RISK-ADJUSTED OUTCOMES: PROSTATECTOMY

PRASANNA SOORIAKUMARAN (PS)

OXFORD

OUTLINE OF TALK

- Endpoints
- Predictors
- Risk-adjusted outcomes per endpoint
- Outcome prediction tools
- Summary

OUTCOMES AFTER RADICAL PROSTATECTOMY

EUROPEAN UROLOGY 61 (2012) 541–548

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European Association of Urology

Review – Prostate Cancer

Systematic Review of Methods for Reporting Combined Outcomes After Radical Prostatectomy and Proposal of a Novel System: The Survival, Continence, and Potency (SCP) Classification

Vincenzo Ficarra[a,b,], Prasanna Sooriakumaran[c], Giacomo Novara[b], Oscar Schatloff[d], Alberto Briganti[e], Henk Van der Poel[f], Francesco Montorsi[e], Vip Patel[d], Ashutosh Tewari[c], Alexander Mottrie[a]*

Table 3 – Survival, continence, and potency system for reporting of radical prostatectomy outcomes in all patients

	Definition
Survival (S)	
Sx	Patients treated with adjuvant therapies
S0	PSA <0.2 ng/ml
S1	PSA >0.2 ng/ml (biochemical recurrence)
Continence (C)	
Cx	Patients who were incontinent preoperatively
C0	No pad
C1	One pad for security
C2	One or more pads (urinary incontinence)
Potency (P)	
Px	Patients who were impotent preoperatively or for whom nerve sparing was not performed or who were not interested in erections
P0	SHIM >17 without aids
P1	SHIM >17 with PDE-5Is
P2	SHIM <17 and erections insufficient for intercourse

PSA = prostate-specific antigen; SHIM = Sexual Health Inventory for Men; PDE-5I = phosphodiesterase type 5 inhibitor.

Table 5 – Definition of oncologic and functional success after radical prostatectomy combining the survival, continence, and potency categories*

Results	Preoperatively potent, continent, and nerve-sparing procedure	Preoperatively impotent or non–nerve-sparing procedure (Px)	Preoperatively incontinent of urine (Cx)
Oncologic and functional success	S0 C0-1 P0-1	S0 C0-1	S0 P0-1
Oncologic success and functional failure	S0 C0-1 P2 S0 C2 P0-1 S0 C2 P2	S0 C2	S0 P2
Oncologic failure and functional success	S1 C0-1 P0-1 S1 C0-1 P2	S1 C0-1	S1 P0-1
Oncologic and functional failure	S1 C2 P2	S1 C2	S1 P2

* Patients receiving adjuvant therapies (Sx) are excluded in this evaluation.

OUTCOMES AFTER RADICAL PROSTATECTOMY

Pentafecta Model Rules amended in Canada

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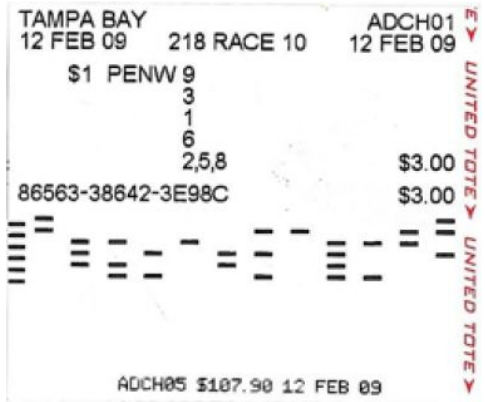
On December 22, 2014, the Canadian Pari-Mutuel Agency (CPMA) released a Memorandum to Provincial Regulatory bodies noting the ARCI Board approval of an amendment to the Model Rules for the Pentafecta. As the CPMA memo advises, this type of bet is now available to Canadian race-course associations.

A copy of this CPMA Memorandum can be viewed by clicking here.

The contents of the CPMA memorandum appear below.

