



UNIVERSITY OF LEEDS

This is a repository copy of *The benefits and harms of different extents of lymph node dissection during radical prostatectomy for prostate cancer: a systematic review*.

White Rose Research Online URL for this paper:
<http://eprints.whiterose.ac.uk/110393/>

Version: Accepted Version

Article:

Fossati, N, Willemse, P-PM, Van den Bergh, RCN et al. (19 more authors) (2017) The benefits and harms of different extents of lymph node dissection during radical prostatectomy for prostate cancer: a systematic review. *European Urology*, 72 (1). pp. 84-109. ISSN 0302-2838

<https://doi.org/10.1016/j.eururo.2016.12.003>

© 2016 European Association of Urology. Published by Elsevier B.V. This manuscript version is made available under the CC-BY-NC-ND 4.0 license
<http://creativecommons.org/licenses/by-nc-nd/4.0/>

Reuse

Unless indicated otherwise, fulltext items are protected by copyright with all rights reserved. The copyright exception in section 29 of the Copyright, Designs and Patents Act 1988 allows the making of a single copy solely for the purpose of non-commercial research or private study within the limits of fair dealing. The publisher or other rights-holder may allow further reproduction and re-use of this version - refer to the White Rose Research Online record for this item. Where records identify the publisher as the copyright holder, users can verify any specific terms of use on the publisher's website.

Takedown

If you consider content in White Rose Research Online to be in breach of UK law, please notify us by emailing eprints@whiterose.ac.uk including the URL of the record and the reason for the withdrawal request.



eprints@whiterose.ac.uk
<https://eprints.whiterose.ac.uk/>

TABLES

Table 1. Baseline characteristics of included studies addressing oncological outcomes. Congress abstracts are underlined.

Data for categorical variables are reported as frequencies (proportions).

Data for continuous variables are reported as either medians (when the brackets of range or inter-quartile range are “[xx]”) or means (when the brackets of range or inter-quartile range are “(xx)”).

Baseline characteristics are sub-divided as follows: no PLND vs. any PLND (**Table 1a**), limited/standard PLND vs. (super)-extended PLND (**Table 1b**).

Study ID, design, country, recruitment period	Surgical route	Treatment	N	Follow-up (months)	Age (years)	Initial PSA (ng/mL)	Biopsy Gleason Score	Clinical T stage	Pathologic T stage	Pathologic Gleason Score	Surgical Margin Status	Number of lymph nodes dissected	Number of positive lymph nodes	Outcomes reported on
Table 1a – No PLND vs. any PLND														
Karl A 2015, retrospective comparative, Germany, 1994-2013	Open: 87% Lap: 8% Robotic: 2% Perineal: 3%	No PLND	608	48 [NR]	64.9 [R: 42-78]	<4: 8% (n=43) 4-9.9: 53% (n=282) 10-19.9: 27% (n=142) ≥20: 12% (n=64)	NR	NR	pT3a: 100%	≤6: 14% (n=77) 3+4: 56% (n=301) 4+3: 21% (n=112) ≥8: 9% (n=46)	R1: 100%	NR	NR	BFFS
		PLND												
Gandaglia G 2015, retrospective comparative, Italy, France, Germany, 2000-2013	NR	No PLND	1710	40 (32.2)	64 [IQR: 59-68]	5.4 [IQR: 4.2-6.8]	NR	T1c: 91.2% (n=1560) T2: 8.8% (n=150)	NR	NR	NR	NR	NR	BCR
		PLND												
Koo KC 2015, retrospective comparative, South Korea, 2005-2009	Open: 29% Robotic: 71%	No PLND	327	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	BFFS
		PLND	403											

Study ID, design, country, recruitment period	Surgical route	Treatment	N	Follow-up (months)	Age (years)	Initial PSA (ng/mL)	Biopsy Gleason Score	Clinical T stage	Pathologic T stage	Pathologic Gleason Score	Surgical Margin Status	Number of lymph nodes dissected	Number of positive lymph nodes	Outcomes reported on					
Boehm 2015, retrospective comparative, Germany, 1992-2011	Open: 95% Robotic: 5%	No PLND	4884	NR	64 (59–67)	NR	≤6: 29,2% (n=3412) 3+4: 53,8% (n=6303) 4+3: 13,0% (n=1529) ≥8: 3,8 (n=443)	NR	pT2: 70% (n=8172) pT3a: 20% (n=2327) ≥pT3b: 10% (n=1223)	NR	NR	NR	NR	BFFS, MFS, CSS					
		PLND	6810																
Chen YW 2015, USA, retrospective comparative, GCS	NR	No PLND	17541	53 [NR]	NR	NR	NR	NR	NR	NR	NR	NR	NA	CSS					
		PLND	26571										1.9%						
Abdollah E, 2014, Italy, retrospective comparative, EAU	NR	No PLND	1406	NR	65 (NR) 66 [R: 44-80]	NR	NR	NR	NR	NR	NR	15 (NR) 14 [R: 8-52]	NR	BFFS					
		PLND																	
Liss 2013, retrospective comparative, Germany, 2007-2011	Robotic: 100%	No PLND	207	NR	61 (6.9) 63 (6.8) 61 (7.2)	4.9 (4.0-6.5)	≤6: 93.5% (n=188) 7: 4.5% (n=9) ≥8: 2% (n=4)	T1: 78.3% (n=162) T2: 21.7% (n=45) T3: 0% (n=0)	T1: 92.3% (n=191) T2: 6.8% (n=14) T3: 1% (n=2)	NR	NR	NR	NR	NA	NA				
		sPLND	231											6.1 (4.4-9.2)	≤6: 58.9% (n=136) 7: 39.4% (n=91) ≥8: 1.7% (n=4)	T1: 58.9% (n=136) T2: 39.4% (n=91) T3: 1.7% (n=4)	T1: 72.7% (n=168) T2: 26.4% (n=61) T3: 0.9% (n=2)	18 [12-25]	0.3% (n=13)
		ePLND	54											8.5 (5.5-13.5)	≤6: 27.8% (n=15) 7: 68.5% (n=37) ≥8: 3.7% (n=2)	T1: 27.8% (n=15) T2: 68.5% (n=37) T3: 3.7% (n=2)	T1: 42.6% (n=23) T2: 55.6% (n=30) T3: 1.9% (n=1)	20 [16-28]	2% (n=24)

Study ID, design, country, recruitment period	Surgical route	Treatment	N	Follow-up (months)	Age (years)	Initial PSA (ng/mL)	Biopsy Gleason Score	Clinical T stage	Pathologic T stage	Pathologic Gleason Score	Surgical Margin Status	Number of lymph nodes dissected	Number of positive lymph nodes	Outcomes reported on	
Mitsuzuka 2013, retrospective comparative, Japan, 2000-2009	Open: 100%	No PLND	75	NR	63 [NR]	5.9 (NR)	≤6: 45.3% (n=34) 7: 48% (n=36) ≥8: 6.7% (n=5)	T1c: 90.7% (n=68) T2a: 9.3% (n=9)	NR	NR	NR	NR	NA	BFFS MFS CSS OS	
		PLND	147		67 [NR]	6.4 (NR)	≤6: 28.6% (n=42) 7: 61.2% (n=90) ≥8: 10.2% (n=15)	T1c: 70.1% (n=103) T2a: 29.9% (n=44)					0.7% (n=1)		
Masuda H 2013, retrospective comparative, Japan, 2000-2010	Single-port surgery: 100% (MIES-RP)	No PLND	379	49.8 (NR)	65.8 (NR)	8.4 (NR)	NR	NR	NR	T3a: 32.5% (n=123) T3b: 4.0% (n=15)	NR	R1: 25.3% (n=96)	NR	NR	BFFS
		PLND													
De Almeida Prado Costa G, 2013, France, retrospective comparative, WCE	Lap: 73% Robotic: 27%	No PLND	2293	NR	NR	NR	NR	NR	NR	NR	NR	NR	3% (n=21)	NR	BFFS
		PLND													
Chang M, 2013, Canada, retrospective comparative, AUA	Open: 100%	No PLND	335	50.7 m	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	CSS
		PLND	335												
Pokala N, 2013, USA, retrospective comparative, AUA	NR	No PLND	75416	NR	61.4 [R: 26-75]	NR	NR	NR	NR	NR	NR	NR	NR	NR	BFFS CSS
		PLND													
Daimon T 2012, retrospective comparative, Japan, 2002-2006	Lap: 100%	No PLND	54	69.4 [NR]	65.2 (NR)	6.37 (NR)	5.3 (NR)	NR	NR	NR	NR	NR	NR	NR	BFFS
		Limited	85		54.8 (NR)	6.48 (NR)	5.2 (NR)								
Ost P, Retrospective	NR	No PLND	46	60 [6-136]	NR	NR	NR	NR	NR	NR	NR	0	NR	BFFS, LFFS	

