



Novel trends in robotic surgery: Retroperitoneal lymph node dissection

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Robot assisted RPLND for stage I NSGCT

Background

OPEN **RPLND** **LAP**

Robot assisted RPLND for stage I NSGCT

Background

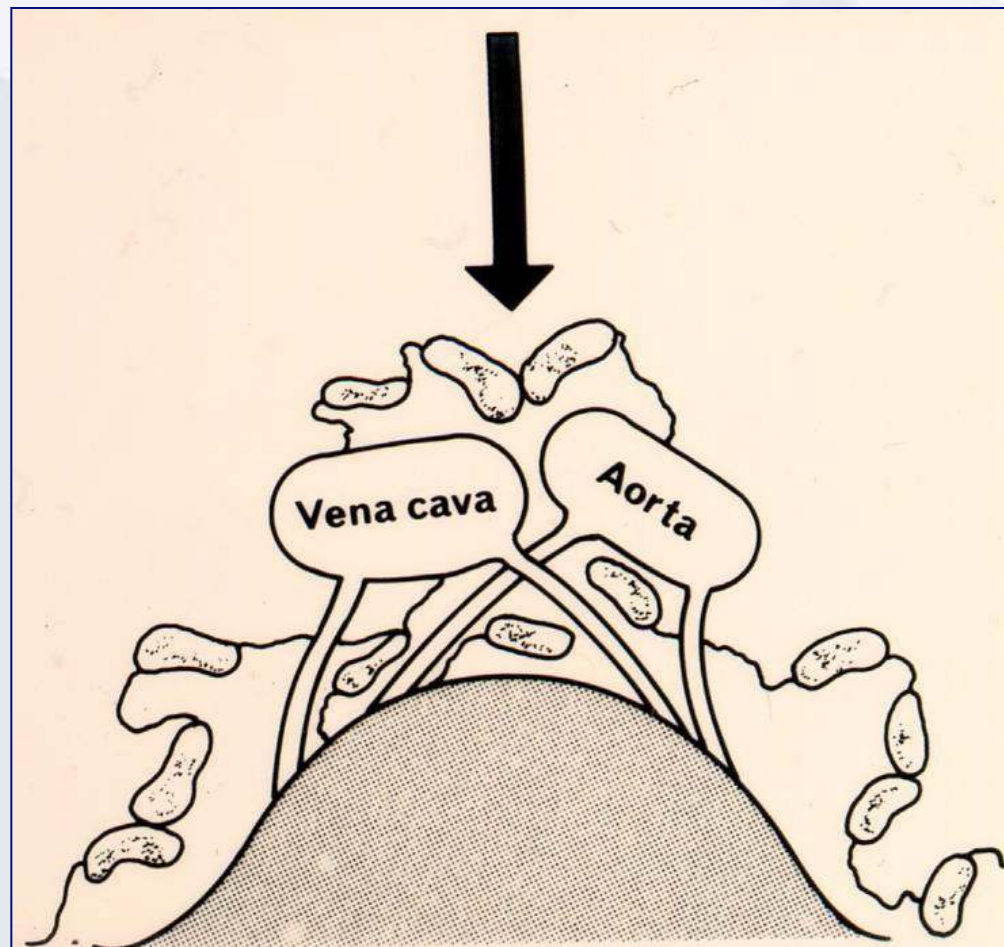
STANDARD

OPEN	RPLND	LAP
invasiveness		learning curve
bowel movement recovery		retrovascular LN clearance