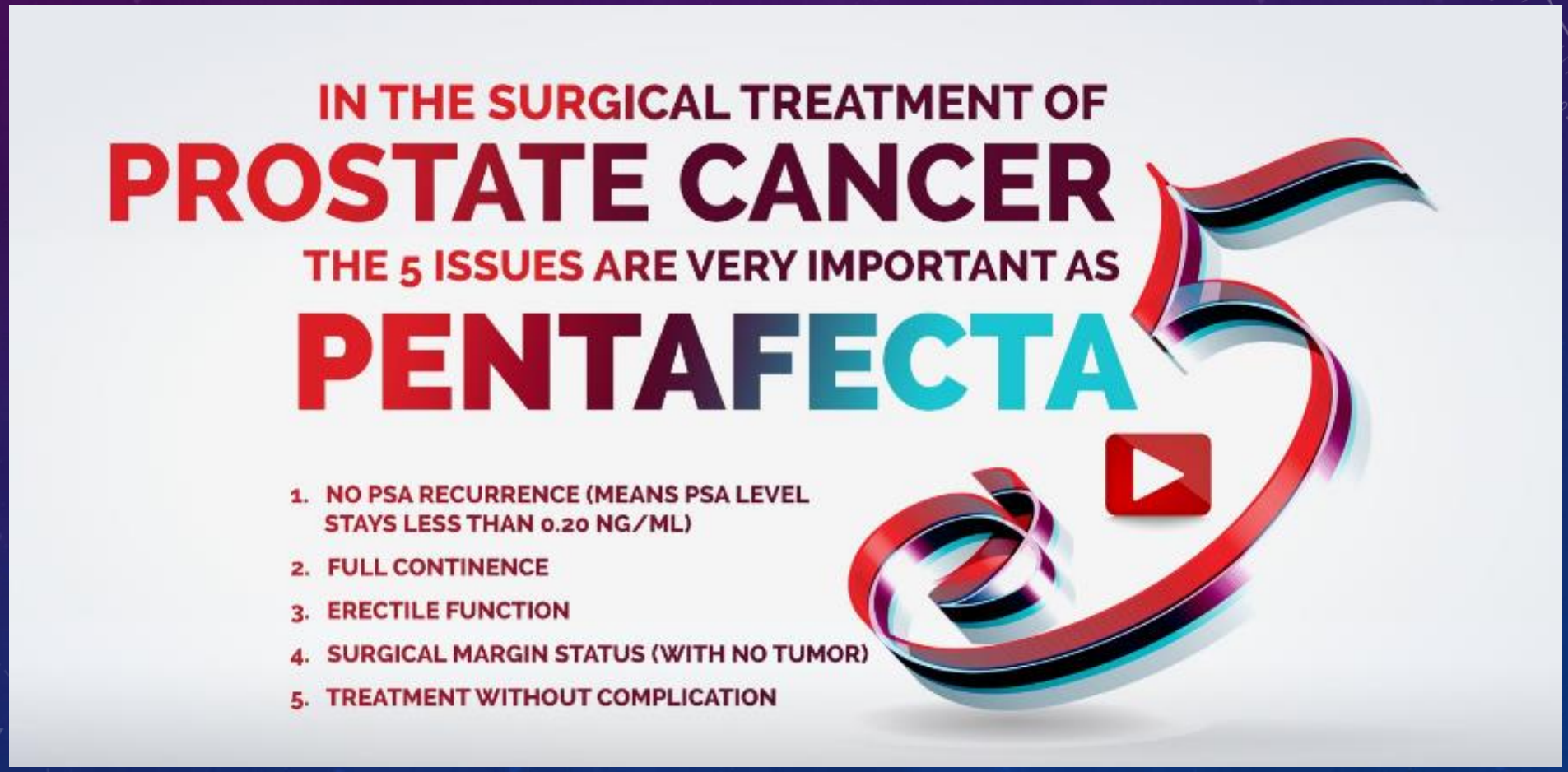


On December 12, 2014, the Association of Racing Commissioners International (ARCI) Board of Directors adopted a proposal to amend the RCI Model Rules for the Pentafecta. Ad per section 143 of the *Pari-Mutuel Betting Supervision Regulations*, this type of bet is available to Canadian race-course associations.

The pool rule amendment, supported by the Canadian Pari-Mutuel Agency (CPMA), allows the race-course association to request authorization to move Pentafecta carryover amounts amongst race meetings for which they are the pool host. This is limited to associations utilizing the 'unique winning ticket' option of the Pentafecta pool rules. This change will allow associations greater flexibility in building upon the popularity of this bet, and will offer bettors the greater opportunity to follow the Pentafecta's jackpot pool.

The amending language to the Pentafecta pool rules will soon be available online at http://arcicom.businesscatalyst.com/model-rules---standards.html.

OUTCOMES AFTER RADICAL PROSTATECTOMY



OUTCOMES AFTER RADICAL PROSTATECTOMY

EUROPEAN UROLOGY 59 (2011) 702–707

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European Association of Urology

Platinum Priority – Prostate Cancer

Editorial by James A. Eastham and Peter T. Scardino on pp. 708–709 of this issue

Pentafecta: A New Concept for Reporting Outcomes of Robot-Assisted Laparoscopic Radical Prostatectomy

Vipul R. Patel [a,], Ananthakrishnan Sivaraman [a], Rafael F. Coelho [a,b,c], Sanket Chauhan [a], Kenneth J. Palmer [a], Marcelo A. Orvieto [a], Ignacio Camacho [a], Geoff Coughlin [a], Bernardo Rocco [a,d]*

Design, setting, and participants: From January 2008 through September 2009, details of 1111 consecutive patients who underwent robot-assisted radical prostatectomy performed by a single surgeon were retrospectively analyzed. Of 626 potent men, 332 who underwent bilateral nerve sparing and who had 1 yr of follow-up were included in the study group.

Table 5 – Multivariable analysis: independent predictors of the pentafecta

	p value	Odds ratio	95% confidence interval
Age	0.009	0.957	0.926–0.989
Body mass index	0.126	1.052	0.986–1.122
Charlson comorbidity index	0.279	1.149	0.894–1.477
Prostate-specific antigen	0.924	0.996	0.923–1.075
Biopsy Gleason score	0.264	1.360	0.793–2.332
Clinical stage	0.938	0.963	0.377–2.464

PREDICTORS

PATIENT

TUMOUR

CARE

COMPLICATIONS

Radical Prostatectomy at Academic Versus Nonacademic Institutions: A Population Based Analysis

Quoc-Dien Trinh,*,†,‡ Jan Schmitges,†,‡ Maxine Sun,‡ Shahrokh F. Shariat,‡ Shyam Sukumar,‡ Marco Bianchi,‡ Zhe Tian,‡ Claudio Jeldres,‡ Jesse Sammon,‡ Paul Perrotte,‡ Markus Graefen,‡ James O. Peabody,§ Mani Menon‡ and Pierre I. Karakiewicz‡

Vol. 186, 1849-1854, November 2011
Printed in U.S.A.
DOI:10.1016/j.juro.2011.06.068
www.jurology.com

Materials and Methods: In the Health Care Utilization Project Nationwide Inpatient Sample we focused on radical prostatectomy performed within the 7 most contemporary years (2001 to 2007). We tested the rates of homologous blood transfusions and extended length of stay, as well as intraoperative and postoperative complications stratified according to institutional academic status. Multivariable logistic regression analyses further adjusted for confounding variables.

Table 3. *Multivariable analyses adjusted for age, year of surgery, race, CCI, surgical approach, hospital region, AHC and insurance status*

	OR Academic vs Nonacademic (95% CI)	p Value
Homologous blood transfusion	1.05 (0.99–1.12)	0.2
Intraop complications	0.97 (0.84–1.09)	0.7
Postop complications		
Overall	0.93 (0.88–0.99)	0.02
Cardiac	1.02 (0.89–1.22)	0.7
Respiratory	0.92 (0.81–1.05)	0.2
Vascular	0.84 (0.64–1.1)	0.2
Operative wound	1.15 (0.87–1.51)	0.3
Genitourinary	1.16 (0.96–1.4)	0.1
Miscellaneous medical	0.91 (0.84–0.98)	0.02
Miscellaneous surgical	1 (0.9–1.13)	0.9
Length of stay greater than 3 days	0.91 (0.87–0.95)	<0.001
In-hospital mortality	0.96 (0.47–1.95)	0.9