Study ID, design, country, recruitment period	Surgical route	Treatment	N	Follow-up (months)	Age (years)	Initial PSA (ng/mL)	Biopsy Gleason Score	Clinical T stage	Pathologic T stage	Pathologic Gleason Score	Surgical Margin Status	Number of lymph nodes dissected	Number of positive lymph nodes	Outcomes reported on
comparative, Belgium/Italy, 1999-2008		Extended	179									10 (1-40)		
Ku JH 2011, retrospective comparative, Korea, 1997-2009	Open: 88% Lap: 2.5% Robot: 9.5%	No PLND	88	37	66.9 (6.0)	15.8 (15.9)	<7: 11.4% (n=10) 7: 13.6% (n=12) 8: 48.9% (n=43) 9: 23.9% (n=21) 10: 2.3% (n=2)	<T2c= 86.4% (n=76) ≥T2c: 13.6% (n=12)	NR	<7: 9.1% (n=8) 7: 54.4% (n=48) 8: 12.5% (n=11) 9: 22.7% (n=20) 10: 1.1% (n=1)	R0: 54.5% (n=48) R+: 45% (n=40)	NR	NR	BF
		PLND	111		65.3 (6.9)	21.5 (35.9)	<7: 11.7% (n=13) 7: 19.8% (n=22) 8: 42.3% (n=47) 9: 24.3% (n=27) 10: 1.8% (n=2)	<T2c: 89.2% (n=99) ≥T2c: 10.8% (n=12)		<7: 2.7% (n=3) 7: 66.7% (n=74) 8: 10.8% (n=12) 9: 19.8% (n=22) 10: 0% (n=0)				
Logan J, 2011, USA, retrospective comparative, AUA	NR	PLND	88	74 m	NR	NR	NR	NR	NR	NR	NR	NR	NR	BCR
		No PLND	123											
Porter CR 2010, retrospective comparative, USA, 1954-1994	Open: 43% Perineal: 57%	No PLND	410	139	NR	NR	NR	NR	NR	NR	NR	NR	NR	PCSM
		PLND	342											
Weight CJ 2008, retrospective comparative, USA, 1995-1999	Open: 100%	No PLND	196	88 [NR]	>65: 74% (n=146)	≤4: 15% (n=30) 4-10: 85% (n=166)	NR	NR	T3a: 45% (n=23) T3b: 2% (n=1)	NR	NR	NA	NA	BFFS
		PLND	140	94.5 [NR]	>65: 76% (n=107)	≤4: 19% (n=19) 4-10: 86% (n=121)			T3a: 48% (n=34) T3b: 5% (n=4)					
Berglund 2007, retrospective comparative, USA, 1995-2005	NR	No PLND	732	31,9 (40,5)	< 65: 74% (n=540)	<4: 22% (n=155) 4.1-10: 68% (n=472) 10.1-20: 7% (n=48) >20: 2% (n=16)	2-4: 4% (n=29) 5-6: 81% (n=583) 7: 14% (n=100) 8-10: 1% (n=4)	T1: 60% (n=416) T2: 39% (n=268) T3: 1% (n=7) T4: 0% (n=0)	NR	NR	NR	NA	NA	FFS: Free from BF or free from initiation secondary treatment (ADT,

Study ID, design, country, recruitment period	Surgical route	Treatment	N	Follow-up (months)	Age (years)	Initial PSA (ng/mL)	Biopsy Gleason Score	Clinical T stage	Pathologic T stage	Pathologic Gleason Score	Surgical Margin Status	Number of lymph nodes dissected	Number of positive lymph nodes	Outcomes reported on
		IPLND	3961	49,5 (30,4)	< 65: 67% (n=2659)	<4: 14% (n=514) 4.1-10: 64% (n=2372) 10.1-20: 16% (n=599) >20: 6% (n=217)	GI2-4: 7% (n=278); GI5-6: 62% (n=2347); GI7: 24% (n=916) GI8-10: 7% (n=254)	T1: 42% (n=1612) T2: 56% (n=2123) T3: 2% (n=82) T4: 0% (n=2)				5.8 (5.4)	NR	adjuvant RT or salvage RT)
Bhatta-Dhar 2004, retrospective comparative, USA, 1995-1999	NR	No PLND	196	NR	<65: 74% (n=146)	≤4: 15% (n=30) 4-10: 85% (n=166)	NR	T1-T2a: 95% (n=186) T2b-T2c: 5% (n=10)	T3a: 23% (n=45) T3b: 1% (n=2)	≤6: 60% (n=117) ≥7: 40% (n=79)	NR	NA	NA	BFFS
		PLND	140		<65: 76% (n=107)	≤4: 14% (n=19) 4-10: 86% (n=121)		T1-T2a: 95% (n=133) T2b-T2c: 5% (n=7)	T3a: 34% (n=48) T3b: 4% (n=5)	≤6: 54% (n=76) ≥7: 46% (n=64)		NR	NR	
Fergany A 2000, retrospective comparative, USA, 1986-1999	Open: 100%	No PLND	203	38 (R: 1-141)	≤65: 74% (n=150)	≤4: 15% (n=31)	≤6: 100% (n=203)	≤cT1-T2a: 95% (n=193)	pT3a: 23% (n=47) pT3b: 1% (n=2)	≤6: 61% (n=123)	NR	NR	NA	BFFS
		PLND	372		≤65: 72% (n=267)	≤4: 24% (n=88)	≤6: 100% (n=372)	≤cT1-T2a: 88% (n=327)	pT3a: 41% (n=153) pT3b: 4% (n=14)	≤6: 60% (n=223)		2% (n=6)		
Table 1b – Limited / standard PLND vs. (super)-extended PLND														
Hatzichristodoulou G 2015, retrospective comparative, 2007-2012	Open: 100%	ePLND	262	48 [R: 24-84]	64.9 (7.5)	8.3 (6.3)	6: 0% (n=0) 7: 88.6% (n=232) 8: 8.0% (n=21) 9: 3.4% (n=9)	≤T1c: 57.3% (n=150) >T1c: 42.7% (n=112)	pT2: 76.3% (n=200) pT3a: 13% (n=34) pT3b: 9.9% (n=26) pT4: 0.8% (n=2)	6: 40.1% (n=105) 7: 47.7% (n=125) 8-10: 12.2% (n=32)	NR	20.4 (9.7)	NR	BFFS

Study ID, design, country, recruitment period	Surgical route	Treatment	N	Follow-up (months)	Age (years)	Initial PSA (ng/mL)	Biopsy Gleason Score	Clinical T stage	Pathologic T stage	Pathologic Gleason Score	Surgical Margin Status	Number of lymph nodes dissected	Number of positive lymph nodes	Outcomes reported on
		IPLND	198		64.6 (7.8)	9.9 (7.8)	6: 100% (n=198) 7: 0% (n=0) 8: 0% (n=0) 9: 0% (n=0)	≤T1c: 74.7% (n=148) >T1c: 25.3% (n=50)	pT2: 80.8% (n=160) pT3a: 13.6% (n=27) pT3b: 5.6% (n=11) pT4: 0% (n=0)	6: 44.9% (n=89) 7: 50.6% (n=100) 8-10: 4.5% (n=9)		4.7 (4)		
Yuh B 2015, USA, retrospective comparative, AUA	Robotic: 100%	IPLND	326	NR	NR	NR	NR	NR	pT3: 30% (n=98)	NR	21% (n=68)	6	3%	BFFS, OS
		ePLND	259						pT3: 34% (n=88)			29% (n=75)	20	
Lestingi J 2015 Brazil, RCT, AUA	NR	IPLND	108	NR	NR	NR	NR	NR	NR	NR	NR	3.5	4.4%	BFFS
		ePLND	108									18.8	10.7%	
Nyushko KM 2014, Russian Federation, Retrospective comparative, EMUC	NR	No PLND PLND	229	29.6 (24.9) [3-125]	NR	23,8 (23,3)	6: 24.9% (n=57) 3+4: 25.3% (n=58) 4+3: 29.7% (n=68) 8-10: 16.2% (n=37)	T1b-2c: 48.5% (n=111) T3a-b: 51.5% (n=118)	NR	NR	NR	23 (9) [2-53]	NR	3-yr BCR
Kim KH 2013, retrospective comparative, Korea	Robotic: 100%	sPLND	294	36	65 [R: 60-69]	8.4 [R: 5.3-37.7]	≤6: 33.4% (n=98) 7: 48.3% (n=142) ≥8: 18.3% (n=54)	T1: 66.3% (n=195) T2: 21.4% (n=63) T3: 12.3% (n=36)	T2: 62.2% (n=183) T3a: 28.6% (n=84) T3b: 9.2% (n=27)	NR	NR	12 [R: 9-16]	3.4% (n=10)	BFFS
		ePLND	170		66 [R: 62-70]	10.4 [R: 6.6-16.1]	≤6: 17.7% (n=30) 7: 39.4% (n=67) ≥8: 42.9% (n=73)	T1: 45.9% (n=78) T2: 41.2% (n=70) T3: 12.9% (n=22)	T2: 56.5% (n=96) T3a: 28.8% (n=49) T3b: 14.7% (n=25)			21 [R:16-25]	13.5% (n=23)	

