE5-I | 67% | 70% | 70% |

# What does surgery offer?

- Improved survival over observation or ADT alone
- Single-modality treatment in selected patients
- Minimally invasive approach: robotics
- Satisfactory functional and quality of life outcomes

Experience is simply the
name we give our mistakes.
Oscar Wilde
BrainyQuote

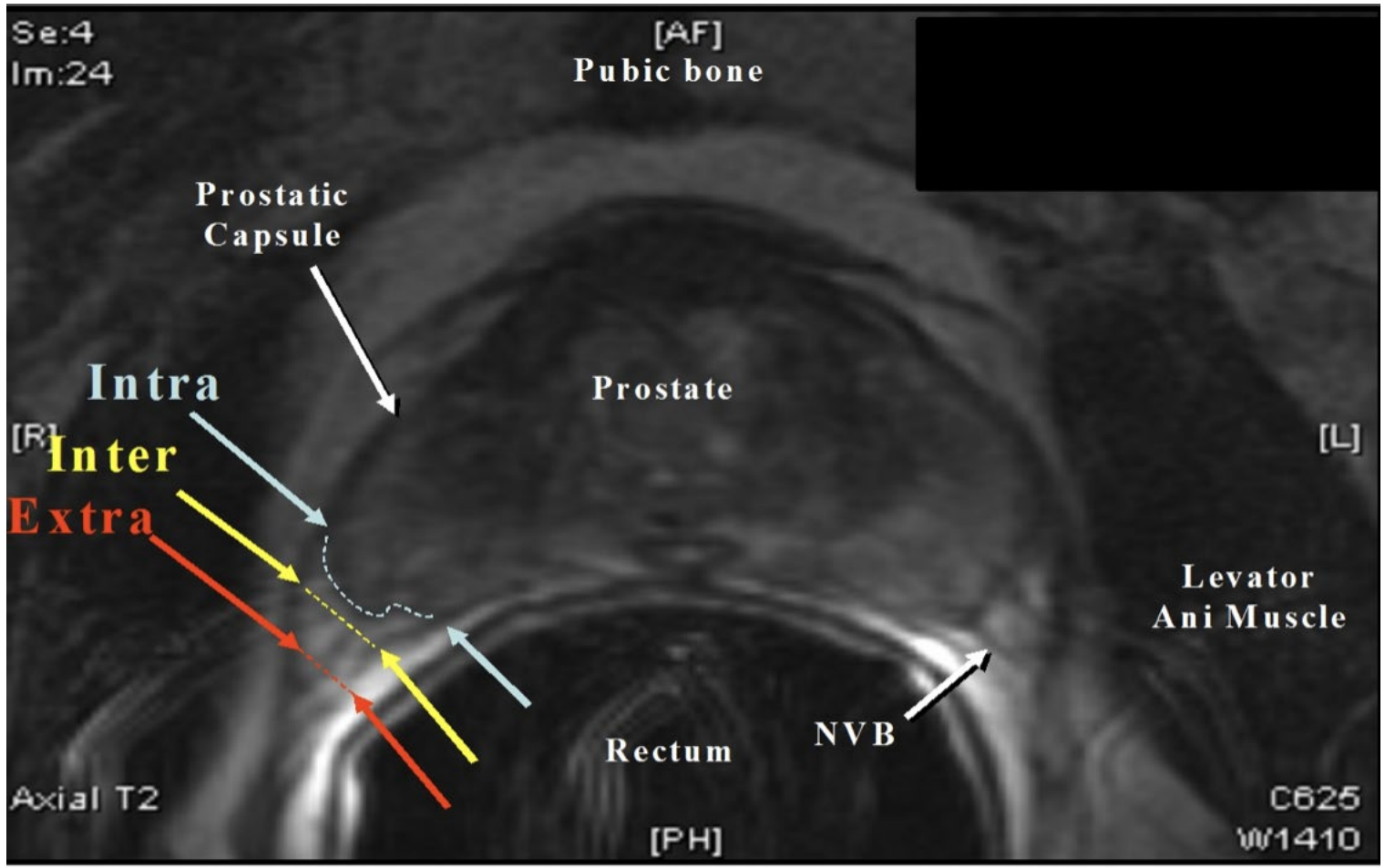
Cancer. 2006 Jul 1;107(1):54–59

# Impact of Fellowship Training on Pathologic Outcomes and Complication Rates of Radical Prostatectomy

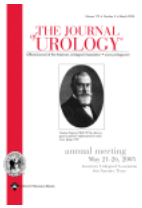
**Charles J. Rosser, MD[1]**
**Ashish M. Kamat, MD[2]**
**John Pendleton, MS[1]**
**Tracy L. Robinson, MS[2]**
**Louis L. Pisters, MD[2]**
**David A. Swanson, MD[2]**
**Richard J. Babaian, MD[2]**

[1] Division of Urology, University of Florida, Jacksonville, Florida.
[2] Department of Urology, The University of Texas M. D. Anderson Cancer Center, Houston, Texas.

