Best 2014 papers in robotic prostatectomy

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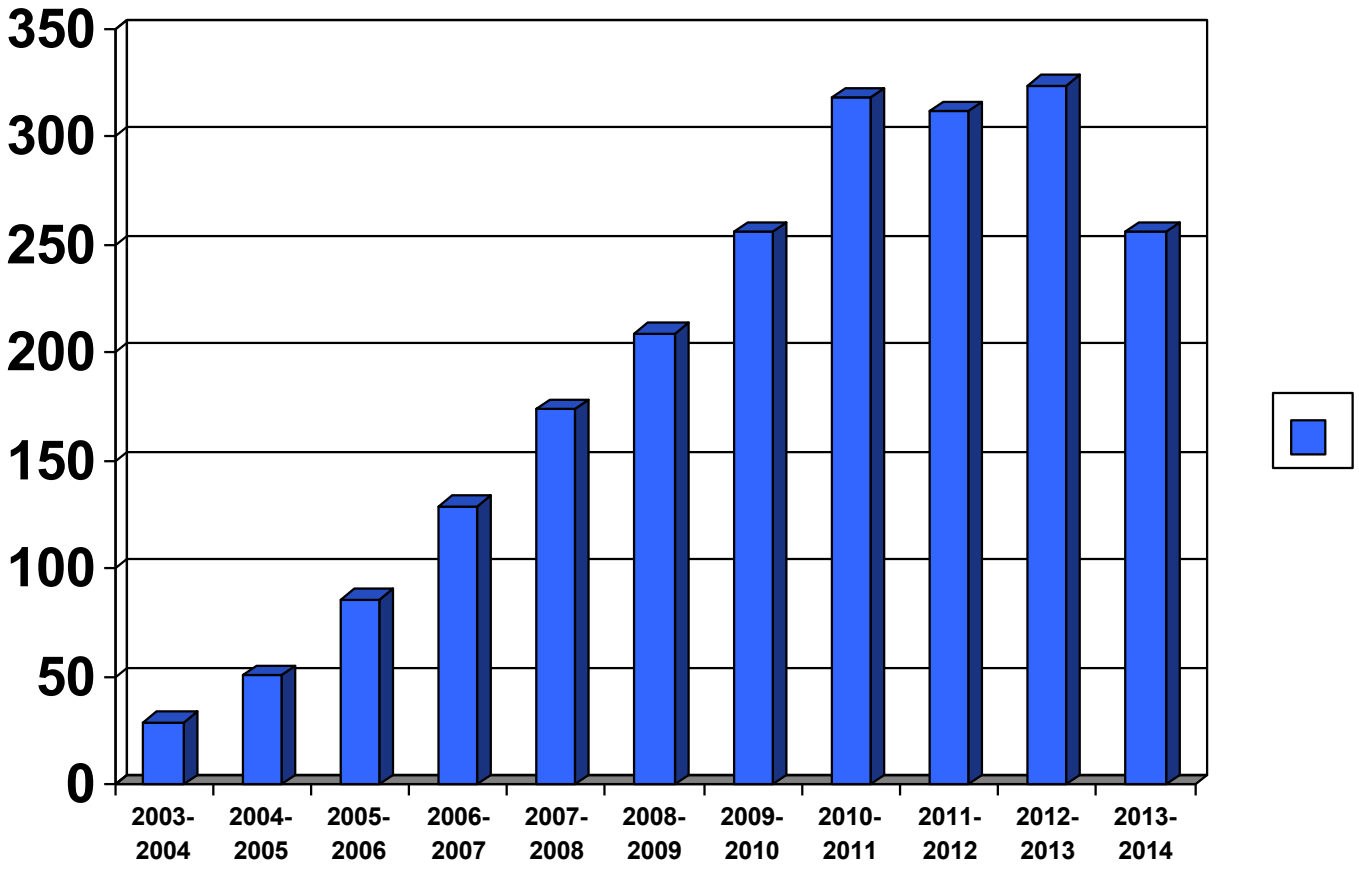
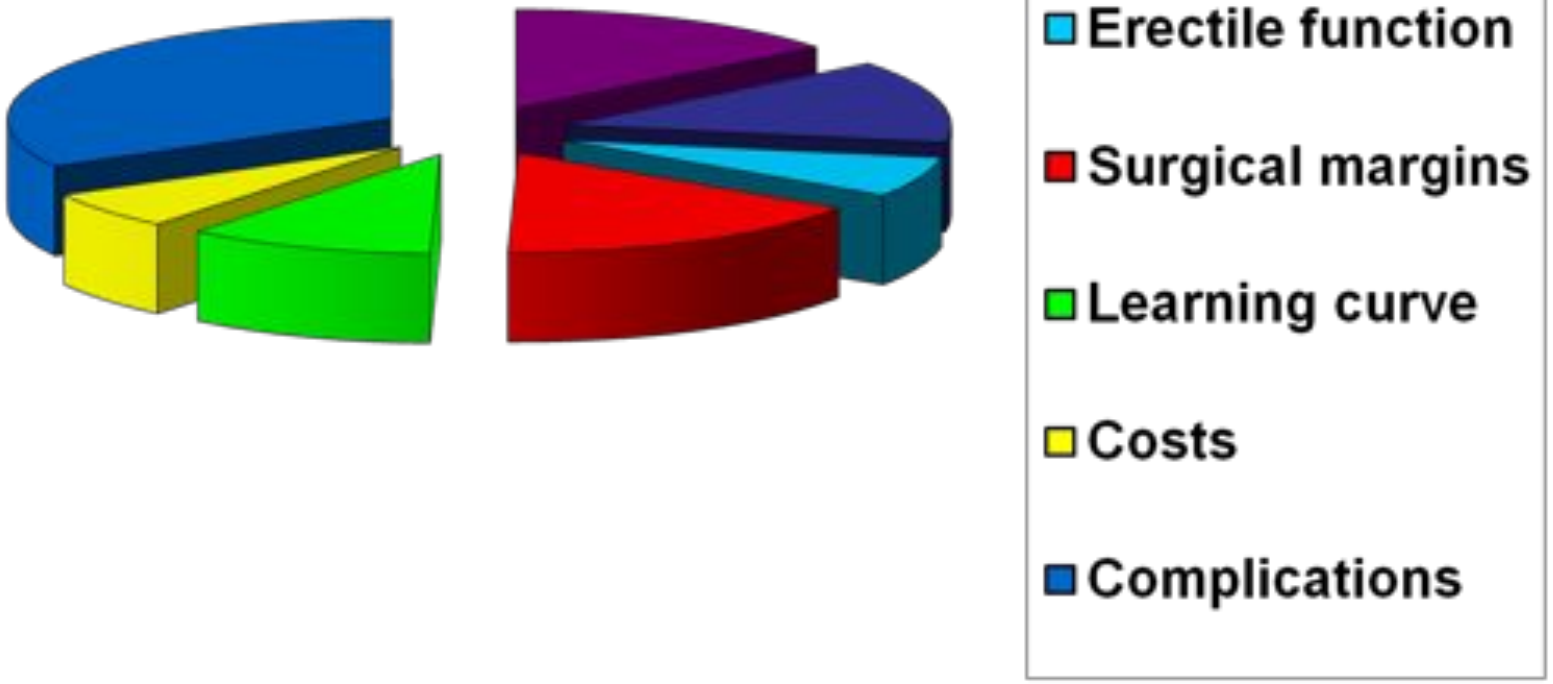
N. of publications per year



Issues:


Biochemical recurrence
Urinary continence
Erectile function
Surgical margins
Learning curve
Costs
Complications

Cancer control

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

- Fourteen institutions in Europe, the United States, and Australia were invited to participate in this study, all of which retrospectively provided margins data on 9778 open RP, 4918 laparoscopic RP, and 7697 robotic RP patients operated on between January 2000 and October 2011.