PRIMARY LYMPHATIC METASTATIC SPREAD IN TESTICULAR CANCER OCCURS VENTRAL TO THE LUMBAR VESSELS

L. HÖLTL, R. PESCHEL, R. KNAPP, G. JANETSCHKEK, H. STEINER, A. HITTMAIR, H. ROGATSCH,
G. BARTSCH, AND A. HOBISCH

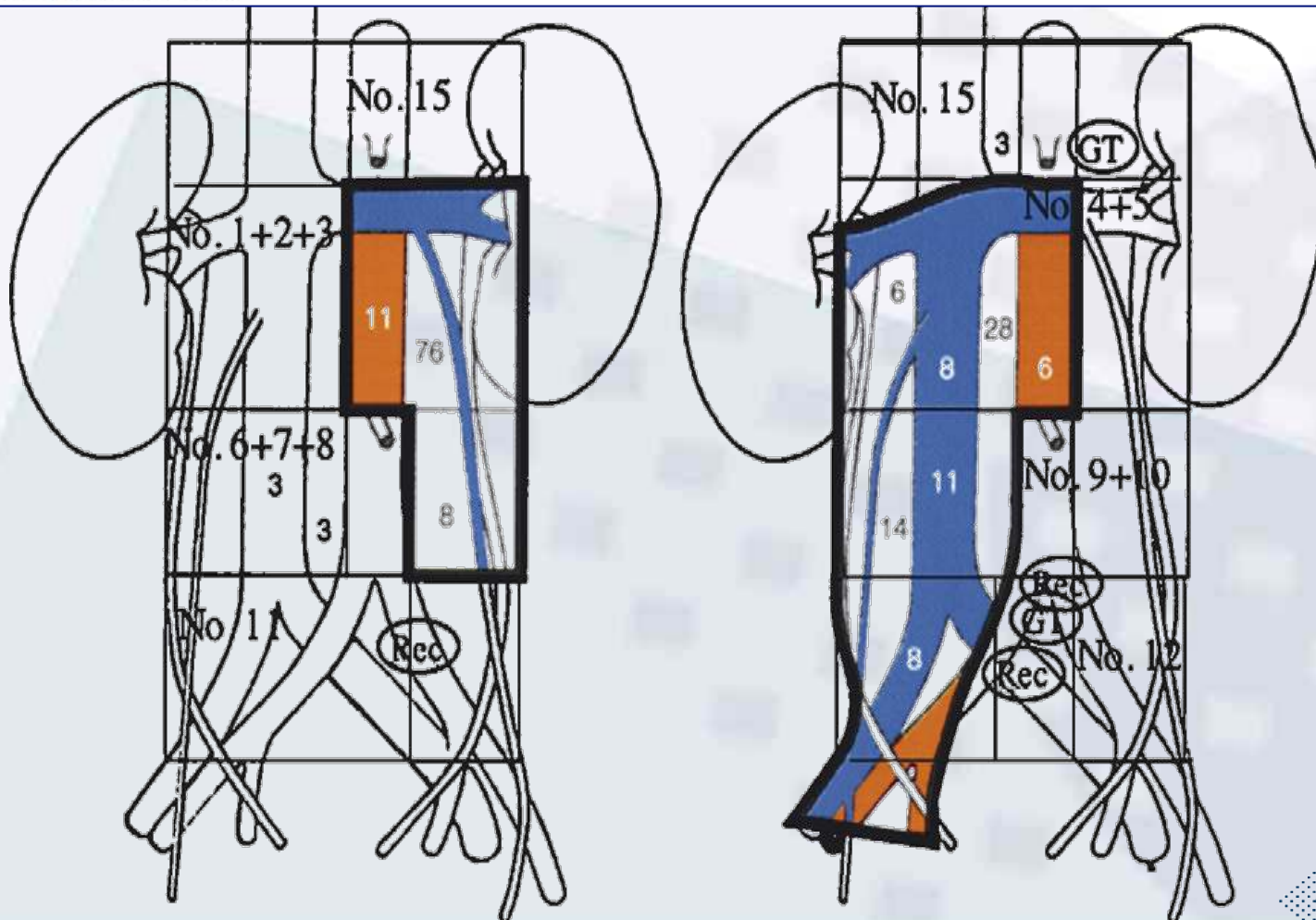
Urology, 2002



Laparoscopic Retroperitoneal Lymph Node Dissection: Does It Still Have a Role in the Management of Clinical Stage I Nonseminomatous Testis Cancer? A European Perspective

Jens J. Rassweiler^{a,*}, Walter Scheitlin^a, Axel Heidenreich^b, M. Pilar Laguna^c,
Günter Janetschek^d

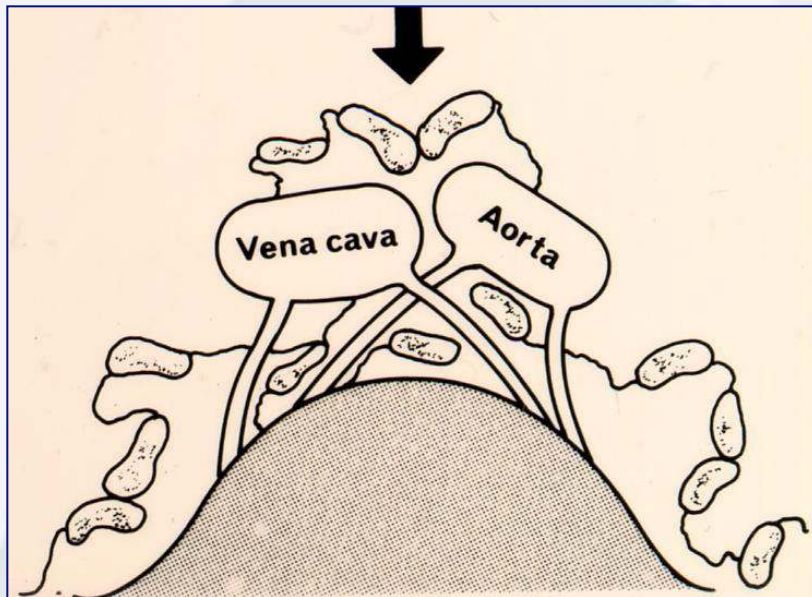
Eur Urol, 2009



Author	n	Retroperitoneal relapse (%)	In-field relapse (%)	Distant relapse (%)	Biochemical failure (%)	Chemotherapy n (%)
Laparoscopy						
Albqami [11], 2005 (Linz, Austria)	103	1.0	0	2.9	1.0	32 (31)
Neyer [13], 2007 (Innsbruck, Austria)	136	0.7	0	4.4	0.7	33 (24)
Castillo [19], 2007 (Santiago, Chile)	111	1.8	0	1.8	0.9	24 (22)
Nielsen [20], 2007 (United States)	120	1.6	0	4.1	1.6	45 (38)
Cresswell [14], 2008 (Heilbronn, Germany)	87	2.3	0	4.6	2.3	27 (31)
Total	557	1.4	0	3.3	0.9	161 (29)
Open surgery						
Spermon [16], 2002 (The Netherlands)	101	0	0	8.9	0	38 (38)
Heidenreich [17], 2003 (Germany)	239	1.3	0.8	4.2	1.2	
Stephenson [21], 2005 (Memorial Sloan-Kettering Cancer Center, USA)	196	1.5	0.45	4.5	N/A	
Al-Tourah [7], 2005 (Canada)	52	0	0	7.6	0	
Albers [22], 2008 (Germany)	173	2.8	0.6	4.6	3.4	45 (26)
Total	761	1.3	0.45	6.1	1.1	157 (31)

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Günter Janetschek^d Eur Urol, 2009



5. Conclusions

This study demonstrates that L-RPLND offers similar staging accuracy and long-term outcome to O-RPLND. In late series of well-experienced centres, there was a trend towards fewer complications in L-RPLND.

Robot assisted RPLND for stage I NSGCT

I experience



CASE REPORT

Urology, 2006

ROBOTIC-ASSISTED LAPAROSCOPIC RETROPERITONEAL LYMPH NODE DISSECTION

PATRICK DAVOL, JOEL SUMFEST, AND DANIEL RUKSTALIS

The final pathologic examination revealed metastatic teratoma in 2 of 21 lymph nodes, with no seminoma detected. On his 5-month outpatient follow-up visit, the patient showed no evidence of disease by abdominal computed tomography imaging or chest x-ray, and his tumor markers remained negative. He reported spontaneous normal erections with a normal ejaculate volume.