The ultimate goal of RP is cancer control with little to no morbidity. The specialized training obtained during a urologic oncology fellowship affords surgeons an opportunity to study in depth the art and science of prostate cancer treatment and thus achieve cancer control rates and surgical outcomes similar to those of more experienced surgeons


Se:4
Im:24
[AF]
Pubic bone
Prostatic
Capsule
Intra
Inter
Extra
Prostate
[R]
[L]
Levator
Ani Muscle
NVB
Rectum
Axial T2
[PH]
C625
W1410

Certainly the surgeon PROSTATE CANCER 831 performing these operations is very experienced and may have a “sixth sense” in combining his clinical knowledge with the results from imaging. Also, because the neurovascular bundle is posterior, MR imaging may be more accurate at this site. However, I have operated on a number of patients who underwent this imaging in both San Francisco and New York and did not find that it was particularly helpful to me. As the study by Dhingsa et al pointed out, I found more cases with false-positive findings than true positives. We have recently looked at 100 of my cases in which there was pathological evidence of extraprostatic extension in the area of the neurovascular bundle. Based on the findings at surgery, I preserved the neurovascular bundle on that side in 84% of the patients; the margins were positive in only 6%. For this reason, I have relied upon the findings at surgery to guide my decision about preservation of the neurovascular bundles. There is no question that we need better imaging of prostate cancer. However, I question whether MR imaging and MR spectroscopy are achieving this goal at the present time. Patrick C. Walsh, M.D.




J Urol. 2005 Mar;173(3):831-2.

# ΡΙΖΙΚΗ ΠΡΟΣΤΑΤΕΚΤΟΜΗ

- Χαμηλού κινδύνου παρακολούθηση
- Ενδιάμεσου κινδύνου
- Υψηλού κινδύνου

Χειρουργική θεραπεία vs ενεργός

- 71 ετών,
- Ύψος 1,68
- Βάρος 92
- Καπνιστής
- Όγκος προστάτου 90 κεκ
- Υπέρταση,ΣΔ
- Χολοκυστεκτομή

- Βιοψία
  - GS 3+3, Αρ 2/6, Δε 0/8,
  - Όχι περινευρική διήθηση
  - Όγκος προστάτου 90 κεκ

# Conversion from active surveillance to active treatment for prostate cancer: A qualitative analysis

**Meredith Wallace Kazer[1], Donald E. Bailey Jr[2], Kendra Grimes[3], John Colberg[4], William Kevin Kelly[5]**

## 3.1 A dangerous wait

Participants commonly experienced a period of apprehension or anxiety during AS which may be described as "dangerous waiting". This experience appears similar to that of uncertainty which frequently accompanies the experience of cancer and other chronic illnesses. Uncertainty plays a significant role in explaining various outcomes in the chronically ill. However, little is known about the uncertainty that accompanies AS. This period or apprehension or uncertainty was described by one 79 year old white, single, high-school educated participant who had been treated with radiation. He reported:

> *"It's a dangerous wait because by the time they get it tested and so on and so on, it'd probably be too late".*

Two study participants explained the contradiction between the AS management option amidst the pressure of other treatment options. They described this with the following quotes:

A 65 year old, white, married, masters-educated participant who had received hormone therapy treatment for prostate cancer explained that:

> *"Everybody said, I should do something, I should do something".*

A 65 year old, white, married, masters-educated participant who had undergone a radical prostatectomy shared a discussion he had with a friend:

> *"He couldn't understand why I would even risk my life in this way".*

Journal of Nursing Education and Practice, May 2012, Vol. 2, No. 2

# Impact of positive surgical margi radical prostatectomy: comparis according to risk stratification ar

Min Soo Choo · Sung Yong Cho · Kyungtae Ko · Ch
Seung Bae Lee · Ja Hyeon Ku · Sung Kyu Hong · Se
Cheol Kwak · Hyeon Hoe Kim · Sang Eun Lee · Hye

World J Urol. 2014 Dec;32(6):1401-9.