Study ID, design, country, recruitment period	Surgical route	Treatment	N	Follow-up (months)	Age (years)	Initial PSA (ng/mL)	Biopsy Gleason Score	Clinical T stage	Pathologic T stage	Pathologic Gleason Score	Surgical Margin Status	Number of lymph nodes dissected	Number of positive lymph nodes	Outcomes reported on	
Nyushko K, 2013, Russian Federation, retrospective comparative, EMUC	NR	sPLND	49.3% (n=442)	30 m (3-170)	NR	14.3 (12.6)	NR	NR	NR	NR	NR	13 (6)	NR	BCR 5-yr OS CSS	
		ePLND	50.7% (n=434)			16.2 (15.1)						26 (9)			
Lim SK, 2013, South Korea, retrospective comparative, AUA	Robotic: 100%	ePLND	170	36 m (R:12-77)	NR	NR	NR	NR	NR	NR	NR	21 [NR]	NR	5-yr BFFS	
		sPLND	294									12 [NR]			
Jung JH 2012, retrospective comparative, South Korea, 2005-2010	Robotic: 100%	sPLND	155	24 [IQR: 15-34]	66 [IQR: 61-70]	8.7 [IQR: 5.8-14.3]	<7: 32.3% (n=50) 7: 33.5% (n=52) >7: 34.2% (n=53)	≤T2: 43.9% (n=68) T3: 56.1% (n=87)	T2: 51.6% (n=80) T3a: 38.1% (n=59) T3b: 9.0% (n=14) T4: 1.3% (n=2)	<7: 23.9% (n=37) 7: 50.9% (n=79) >7: 25.2% (n=39)	R1: 37.4% (n=58)	15 [IQR: 11-19]	5.2% (n=8)	BFFS	
		ePLND	45	13 [IQR: 10-17]	67 [IQR: 63-72]	15.5 [IQR: 7.6-24.6]	<7: 11.1% (n=5) 7: 28.9% (n=13) >7: 60% (n=27)	≤T2: 28.9% (n=13) T3: 71.1% (n=32)	T2: 35.6% (n=16) T3a: 53.3% (n=24) T3b: 8.9% (n=4) T4: 2.2% (n=1)	<7: 6.7% (n=3) 7: 42.2% (n=19) >7: 51.1% (n=23)	R1: 55.6% (n=25)	24 [IQR: 18-28]	22.2% (n=10)		
Allaf ME 2004, retrospective comparative, USA, 1992-2003	Open: 100%	IPLND	1865	93.6 (NR)	57.9 (R: 35-74)	7.2 (NR)	NR	NR	NR	≥T3a: 32% (n=597)	≤6: 64.2% (n=1198) 7: 30.8% (n=575) 8-10: 4.8% (n=90)	R1: 9.2% (n=172)	8.9 (NR)	1.2% (n=22)	BFFS
		ePLND	2135	94.8 (NR)	56.7 (R: 33-74)	7.1 (NR)				≥T3a: 32.2% (n=688)	≤6: 67% (n=1431) 7: 28.6% (n=610) 8-10: 3.8% (n=82)	R1: 8.4% (n=179)	11.6 (NR)	3.3% (n=71)	

List of abbreviations in alphabetical order:

BF = Biochemical Failure

BFFS = Biochemical Failure Free Survival

CSS = Cancer Specific Survival

IQR: inter-quartile range

LFFS = Local Failure Free Survival

MFS = Metastases Free Survival

NA: not available

NR: not reported

OS = Overall Survival

PCSM = Prostate Cancer Specific Mortality

PLND = Pelvic Lymph Node Dissection

R: range

Table 2. Baseline characteristics of included studies addressing non-oncological outcomes. Congress abstracts are underlined.

Data for categorical variables are reported as frequencies (proportions).

Data for continuous variables are reported as medians (when the brackets of range or inter-quartile range are “[xx]”) or as means (when the brackets of range or inter-quartile range are “(xx)”).

Baseline characteristics are sub-divided as follows: no PLND vs. any PLND (**Table 1a**); limited/standard PLND vs. (super)-extended PLND (**Table 1b**).

Study ID, design, country, recruitment period	Surgical route	Treatment	N	Follow-up (months)	Age (years)	Initial PSA (ng/mL)	Biopsy Gleason Score	Clinical T stage	Pathologic T stage	Pathologic Gleason Score	Surgical Margin Status	Number of lymph nodes dissected	Number of positive lymph nodes	Outcomes reported on
Table 2a – No PLND vs. Any PLND														
Ostby-Deglum M 2015, retrospective comparative, Denmark and Norway, 2005-2010	Robotic: 100%	No PLND	609	3.0 [0.5-6.1]	63 [42-78]	NR	NR	NR	NR	NR	NR	NR	NR	Insufficient erection
		PLND												
Violette PD 2015, retrospective comparative, Canada, 2005-2012	Robotic: 100%	No PLND	392	NR	60 (7)	6.9 (3)	6: 58.9% (n=231)	NR	NR	NR	NR	NR	NR	OT
		PLND					7: 41.1% (n=161)							
Tyritzis SI 2015, prospective comparative, multicentric, 2008-2011	Open: 24% Robotic: 76%	No PLND	2997	NR	63.5 [37.2-75.0]	6.6 [0.1-20.0]	≤6: 58.1% (n=1732) 3+4: 33.9% (n=1011) 4+3: 6.1% (n=182) ≥8: 1.8% (n=54) Missing: n=18	T1: 65.5% (n=1914) T2: 33.2% (n=969) T3: 1.3% (n=38) Missing: n=76	T2: 77.2% (n=2266) T3: 22.6% (n=662) T4: 0.2% (n=6) Missing: n=43	≤7: 96.2% (n=2846) ≥8: 3.8% (n=113) Missing n=38	NR	NR	NR	DVT PE

Study ID, design, country, recruitment period	Surgical route	Treatment	N	Follow-up (months)	Age (years)	Initial PSA (ng/mL)	Biopsy Gleason Score	Clinical T stage	Pathologic T stage	Pathologic Gleason Score	Surgical Margin Status	Number of lymph nodes dissected	Number of positive lymph nodes	Outcomes reported on	
		PLND	547		64.8 [42.3 – 75.0]	9.4 [0.7-20.0]	≤6: 13% (n=71) 3+4: 31.3% (n=171) 4+3: 28.9% (n=158) ≥8: 26.7% (n=146) Missing: n=1	T1: 35.1% (n=187) T2: 52.2% (n=278) T3: 12.8% (n=68) Missing n=14	T2: 48% (n=258) T3: 50.5% (n=271) T4: 1.5% (n=8) Missing: n=10	≤7: 78.8% (n=423); ≥8: 21.2% (n=114); Missing n=10					
Boehm 2015, retrospective comparative, 1992-2011	Open: 95% Robotic: 5%	No PLND	4884	NR	64 [59–67]	NR	G16 29,2% (n=3421) 3+4 53,8% (n=6303) 4+3 13,0% (n=1529) ≥18 3,8% (n=443)	NR	pT2: 69,7% (n=8172) pT3a: 19,8% (n=2327) ≥pT3b: 10.4% (n=1223)	NR	NR	NR	NR	NR	Blood transfusion
		PLND	6810												
Cole A. 2015 Sweden, retrospective comparative, AUA	Open: 66% Robotic: 34%	No PLND	17171	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	90-day peri-operative mortality
		PLND	5191												
Jeong S, 2015 South Korea Prospective comparative, EAU	Robotic: 100%	No PLND	181	30.7 (11.7) [15-55]	NR	8.8 (9.2)	NR	NR	T2a-b: 21.0% (n=38)	NR	NR	NR	NR	NR	Incontinence
		PLND							T2c: 47% (n=85)						

Study ID, design, country, recruitment period	Surgical route	Treatment	N	Follow-up (months)	Age (years)	Initial PSA (ng/mL)	Biopsy Gleason Score	Clinical T stage	Pathologic T stage	Pathologic Gleason Score	Surgical Margin Status	Number of lymph nodes dissected	Number of positive lymph nodes	Outcomes reported on
Gandaglia G, 2014, Italy, retrospective comparative, EAU	Robotic: 100%	No PLND	1402	NR	62.7	NR	NR	NR	NR	NR	NR	NR	NR	30-day readmission
		PLND												
Liss 2013, retrospective comparative, Germany, 2007-2011	Robotic: 100%	No PLND	207	NR	61 (6.9) 63 (6.8) 61 (7.2)	4.9 (4.0-6.5)	≤6: 93.5% (n=188) 7: 4.5% (n=9) ≥8: 2% (n=4)	T1: 78.3% (n=162) T2: 21.7% (n=45) T3: 0% (n=0)	T1: 92.3% (n=191) T2: 6.8% (n=14) T3: 1% (n=2)	NR	NR	NA	NA	OT, eBL, transfusion rate, hospital stay, complication rate, lymphocele rate
		sPLND	231			6.1 (4.4-9.2)	≤6: 58.9% (n=136) 7: 39.4% (n=91) ≥8: 1.7% (n=4)	T1: 58.9% (n=136) T2: 39.4% (n=91) T3: 1.7% (n=4)	T1: 72.7% (n=168) T2: 26.4% (n=61) T3: 0.9% (n=2)			18 [12-25]	0.3% (n=13)	
		ePLND	54			8.5 (5.5-13.5)	≤6: 27.8% (n=15) 7: 68.5% (n=37) ≥8: 3.7% (n=2)	T1: 27.8% (n=15) T2: 68.5% (n=37) T3: 3.7% (n=2)	T1: 42.6% (n=23) T2: 55.6% (n=30) T3: 1.9% (n=1)			20 [16-28]	2% (n=24)	
Van Der Poel H 2013, study type, The Netherlands, 2006-2011	Robotic: 100%	No PLND	464	NR	60.7 (6.2)	48.3% (27)	< 7: 90.5% (n=420) 7: 8.6% (n=40) >7: 0.7% (n=4)	T1: 36.4% (n=169) T2: 61.4% (n=285) T3: 2.2% (n=10)	T0: 1.5% (n=7) T2: 84.5% (n=392) T3: 11.0% (n=51) T4: 3.0% (n=14)	<7: 65.7% (n=305) 7: 29.1% (n=135) >7: 5.2% (n=24)	NR	0	NA	Lymphocele, DVT, Clavien grade, hematoma, ileus, anastomosis dehiscence
		Standard PLND	440			62.5 (5.8)	47.9 (23.2)	<7: 25.9% (n=114) 7: 54.1% (n=238) >7: 20% (n=88)	T1: 34.1% (n=150) T2: 59.3% (n=261) T3: 20.7% (n=91)	T0: 0.2% (n=1) T2: 59.8% (n=263) T3: 34.3% (n=151) T4: 5.7% (n=25)		<7: 65.7% (n=305) 7: 29.1% (n=135) >7: 5.2% (n=24)	14 [11-19]	