Robot assisted RPLND for stage I NSGCT

II experience

Case Series of the Month

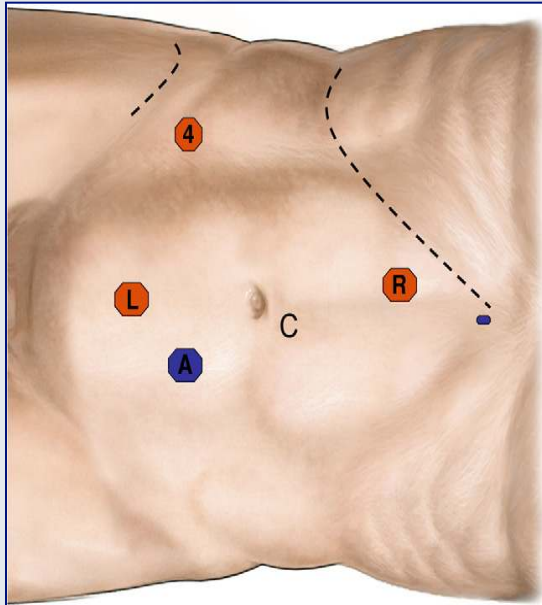
Eur Urol, 2011

Initial Series of Robot-Assisted Laparoscopic Retroperitoneal Lymph Node Dissection for Clinical Stage I Nonseminomatous Germ Cell Testicular Cancer

Stephen B. Williams^{a,b}, Clayton S. Lau^b, David Y. Josephson^{b,*}

^aDivision of Urologic Surgery, Brigham and Women's Hospital, Harvard Medical School, Boston, MA, USA

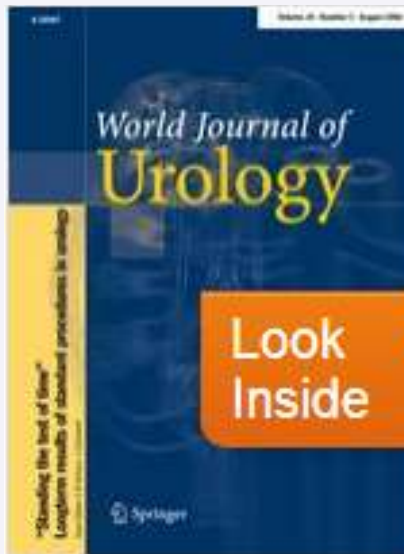
^bDepartment of Urology, Division of Urologic Oncology, City of Hope Comprehensive Cancer Center, Duarte, CA, USA



Characteristics	Patient 1	Patient 2	Patient 3
Patient age, yr	27	44	22
Follow-up, mo	15	12	12
Tumor side	Right	Right	Right
Operative time, min	240	172	150
Estimated blood loss, ml	200	150	150
Lymph node yield	30	33	12
RPLND pathology			
Positive	0	0	0
Transfusions	0	0	0
Complications	0	0	0
Length of stay, d	2	2	2
Anterograde ejaculation	Yes	Yes	Yes

Robot assisted RPLND for stage I NSGCT

Our experience



World J Urol
DOI 10.1007/s00345-012-1006-y

TOPIC PAPER

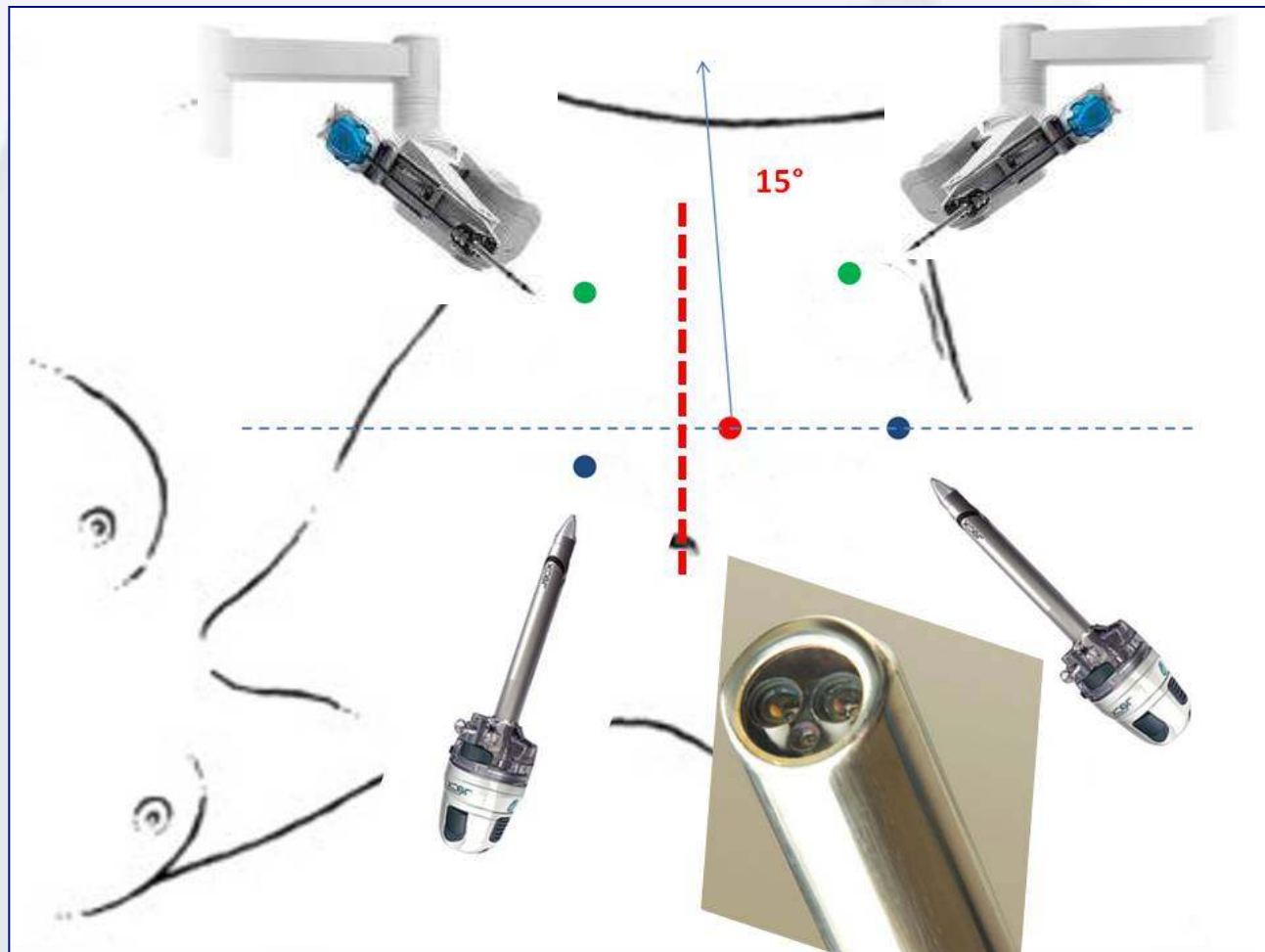
A novel “intuitive” surgical technique for right robot-assisted retroperitoneal lymph node dissection for stage I testicular NSGCT