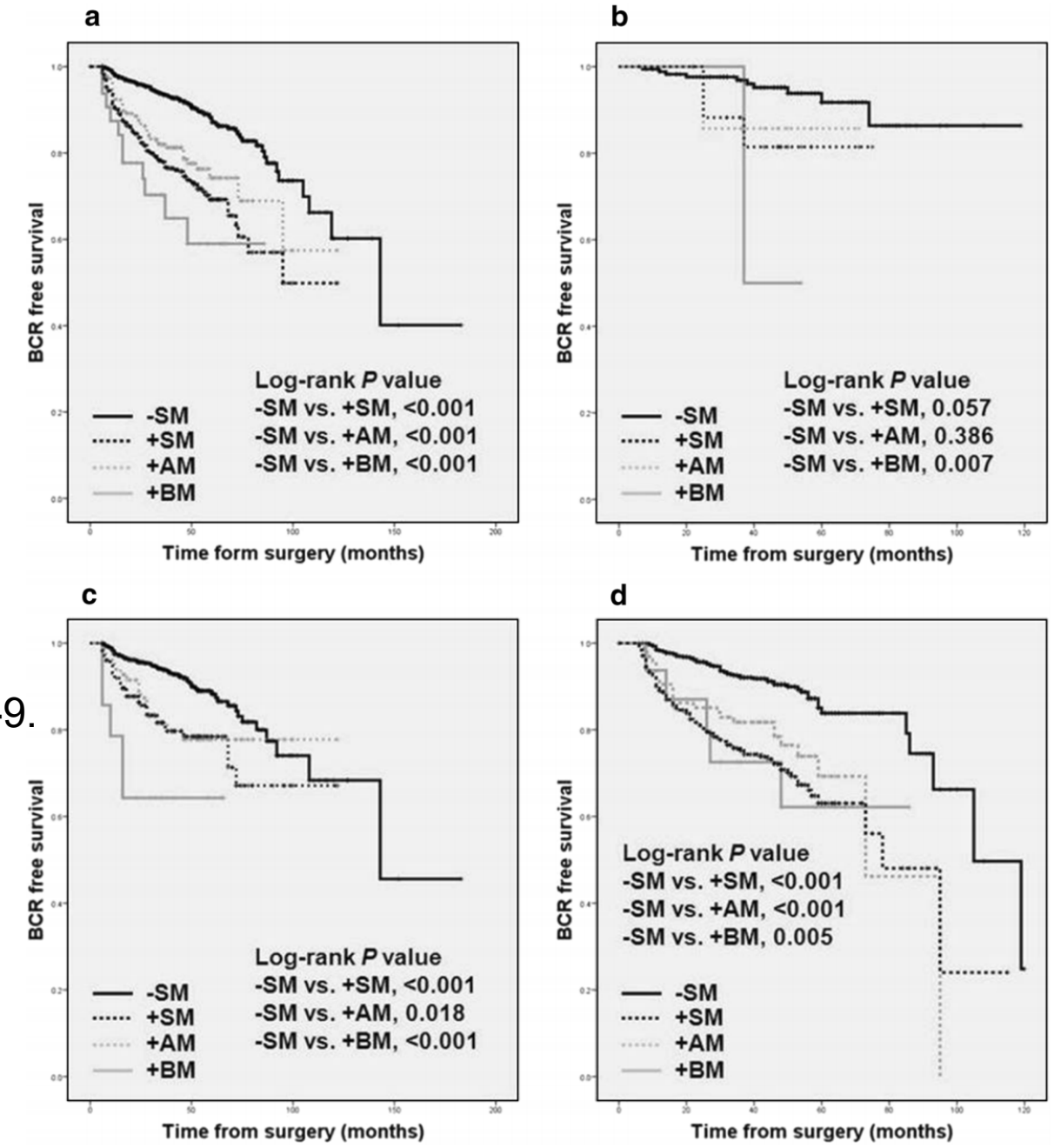
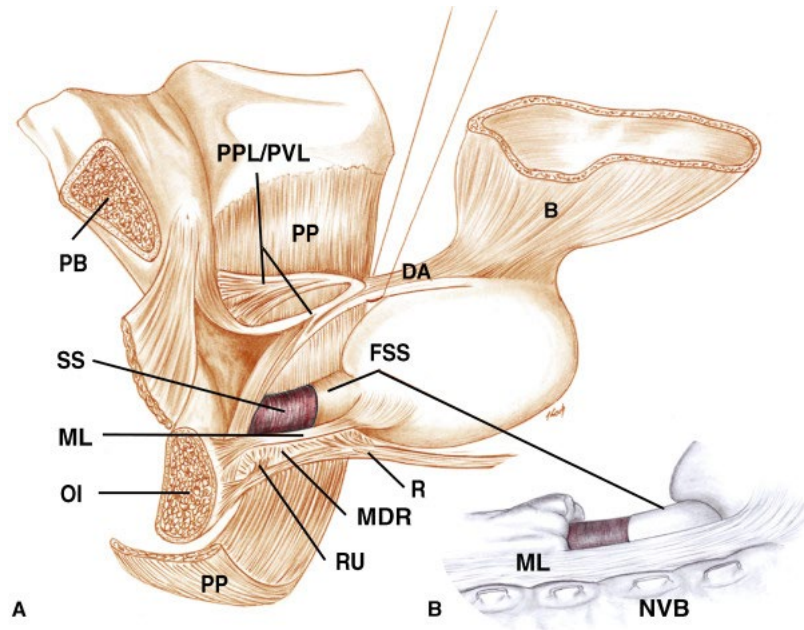