COMPLICATIONS

EUROPEAN UROLOGY 62 (2012) 1–15

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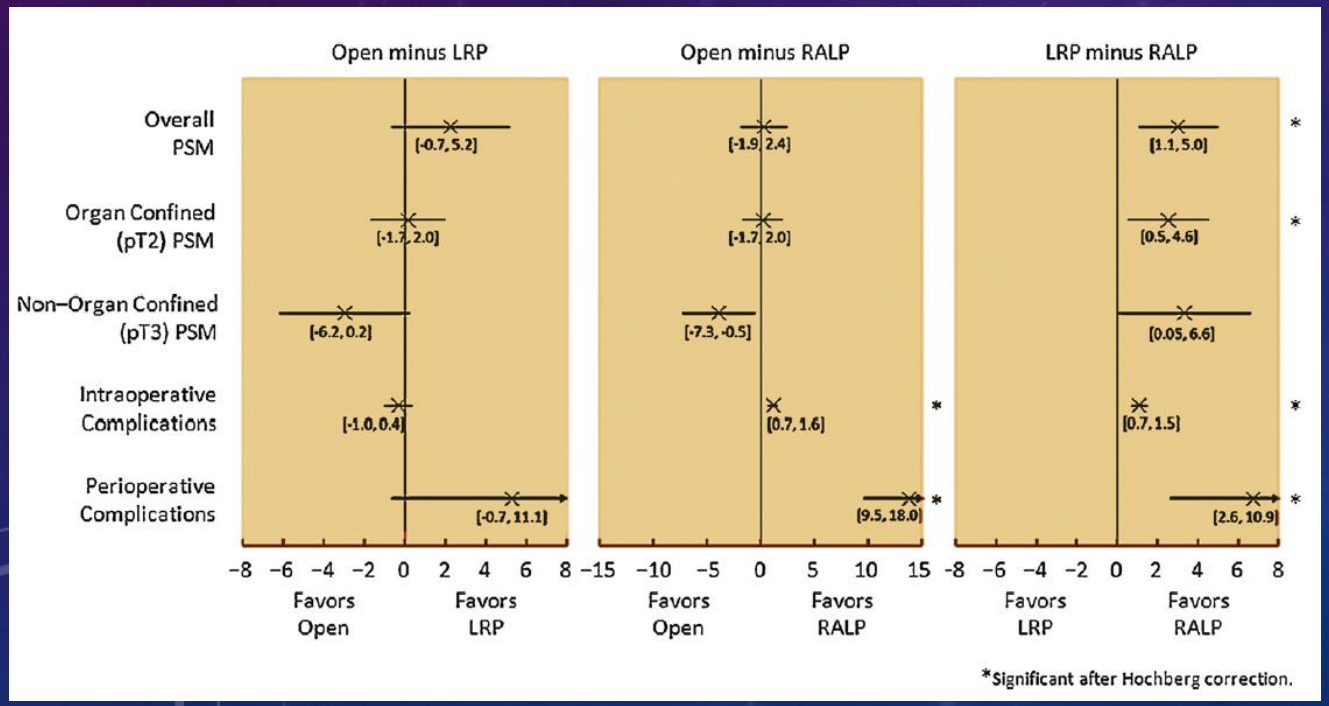
European Association of Urology

Platinum Priority – Review – Prostate Cancer

Editorial by Quoc-Dien Trinh, Khurshid R. Ghani and Mani Menon on pp. 16–18 of this issue

Positive Surgical Margin and Perioperative Complication Rates of Primary Surgical Treatments for Prostate Cancer: A Systematic Review and Meta-Analysis Comparing Retropubic, Laparoscopic, and Robotic Prostatectomy

Ashutosh Tewari[a,], Prasanna Sooriakumaran[a,b], Daniel A. Bloch[c], Usha Seshadri-Kreaden[d], April E. Hebert[d], Peter Wiklund[b]*