Ottavio de Cobelli · Antonio Brescia ·
Federica Mazzoleni · Gennaro Musi ·
Deliu Victor Matei

Robot assisted RPLND for stage I NSGCT

LEFT RPLND

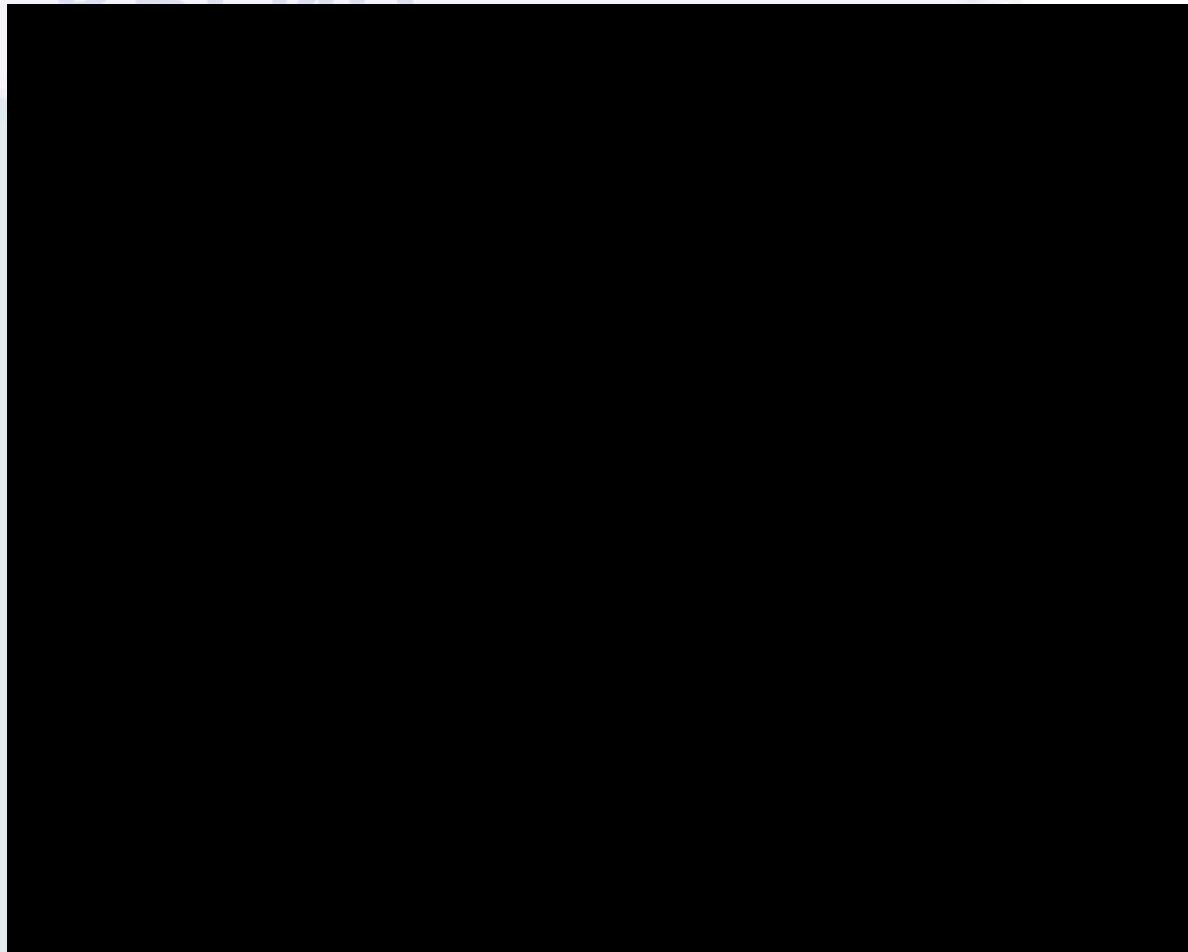
Our experience



Robot assisted RPLND for stage I NSGCT

LEFT RPLND

Our experience



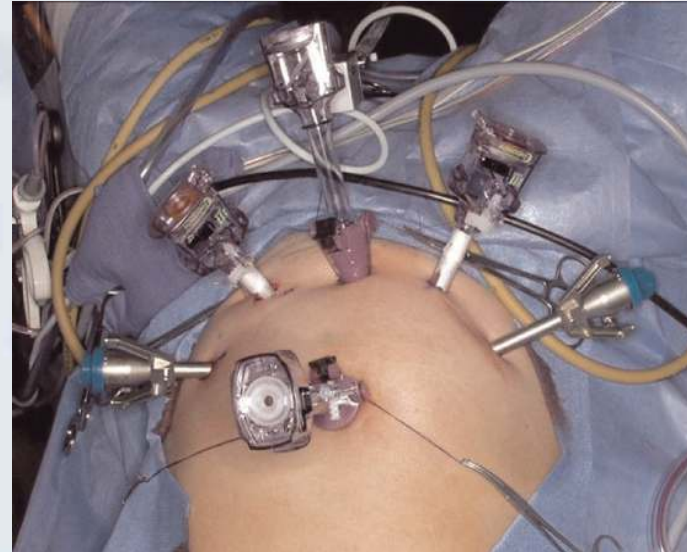
Robot assisted RPLND for stage I NSGCT

RIGHT RPLND

ORIGINAL ARTICLE Int J Gynecol Cancer 2010

Robotic Transperitoneal Infraarenal Aortic Lymphadenectomy *Technique and Results*