- The outcome measure was PSM rate. Multivariable logistic regression analyses and propensity score methods identified odds ratios for risk of a PSM for one modality compared with another, after adjustment for age, preoperative prostate-specific antigen, postoperative Gleason score, pathologic stage, and year of surgery. Classic adjustment using standard covariates was also implemented to compare PSM rates based on center volume for each minimally invasive surgical cohort.

Sooriakumaran et al. Eur Urol 2014, 66:450-6

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.

Sooriakumaran et al. Eur Urol 2014, 66:450-6

Oncologic Outcomes at 10 Years Following Robotic Radical Prostatectomy

Mireya Diaz[a,b,*], *James O. Peabody*[a], *Victor Kapoor*[a], *Jesse Sammon*[a], *Craig G. Rogers*[a], *Hans Stricker*[a], *Zhaoli Lane*[c], *Nilesh Gupta*[c], *Mahendra Bhandari*[a], *Mani Menon*[a,d]

- From 2001 to 2003, 483 consecutive men with localized prostate cancer who underwent RARP at a high-volume tertiary center.

- Biochemical recurrence –free survival (BCRFS), metastasis-free survival (MFS), and cancer-specific survival (CSS). Actuarial rates were estimated via Kaplan-Meier. Cox proportional hazards models were used to identify variables predictive of biochemical recurrence (BCR), receipt of salvage therapy, and metastases.

Diaz et al. Eur Urol in press

Covariate	Univariable analysis		Multivariable analysis		Multivariable analysis	
	HR (95% CI)	p value	HR (95% CI)	p value	HR (95% CI)	p value
Age, yr						
<60*	1	–	1	–	1	–
≥60	1.19 (0.82–1.73)	0.368	0.97 (0.65–1.44)	0.864	1.07 (0.72–1.57)	0.742
Race						
Other	1	–	1	–	1	–
Black	2.13 (0.74–6.17)	0.162	1.94 (0.64–5.89)	0.243	2.07 (0.69–6.18)	0.194
White	1.40 (0.51–3.82)	0.512	1.45 (0.51–4.09)	0.486	1.66 (0.60–4.62)	0.328
BMI						
<25 kg/m²*	1	–	1	–	1	–
25–30 kg/m²	0.88 (0.53–1.46)	0.620	0.86 (0.50–1.48)	0.589	0.87 (0.52–1.48)	0.612
≥30 kg/m²	1.23 (0.72–2.10)	0.447	1.10 (0.61–1.98)	0.745	1.01 (0.57–1.79)	0.967
Preoperative PSA						
≤10 ng/ml*	1	–	1	–		
10.1–20.0 ng/ml	**2.68 (1.63–4.41)**	**<0.001**	**2.54 (1.51–4.28)**	**<0.001**	–	
>20 ng/ml	**5.24 (1.92–14.29)**	**0.001**	**5.14 (1.78–14.84)**	**0.003**		
Biopsy Gleason						
5 or 6*	1	–	1	–		
3 + 4	**2.59 (1.69–3.96)**	**<0.001**	**2.48 (1.59–3.86)**	**<0.001**	–	
4 + 3	**2.68 (1.34–5.34)**	**0.005**	**2.87 (1.42–5.81)**	**0.003**		
8–10	**5.07 (2.72–9.46)**	**<0.001**	**3.98 (1.94–8.15)**	**<0.001**		
Clinical stage						
T1c/T2a*	1	–	1	–	–	
T2b or higher	0.72 (0.43–1.23)	0.231	0.62 (0.36–1.08)	0.093		
D'Amico risk group						
Low*	1	–			1	–
Intermediate	**2.93 (1.89–4.54)**	**<0.001**	–		**2.91 (1.87–4.53)**	**<0.001**
High	**6.12 (3.41–11.00)**	**<0.001**			**5.70 (3.02–10.78)**	**<0.001**
Perineural invasion†						
Negative*	1	–	1	–	1	–
Positive	1.45 (0.73–2.87)	0.286	1.09 (0.52–2.25)	0.825	0.92 (0.44–1.92)	0.831
Procedure year‡						
2001*	1	–	1	–	1	–
After 2001	0.94 (0.70–1.26)	0.675	0.96 (0.70–1.33)	0.812	0.96 (0.71–1.29)	0.764

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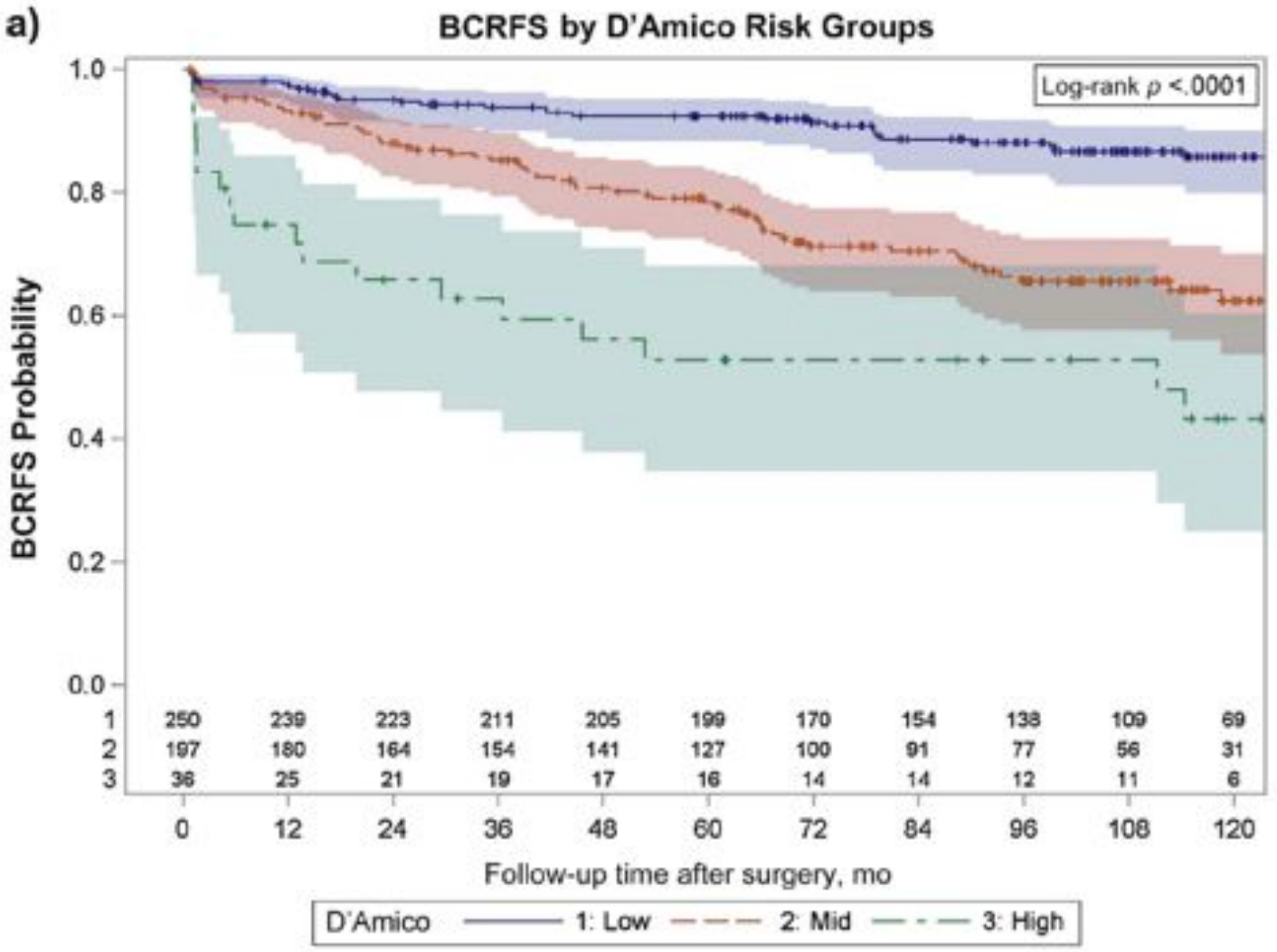
Median follow-up 121 months