Study ID, design, country, recruitment period	Surgical route	Treatment	N	Follow-up (months)	Age (years)	Initial PSA (ng/mL)	Biopsy Gleason Score	Clinical T stage	Pathologic T stage	Pathologic Gleason Score	Surgical Margin Status	Number of lymph nodes dissected	Number of positive lymph nodes	Outcomes reported on
Schmitges J 2012, retrospective comparative, Canada/USA/Italy, 1999-2008	Open: 93% Minimally invasive: 7%	No PLND	36699	NR	61.7 (7.2)	NR	NR	NR	NR	NR	NR	NR	Nx: 56.8% (n=20862) NO-1: 43.2% (n=15837)	DVT
		PLND												
Schmitges J 2012, retrospective comparative, USA, 1999-2008	Open: 93% Minimally invasive: 7%	No PLND	20862	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	Hospital stay, hospital charges, rectal laceration rate
		PLND	15837											
Gandaglia G, retrospective comparative, Italy, 2008-2010	Open: 100%	No PLND	161	33.2	62.6 (IQR: 47.8–77.8)	5.43 (IQR 0.25–10)	5: 14.9% (n=24) 6: 85.1% (n=137)	T1c: 75.9% (n=122) T2a: 24.1% (n=39)	T2: 96.3% (n=155) T3a: 3.7% (n=6) T3b: 0% (n=0)	2–6: 59% (n=95) 7: 41% (n=66) 8–10: 0% (n=0)	NR	0	NR	Erectile function recovery rate
		ePLND	235		62.3 (IQR 40.5–78.9)	6 (IQR 0.57–10)	5: 23% (n=54) 6: 77% (n=181)	T1c: 62% (n=147) T2a: 38% (n=88)	T2: 79.1% (n=186) T3a: 15.3% (n=36) T3b: 5.5% (n=13)	2–6: 46% (n=108) 7: 48.9% (n=115) 8–10: 5.1% (n=12)		20 [1–40]		
Keskin S, 2012, Turkey, retrospective comparative, ERUS	Robotic: 100%	ePLND	235	NR	NR	NR	NR	NR	NR	NR	NR	18 (7.55)	NR	OT eBL
		No PLND	279									NA	NA	
Hamdan SE, 2012, USA, retrospective comparative, ASCO	Robotic: 100%	ePLND	419	NR	NR	7.3	≤6: 18% ≥7: 82%	NR	≤T2: 61% ≥T3: 39%	NR	NR	NR	NR	NR
		No PLND	379			5.3	≤6: 87% ≥7: 13%		≤T2: 88% ≥T3: 12%					
Schmitges J 2012,	Open: 100%	No PLND	580	NR	64 (R: 37-77)	6.3 (R: 0.5-93)	6: 44.2% (n=637)	T1: 85.4% (n=1230)	T2: 70.2% (n=1011)	6: 28.9% (n=417)	NR	NR	Nx: 40.2% (n=579)	RBC transfusio

Study ID, design, country, recruitment period	Surgical route	Treatment	N	Follow-up (months)	Age (years)	Initial PSA (ng/mL)	Biopsy Gleason Score	Clinical T stage	Pathologic T stage	Pathologic Gleason Score	Surgical Margin Status	Number of lymph nodes dissected	Number of positive lymph nodes	Outcomes reported on
prospective comparative, Germany/Canada/USA/Austria, 2006-2009		Limited	792				7: 35.6% (n=513) ≥8: 8.8% (n=127)	T2: 14.1% (n=203) T3: 0.6% (n=8)	T3: 29.8% (n=430)	7: 66.7% (n=961) 8: 4.4% (n=63)			N0: 54.7% (n=788) N1-2: 5.1% (n=74)	n, prolonged drainage, pelvic lymphocele
		Extended	69											
Jacobs R 2012, The Netherlands, retrospective comparative, AUA	EERPE: 100%	PLND	143	28 m	64 (44-74)	13.2 (0.87-190)	NR	NR	T2: 69% (n=146) T3: 30% (n=63) T4: 0.33% (n=1) Tx: 0.67% (n=2)	NR	Pos: 36% (n=77)	NR	NR	OT
		No PLND	69											
Touijer K 2011, retrospective comparative, USA, 2003-2007	Lap: 100%	IPND	174	NR	NR	7 [5-11]	<7: 14% 7: 71% 8-10: 15%	T1: 61% T2a: 14% >T2b: 24%	NR	NR	NR	9 [6-13]	4.5%	OT, postoperative complications
		sPLND	595			6 [5-9]	<7: 11% 7: 72% 8-10: 14%	T1: 57% T2a: 18% >T2b: 24%				13 [9-18]	14.3%	
		No PLND	202			NR	NR	NR				NA	NA	
Yong DZ 2011, retrospective comparative, USA, 2003-2009	Robotic: 100%	No PLND	182	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	OT
		PLND	341											
Eifler JB 2011, retrospective comparative, USA, 2001-2009	Lap: 100%	No PLND	302	>3	57.7 (6.7)	4.8 (NR)	≥7: 15.6% (n=47)	NR	NR	NR	NR	0	0	OT, VTE
		PLND	468		57.8 (6.9)	6.5 (NR)	≥7: 42.3% (n=198)					5.7 (0-29)	0.9% (n=4)	
Khoder WY 2011, retrospective comparative, Germany, 2002-2004	Retro: 89.8% EERPE: 6.5% Perineal: 3.8%	No PLND	85	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	Lymphocele
		PLND	1078											
Lin BM 2011, retrospective	Lap: 100%	No PLND	120	33.9	NR	NR	NR	NR	NR	NR	NR	NR	NR	Inguinal hernia

Study ID, design, country, recruitment period	Surgical route	Treatment	N	Follow-up (months)	Age (years)	Initial PSA (ng/mL)	Biopsy Gleason Score	Clinical T stage	Pathologic T stage	Pathologic Gleason Score	Surgical Margin Status	Number of lymph nodes dissected	Number of positive lymph nodes	Outcomes reported on
comparative, USA, 2001-2008		PLND	170											incidence
Dicks B, 2011, USA, retrospective comparative, AUA	Robotic: 100%	PLND	105	NR	62.8	9.3	NR	NR	NR	NR	26%	18.1	NR	OT, eBL, LoS, Complications
		No PLND	116		60.1	5.6					17%	NA	NA	
Hruza M 2010, retrospective comparative, Germany/Italy, 1999-2008	Lap: 100%	No PLND	761	50 [IQR: 26-72]	63.8 (6.15)	7.6 [IQR: 5.3-11.5]	NR	<T3a: 70.2% (n=1486)	T2: 57.4% (n=1261) T3a: 26.5% (n=588) T3b: 11.8% (n=260) T4: 4% (n=89)	4-5: 10.8% (n=229) 6: 31.8% (n=676) 7: 48.1% (n=1020) 8-10: 9.3% (n=197)	R0: 76.6% (n=1683)	NR	NA	Complication rate
		PLND	1438										1.9% (n=41)	
Zorn C 2009, retrospective comparative, USA, 2003-2007	Robotic: 100%	No PLND	859	NR	59.2 (R: 40-77)	5.5 (R: 0.06-32)	6: 81% (n=696) 7: 19% (n=163)	cT1c: 71% (n=618) cT2a-cT2b: 29% (n=241)	NR	6: 69.3% (n=595) 7: 28.8% (n=247) 8-10: 1.9% (n=17)	NR	NA	NA	OT, eBL, blood transfusions, hospital stay, postoperative complications, symptomatic lymphocele
		PLND	296		61.0 (R:44-85)	9.0 (R: 0.89-52)	6: 17% (n=52) 7: 62% (n=182) 8-10: 21% (n=62)	cT1c: 61% (n=180) cT2a-cT2b: 38% (n=112) cT3: 1% (n=4)		6: 16.2% (n=48) 7: 67.9% (n=201) 8-10: 15.9% (n=47)		12.5 (IQR: 7-16)	7.8% (n=23)	
Stolzenburg 2005, retrospective comparative, Germany, 2001-2004	EERPE: 100%	No PLND	700	17.3 (R: 3-39)	63.4 (R: 42-77)	10.7 (R: 1.4-82)	NR	NR	NR	T2a: 12.7 (n=89) T2b: 7.7% (n=54) T2c: 35% (n=245) T3a: 32.7 (n=229) T3b: 11.2 (n=79) T4: 0.6 (n=4)	R1: 19.7% (n=138)	NR	NR	OT
		PLND												