Javier F. Magrina, MD, Jaime B. Long, MD,* Rosanne M. Kho, MD,† Dobie L. Giles, MD, MS,†
Regina P. Montero, RN, MSN, CNOR,† and Paul M. Magtibay, MD†*



Robot assisted RPLND for stage I NSGCT

RIGHT RPLND

Our experience

TOPIC PAPER

A novel “intuitive” surgical technique for right robot-assisted retroperitoneal lymph node dissection for stage I testicular NSGCT

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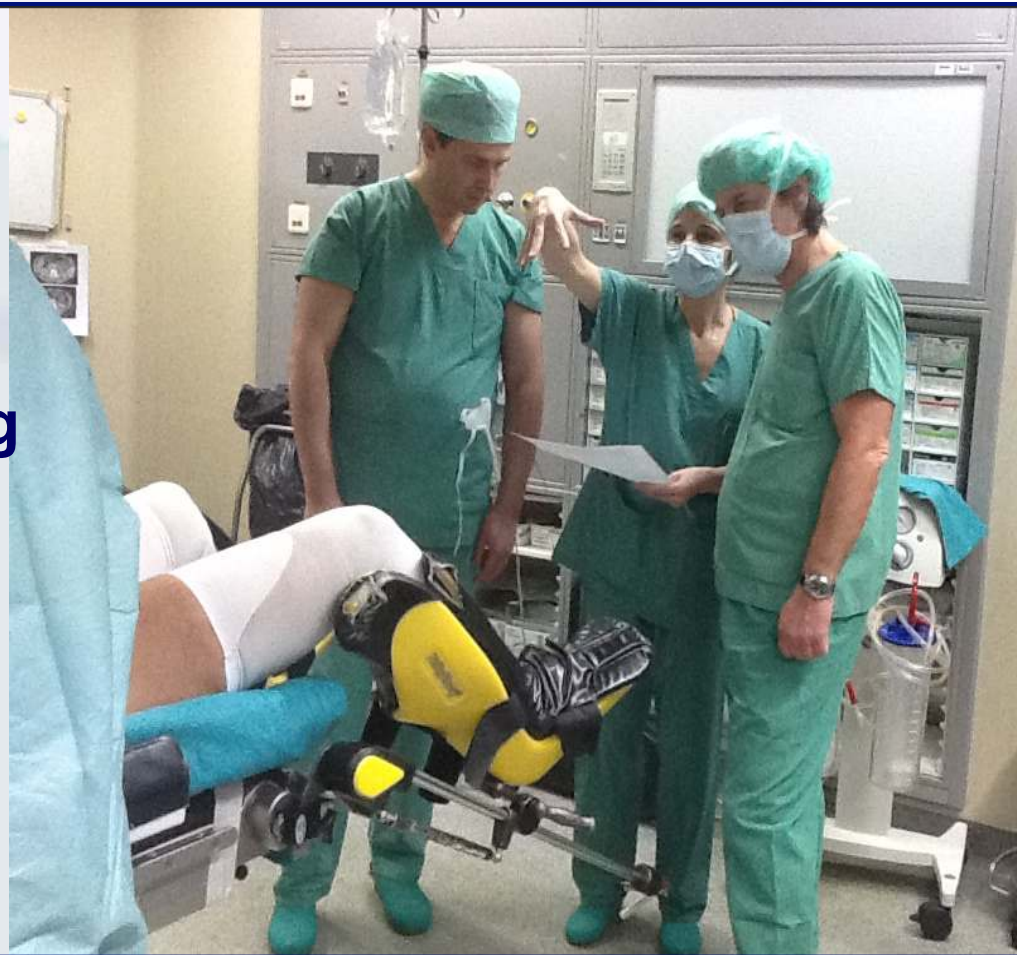
Received: 20 June 2012 / Accepted: 5 December 2012