Diaz et al. Eur Urol in press

Platinum Priority – Prostate Cancer

Editorial by R. Jeffrey Karnes, Steven Joniau, Michael L. Blute and Hendrik Van Poppel on pp. 673–675 of this issue

Comparative Effectiveness of Robot-assisted Versus Open Radical Prostatectomy Cancer Control

Jim C. Hu [a,], Giorgio Gandaglia [b,c], Pierre I. Karakiewicz [b,g], Paul L. Nguyen [d], Quoc-Dien Trinh [e], Ya-Chen Tina Shih [f], Firas Abdollah [b,g], Karim Chamie [a], Jonathan L. Wright [h], Patricia A. Ganz [i], Maxine Sun [b]*

- This was a retrospective observational study of 5556 RARP and 7878 ORP cases from 2004 to 2009 from Surveillance Epidemiology and End Results–Medicare linked data.

- Propensity-based analyses were performed to minimize treatment selection biases. Generalized linear regression models were computed for comparison of RP surgical margin status and use of additional cancer therapy (radiation therapy [RT] or androgen deprivation therapy [ADT]) by surgical approach.

Hu et al. J Eur Urol 2014, 66:666-672

Positive surgical margins

	ORP, no. (%)	RARP, no. (%)	RARP vs ORP OR (95% CI)*	p
Overall	1010 (18.3)	752 (13.6)	0.70 (0.66–0.75)	<0.001
Clinical stage				
≤T1c (n = 6770)	594 (17.9)	483 (14.0)	0.73 (0.67–0.79)	<0.001
T2a/b (n = 3226)	308 (18.3)	205 (13.3)	0.67 (0.57–0.79)	<0.001
≥T2c (n = 1052)	108 (20.7)	64 (12.1)	0.59 (0.40–0.88)	0.009
Pathologic stage				
pT2 (n = 9156)	676 (14.6)	466 (10.3)	0.66 (0.62–0.71)	<0.001
pT3a (n = 1892)	334 (37.2)	286 (28.8)	0.73 (0.63–0.85)	<0.001
Risk groups				
Low (n = 2314)	109 (9.2)	90 (8.0)	0.89 (0.71–1.12)	0.321
Intermediate (n = 4333)	420 (21.0)	351 (15.0)	0.66 (0.59–0.75)	<0.001
High (n = 4401)	481 (20.6)	311 (15.1)	0.70 (0.63–0.77)	<0.001

	12 mo		24 mo	
	RARP vs ORP OR (95% CI)	p	RARP vs ORP OR (95% CI)	p
Overall	0.73 (0.62–0.86)	<0.001	0.67 (0.57–0.78)	<0.001
Clinical stage				
≤T1c (n = 6786)	0.72 (0.58–0.88)	0.002	0.63 (0.52–0.77)	<0.001
T2a/b (n = 3281)	0.73 (0.51–1.03)	0.08	0.71 (0.54–0.94)	0.016
≥T2c (n = 1045)	0.82 (0.65–1.04)	0.097	0.70 (0.59–0.84)	<0.001
Pathologic stage				
pT2 (n = 9151)	0.65 (0.58–0.74)	<0.001	0.61 (0.54–0.68)	<0.001
pT3a (n = 1961)	0.79 (0.60–1.05)	0.104	0.72 (0.56–0.92)	0.008
Risk groups				
Low (n = 2387)	0.70 (0.46–1.06)	0.094	0.62 (0.46–0.82)	0.001
Intermediate (n = 4442)	0.61 (0.47–0.79)	<0.001	0.57 (0.48–0.69)	<0.001
High (n = 4283)	0.84 (0.68–1.03)	0.100	0.75 (0.61–0.93)	0.009

CI = confidence interval; OR = odds ratio; ORP = open radical prostatectomy; RARP = robot-assisted radical prostatectomy.

CI = confidence interval; OR = odds ratio; ORP = open radical prostatectomy; RARP = robot-assisted radical prostatectomy.

* Overall multivariable model adjusted for age at diagnosis, race, marital status, population density, socioeconomic status, baseline comorbidities, clinical stage (except in stratified analyses), Gleason score, preoperative prostate-specific antigen, region, as well as clustering of surgeons and year of surgery.

Hu et al. J Eur Urol 2014, 66:666-672

Complications

Comparative Effectiveness of Robot-Assisted and Open Radical Prostatectomy in the Postdissemination Era

Giorgio Gandaglia, Jesse D. Sammon, Steven L. Chang, Toni K. Choueiri, Jim C. Hu, Pierre I. Karakiewicz, Adam S. Kibel, Simon P. Kim, Ramdev Konijeti, Francesco Montorsi, Paul L. Nguyen, Shyam Sukumar, Mani Menon, Maxine Sun, and Quoc-Dien Trinh

JOURNAL OF CLINICAL ONCOLOGY

- 5,915 patients with prostate cancer treated with RARP or ORP within the SEER-Medicare linked database diagnosed between October 2008 and December 2009 were abstracted.

- Postoperative complications, blood transfusions, prolonged length of stay (pLOS), readmission, additional cancer therapies, and costs of care within the first year after surgery were compared between the two surgical approaches.