Study ID, design, country, recruitment period	Surgical route	Treatment	N	Follow-up (months)	Age (years)	Initial PSA (ng/mL)	Biopsy Gleason Score	Clinical T stage	Pathologic T stage	Pathologic Gleason Score	Surgical Margin Status	Number of lymph nodes dissected	Number of positive lymph nodes	Outcomes reported on
Table 2b – Limited / standard PLND vs. (super)-extended PLND														
Hatzichristodoulou G 2015, retrospective comparative, 2007-2012	Open: 100%	ePLND	262	48 [R: 24-84]	64.9 (7.5)	8.3 (6.3)	6: 0% (n=0) 7: 88.6% (n=232) 8: 8.0% (n=21) 9: 3.4% (n=9)	≤T1c: 57.3% (n=150) >T1c: 42.7% (n=112)	pT2: 76.3% (n=200) pT3a: 13% (n=34) pT3b: 9.9% (n=26) pT4: 0.8% (n=2)	6: 40.1% (n=105) 7: 47.7% (n=125) 8-10: 12.2% (n=32)	NR	20.4 (9.7)	NR	Continence recovery rate (12 months), Spontaneous EF recovery (12 months), Trifecta rates (2-yr)
		IPLND	198		64.6 (7.8)	9.9 (7.8)	6: 100% (n=198) 7: 0% (n=0) 8: 0% (n=0) 9: 0% (n=0)	≤T1c: 74.7% (n=148) >T1c: 25.3% (n=50)	pT2: 80.8% (n=160) pT3a: 13.6% (n=27) pT3b: 5.6% (n=11) pT4: 0% (n=0)	6: 44.9% (n=89) 7: 50.6% (n=100) 8-10: 4.5% (n=9)				
Hoshi S 2015, retrospective comparative, 1988-2013	Open: 100%	sPLND	599	40 [R:1-261]	NR	NR	NR	NR	NR	NR	NR	NR	High risk: 7.1% (n=13) Int risk: 0.6% (n=1) Low risk: 0% (n=0)	eBL, lymphocele, intra- and postoperative complications
		Semi-ePLND	131										High risk: 20% (n=12) Int risk: 3.3% (n=1) Low risk: 0% (n=0)	
Lestingi J 2015 Brazil, RCT, AUA	NR	IPLND	108	NR	NR	NR	NR	NR	NR	NR	NR	3.5	4.4%	eBL, OT, hospital stay, Clavien
		ePLND	108									18.8	10.7%	
Schwerfeld-Bohr J, 2014, Germany, RCT, EAU	NR	iPLND	126	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	OT, lymphocele
		ePLND	118											

Study ID, design, country, recruitment period	Surgical route	Treatment	N	Follow-up (months)	Age (years)	Initial PSA (ng/mL)	Biopsy Gleason Score	Clinical T stage	Pathologic T stage	Pathologic Gleason Score	Surgical Margin Status	Number of lymph nodes dissected	Number of positive lymph nodes	Outcomes reported on
Kim KH 2013, retrospective comparative, Korea	Robotic: 100%	sPLND	294	36	65 [R: 60-69]	8.4 [R: 5.3-37.7]	≤6: 33.4% (n=98) 7: 48.3% (n=142) ≥8: 18.3% (n=54)	T1: 66.3% (n=195) T2: 21.4% (n=63) T3: 12.3% (n=36)	T2: 62.2% (n=183) T3a: 28.6% (n=84) T3b: 9.2% (n=27)	NR	NR	12 [R: 9-16]	3.4% (n=10)	complication rate, lymphocele, lymphedema, neuropraxia
		ePLND	170		66 [R: 62-70]	10.4 [R: 6.6-16.1]	≤6: 17.7% (n=30) 7: 39.4% (n=67) ≥8: 42.9% (n=73)	T1: 45.9% (n=78) T2: 41.2% (n=70) T3: 12.9% (n=22)	T2: 56.5% (n=96) T3a: 28.8% (n=49) T3b: 14.7% (n=25)			21 [R: 16-25]	13.5% (n=23)	
Yuh BE 2013, retrospective comparative, Italy, 2008-2012	Robotic: 100%	IPLND	204	NR	64 [IQR: 58-70]	5.9 [IQR: 4.4-9.1]	6: 6.4% (n=13) 3+4: 54.9% (n=112) 4+3: 22.1% (n=45) 8: 12.2% (n=25) 9: 4.4% (n=9)	T1: 72.1% (n=147) T2: 27.4% (n=56) T3: 0.5% (n=1)	T2a/b: 7.4% (n=15) T2c: 57.8% (n=118) T3a: 23.5% (n=48) T3b: 11.3% (n=923)	NR	NR	7 (IQR 5-9)	3.9% (n=8)	eBL, OT, complication rate, lymphocele, DVT, major complications, discharge at day 1, lymphocele + DVT
		ePLND	202		64 [IQR: 58-69]	5.5 [IQR: 4.2-8.3]	6: 5.9% (n=12) 3+4: 59.9% (n=112) 4+3: 19.8% (n=40) 8: 11.4% (n=23) 9: 3.0% (n=6)	T1: 68.8% (n=139) T2: 30.2% (n=61) T3: 1% (n=2)	T2a/b: 12.4% (n=25) T2c: 60.7% (n=122) T3a: 16.8% (n=34) T3b: 10.4% (n=21)			21.5 (IQR 17-27)	11.9% (n=24)	
Jung JH 2012, retrospective comparative, South Korea, 2005-2010	Robotic: 100%	sPLND	155	24 [IQR: 15-34]	66 [IQR: 61-70]	8.7 [IQR: 5.8-14.3]	<7: 32.3% (n=50) 7: 33.5% (n=52) >7: 34.2% (n=53)	≤T2: 43.9% (n=68) T3: 56.1% (n=87)	T2: 51.6% (n=80) T3a: 38.1% (n=59) T3b: 9.0% (n=14) T4: 1.3% (n=2)	<7: 23.9% (n=37) 7: 50.9% (n=79) >7: 25.2% (n=39)	R1: 37.4% (n=58)	15 [IQR: 11-19]	5.2% (n=8)	OT, PLND time, eBL, hospital stay, PLND-related complications
		ePLND	45	13 [IQR: 10-17]	67 [63-72]	15.5 [IQR: 7.6-24.6]	<7: 11.1% (n=5) 7: 28.9% (n=13) >7: 60% (n=27)	≤T2: 28.9% (n=13) T3: 71.1% (n=32)	T2: 35.6% (n=16) T3a: 53.3% (n=24)	<7: 6.7% (n=3) 7: 42.2% (n=19) >7: 51.1%	R1: 55.6% (n=25)	24 [IQR: 18-28]	22.2% (n=10)	

Study ID, design, country, recruitment period	Surgical route	Treatment	N	Follow-up (months)	Age (years)	Initial PSA (ng/mL)	Biopsy Gleason Score	Clinical T stage	Pathologic T stage	Pathologic Gleason Score	Surgical Margin Status	Number of lymph nodes dissected	Number of positive lymph nodes	Outcomes reported on
									T3b: 8.9% (n=4) T4: 2.2% (n=1)	(n=23)				
Hoshi S, 2012, Japan, retrospective comparative, AUA	NR	ePLND	124	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	Complications, Lymphocele, eBL
		sPLND	700											
Dundee P, 2011, Australia, retrospective comparative, AUA	Lap: 100%	ePLND	289	NR	NR	11.9 (NR)	NR	cT1: 28% cT2: 60% cT3: 12% cT1: 39% cT2: 55% cT3: 6%	NR	NR	NR	12.3 (4-42)	NR	OT, eBL Transfusions, hospital stay, Complications
		sPLND	242			10.3 (NR)						4.6 (1-8)		
Sonnleithner M, 2010, Austria, prospective comparative, EAU	NR	ePLND	62	NR	62 [41-79]	8.3 (R: 1.2-55.4)	NR	NR	NR	NR	NR	NR	NR	Major complications
		sPLND	85											
		No PLND	149											
Eden 2010, retrospective comparative, UK, 2000-2008	Lap: 100%	sPLND	311	NR	63 [43-76]	11 [2-20]	7 [4-10]	T1: 32.8% (n=102) T2: 63% (n=196) T3: 4.2% (n=13)	NR	NR	NR	6.1 [2-8]	NR	Transfusion rate, eBL, OT, hospital stay, complication rate
		ePLND	121		63 [43-74]	8 [1-15]	7 [6-10]	T1: 33.1% (n=40) T2: 57% (n=174) T3: 9.9% (n=12)				17.5 [2-23]		
Naselli 2010, retrospective comparative, Italy, 2004-2010	NR	IPLND	98	≥6 months	NR	6,43 [R: 1.95-65]	NR	NR	<T3: 74.5% (n=73) T3a: 22.4% (n=22) T3b: 8,2% (n=8)	≤6: 46,9% (n=46) 7: 46,9% (n=46) 8-10: 6,1% (n=6)	NR	6 [R:2-14]	N1: 1% (n=2)	Lymphocele, re-intervention
		ePLND	249			7,22 [R:2,2-98]			<T3: 67,5% (n=168) T3a: 30,1% (n=75) T3b: 15,7%	≤6: 36,9% (n=92) 7: 50,6% (n=126) 8-10: 12,5%		16 [R:10-67]	N1: 11,7% (n=29)	