Robot assisted RPLND for stage I NSGCT

RIGHT RPLND

Our experience

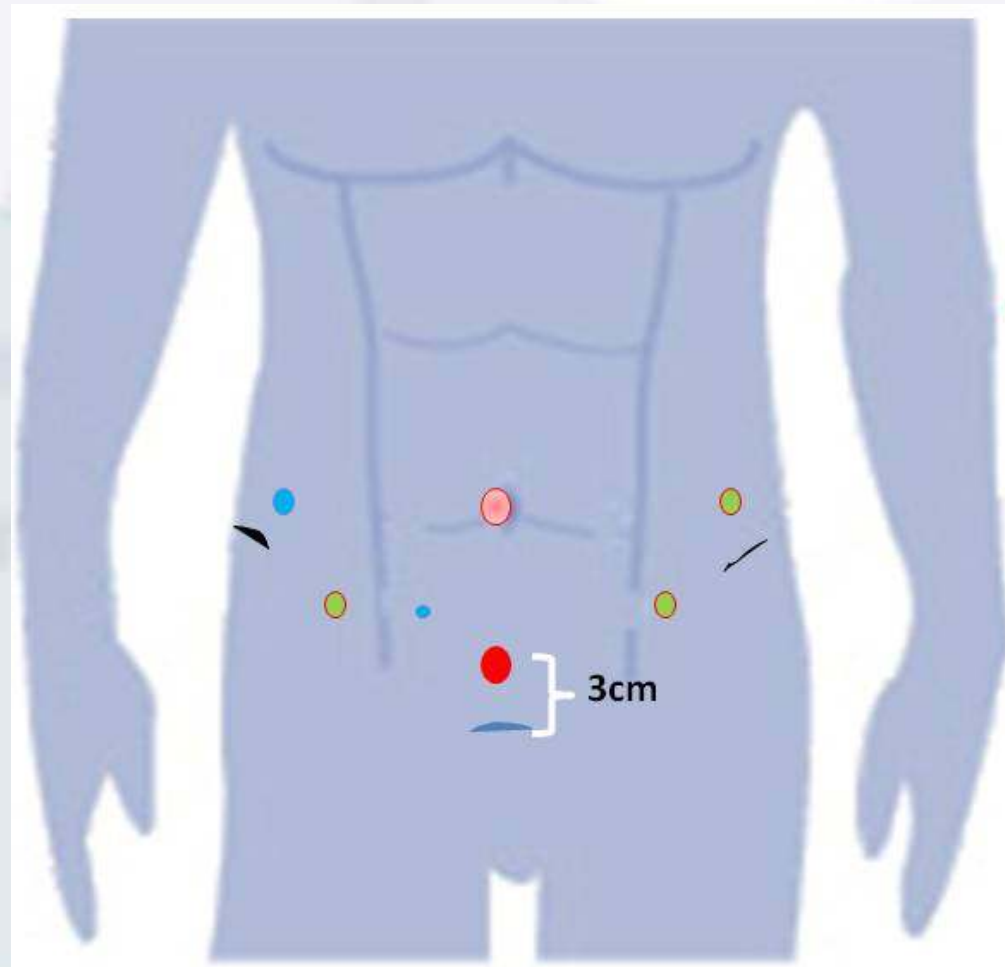
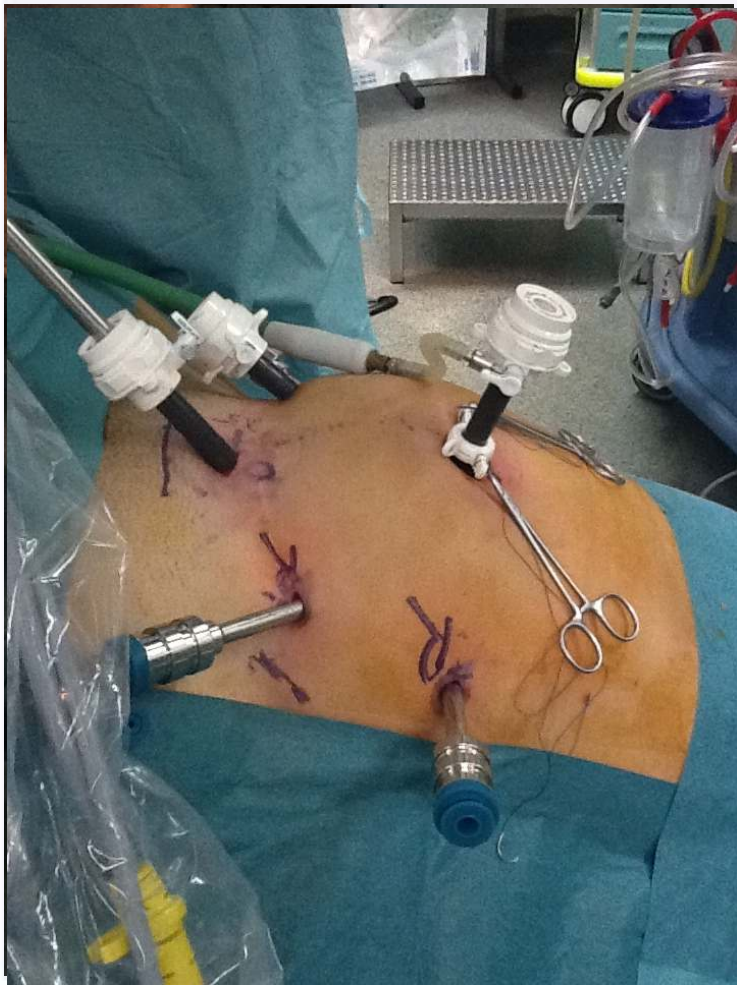
- supine, low lithotomic position
- steep Trendelenburg



Robot assisted RPLND for stage I NSGCT

RIGHT RPLND

Our experience



IEO OR-Landscape



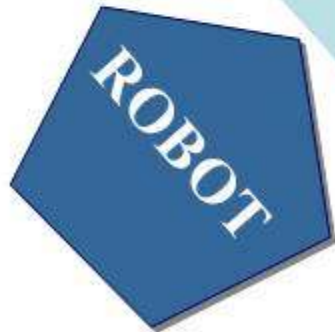
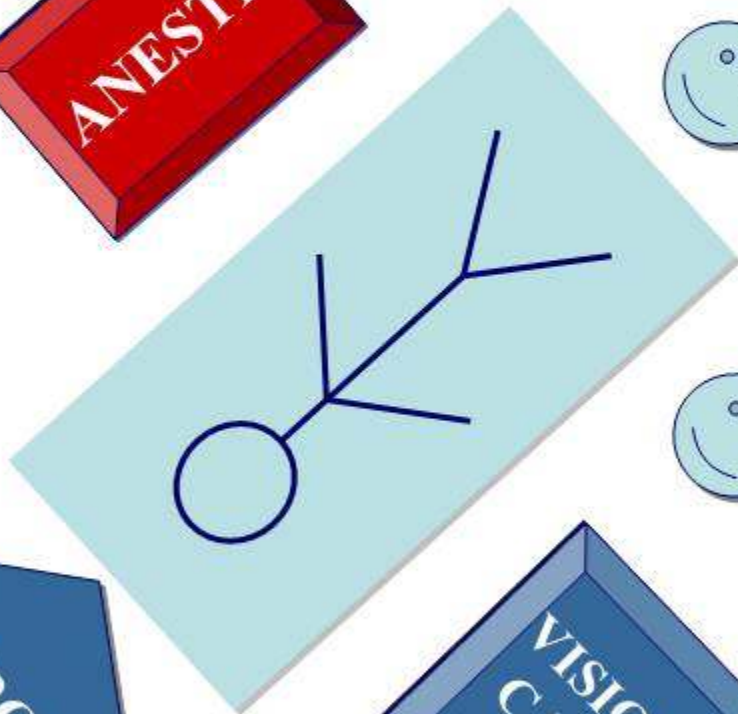
Surgeon