Gandaglia et al. J Clin Oncol 2014, 32:1419-26

Factor	Total		ORP		RARP		P
	No. of Patients	%	No. of Patients	%	No. of Patients	%	
Total patients	5,915	100	2,439	41.2	3,476	58.8	
30-day postoperative complications							
Overall	1,351	22.8	581	23.8	770	22.2	.1
Cardiac	104	1.8	43	1.8	61	1.8	.9
Respiratory	297	5.0	134	5.5	163	4.7	.1
Genitourinary	247	4.2	77	3.2	170	4.9	.001
Wound	105	1.8	53	2.2	52	1.5	.05
Vascular	127	2.1	54	2.2	73	2.1	.8
Miscellaneous medical	669	11.3	293	12.0	376	10.8	.2
Miscellaneous surgical	302	5.1	146	6.0	156	4.5	.01
90-day postoperative complications							
Overall	1,609	27.2	704	28.9	905	26.0	.01
Cardiac	119	2.0	49	2.0	70	2.0	.9
Respiratory	354	6.0	164	6.7	190	5.5	.04
Genitourinary	291	4.9	98	4.0	193	5.6	.01
Wound	127	2.1	66	2.7	61	1.8	.01
Vascular	218	3.7	96	3.9	122	3.5	.4
Miscellaneous medical	820	13.9	368	15.1	452	13.0	.02
Miscellaneous surgical	362	6.1	176	7.2	186	5.4	.003
Heterologous blood transfusions	282	4.8	216	8.9	66	1.9	< .001
Length of stay, days*							
Median	2		2		1		< .001
IQR	1-2		2-3		1-2		
30-day readmission rate	230	3.9	93	3.8	137	3.9	.8
90-day readmission rate	334	5.6	143	5.9	191	5.5	.5
Additional cancer therapy within 6 months after surgery							
Overall	279	4.7	154	6.3	125	3.6	< .001
Radiotherapy	210	3.6	113	4.6	97	2.8	< .001
Androgen-deprivation therapy	110	1.9	61	2.5	49	1.4	.002
Additional cancer therapy anytime after surgery							
Overall	626	10.6	314	12.9	312	9.0	< .001
Radiotherapy	494	8.4	244	10.0	250	7.2	< .001
Androgen-deprivation therapy	330	5.6	164	6.7	166	4.8	.002
Median Medicare costs within 12 months from surgery, US dollars*	$12,834.9		$11,970.4		$13,394.6		< .001

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Comparative Effectiveness of Robot-Assisted and Open Radical Prostatectomy in the Postdissemination Era

Giorgio Gandaglia, Jesse D. Sammon, Steven L. Chang, Toni K. Choueiri, Jim C. Hu, Pierre I. Karakiewicz, Adam S. Kibel, Simon P. Kim, Ramdev Konijeti, Francesco Montorsi, Paul L. Nguyen, Shyam Sukumar, Mani Menon, Maxine Sun, and Quoc-Dien Trinh

JOURNAL OF CLINICAL ONCOLOGY

- RARP and ORP have comparable rates of complications and additional cancer therapies, even in the postdissemination era.

- Although RARP was associated with lower risk of blood transfusions and a slightly shorter length of stay, these benefits do not translate to a decrease in expenditures.

Gandaglia et al. J Clin Oncol 2014, 32:1419-26

Lymph nodes dissection

Platinum Priority – Collaborative Review – Prostate Cancer
Editorial by Alexandre Mottrie and Alessandro Volpe on pp. 17–19 of this issue

Pelvic Lymph Node Dissection During Robot-assisted Radical Prostatectomy: Efficacy, Limitations, and Complications—A Systematic Review of the Literature

Guillaume Ploussard [a,b,c,], Alberto Briganti [d], Alexandre de la Taille [c,e], Alexander Haese [f], Axel Heidenreich [g], Mani Menon [h], Tullio Sulser [i], Ashutosh K. Tewari [j], James A. Eastham [k]*

Study	Patients, *n*	Risk group	Template	Lymph node yield, median (range)	Positive lymph nodes, %	Positive nodes, median no. or %
Yuh et al. [50]	143	Intermediate: 80% High: 20%	Extended	20 (9–65)	13	2.9
Van der Poel et al. [34]	440	Nodal metastases risk >7%	Standard	14 (11–19)*	8.2	–
Mattei et al. [51]	60	All risk groups	Standard	12 (9–17)	12	–
Silberstein et al. [52]	120	Nodal metastases risk >2%	Standard (possibility of extended in some cases)	16 (IQR: 11–21)	13	>2 positive nodes in 4% of cases
Sagalovich et al. [47]	760	Low: 309	Limited	5 (2–10)	0	–
		Intermediate: 369	Limited	7 (3–12)	0.8	–
		High: 82	Extended	13 (6–20)	13.4	–
Jung et al. [49]	200	High risk	Limited	15 (IQR: 11–19)	5.2	–
			Extended	24 (IQR: 18–28)	22.2	–
Orvieto et al. [53]	76	Intermediate and high risk	Limited	12* (4–24)	7.9	–
Davis et al. [48]	117	Intermediate and high risk	Limited	8 (5–11)	7	–
	355	Intermediate and high risk	Extended	16 (11–21)	18	–
Lallas et al. [54]	473	All risk groups	Limited	7.1** (0–29)	1.1	–
Truesdale et al. [55]	43	Low risk	Limited	6.4 (SD:4.5)	0	–
	56	Intermediate and high risk	Extended	6.8 (SD: 4.4)	1	–
Yee et al. [56]	32	–	Extended	18 (12–28)	13	–
Katz et al. [46]	62	All risk groups	Limited	12 (7–16.3)	1.6	–
	32	All risk groups	Extended	17.5 (12–28.3)	12.5	–
Zorn et al. [57]	296	Intermediate and high risk	Limited	12.5** (7–16)	7.8	–
Feicke et al. [58]	99	Intermediate and high risk	Standard	19 (8–53)	16	–
Cooperberg et al. [2]	179	Intermediate and high risk	Limited***	9.3** (SD: 5.4)	1.1	17.2%
Yates et al. [59]	62	Intermediate and high risk	Limited	3.3	3.2	–
Polcari et al. [60]	60	All risk groups	Standard	7 (1–26)	3.3	–
Atug et al. [61]	40	Intermediate and high risk	Standard	14.1 (9–24)	5	–

Ploussard et al. J Eur Urol 2014, 65:7-16

Study	Template	PLND operative time, min	Estimated blood loss *, ml
Yuh et al. [50]	Extended	30–45	200 (5–800)
Van der Poel et al. [34]	Standard	49 (IQR: 27–61)**	–
Silberstein et al. [52]	Standard	30–45	–
Sagalovich et al. [47]	Limited	–	150
	Extended	–	150
Orvieto et al. [53]	Limited	12.7 (9–17)	108 (20–250)
Davis et al. [48]	Limited	21 (14–31)	–
	Extended	42 (36–50)	–
Truesdale et al. [55]	Limited and Extended (56.6%)	–	158 (SD: 105)
Yee et al. [56]	Extended	72 (66–86)	300 (150–400)
Katz et al. [46]	Limited	47 (42–51)	250 (200–400)
	Extended	72 (66–86)	300 (150–400)
Zorn et al. [57]	Limited	8	206 (50–750)
Feicke et al. [58]	Standard	51 (29–81)	500
Atug et al. [61]	Standard	23	322 (150–900)