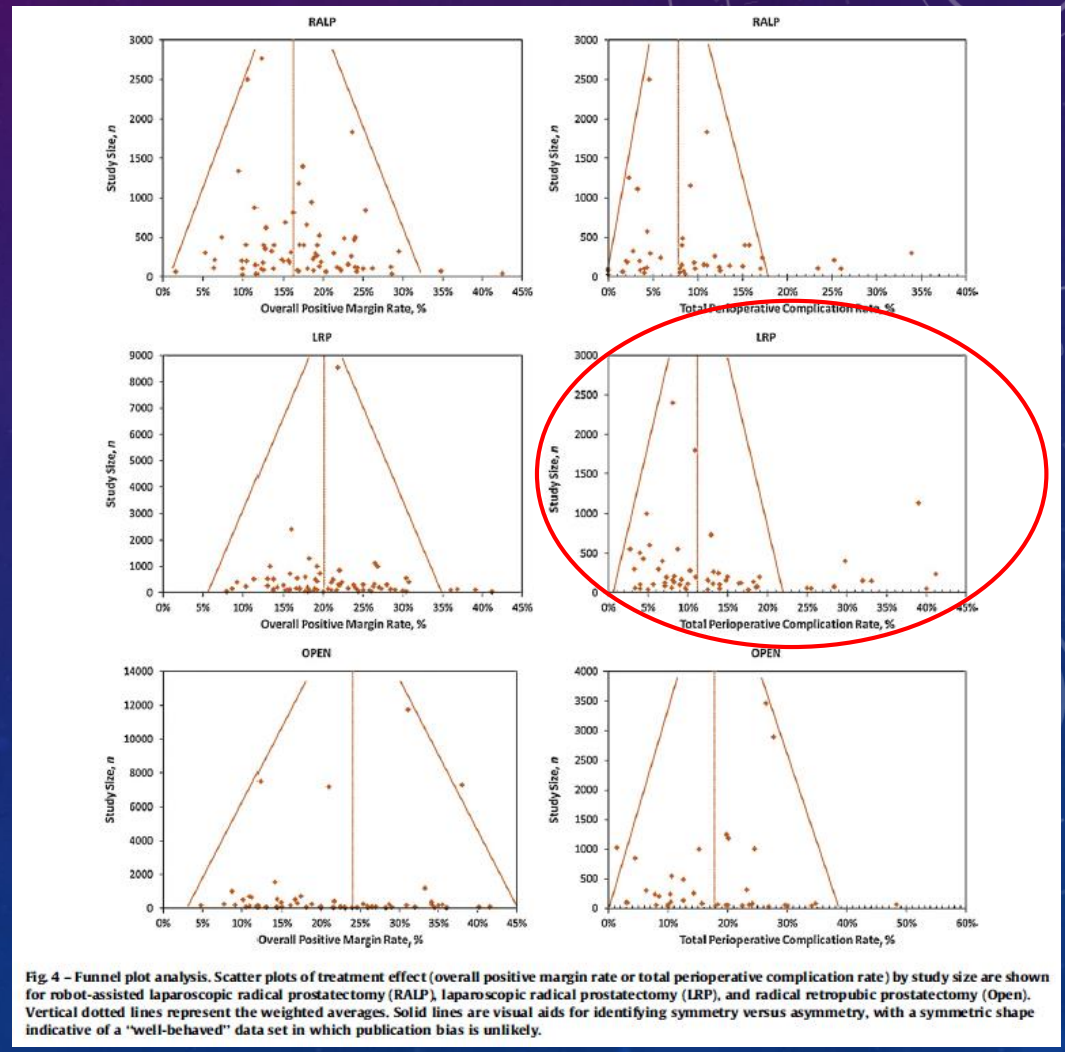


Fig. 4 – Funnel plot analysis. Scatter plots of treatment effect (overall positive margin rate or total perioperative complication rate) by study size are shown for robot-assisted laparoscopic radical prostatectomy (RALP), laparoscopic radical prostatectomy (LRP), and radical retropubic prostatectomy (Open). Vertical dotted lines represent the weighted averages. Solid lines are visual aids for identifying symmetry versus asymmetry, with a symmetric shape indicative of a "well-behaved" data set in which publication bias is unlikely.

CONTINENCE

EUROPEAN UROLOGY 62 (2012) 405–417

available at www.sciencedirect.com
journal homepage: www.europeanurology.com

European Association of Urology

Platinum Priority – Review – Prostate Cancer
Editorial by Peter C. Albertsen on pp. 365–367 of this issue

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]*

Evidence synthesis: We analyzed 51 articles reporting urinary continence rates after RARP: 17 case series, 17 studies comparing different techniques in the context of RARP, 9 studies comparing RARP with RRP, and 8 studies comparing RARP with LRP. The 12-mo urinary incontinence rates ranged from 4% to 31%, with a mean value of 16% using a *no pad* definition. Considering a *no pad or safety pad* definition, the incidence ranged from 8% to 11%, with a mean value of 9%. Age, body mass index, comorbidity index, lower urinary tract symptoms, and prostate volume were the most relevant preoperative predictors of urinary incontinence after RARP. Only a few comparative studies evaluated the impact of different surgical techniques on urinary continence recovery after RARP. Posterior musculofascial reconstruction with or without anterior reconstruction was associated with a small advantage in urinary continence recovery 1 mo after RARP. Only complete reconstruction was associated with a significant advantage in urinary continence 3 mo after RARP (odds ratio [OR]: 0.76; $p = 0.04$).

Cumulative analyses showed a better 12-mo urinary continence recovery after RARP in comparison with RRP (OR: 1.53; $p = 0.03$) or LRP (OR: 2.39; $p = 0.006$).

POTENCY

EUROPEAN UROLOGY 62 (2012) 418–430

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European Association of Urology

Platinum Priority – Review – Prostate Cancer

Editorial by Peter C. Albertsen on pp. 365–367 of this issue

Systematic Review and Meta-analysis of Studies Reporting Potency Rates After Robot-assisted Radical Prostatectomy

Vincenzo Ficarra[a,b,], Giacomo Novara[a], Thomas E. Ahlering[c], Anthony Costello[d], James A. Eastham[e], Markus Graefen[f], Giorgio Guazzoni[g], Mani Menon[h], Alexandre Mottrie[b], Vipul R. Patel[i], Henk Van der Poel[j], Raymond C. Rosen[k], Ashutosh K. Tewari[l], Timothy G. Wilson[m], Filiberto Zattoni[a], Francesco Montorsi[g]*

Evidence synthesis: We analyzed 15 case series, 6 studies comparing different techniques in the context of RARP, 6 studies comparing RARP with RRP, and 4 studies comparing RARP with LRP. The 12- and 24-mo potency rates ranged from 54% to 90% and from 63% to 94%, respectively. Age, baseline potency status, comorbidities index, and extension of the nerve-sparing procedure represent the most relevant preoperative and intraoperative predictors of potency recovery after RARP. Available data seem to support the use of cautery-free dissection or the use of pinpointed low-energy cauterization. Cumulative analyses showed better 12-mo potency rates after RARP in comparison with RRP (odds ratio [OR]: 2.84; 95% confidence interval [CI]: 1.46–5.43; $p = 0.002$). Only a nonstatistically significant trend in favor of RARP was reported after comparison with LRP (OR: 1.89; $p = 0.21$).

POSITIVE SURGICAL MARGINS

EUROPEAN UROLOGY 66 (2014) 450–456

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journal homepage: www.europeanurology.com

European Association of Urology

Platinum Priority – Prostate Cancer

Editorial by Markus Graefen, Burkhard Beyer and Thorsten Schlomm on pp. 457–458 of this issue

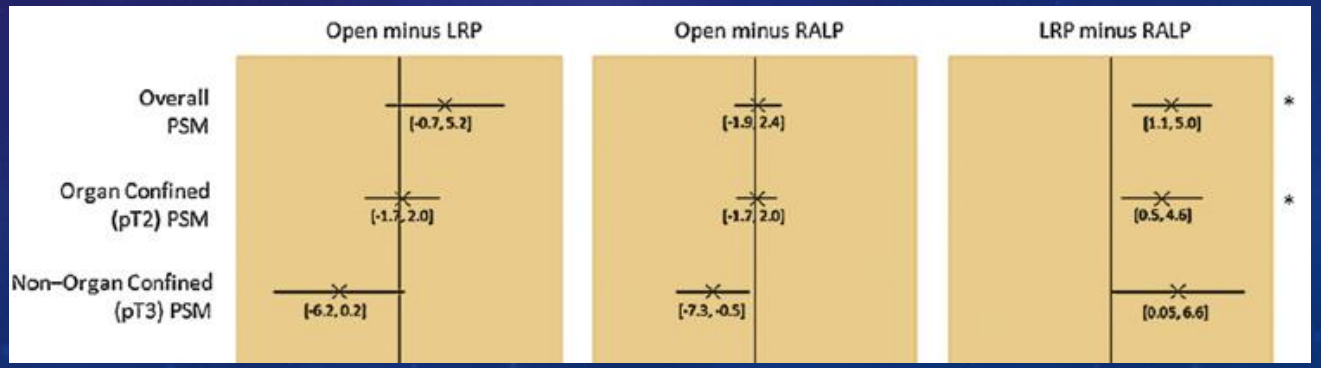
A Multinational, Multi-institutional Study Comparing Positive Surgical Margin Rates Among 22 393 Open, Laparoscopic, and Robot-assisted Radical Prostatectomy Patients