Assistant



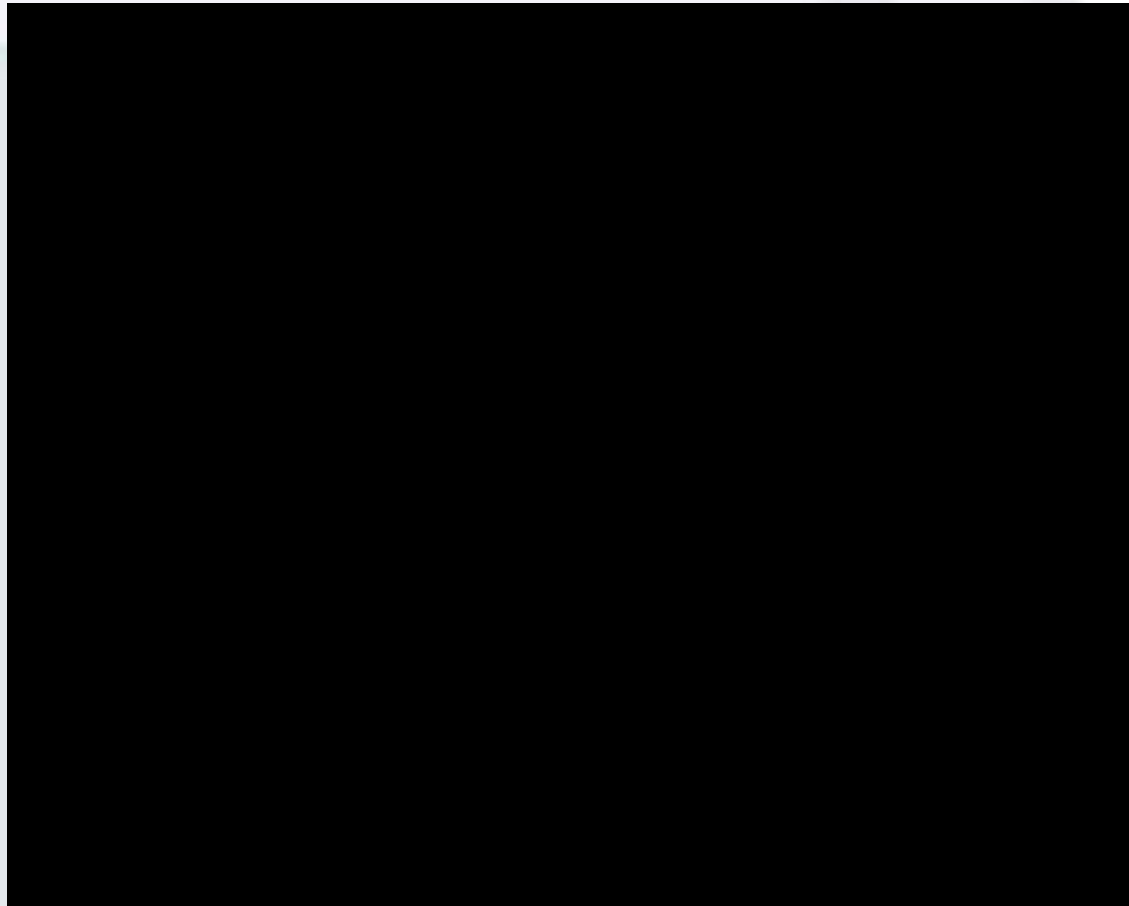
Scrub Nurse



Robot assisted RPLND for stage I NSGCT

RIGHT RPLND

Our experience





A novel “intuitive” surgical technique for right robot-assisted retroperitoneal lymph node dissection for stage I testicular NSGCT

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The use of this technique further reduces the difficulty of the RA-RPLND, presenting over the previously described right flank position at least three advantages:

- the trocar position is specular to that used for RALP and known for generating no collision between robotic arms
- to obtain the same exposure of the right modified lymphadenectomy template, bowel mobilization seems clearly less extensive
- the procedure is performed in a most similar and “intuitive” way to the open technique.