Study	Overall, %	Potentially related to PLND, %	Clavien grade 1–2, %	Clavien grade 3–4, %
Yuh et al. [50]	18	7	Ileus, 3 Lymphocele, 3 Scrotal swelling, 2	Pulmonary embolus, <1 Deep vein thrombosis, <1,% Ureteral injury, <1
Van der Poel et al. [34]	14.1	3.3	Lymphocele, 1.5 Ileus, 0.3	Deep vein thrombosis, 1 Pulmonary embolus, 0.5
Silberstein et al. [52]	–	3	Lymphocele, 3	0
Sagalovich et al. [47] *	–	–	Lymphocele, 2.4	0
Orvieto et al. [53] **	N/A	N/A	Lymphocele, 7.9	N/A
Davis et al. [48]	–	5	4: Lymphocele Neuropraxia Lower extremity oedema	1
Lallas et al. [54]	N/A	1.1	Lymphocele, 0.6 Neuropraxia, 0.2 Obturator nerve injury, 0.2	0
Yee et al. [56]	34	3	Neuropraxia, 3 Lymphocele, 0	0
Katz et al. [46]	35.1	Limited: 8.1 Extended: 3.1	Neuropraxia, 3 Neuropraxia, 3.1	Deep vein thrombosis, 3 Pulmonary embolus, 1.6
Zorn et al. [57]	13	5	Lymphocele, 2	Ureteral injury, 1 Bladder injury, 1 Vena cava compression, 1 Pulmonary embolus, 1
Feicke et al. [58]	–	7	Lymphatic fistula, 1 Lymphoedema, 2 Lymphocele, 4	0
Cooperberg et al. [2]	–	1.1	Lymphocele, 1.1	0
Polcari et al. [60]		4.6	Lymphocele, 3	Deep vein thrombosis, 1.6
Atug et al. [61]	10	0	0	0

Ploussard et al. J Eur Urol 2014, 65:7-16

Indication for and Extension of Pelvic Lymph Node Dissection During Robot-assisted Radical Prostatectomy: An Analysis of Five European Institutions

Nazareno Suardi[a,], Alessandro Larcher[a], Alexander Haese[b], Vincenzo Ficarra[c], Alexander Govorov[d], Nicolò M. Buffi[a], Jochen Walz[e], Bernardo Rocco[f], Marco Borghesi[g], Thomas Steuber[b], Giovannalberto Pini[h], Alberto Briganti[a], Alexander M. Mottrie[g], Giorgio Guazzoni[a], Francesco Montorsi[a], Dmitry Pushkar[d], Henk Van Der Poel[i],*

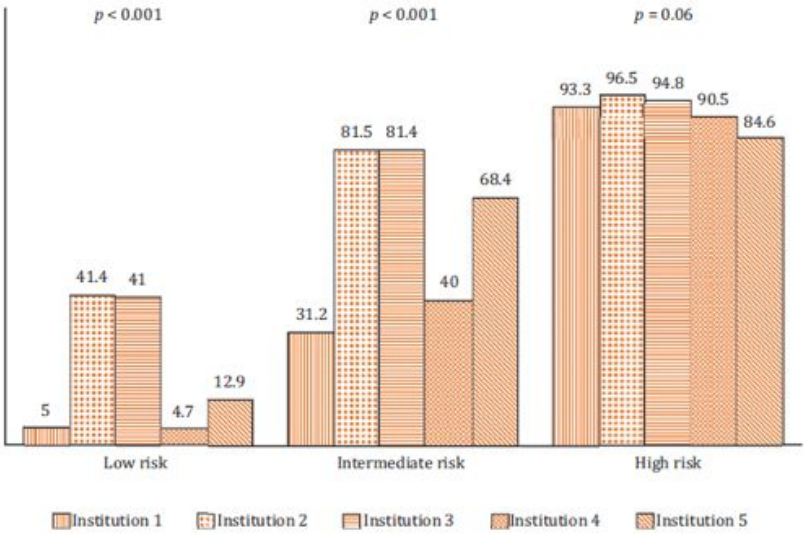
for the EAU Young Academic Urologists–Robotic Section

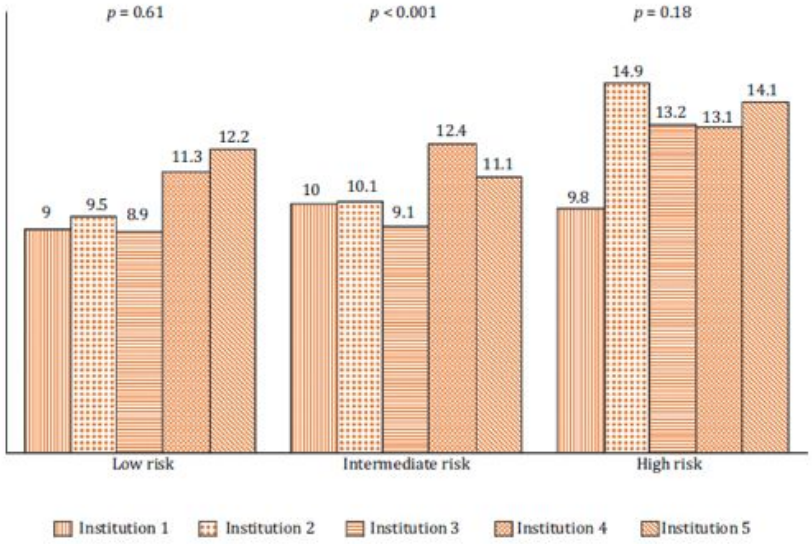
- Our study was a multi-institutional retrospective analysis of prospectively collected data on 2985 consecutive patients who underwent RARP at five high-volumeEuropean institutions.

- The rate and extent of PLND across different institutions were analyzed. Univariable and multivariable logistic regression

- models evaluated the association between preoperative variables and the probability of receiving PLND, as well as the presence of lymph node invasion (LNI). Finally, the probability of LNI was calculated for each patient, and the indication for PLND was compared with the EAU guidelines' indications.

Suardi et al. Eur Urol in press





Predictor	Univariable		Multivariable	
	OR (95% CI)	p value	OR (95% CI)	p value
PSA	1.114 (1.094–1.134)	<0.001	1.160 (1.13–1.19)	<0.001
Clinical stage	–	<0.001	–	<0.001
cT2 vs cT1	1.267 (1.084–1.479)	0.003	1.16 (1.24–2.12)	<0.001
cT3 vs cT1	6.409 (3.577–11.482)	<0.001	6.010 (2.27–12.16)	<0.001
Primary Gleason grade ≥4 vs ≤3	10.857 (7.590–15.529)	<0.001	13.85 (8.84–21.72)	<0.001
Secondary Gleason grade ≥4 vs ≤3	6.433 (5.274–7.845)	<0.001	7.89 (6.08–10.25)	<0.001
Percentage of positive biopsy cores	9.889 (6.756–14.474)	<0.001	5.5 (3.41–8.89)	<0.001
Institution	–*	<0.001	–*	<0.001

CI = confidence interval; OR = odds ratio; PSA = prostate-specific antigen.
* Not shown (categorical nonordinal variable).