Prasanna Sooriakumaran [a,b,], Abhishek Srivastava [c], Shahrokh F. Shariat [d,e], Phillip D. Stricker [f], Thomas Ahlering [g], Christopher G. Eden [h], Peter N. Wiklund [b], Rafael Sanchez-Salas [i], Alexandre Mottrie [j], David Lee [k], David E. Neal [l,m], Reza Ghavamian [c], Peter Nyirady [n], Andreas Nilsson [b], Stefan Carlsson [b], Evanguelos Xylinas [d], Wolfgang Loidl [o], Christian Seitz [e], Paul Schramek [p], Claus Roehrborn [q], Xavier Cathelineau [i], Douglas Skarecky [g], Greg Shaw [m], Anne Warren [r], Warick J. Delprado [f], Anne-Marie Haynes [f], Ewout Steyerberg [s], Monique J. Roobol [s], Ashutosh K. Tewari [d]*

Table 2 – Logistic regression comparing positive surgical margin rates for the surgical modalities

	Laparoscopic vs open, OR (95% CI)	*p* value	Robotic vs open, OR (95% CI)	*p* value	Robotic vs laparoscopic, OR (95% CI)	*p* value
Unadjusted logistic regression	0.66 (0.60–0.72)	<0.001	0.54 (0.50–0.59)	<0.001	0.82 (0.71–0.91)	<0.001
Logistic regression classic adjustment (with covariates age, preoperative PSA, ln [PSA + 1], postoperative Gleason score, pathologic stage, and year of surgery)	0.76 (0.69–0.84)	<0.001	0.76 (0.69–0.83)	<0.001	0.99 (0.89–1.11)	0.88
Logistic regression with propensity scores for adjustment and year of surgery	0.73 (0.66–0.88)	<0.001	0.75 (0.68–0.82)	<0.001	1.03 (0.93–1.15)	0.58
Cox regression with propensity scores for adjustment and covariates (propensity scores and covariates age, preoperative PSA, ln [PSA + 1], postoperative Gleason score, pathologic stage, and year of surgery) (double corrected)	0.76 (0.69–0.84)	<0.001	0.76 (0.69–0.83)	<0.001	0.99 (0.89–1.11)	0.88

CI = confidence interval; OR = odds ratio; PSA = prostate-specific antigen.



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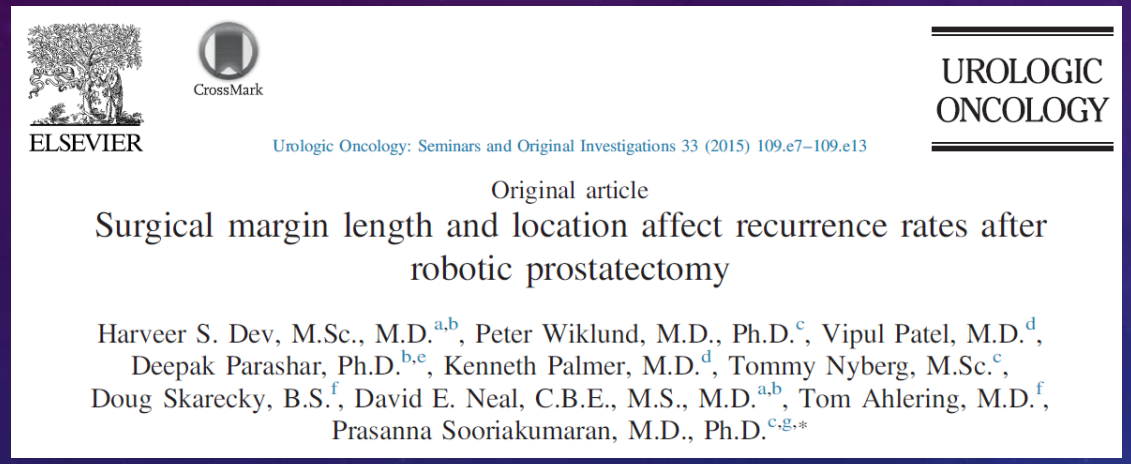

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UROLOGIC ONCOLOGY

Urologic Oncology: Seminars and Original Investigations 33 (2015) 109.e7–109.e13

Original article

Surgical margin length and location affect recurrence rates after robotic prostatectomy

Harveer S. Dev, M.Sc., M.D.[a,b], Peter Wiklund, M.D., Ph.D.[c], Vipul Patel, M.D.[d], Deepak Parashar, Ph.D.[b,e], Kenneth Palmer, M.D.[d], Tommy Nyberg, M.Sc.[c], Doug Skarecky, B.S.[f], David E. Neal, C.B.E., M.S., M.D.[a,b], Tom Ahlering, M.D.[f], Prasanna Sooriakumaran, M.D., Ph.D.[c,g,*]

Crude, propensity, and multivariable Cox regression models

Variable	Crude rates		Multivariable Cox regression adjustments				Propensity adjustments			
	Recurrence free	BCR	Hazard ratio	95% CI for hazard ratio		*P* value	Propensity-adjusted HR	95% CI for hazard ratio		*P* value
				Lower	Upper			Lower	Upper	
NSM	3,148 (90%)	367 (10%)	1 (Ref)				1 (Ref)			
PSM	305 (63%)	181 (37%)	1.809	1.474	2.22	<0.001	1.808	1.306	2.501	<0.001
NSM	3,148 (90%)	367 (10%)	1 (Ref)				1 (Ref)			
1 Margin	223 (65%)	119 (35%)	2.131	0.947	4.796	0.067	2.09	0.9143	4.77	0.081
≥2 Margins	82 (57%)	62 (43%)	1.662	1.200	2.301	0.002	1.81	1.306	2.50	<0.001
NSM	3,148 (90%)	367 (10%)	1 (Ref)				1 (Ref)			
<3 mm	165 (71%)	66 (29%)	0.978	0.566	1.692	0.938	1.013	0.587	1.747	0.964
≥3 mm	111 (55%)	91 (45%)	1.557	1.096	2.21	0.013	1.721	1.215	2.438	0.002
NSM	3,148 (90%)	367 (10%)	1 (Ref)				1 (Ref)			
Posterolateral	97 (67%)	48 (33%)	2.227	1.469	3.375	<0.001	2.775	1.83	4.207	<0.001
Base	16 (46%)	19 (54%)	1.388	0.771	2.497	0.274	1.552	0.8616	2.795	0.143
Apical	83 (66%)	43 (34%)	3.025	1.839	4.978	<0.001	3.451	2.11	5.642	<0.001
Anterior	20 (69%)	9 (31%)	3.031	1.489	6.167	0.002	2.539	1.271	5.075	0.008
Multifocal	73 (58%)	52 (42%)	1.557	1.096	2.21	0.013	1.721	1.215	2.438	0.002

Ref = reference.