Robot assisted RPLND for stage I NSGCT

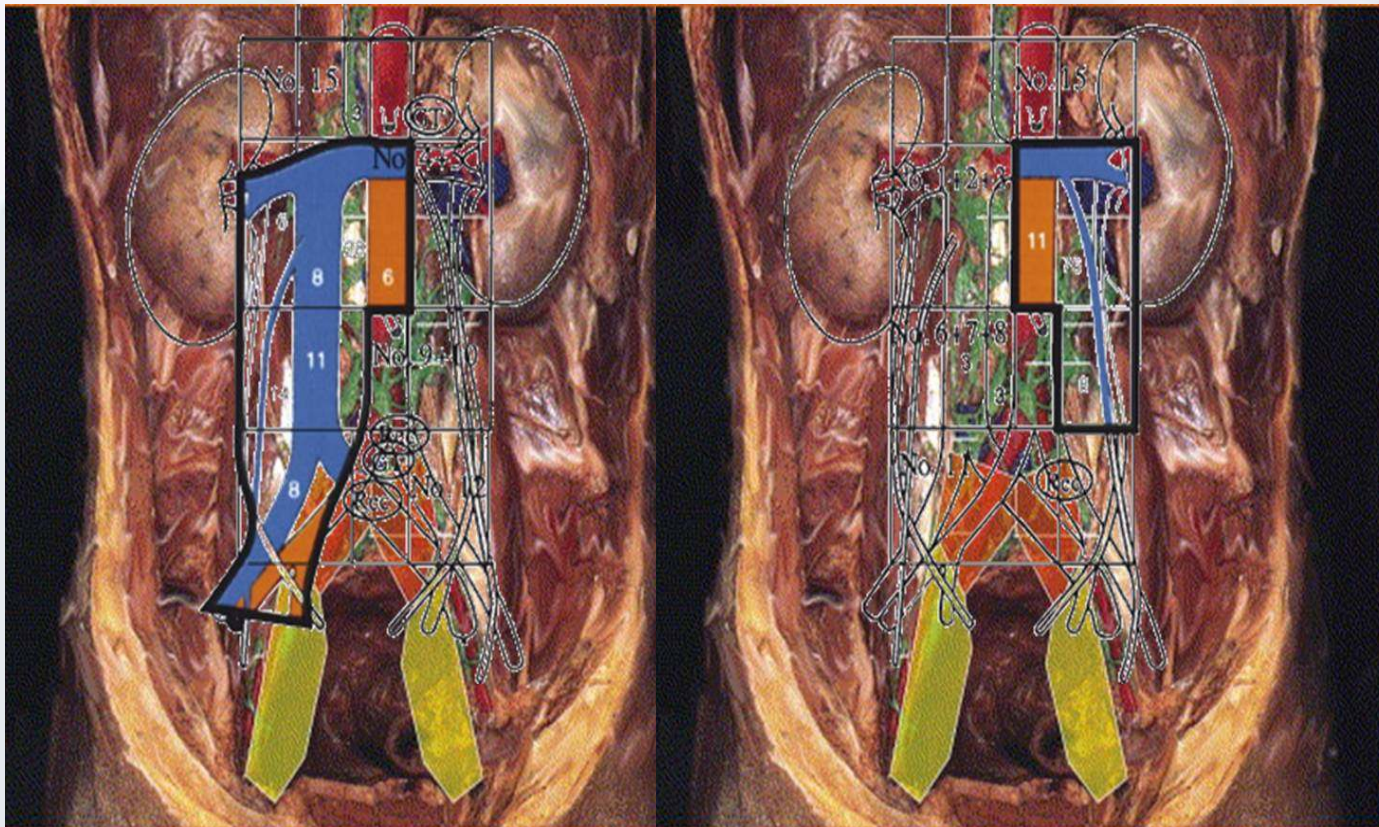
Our experience

Patient	Age	RPLND	Side	OR T	Nr LN	Complic	LOS	Anterograde ejaculation
	yrs	(2012)		h:min			d	
M.F.	26	13Jan	L	4:00	18	0	3	Yes
S.D.	29	22Feb	R	3:56	19	0	3	Yes
M.N.	30	29Apr	L	4:35	13	0	3	Yes
D.R	44	06 Nov	R	4:49	17	Chil Asc	15	Yes

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Conclusions

- Robotic monolateral modified template RPLND is feasible



Robot assisted RPLND for stage I NSGCT

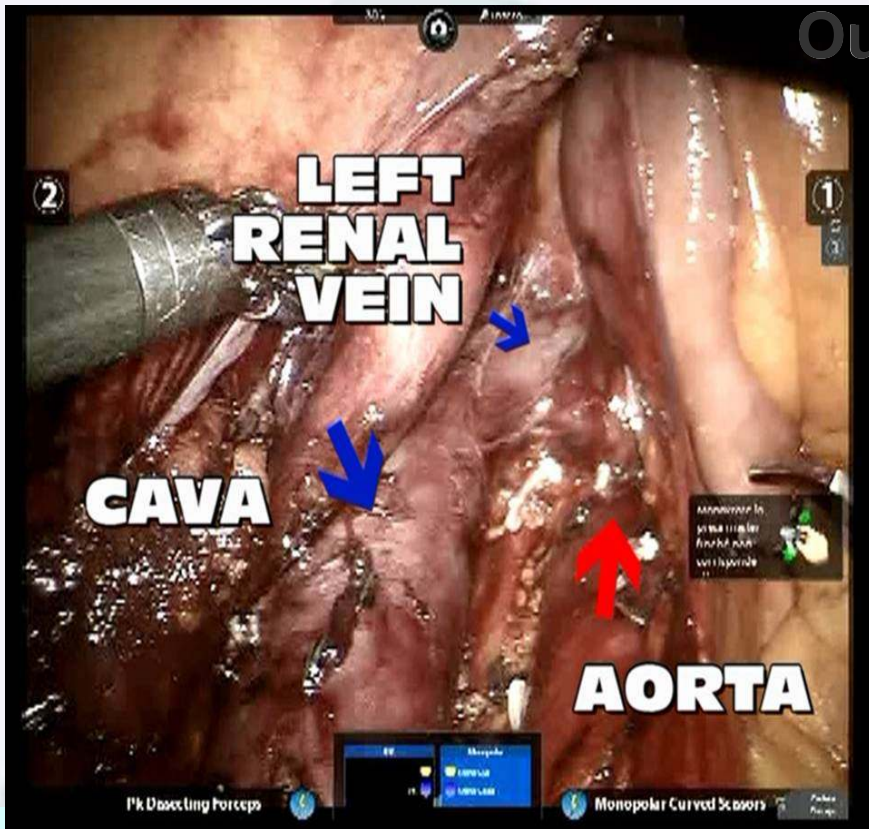
Conclusions

- The robotic approach for the left-side template RPLND is **very similar to the robotic approach for kidney surgery** and does not rise particular problems



Robot assisted RPLND for stage I NSGCT

Conclusions



Our robotic approach for the right-sided template, inspired from a previously published [6, 10] gynecologic experience, seems to improve the performance of the lymphadenectomy making the procedure more similar to the open technique and reducing the need of bowel mobilization to obtain a good exposure of the operatory field.



IEO EDUCATION
European Institute of Oncology



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Eastern Europe Urologists*

Milan, 14-15 March 2013

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Implementation Strategies**

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