Study ID, design, country, recruitment period	Surgical route	Treatment	N	Follow-up (months)	Age (years)	Initial PSA (ng/mL)	Biopsy Gleason Score	Clinical T stage	Pathologic T stage	Pathologic Gleason Score	Surgical Margin Status	Number of lymph nodes dissected	Number of positive lymph nodes	Outcomes reported on
									(n=39)	(n=31)				
Lavery H, 2010, USA, retrospective comparative, AUA	Robotic: 100%	ePLND	77	NR	NR	NR	NR	NR	NR	NR	NR	16.4	NR	Complications
		sPLND	173									8.6		
Lindberg 2009, retrospective comparative, Sweden, 2002-2007	NR	IPLND	64	NR	64 (NR)	NR	NR	NR	NR	NR	NR	7 [R:3-18]	N1: 6% (n=4)	eBL, OT, lymphocele, DVT, PE, haematoma, wound infections, sepsis, complication rate
		ePLND	108		64 (NR)							17 [R:5-40]	N1: 20% (n=22)	
Musch 2008, retrospective comparative, Germany, 1993-2006	Open: 100%	IPLND	867	NR	65 (6)	Unknown: 1.9% (n=26) 4.1-10: 8% (n=111) 10.1-20: 25.4% (n=350) >20: 13.1% (n=181)	Unknown: 4.5% (n=62) 2-6: 65.7% (n=907) 7: 12.4% (n=171) 8-10: 17.4% (n=240)	Unknown: 1.2% (n=17) T1: 41.9% (n=578) T2: 50% (n=690) T3: 6.9% (n=95)	Unknown: 1.7% (n=24) T2: 48.3% (n=666) T3a: 28.3% (n=391) T3b: 15.7% (n=217) T4: 5.9% (n=82)	Unknown: 1.5% (n=21) 2-6: 51.8% (n=715) 7: 26.1% (n=360) 8-10: 20.6% (n=284)	R: 31.5% (n=435)	NR	N+: n=148	Lymphocele, re-intervention
		ePLND	434											
Klevecka 2007, retrospective comparative, Germany, 1993-2004	Open: 100%	IPLND	740	NR	65 (6)	<2.6: 4.9% (n=49) 2.6-4.0: 3.6% (n=36) 4.1-10.0: 49.5% (n=495) 10.1-20.0: 26.6% (n=266) ≥20.1: 15.4% (n=154)	2-4: 21.8% (n=218) 5-6: 42.2% (n=422) 7-10: 21.0% (n=210) Unknown: 15.0% (n=150)	T1a/b: 3.4% (n=34) T1c: 32.7% (n=327) T2: 56.8% (n=568) cT3: 7.1% (n=71)	T2a: 7.8% (n=78) T2b: 20.5% (n=205) T2c: 18.9% (n=189) T3a: 28.8% (n=288) T3b: 17.5% (n=175) T4: 6.5% (n=65)	NR	R1: 32.7% (n=327)	NR	10.9% (n=109)	Lymphocele, DVT, PE, re-intervention, postoperative bleeding, secondary wound healing
		ePLND	236											

Study ID, design, country, recruitment period	Surgical route	Treatment	N	Follow-up (months)	Age (years)	Initial PSA (ng/mL)	Biopsy Gleason Score	Clinical T stage	Pathologic T stage	Pathologic Gleason Score	Surgical Margin Status	Number of lymph nodes dissected	Number of positive lymph nodes	Outcomes reported on
Clark T 2003, RCT, USA	Open: 100%	IPLND	123	NR	61 (R: 45-75)	<10: 84.6% (n=104)	≤6: 67.5% (n=83) 7: 20.3% (n=25) 8-10: 12.2% (n=15)	T1c: 72% (n=88) T2a: 21% (n=26) T2b: 5.7% (n=7) T3: 1.3% (n=2)	NR	NR	NR	NR	2.4% (n=3)	Lymphocele, leg oedema, DVT, pelvic abscess, ureteral injury, overall unilateral complication rate
		ePLND	123										3.3% (n=4)	
Heidenreich 2002, retrospective comparative, Germany, 1999-2000	Open: 100%	sPLND	100	NR	63.5 (R: 49-72)	14.9 (R: 1.6-109)	5.2 (2.6)	T1c: 10% (n=10) T2: 65% (n=65) T3: 25% (n=25)	3.5 (R: 1-4)	NR	NR	11 (R: 6-19)	12% (n=12)	eBL, OT, rectal lesions, lymphocele, DVT, PE, obturator nerve lesion
		ePLND	103	NR	61.8 (R: 51-71)	15.9 (R: 1.2-129)	4.6 (2.3)	T1c: 8.7% (n=9) T2: 59% (n=61) T3: 32% (n=33)	3.6 (R: 1-4)	NR	NR	28 (R: 21-42)	26.2% (n=27)	

List of abbreviations in alphabetical order:

DVT = Deep Venous Thrombo-embolism

eBL = Estimated Blood Loss

IQR: inter-quartile range

NA: not available

NR: not reported

OT = Operating time

PE = Pulmonary Embolisms

PLND = Pelvic Lymph Node Dissection

R: range

VTE = Venous Thrombo Embolism

Table 3. Results from included studies addressing oncologic outcomes.

Study ID; design; country; recruitment period	Subgroup if applicable	Intervention		Comparator	Outcome(s)	Int (n)	Comp (n)	Intervention: outcome	Comparator: outcome	p-value	Comment		
Table 3a – No PLND vs. Any PLND													
Karl A 2015, retrospective comparative, Germany, 1994-2013	NA	PLND		No PLND	BFFS	357	179	Univariate analysis: HR: 1.69 [1.25-2.29] MVA: HR: 1.29 [0.94-1.78]		Univariate analysis: 0.001 MVA: 0.12	-		
Gandaglia G 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 KC 2015, retrospective comparative, South Korea, 2005-2009	PSM+ & undetectable PSA <6 weeks	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)		P<0.05	pNx versus pN0 (pN+ excluded)		
					MFS			HR: 0.62 (95 % CI 0.41–0.92)		P<0.05			
					OS			HR: 0.92 (95 % CI 0.74–1.14)		P=0.46			
Chen YW 2015, USA, retrospective comparative, GCSO	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] IPTW-adjusted Cox Model: HR: 0.93 [0.65-1.33] Propensity score-adjusted Cox Model: HR: 1.05 [0.71-1.55] 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 F, 2014, Italy, retrospective comparative, EAU	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	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 FU PLND: 60 m No PLND: 26 m
					CSS			100%		100%		NR	
					OS			98.6% (n=145)		98.7% (n=74)		NR	
					BFFS			NR		NR		0.65	

Study ID; design; country; recruitment period	Subgroup if applicable	Intervention	Comparator	Outcome(s)	Int (n)	Comp (n)	Intervention: outcome	Comparator: outcome	p-value	Comment
Table 3a – No PLND vs. Any PLND										
Masuda H 2013, retrospective comparative, Japan, 2000-2010	pT2-3 N0/x	PLND	No PLND	BFFS	187	202	MVA Total cohort: HR: 1.26 (95% CI 0.70-2.30) pT2 disease: HR: 1.00 (95% CI 0.43-2.26) pT3 disease: HR: 1.86 (95% CI 0.75-5.28) pT2 R0 disease: HR: 0.50 (95% CI 0.18-1.35)		0.45 1.0 0.19 0.17	Excluded N1
<u>De Almeida Prado Costa G, 2013, France, retrospective comparative, WCE</u>	NA	PLND	No PLND	BFFS	630	1663	79%	69%	0.11	-
<u>Chang M, 2013, Canada, retrospective comparative, AUA</u>	NA	PLND	No PLND	CSS	335	335	0.50 (95% CI 0.05-5.52)		0.57	FU 50.7 months
<u>Pokala N, 2013, USA, retrospective comparative, AUA</u>	NA	PLND	No PLND	BFFS	46286	29130	NR		NS	-
				5-year CSS			98%	98%	NR	
				10-year CSS			92%	94%	NR	
Daimon T 2012, retrospective comparative, Japan, 2002-2006	NA	IPLND	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 P, 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 ADJ: 0.69			
				LFFS (7-yr)			87%	88%	NR	
				HR: 0.09 [95% CI: 0.01-0.6]			UnADJ: 0.35 ADJ: 0.009			
Ku JH 2011, retrospective comparative, Korea, 1997-2009	NA	PLND	No PLND	BF	111	88	33.3% (n=37)	35.2% (n=31)	0.36	
<u>Logan J, 2011, USA, retrospective comparative, AUA</u>	NA	PLND	No PLND	BCR	88	123	NR	NR	0.3	Median FU: 74 months
Porter CR 2010, retrospective	NA	PLND	No PLND	PCSM	342	410	RR 0.7 (95% CI: 0.2–2.4)		0.6	

Study ID; design; country; recruitment period	Subgroup if applicable	Intervention	Comparator	Outcome(s)	Int (n)	Comp (n)	Intervention: outcome	Comparator: outcome	p-value	Comment
Table 3a – No PLND vs. Any PLND										
comparative, USA, 1954-1994										
Weight CJ 2008, retrospective comparative, USA, 1995-1999	NA	PLND	No PLND	BFFS	140	196	84% (10-yr)	88% (10-yr)	0.33	
Berglund 2007, retrospective comparative, USA, 1995-2005	NA	IPLND	No PLND	FFS (overall)	3961	732	74%	70%	0.11	
				FFS (low)			82%	81%	0.83	
				FFS(intermediate)			63%	71%	0.21	
				FFS (high)			48%	42%	0.45	
Bhatta-Dhar 2004, retrospective comparative, USA, 1995-1999	NA	PLND	No PLND	BFFS	140	196	86% (6-yr)	88% (6-yr)	0.28	
Fergany A 2000, retrospective comparative, USA, 1986-1999	NA	PLND	No PLND	BFFS	372	203	91% (4-yr)	97% (4-yr)	0.16	
							MVA: "Not significant"		0.24	
Table 3b – Limited/standard PLND vs. (super)extended PLND										
Hatzichristodoulou G 2015, retrospective comparative, 2007-2012	NA	ePLND	IPLND	BFFS (7-yr)	262	198	pT2 94.8% pT3 81.2%	pT2 100% pT3 94.7%	pT2: p=0.011 pT3: p=0.3	-
Yuh B 2015, USA, retrospective comparative, AUA	NA	ePLND	IPLND	1-yr BFFS	259	326	92%	90%	0.017	-
				2-yr BFFS			85%	88%		
Lestingi J 2015 Brazil, RCT, AUA	NA	ePLND	IPLND	BCR	108	108	7.6%	10.1%	P=0.68	-
Nyushko K.M. 2014, Russian Federation, Retrospective comparative, EMUC	NA	ePLND	PLND	3-yr BFFS	229		27.9%	15.3%	0.02	-