Suardi et al. Eur Urol in press

High risk patients

Biochemical Recurrence–free Survival After Robotic-assisted Laparoscopic vs Open Radical Prostatectomy for Intermediate- and High-risk Prostate Cancer

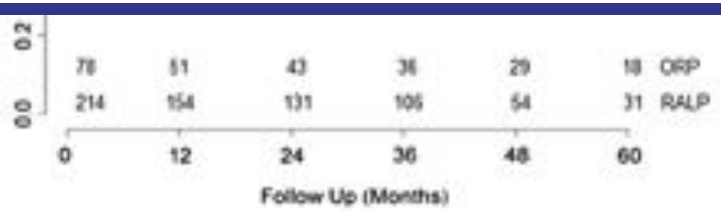
- Retrospective study on 1336 men with D'Amico IR or HR prostate cancer who underwent RALP or ORP between 2003 and 2009. Exclusion criteria were use of neoadjuvant therapy, <6 months of follow-up, and insufficient clinicopathologic data.

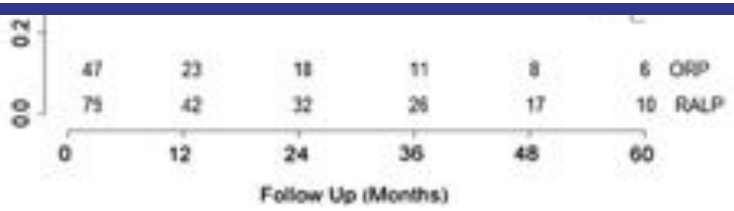
- We compared demographic, clinical, and pathologic variables between groups.

- Kaplan-Meier analysis was performed to compare the 5-year BCR-free survival between groups. Multivariate models were developed to determine whether surgical approach influences BCR.

Rich et al. Urology 2014, 83:1309-15

Variable	Univariate HR (95% CI)	*P* Value	Multivariate HR (95% CI)	*P* Value
Age (continuous)	1.00 (0.98-1.01)	.710	0.99 (0.98-1.01)	.299
RALP (ORP as ref)	0.69 (0.55-0.88)	.003	1.01 (0.76-1.36)	.927
Race (white as ref)	0.94 (0.62-1.43)	.787	1.08 (0.77-1.52)	.663
PSA (log)	1.51 (1.24-1.84)	<.001	1.11 (0.91-1.37)	.288
Path GS (≤6 as ref)				
7 (3 + 4)	2.85 (1.56-5.20)	.001	2.30 (1.25-4.23)	.007
7 (4 + 3)	6.36 (3.48-11.60)	<.001	4.43 (2.41-8.15)	<.001
8-10	11.84 (6.53-21.43)	<.001	6.42 (3.48-11.85)	<.001
EPE	3.15 (2.50-3.96)	<.001	1.81 (1.41-2.34)	<.001
SVI	3.78 (2.95-4.84)	<.001	1.61 (1.21-2.15)	.001
PSM	2.25 (1.80-2.81)	<.001	1.58 (1.25-2.00)	<.001
LN involvement	7.21 (5.03-10.31)	<.001	2.87 (1.91-4.31)	<.001
Surgeon* (1 as ref)				
Surgeon 2	1.44 (1.11-1.89)	.007	1.18 (0.87-1.61)	.28
Surgeon 3	0.69 (0.41-1.15)	.155	0.82 (0.49-1.38)	.465
Surgeon 4	1.22 (0.82-1.80)	.324	1.26 (0.82-1.94)	.295
Surgeon 5	0.66 (0.21-2.07)	.477	0.40 (0.13-1.28)	.124
Surgeon 6	0.96 (0.13-6.84)	.965	0.27 (0.04-2.06)	.208





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Conclusions:

- In conclusion, using BCR-free survival as a surrogate end point, we have demonstrated no difference in oncologic effectiveness between ORP and RALP techniques.

- The implication is that IR and HRpatients who undergo surgery in the contemporary RALP era are not receiving inferior therapy and can still benefit from the advantages of minimally invasive surgery.

- Significant predictors of BCR in this patient population are adverse pathologic features, including GS 7, EPE, SVI, PSM, and LN involvement.

- Patients who are at increased risk of disease recurrence and mortality can therefore be treated with the robotic approach without compromising oncologic efficacy.

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The Role of Robot-assisted Radical Prostatectomy and Pelvic Lymph Node Dissection in the Management of High-risk Prostate Cancer: A Systematic Review

Bertram Yuh[a,*], *Walter Artibani*[b], *Axel Heidenreich*[c], *Simon Kimm*[d], *Mani Menon*[e], *Giacomo Novara*[f], *Ashutosh Tewari*[g], *Karim Touijer*[d], *Timothy Wilson*[a], *Kevin C. Zorn*[h], *Scott E. Eggener*[i]

rate was 35%. Three-year biochemical recurrence–free survival ranged from 45% to 86%.
Conclusions: Although the use of RARP for HR PCa has been relatively limited, it appears safe and effective for select patients. Short-term results are similar to the literature on open radical prostatectomy. Variability exists for NS and the template of LND, although ELND improves staging and removes a higher number of metastatic nodes. Further study is required to assess long-term outcomes.

Learning curve

Superior Quality of Life and Improved Surgical Margins Are Achievable with Robotic Radical Prostatectomy After a Long Learning Curve: A Prospective Single-surgeon Study of 1552 Consecutive Cases

James E. Thompson [a,b,c,*], *Sam Egger* [d], *Maret Böhm* [b], *Anne-Maree Haynes* [b], *Jayne Matthews* [a], *Krishan Rasiah* [a], *Phillip D. Stricker* [a,b,c]

- A prospective observational study compared two surgical techniques: 1552 consecutive men underwent RARP (866) or ORP (686) at a single Australian hospital from 2006 to 2012, by one surgeon with 3000 prior ORPs.

- The Expanded Prostate Cancer Index Composite quality of life (QoL) questionnaire was administered at baseline, 1.5, 3, 6, 12, and 24 mo. Multivariate linear and logistic regression modelled the difference in QoL domains and positive surgical margin (PSM) odds ratio (OR), respectively, against case number.