**Fig. 1** BCR-free survival stratified by margin status and its sites according to risk-disease groups. **a** Overall. **b** Low risk. **c** Intermediate risk. **d** High risk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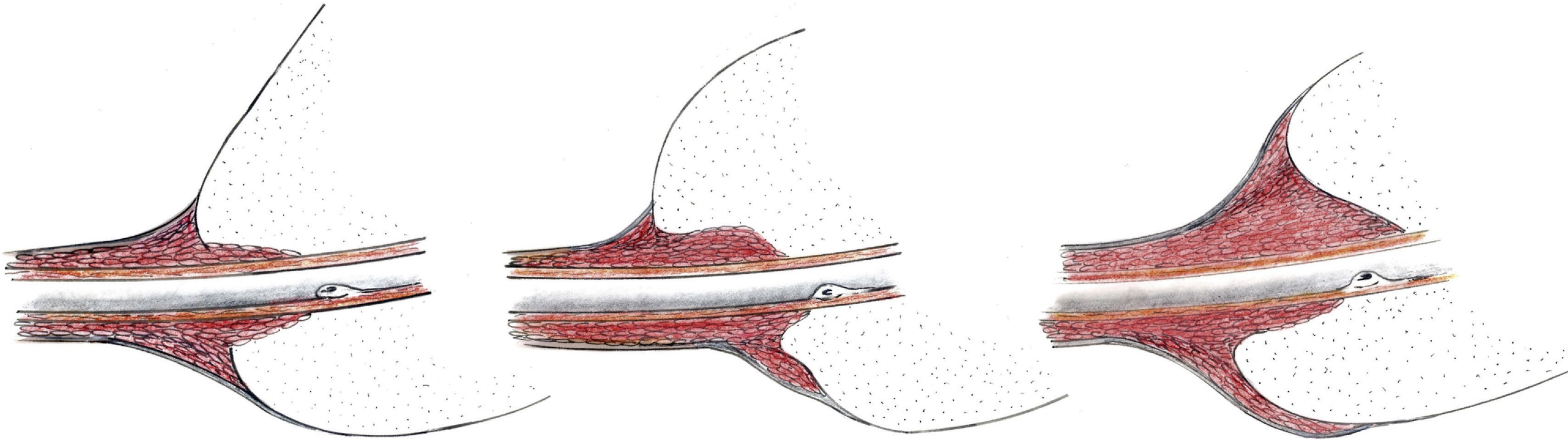

A

B

C

| | |
|---|---|
| Do not perform nerve sparing surgery when there is a risk of extracapsular extension (based on cT stage, Gleason score, nomogram, multiparametric magnetic resonance imaging). | Strong |

# Oncologic and Functional Outcomes after Radical Prostatectomy for High or Very High Risk Prostate Cancer: European Validation of the Current NCCN Guideline

Raisa S. Pompe, Pierre I. Karakiewicz, Zhe Tian, Philipp Mandel, Thomas Steuber, Thorsten Schlomm, Georg Salomon, Markus Graefen, Hartwig Huland and Derya Tilki*

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It is humbling to realize that even today basic anatomy may not be known or understood.

PATRICK C. WALSH, 1998

# Positive Surgical Margin at Radical Prostatectomy: Futile or Surgeon-dependent Predictor of Prostate Cancer Death?

*Martin Spahn* [a,*], *Steven Joniau* [b]

[a] *Department of Urology, University of Bern, Bern, Switzerland;* [b] *Department of Urology, University Hospitals, Leuven, Belgium*

## PREDICTING FIFTEEN-YEAR CANCER-SPECIFIC MORTALITY BASED ON THE PATHOLOGICAL FEATURES OF PROSTATE CANCER

**Scott E. Eggener**[1], **Peter T. Scardino**[2], **Patrick C. Walsh**[3], **Misop Han**[3], **Alan W. Partin**[3], **Bruce J. Trock**[3], **Zhaoyong Feng**[3], **David P. Wood**[4], **James A. Eastham**[2], **Ofer Yossepowitch**[2], **Danny M. Rabah**[5], **Michael W. Kattan**[6,7], **Changhong Yu**[7], **Eric A. Klein**[6], and **Andrew J. Stephenson**[6]