Study ID; design; country; recruitment period	Subgroup if applicable	Intervention	Comparator	Outcome(s)	Int (n)	Comp (n)	Intervention: outcome	Comparator: outcome	p-value	Comment
Table 3a – No PLND vs. Any PLND										
Kim KH 2013, retrospective comparative, Korea	NA	sPLND	ePLND	BFFS (3-yr)	170	294	72.7%	79.8%	0.05	(BFFS: propensity score matched cohort: p=0.497)
<u>Nyushko K, 2013, Russian Federation, retrospective comparative, EMUC</u>	NA	ePLND	sPLND	BCR	434	442	9.7% (42)	33.4% (141)	NR	FU 34 (28,3) months (3-170)
				5-yr OS			91.1% (2.9)	94.4% (4.1)	>0.05	
				CSS			99.2% (2.5)	95.8% (4.1)	>0.05	
				Deaths			0.9% (4)	1.7% (7)	NR	
Jung JH 2012, retrospective comparative, South Korea, 2005-2010	NA	sPLND	ePLND	BFFS	155	45	77.9%	64.4%	NS	
Allaf ME 2004, retrospective comparative, USA, 1992-2003	pN+	ePLND	IPLND	BFFS (5-yr)	2135	1865	34.4%	16.5%	0.04	
	pN+ (<15% of retrieved nodes affected)						42.9%	10.0%	0.01	

Congress abstracts are underlined. Results are sub-divided as follows: no PLND vs. any PLND (**Table 3a**); limited/standard PLND vs. (super)-extended PLND (**Table 3b**).

List of abbreviations in alphabetical order:

BCR = Biochemical recurrence

BF = Biochemical Failure

BFFS = Biochemical Failure Free Survival

CSS = Cancer Specific Survival

FFS = Failure Free Survival

HR = Hazard Ratio

LFFS = Local Failure Free Survival

MFS = Metastases Free Survival

MVA = Multi Variate Analysis

NR = Not Reported

OS = Overall Survival

PCSM = Prostate Cancer Specific Mortality

PLND = Pelvic Lymph Node Dissection

PSM = Positive Surgical Margin

Table 4. Results from included studies addressing non-oncologic outcomes.

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		
Table 4a – No PLND vs Any PLND										
Ostby-Deglum M 2015, retrospective comparative, 2005-2010	NA	PLND	No PLND	Insufficient erection	169	440	Univariate Analysis: OR 0.95 [95% CI: 0.63-1.43]		0.82	-
Violette PD 2015, retrospective comparative, 2005-2012	NA	PLND	No PLND	OT	392 *		Univariate Analysis: OR 1.94 [95% CI: 1.09-3.47] MVA: OR 1.65 [95% CI: 0.86-3.17]		Uni: 0.03 Multi: 0.13	-
Boehm 2015, retrospective comparative, 1992-2011	NA	PLND	No PLND	Blood Transfusion rate	6810	4884	11.4%	9.7%	0.0036	-
							RR: 1.18 (95%CI 1.05 – 1.32)		NR	
Tyrizis SI 2015, prospective comparative, multicentric, 2008-2011	NA	PLND	No PLND	DVT	547	2997	2.9% (n=15)	0.3% (n=10)	NR	-
				PE			Age adjusted RR 7.80 (95%CI 3.51-17.30)			
							1.3% (n=7)	0.2% (n=6)		
							Age adjusted RR 6.29 (95%CI 2.11-18.73)			
<u>Cole A. 2015 Sweden, retrospective comparative, AUA</u>	NA	PLND	No PLND	90-day perioperative mortality	5191	17171	0.29% (n=15)	0.14% (n=24)	NR	-
							RR 2.07 (95% CI 1.09-3.94)			
<u>Jeong S, 2015 South Korea Prospective comparative, EAU</u>	NA	PLND	No PLND	Incontinence	181		-		NS	-
<u>Gandaglia G, 2014, Italy, retrospective comparative, EAU</u>	NA	PLND	No PLND	Readmission within 30 days	1402		MVA (HR not given)		NS	-

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					
Table 4a – No PLND vs Any PLND													
Liss 2013, retrospective comparative, Germany	NA	ePLND	sPLND	No PLND	OT (mins)	54	23 1	20 7	186	182	176	0.211	-
					blood loss (ml)				150 [100-200]	100 [100-200]	100 [100-200]	0.322	
					Blood Transfusion rate				1.9% (n=1)	0.9% (n=2)	2.4% (n=5)	0.436	
					Hospital stay (days)				1.1	1.3	1.6	NR	
					Complication rate				16.7% (n=9)	18.2% (n=42)	13.5% (n=28)	0.412	
					Lymphocele rate (no surgery)				5.6% (n=3)	2.2% (n=5)	0% (n=0)	0.011	
					Lymphocele rate (surgery)				0% (n=0)	3% (n=7)	0% (n=0)	0.018	
Van Der Poel H 2013, retrospective, The Netherlands, 2006-2011	NA	sPLND	No PLND	Lymphocele rate	440	464	1.5% (n=7)	0% (n=0)	NR	-			
				DVT			1.5% (n=7)	0% (n=0)	NR				
				Clavien Grading			1: 6.1% (n=27) 2: 5.7% (n=25) 3: 2.0% (n=9) 4: 0.2% (n=1)	1: 5.0% (n=23) 2: 4.3% (n=20) 3: 1.7% (n=8) 4: 0% (n=0)	0.147				
				Hematoma			3.5% (n=15)	2.1% (n=10)	NR				
				Ileus			0.3% (n=1)	0.2% (n=1)	NR				
				Anastomosis dehiscence			1.1% (n=4)	0.2% (n=1)	NR				
Schmitges J 2012, retrospective comparative, Canada/USA/Italy, 1999-2008	NA	PLND	No PLND	DVT	36699		MVA: OR: 1.07 (95% CI 0.67-1.69) (corrected for: ASC, year of surgery, age, race, CCI, PLND, surgical approach)		0.78	-			
Schmitges J 2012, retrospective comparative, Canada/USA/Italy, 1999-2008	NA	PLND	No PLND	Hospital stay >3 days	1583 7	20862	OR 1.50 (95% CI 1.26-1.78)		ADJ: <0.001	-			
				Hospital charges > 37621 dollars			OR 0.84 (95% CI 0.59-1.19)		ADJ: 0.31				
				Rectal lacerations			0.7% (n=105)	0.8% (n=159)	UnADJ: 0.27 ADJ: 0.1				

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					
Table 4a – No PLND vs Any PLND														
Gandaglia G 2012, retrospective comparative, Italy, 2008-2010	NA	ePLND		No PLND	Erectile Function Recovery Rate	235	161		43.8% (n=103) (1-yr)	39.4% (n=63) (1-yr)	NR	-		
									49.7% (n=117) (2-yr)	46.6% (n=75) (2-yr)				
									Unadjusted HR: 0.8				0.3	
								Adjusted HR: 0.9		0.8				
<u>Keskin S, 2012, Turkey, retrospective comparative, ERUS</u>	NA	ePLND		No PLND	OT (min)	235	251		175	152	<0.05	-		
					Blood loss (ml)				248	282			0.1	
<u>Hamdan SE, 2012, USA, retrospective comparative, ASCO</u>	NA	PLND		No PLND	DVT	419	349		1.2% (n=5)	0.28% (n=1)	0.22	-		
Schmitges J 2012, prospective comparative, Germany/Canada/USA/Austria, 2006-2009	NA	ePLND	IPLND	No PLND	Transfusion rate (Ref=No PLND)	69	79	58	Limited: OR: 1.33 (95% CI 0.79-2.34)		0.29	-		
					Extended: OR: 2.04 (95% CI 0.76-5.51)				0.16					
					Prolonged drainage (Ref=No PLND)				Limited: OR: 2.81 (95% CI 1.32-5.95)		0.007			
								Extended: OR: 3.38 (95% CI 1.09-10.45)		0.035				
								Limited: OR: 12.60 (95% CI 5.00-31.98)		<0.001				
								Extended: OR: 17.24 (95% CI 5.37-55.39)		<0.001				
<u>Jacobs R, 2012, The Netherlands, retrospective comparative, AUA</u>	NA	PLND		No PLND	OT (min)	143	69		180 (105-364)	254 (120-430)	NR	-		
Touijer K 2011, retrospective comparative, USA, 2003-2007	NA	ePLND		IPLND	No PLND	595	17	20	240 [205-270]	210 [180-240]	180 [170-219]	<0.001	-	
									DVT	1.7% (n=10)	1.1% (n=2)	1.0% (n=2)		1
									PE	1.3% (n=8)	0.6% (n=1)	0.5% (n=1)		0.5
									Ureteral injury	0.3% (n=2)	0% (n=0)	0.5% (n=1)		0.7
									Clavien Grading	1: 8.2% (n=49) 2: 3% (n=18) 3: 4.5% (n=27) 4: 0% (n=0)	1: 4.6% (n=8) 2: 1.7% (n=3) 3: 4% (n=7) 4: 0% (n=0) 5: 0% (n=0)	1: 0% (n=0) 2: 1.5% (n=3) 3: 0.5% (n=1) 4: 0% (n=0) 5: 0% (n=0) None: 90% (n=156)		0.3