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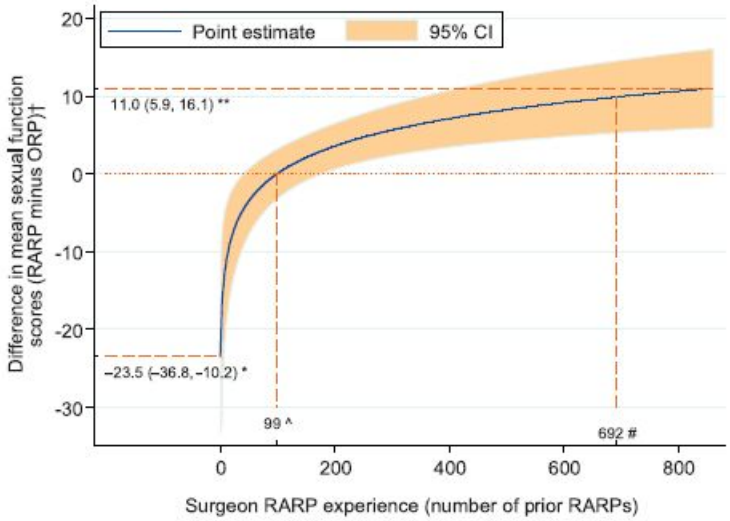
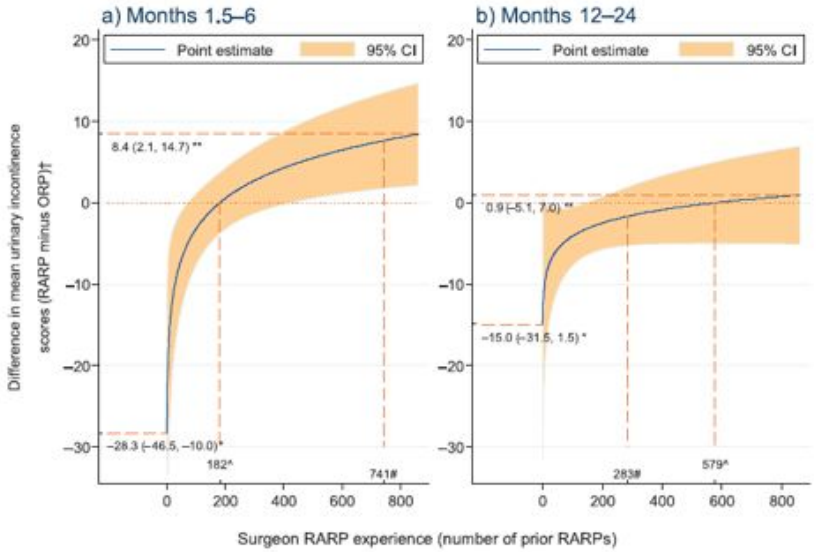
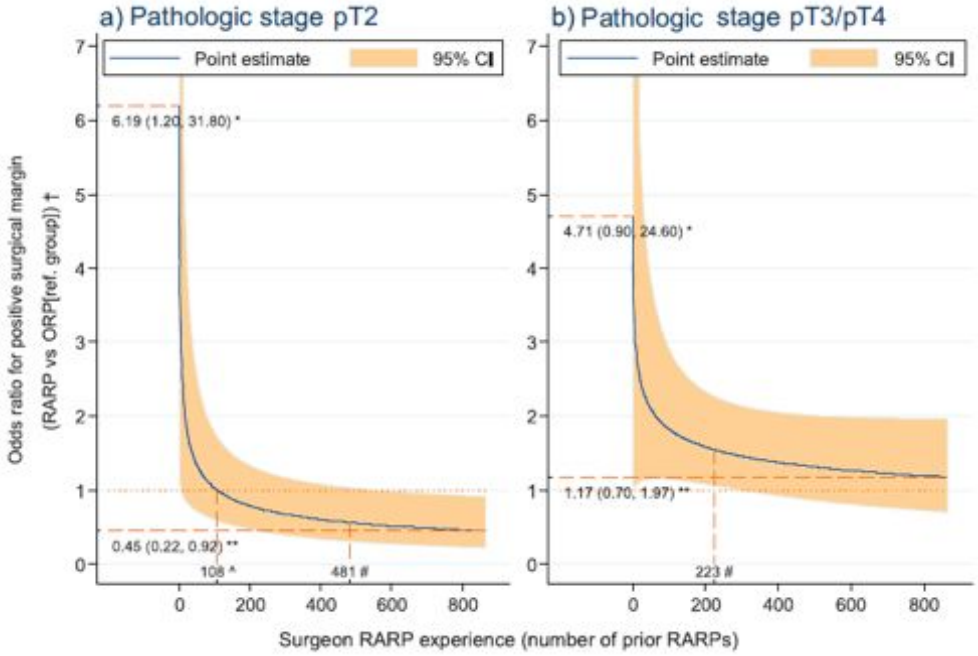
Sexual function recovery



Urinary continence recovery





Positive surgical margins

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Conclusions:

- RARP had a long learning curve with inferior outcomes initially, and then showed progressively superior sexual, early urinary, and pT2 PSM outcomes and similar pT3 PSM and late urinary outcomes.

- Learning RARP was worthwhile for this high-volume surgeon, but the learning curve may not be justifiable for late-career/ low-volume surgeons; further studies are needed.

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New techniques and rare indications

Surgery in Motion
Editorial by Fijs W.B. van Leeuwen and Stephan Hruby on pp. 1169–1170 of this issue

Fluorescence-enhanced Robotic Radical Prostatectomy Using Real-time Lymphangiography and Tissue Marking with Percutaneous Injection of Unconjugated Indocyanine Green: The Initial Clinical Experience in 50 Patients

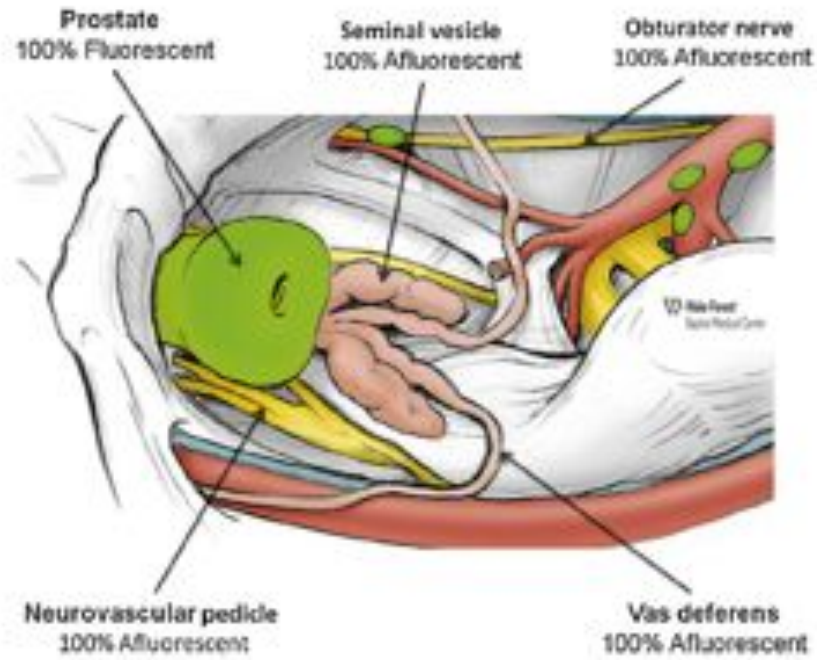


Fig. 5 – After percutaneous injection of indocyanine green, the prostate became uniformly fluorescent in all patients, while periprostatic structures remained nonfluorescent.