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UROLOGIC ONCOLOGY

Urologic Oncology: Seminars and Original Investigations 31 (2013) 1470–1476

Original article

Risk factors for biochemical recurrence following radical perineal prostatectomy in a large contemporary series: A detailed assessment of margin extent and location

Jesse D. Sammon, D.O.[a,1,*], Quoc-Dien Trinh, M.D.[a,b,1], Shyam Sukumar, M.D.[a], Praful Ravi, M.D.[c], Ariella Friedman, M.D.[a], Maxine Sun, Ph.D.[b], Jan Schmitges, M.D.[b,d], Claudio Jeldres, M.D.[b], Wooju Jeong, M.D.[a], Navneet Mander, M.D.[a], James O. Peabody, M.D.[a], Pierre I. Karakiewicz, M.D.[b], Michael Harris, M.D.[a]

Table 2
Univariable and multivariable Cox regression analyses for prediction of biochemical recurrence

Variables	Univariable Cox regression		Multivariable Cox regression, including margin status		Multivariable Cox regression, including margin extent		Multivariable Cox regression, including margin site	
	HR (95% confidence interval)	*P*	HR (95% confidence interval)	*P*	HR (95% confidence interval)	*P*	HR (95% confidence interval)	*P*
Preoperative PSA	1.1 (1.07–1.13)	<0.001	1.05 (1.02–1.09)	0.002	1.05 (1.02–1.08)	0.003	1.05 (1.01–1.08)	0.005
Age (y)	1.01 (0.99–1.03)	0.4	0.99 (0.97–1.02)	0.5	1 (0.97–1.02)	0.8	0.99 (0.97–1.02)	0.5
Pathologic Gleason sum								
≤6								
7	Ref.		Ref.		Ref.		Ref.	
8	2.71 (1.69–4.34)	<0.001	1.63 (1–2.67)	0.05	1.68 (1.03–2.75)	0.04	1.65 (1.01–2.7)	0.05
9	6.97 (3–16.19)	<0.001	2.32 (0.95–5.68)	0.07	1.87 (0.75–4.69)	0.2	1.75 (0.67–4.51)	0.3
	31.09 (15.3–63.19)	<0.001	7.06 (3.16–15.73)	<0.001	6.32 (2.75–14.52)	<0.001	7.27 (3.2–16.48)	<0.001
Pathologic T stage								
T2a	Ref.		Ref.		Ref.		Ref.	
T2b-c	3.58 (1.1–11.64)	0.03	2.7 (0.82–8.84)	0.1	2.75 (0.84–9.04)	0.1	2.73 (0.83–8.95)	0.1
T3a	12.07 (3.74–38.89)	<0.001	4.93 (1.45–16.68)	0.01	4.53 (1.34–15.37)	0.015	4.73 (1.39–16.09)	0.01
T3b	59.43 (17.89–197.41)	<0.001	18.59 (5.19–66.59)	<0.001	18.54 (5.14–66.81)	<0.001	18.57 (5.13–67.23)	<0.001
Prostate weight	0.98 (0.97–1)	0.028	0.99 (0.97–1.01)	0.2	0.99 (0.97–1.01)	0.2	0.99 (0.98–1.01)	0.3
Margin status								
Negative	Ref.		Ref.					
Positive	4.67 (3.2–6.83)	<0.001	2.29 (1.49–3.51)	<0.001				
Margin extent								
Negative	Ref.				Ref.			
Microscopic	2.46 (1.41–4.3)	0.002			1.38 (0.77–2.48)	0.3		
Broad	7.56 (4.98–11.48)	<0.001			3.49 (2.14–5.7)	<0.001		
Margin location								
Anterior	4.98 (2.14–11.6)	<0.001					3.77 (1.58–8.98)	0.003
Posterolateral	1.93 (0.6–6.19)	0.3					1.38 (0.42–4.51)	0.6
Bladder neck	6.64 (3.84–11.47)	<0.001					2.25 (1.21–4.17)	0.01
Multifocal	8.76 (5.07–15.14)	<0.001					3.55 (1.84–6.84)	<0.001
Apical	2.57 (1.34–4.91)	0.004					1.69 (0.87–3.3)	0.1

BIOCHEMICAL RECURRENCE

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European Association of Urology

Platinum Priority – Prostate Cancer

Editorial by Anders Bjartell on pp. 775–776 of this issue

Biochemical Recurrence After Robot-assisted Radical Prostatectomy in a European Single-centre Cohort with a Minimum Follow-up Time of 5 Years

Prasanna Sooriakumaran[a,†], Leif Haendler[a,†], Tommy Nyberg[b], Henrik Gronberg[c], Andreas Nilsson[a], Stefan Carlsson[a], Abolfazl Hosseini[a], Christofer Adding[a], Martin Jonsson[a], Achilles Ploumidis[a], Lars Egevad[d], Gunnar Steineck[b], Peter Wiklund[a,]*