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			
Table 4a – No PLND vs Any PLND											
								5: 0% (n=0) None: 84% (n=501)	None: 90% (n=156)		
				Lymphocele rate				5.9% (n=35)	5.2% (n=9)	0% (n=0)	0.9
				Drainage (ml)				320 [195-540]	235 [140-400]	165 [110-250]	<0.001
Yong DZ 2011, retrospective comparative, USA, 2003-2009	NA	PLND	No PLND	OT	341	182	OR: 0.66 (95% CI 0.37-1.18)		0.159	-	
Eifler JB 2011, retrospective comparative, USA, 2001-2009	NA	PLND	No PLND	OT (mins)	468	302	195	207	0.0008	-	
				DVT			1.5% (n=7)	0% (n=0)	0.047		
Khoder WY 2011, retrospective comparative, Germany, 2002-2004	NA	PLND	No PLND	Lymphocele rate	1078	85	MVA: OR: 2.6 (95% CI 1.3-4.9)		0.004	-	
Lin BM 2011, retrospective comparative, USA, 2001-2008	NA	PLND	No PLND	Inguinal hernia incidence	170	120	HR: 1.02 (95% CI: 0.38-2.75)		0.851	-	
<u>Dicks B, 2011, USA, retrospective comparative, AUA</u>	NA	PLND	No PLND	OT (min)	105	116	191	173	0.004	-	
				Blood loss (ml)			155	149	0.688		
				Length of stay (days)			1.4	1.3	0.647		
				Complication rate			24.5%	17.9%	0.308		
Hruza M 2010, retrospective comparative, Germany/Italy, 1999-2008	NA	PLND	No PLND	Complication rate	1438	761	MVA: OR: 1.077 (95% CI: 0.834-1.390)		0.570	-	

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		
Table 4a – No PLND vs Any PLND										
Zorn C 2009, retrospective comparative, USA, 2003-2007	NA	PLND	No PLND	OT (mins)	296	859	224 (R: 160-320)	216 (R: 120-330)	0.09	-
				Blood loss (ml)			206 (R: 50-750)	229 (R: 50-700)	0.14	
				Blood transfusion rate			3% (n=9)	1.7% (n=15)	0.4	
				Hospital stay (days)			1.32 (R: 1-5)	1.24 (R: 1-4)	0.4	
				Postoperative complications			9% (n=27)	7% (n=63)	0.8	
				Pelvic lymphocele			2% (n=6)	0% (n=0)	0.9	
				FFS (low)			82%	81%	0.83	
				FFS (intermediate)			63%	71%	0.21	
				FFS (high)			48%	42%	0.45	
Stolzenburg 2005, retrospective comparative, Germany, 2001-2004	NA	PLND	No PLND	OT (mins)	700		170	115	NR	-
Table 4b – Limited/standard PLND vs (super)-extended PLND										
Hatzichristodoulou G 2015, retrospective comparative, 2007-2012	NA	ePLND	IPLND	Continence recovery rate (12 months)	262	198	89.7%	93.4%	0.204	-
							MVA: 1.07 [0.87-1.31] (corrected for age at surgery, preoperative IIEF-5 score, iPSA, pGS, pT, prostate volume)		0.508	
				Spontaneous EF recovery (12 months)			40.4%	47.5%	0.534	
							MVA: 1.11 [0.75-1.63] (corrected for age at surgery, preoperative IIEF-5, iPSA, pGS, pT, prostate volume)		0.600	
	Trifecta rates (2-yr)	44.1%	47.5%	0.451						
Hoshi S 2015, retrospective comparative, 1988-2013	NA	Semi-ePLND	sPLND	Blood loss (ml)	131	599	NR	NR	NS	-
				Lymphoceles			0% (n=0)	0% (n=0)	NS	
				Intra- and postoperative complications			0% (n=0)	0% (n=0)	NS	

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		
Table 4a – No PLND vs Any PLND										
<u>Lestingi J 2015</u> <u>Brazil, RCT, AUA</u>	NA	ePLND	iPLND	Blood loss (ml)	108	108	NR		<0.001	-
				OT			NR		<0.001	
				Hospital stay hours			NR		<0.001	
				Clavien			NR		0.116	
<u>Schwerfeld-Bohr J, 2014, Germany, RCT, EAU</u>	NA	ePLND	iPLND	OT (min)	118	126	200	107	NR	Open 124; LRP 6, RARP 114
				Lymphoceles			8% (n=10)	17% (n=20)	NR	
				RR: 2.14 (95% CI 1.04-4.37)			0.04			
Kim KH 2013, retrospective comparative, Korea	NA	ePLND	sPLND	Complication rate	170	294	11.8% (n=20)	2.4% (n=7)	<0.001	-
				Lymphocele			2.4% (n=4)	0.3% (n=4)	0.043	
				Lymphedema			8.8% (n=15)	1.4% (n=4)	<0.001	
				Neuropraxia			0.6% (n=1)	0.7% (n=2)	0.905	
Yuh BE 2013, retrospective comparative, Italy, 2008-2012	NA	ePLND	IPLND	Blood loss (ml)	202	204	200 [IQR 150-250]	200 [IQR 150-250]	0.7	-
				OT			3 [IQR 2.9-3.3]	2.8 [IQR 2.7-3.2]	<0.001	
				Complication rate			22.8% (n=46)	21.6% (n=44)	0.8	
				Lymphocele			2.5% (n=5)	2.9% (n=6)	NR	
				DVT			1% (n=2)	2.9% (n=6)	NR	
				Major complications			MVA OR: 0.60 (95% CI 0.25-1.46)		0.3	
				Discharge at day 1			74.8% (n=151)	85.3% (n=174)	0.004	
				Lymphocele + DVT			NR		0.3	
Jung JH 2012, retrospective comparative, South Korea, 2005-2010	NA	ePLND	sPLND	OT (mins)	45	155	190 [IQR: 165-211]	196 [IQR: 180-224]	0.027	-
				PLND time (mins)			26 [IQR: 20-35]	47 [IQR: 36-58]	<0.001	
				Blood loss (ml)			250 [IQR: 150-400]	200 [IQR: 100-300]	0.088	
				Hospital stay (days)			4 [IQR: 3-7]	4 [IQR: 3-7]	0.998	
				PLND related complications			3.2% (n=5)	2.2% (n=1)	1	
<u>Hoshi S, 2012, Japan, retrospective</u>	NA	ePLND	sPLND	Intra-operative complications	124	700	-	-	NS	-
				Post-operative			-	-	NS	

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				
Table 4a – No PLND vs Any PLND													
<u>comparative, AUA</u>				complications									
				Lymphocele				-	-		NS		
				Blood loss (ml)				-	-		NS		
<u>Dundee P, 2011, Australia, retrospective comparative, AUA</u>	NA	ePLND	sPLND	OT (min)	289	242		208	190		<0.0001	-	
				Blood loss (ml)			243	209		0.2			
				Blood Transfusion rate (%)			0.7% (n=2)	1.7% (n=4)		1.0			
				Length of stay (days)			2.9	2.9		0.5			
				Complications (%)			7.4	6.2		0.9			
<u>Sonneithner M, 2010, Austria, prospective comparative, EAU</u>	NA	ePLND	sPLND	No PLND	Major complications	62	85	149	46%	13%	32%	NR	-
<u>Eden 2010, retrospective comparative, UK, 2000-2008</u>	NA	ePLND	sPLND	Transfusion rate	121	311		2.5% (n=3)	0.8% (n=2)		0.27	-	
				Blood loss (ml)			200 [10-800]	200 [10-1300]		0.13			
				OT (mins)			206.5 [99-331]	180 [117-537]		<0.001			
				Hospital stay (days)			3 [2-4]	3 [2-5]		0.77			
				Complication rate			8.3% (n=10)	3.6% (n=9)		0.10			
<u>Naselli 2010, retrospective comparative, Italy, 2004-2010</u>	NA	ePLND	IPLND	Symptomatic lymphocele	249	98		9.6% (n=24)	2% (n=2)		0.028	-	
				DVT			1.6% (n=4)	0% (n=0)		NR			
<u>Lavery H, 2010, USA, retrospective comparative, AUA</u>	NA	ePLND	IPLND	complication	77	173		8%	0.5%		NR	-	
<u>Lindberg 2009, retrospective comparative, Sweden, 2002-2007</u>	NA	ePLND	IPLND	Blood loss (ml)	108	64		700 [NR]	1100 [NR]		NR	-	
				OT difference			$\Delta 21$ mins (ePLND vs IPLND)						
				Lymphocele			17.6% (n=19)	9.4% (n=6)					
				DVT			0.9% (n=1)	1.5% (n=1)					
				PE			4.6% (n=5)	1.5% (n=1)					
				Haematoma			1.9% (n=2)	0% (n=0)					
				Wound infections			3.7% (n=4)	0% (n=0)					

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		
Table 4a – No PLND vs Any PLND										
				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	IPLND	Lymphocele	434	867	HR: 2.88 [95% CI 1.735-4.773]		<0.0001	MVA corrected for age, BMI, ASA
				Re-intervention			HR: 2.37 [95% CI 1.494-3.750]		<0.0001	
Klevecka 2007, retrospective comparative, Germany, 1993-2004	NA	ePLND	IPLND	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	
				Re-intervention			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 T 2003, RCT, USA	NA	ePLND	IPLND	Lymphocele	123	123	3.3% (n=4) (3/4 at side of extended)		NR	Pts randomized to 1 side limited, 1 side extended
				Leg oedema			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 (mins)			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	

Congress abstracts are underlined.

Results are sub-divided as follows: no PLND vs. any PLND (**Table 4a**); limited/standard PLND vs. (super)-extended PLND (**Table 4b**).

* Numbers for each group not reported

List of abbreviations in alphabetical order:

DVT = Deep Venous Thrombo-embolism

HR = Hazard Ratio

MVA = Multi Variate Analysis

NA = Not Applicable

NR = Not Reported

OT = Operating time

OR = odds ratio

PE = Pulmonary Embolism

PLND = Pelvic Lymph Node Dissection

RR = Relative Risk