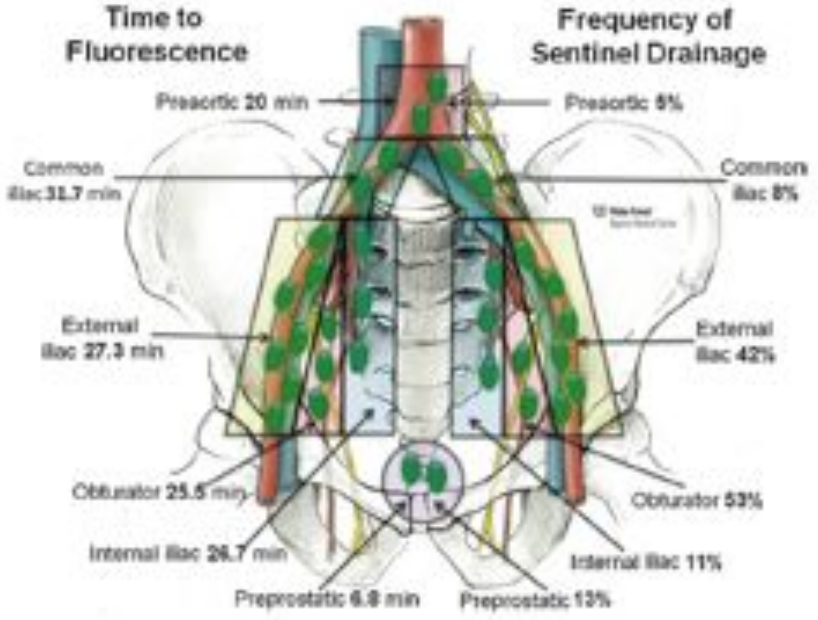
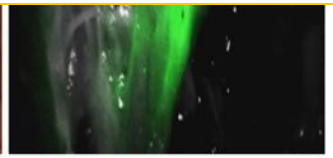


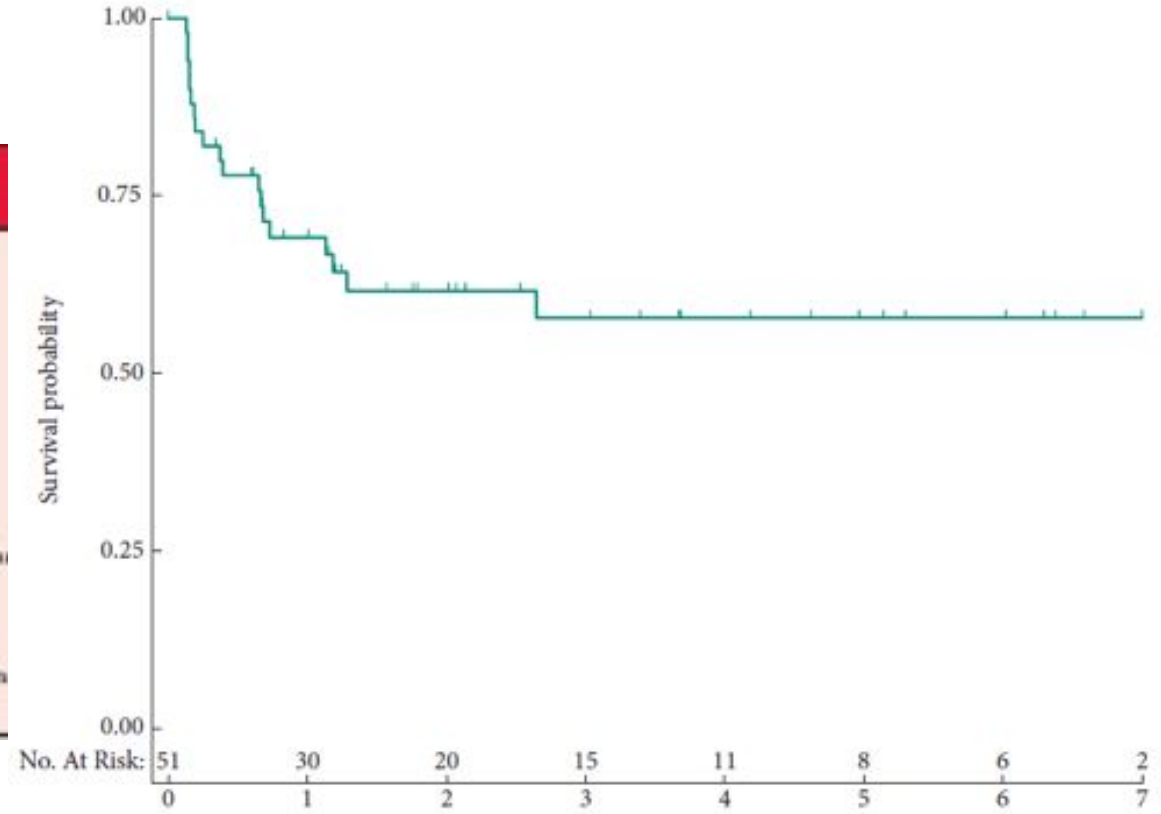
Fig. 6 – Average time to fluorescence of different pelvic lymph node packets (left) and frequency of node fluorescence indicating prostate sentinel drainage (right) after prostatic injection of indocyanine green.



Complications and outcomes of salvage robot-assisted radical prostatectomy: a single-institution experience

Bertram Yuh, Nora Ruel, Shantel Muldrew, Rosa Mejia, Giacomo Novara*, Mark Kawachi and Timothy Wilson

N=51



	Percent of total complications
Procedural	25.7
	22.9
	2.9
	5.7
	2.9
	2.9
	2.9
	2.9
	2.9
Cardiovascula	5.7
	2.9
Infectious	5.7
	5.7
Gastrointestin	5.7
	2.9
Total	100.0

Yuh et al. Urology 2014, 113:769-76

Platinum Opinion

A Progress Report on a Prospective Randomised Trial of Open and Robotic Prostatectomy

Robert A. Gardiner [a,b,c,*], *Geoffrey D. Coughlin* [b], *John W. Yaxley* [b], *Nigel T. Dunglison* [b], *Stefano Occhipinti* [d], *Sandra J. Younie* [e], *Rob C. Carter* [e], *Scott G. Williams* [f], *Robyn J. Medcraft* [a], *Hema M. Samaratunga* [g], *Joanna L. Perry-Keene* [h], *Diane J. Payton* [h], *Martin F. Lavin* [a,i], *Suzanne K. Chambers* [a,c,d,j,k]

[a] *The University of Queensland Centre for Clinical Research, Brisbane, Australia;* [b] *Department of Urology, Royal Brisbane & Women's Hospital, Brisbane, Australia;* [c] *Edith Cowan University, Perth, Australia;* [d] *Griffith University, Brisbane, Australia;* [e] *Deakin University, Melbourne, Australia;* [f] *Peter Macallum Cancer Centre, Melbourne, Australia;* [g] *Aquesta Pathology, Brisbane, Australia;* [h] *Anatomical Pathology, Pathology Queensland, Brisbane, Australia;* [i] *Queensland Institute of Medical Research, Brisbane, Australia;* [j] *Cancer Council Queensland, Brisbane, Australia;* [k] *Prostate Cancer Foundation of Australia, Brisbane, Australia*

Conclusions:

- The oncological outcomes of RARP for localized prostate cancer are durable.
- RARP seems to provide lower rates of positive surgical margins as compared to open RP
- Despite the absence of level I evidence as compared to open RP, RARP provides good oncological results even in high risk patients.
- To date, the complication profile of RARP is not superior to open RP (excluding blood loss and transfusion rates).
- The learning curve towards "perfect outcomes" is longer than expected.