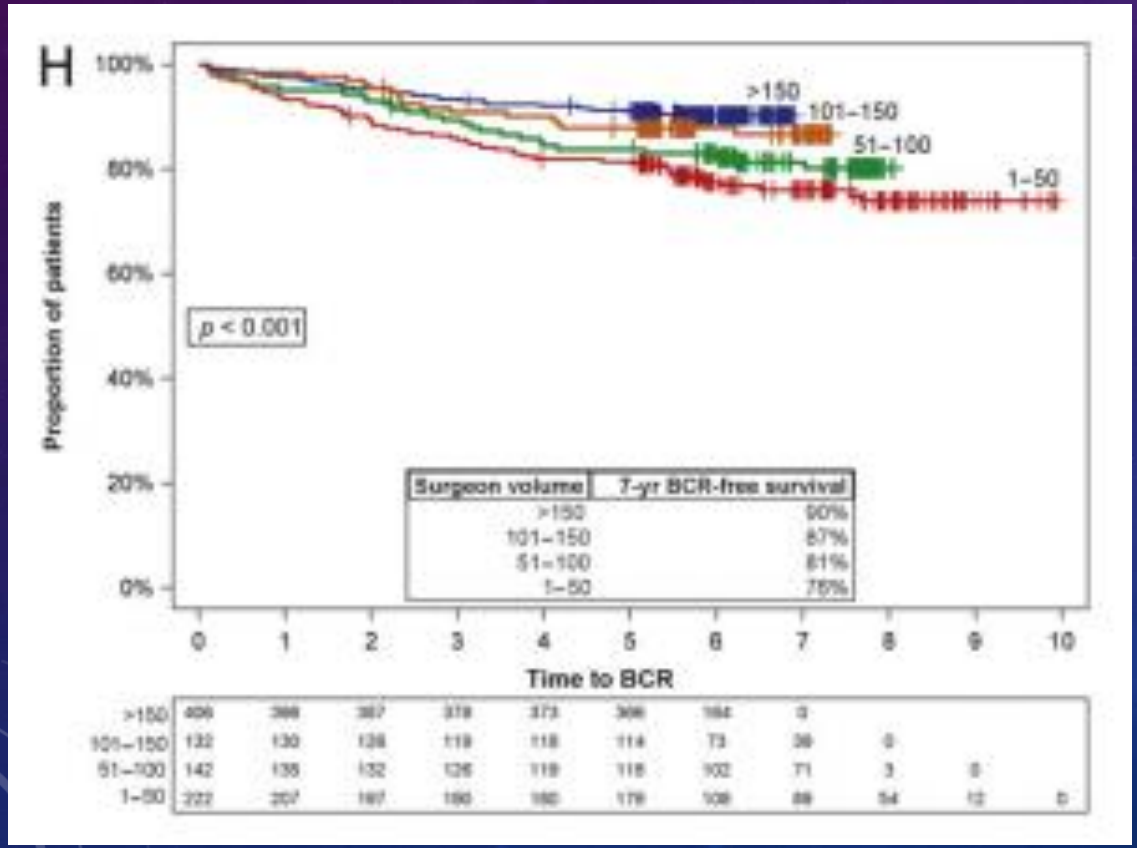

Table 4 – Cox multivariable analysis showing predictors of biochemical recurrence selected according to backward elimination

Covariate	HR (95% CI)	*p* value
Surgeon volume		
>150*	1	–
101–150	1.601 (0.896–2.863)	0.1122
51–100	2.036 (1.217–3.405)	**0.0068**
1–50	2.062 (1.306–3.254)	**0.0019**
Preoperative PSA		
≤10*	1	–
>10	1.848 (1.259–2.713)	**0.0017**
Pathological T stage		
pT2*	1	–
pT3a	1.719 (1.131–2.614)	**0.0113**
pT3b	2.976 (1.610–5.500)	**0.0005**
Postoperative Gleason sum		
≤6*	1	–
3 + 4 = 7	2.160 (1.307–3.570)	**0.0026**
4 + 3 = 7	4.959 (2.853–8.620)	**<0.0001**
≥8	4.650 (2.298–9.408)	**<0.0001**
Surgical margin status		
Negative*	1	–
Positive	1.850 (1.249–2.740)	**0.0021**

HR = hazard ratio; CI = confidence interval; PSA = prostate-specific antigen.
* Reference group.

BIOCHEMICAL RECURRENCE

Variations Among Experienced Surgeons in Cancer Control After Open Radical Prostatectomy

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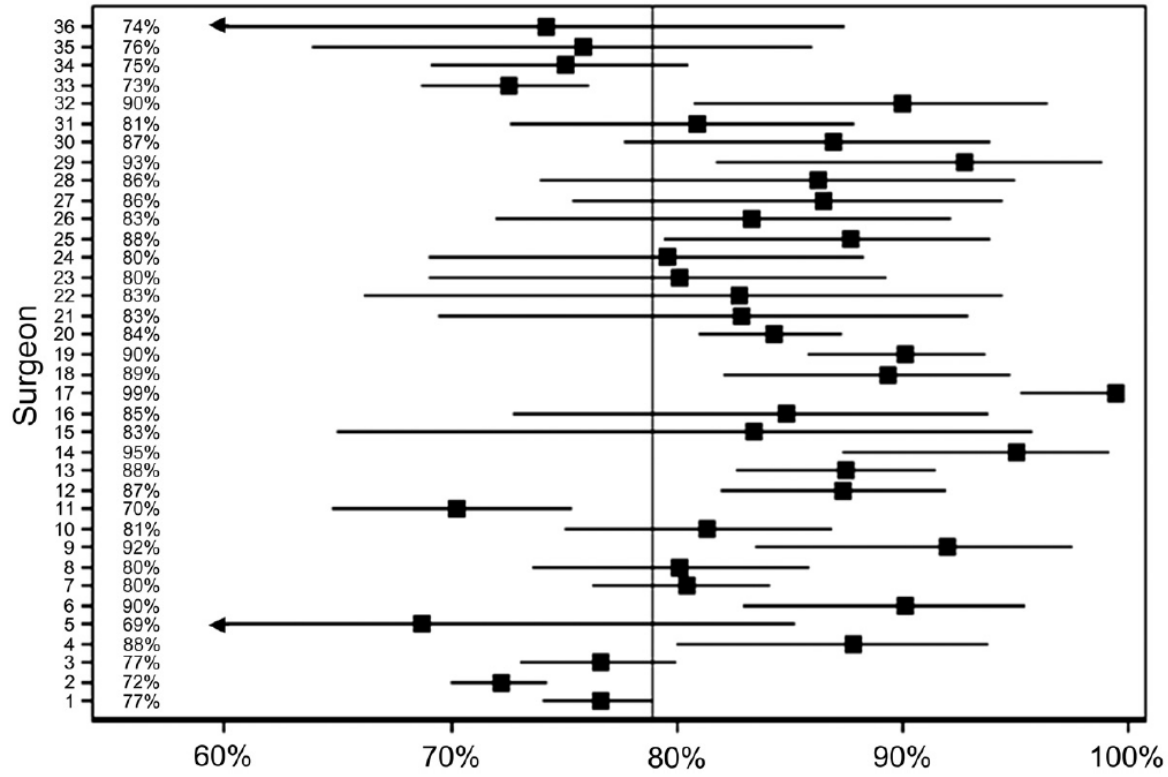

Figure 1. Forest plot shows 5-year predicted probability of freedom from recurrence by surgeon in case with mean level of all covariates, including PSA, Gleason score, EPE, SVI, LNI and surgery year, treated after surgeon treated minimum of 40 prior cases. Vertical line represents mean adjusted 5-year probability of freedom from biochemical recurrence among all surgeons.

BIOCHEMICAL RECURRENCE

A case-mix-adjusted comparison of early oncological outcomes of open and robotic prostatectomy performed by experienced high volume surgeons

Jonathan L. Silberstein*, Daniel Su*, Leonard Glickman*, Matthew Kent†, Gal Keren-Paz*, Andrew J. Vickers†, Jonathan A. Coleman*‡, James A. Eastham*‡, Peter T. Scardino*‡ and Vincent P. Laudone*‡

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In this retrospective study we compared the oncological outcomes of open radical prostatectomy and robotic prostatectomy limiting our analysis to expert surgeons in their respective surgical approaches. Importantly, the patient cohort contained a majority of patients with intermediate- and high-risk features and all surgeons attempted to adhere to strict oncological principles, including performing complete pelvic lymph node dissections in almost all of the patients in the study. The results demonstrate that oncological outcomes show no significant difference with respect to surgical approach, even for patients with higher risk features, and that there is more variation between individual surgeons than between surgical approaches.

REAL ONCOLOGY

Men of Higher Socioeconomic Status Have Improved Outcomes After Radical Prostatectomy for Localized Prostate Cancer

Nicholas J. Hellenthal, Arti Parikh-Patel, Katrina Bauer, W. Ralph, White deVere, and Theresa M. Koppie

UROLOGY 76: 1409–1413, 2010.

Table 2. Prostate cancer–specific survival in **(A)** patients undergoing radical prostatectomy and **(B)** patients receiving XRT for low-grade, localized prostate cancer

Quintile of SES	Percent of Patients	Unadjusted HR (95% CI)	*P* Value	Race* and Age Adjusted HR (95% CI)	*P* Value
A.					
SES1	9.7	1.99 (1.28-3.09)	.002	2.20 (1.38-3.50)	.001
SES2	15.0	1.53 (1.01-2.31)	.042	1.57 (1.04-2.39)	.034
SES3	19.3	1.49 (1.01-2.19)	.045	1.49 (1.01-2.20)	.045
SES4	23.5	0.94 (0.62-1.42)	.757	0.93 (0.61-1.41)	.732
SES5	32.5	Reference 1.0		Reference 1.0	

REAL ONCOLOGY

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European Association of Urology

Brief Correspondence

The CAPRA Score at 10 Years: Contemporary Perspectives and Analysis of Supporting Studies

Jonathan S. Brajtbord[a], *Michael S. Leapman*[a], *Matthew R. Cooperberg*[a,b,*]

Variable	Level	Points	Variable	Level	Points
PSA	2.0–6	0	T stage	T1/T2	0
	6.1–10	1		T3a	1
	10.1–20	2			
	20.1–30	3	% pos bx	<34%	0
	>30	4		≥34%	1
Gleason	1-3/1–3	0			
	1-3/4–5	1	Age	<50	0
	4-5/1–5	3		≥50	1

Fig. 1 – CAPRA score.
pos bx = positive biopsy; PSA = prostate-specific antigen.

Cancer. 2010 November 15; 116(22): 5226–5234. doi:10.1002/cncr.25456.

Comparative risk-adjusted mortality outcomes following primary surgery, radiation therapy, or androgen deprivation therapy for localized prostate cancer

Matthew R. Cooperberg, MD, MPH[(1),†], Andrew J. Vickers, PhD[(2)], Jeanette M. Broering, RN, MS, MPH[(1)], Peter R. Carroll, MD, MPH[(1)], and the CaPSURE Investigators

Predicted 10-year cancer-specific mortality by CAPRA score is given with 95% confidence intervals

	N (%)	RP
CAPRA 0	87 (1.2)	1.57 (0.90, 2.74)
CAPRA 1	1,584 (22.6)	2.19 (1.28, 3.73)
CAPRA 2	1,698 (24.3)	3.04 (1.81, 5.09)
CAPRA 3	1,239 (17.7)	4.23 (2.55, 6.97)
CAPRA 4	778 (11.1)	5.86 (3.56, 9.57)
CAPRA 5	593 (8.5)	8.09 (4.92, 13.16)
CAPRA 6	429 (6.1)	11.12 (6.73, 18.09)
CAPRA 7	312 (4.5)	15.19 (9.12, 24.71)
CAPRA 8	99 (1.4)	20.57 (12.23, 33.38)
CAPRA 9	159 (2.3)	27.50 (16.22, 44.23)
CAPRA 10	25 (0.4)	36.19 (21.25, 56.97)

REAL ONCOLOGY

Variable	Level	Points	Variable	Level	Points
PSA	0–6	0	Gleason	2-6	0
	6.01–10	1		3 + 4	1
	10.01–20	2		4 + 3	2
	>20	3		8–10	3
SM	Negative	0	ECE	No	0
	Positive	2		Yes	1
SVI	No	0	LNI	No	0
	Yes	2		Yes	1

Fig. 2 – CAPRA-S score.
ECE = extracapsular extension; LNI = lymph node involvement; SM = surgical margin; SVI = seminal vesicle invasion; PSA = prostate-specific antigen.

Validation studies addressing the postsurgical CAPRA-S score have demonstrated favorable prediction of distant end points (c-index for BCR: 0.73–0.80; prostate cancer–specific mortality [PCSM]: 0.75–0.88). The J-CAPRA score was evaluated in 1378 men

SUMMARY

- Outcomes include complications, oncology and function
- Patient, tumour and care factors affect outcome
- Complications appear to be affected by hospital volume and surgical modality
- Age, BMI, comorbidities, LUTS, prostate volume affect continence recovery
- Potency is affected by age, comorbidities, premorbid potency, and NS extent

SUMMARY

- PSM and BCR predictors are uncertain, but multifocal/ >3mm margins and the surgeon seem to matter
- Socioeconomic status, race, and CAPRA scores affect prostate-cancer survival
- Comorbidities affect other-cause survival and should be included in outcomes assessment

KEEP CALM AND ASK QUESTIONS