

**THE BRITISH ASSOCIATION OF
UROLOGICAL SURGEONS
SECTION of ONCOLOGY**

Analyses of Radical Prostatectomy Dataset

January 1st – 31st December 2011

June 2012

MEMBERS OF THE EXECUTIVE COMMITTEE

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by

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GENERAL INTRODUCTION

Once again Sarah Fowler has done an exceptional job in producing the complex operations datasets for 2011. This is the first full years analysis of the updated datasets. As you will see the format and presentation has been updated and centres have been offered their own charts if they want these. This has been facilitated by introduction of Tableau™ software making the cross referenced analysis much easier.

The improvements made to the datasets with the introduction of more pull down menus seems to have improved data quality overall which is most pleasing.

The nephrectomy and radical prostatectomy datasets are particularly impressive in terms of the data quality. Seeing more complete and meaningful outcome data for example on potency and continence rates after RP is a positive development. The more detailed recording of complications and introduction of the Clavien- Dindo classification of surgical complications is a further good example and is particularly useful to monitor trends over time. Unfortunately large robotic centres are still disappointingly underrepresented. Overall the follow up data remains disappointing.

As always we encourage section members to view the poster presentations on the datasets at BAUS and to feed back to committee members or via Sarah about their ideas for improvements. Hopefully with revalidation almost upon us, contributing surgeons will be able to use their personal or centre data to good effect.

Greg Boustead

June 2012

AUDIT RESULTS SUMMARY - Radical Prostatectomy dataset (January 1st – December 31st 2011)

- 2163 Prostatectomies reported by 115 consultants from 57 centres (including 33 private patients from 14 consultants)
 - 64% of the data (1380/2163) was individually entered by hand as oppose to being bulk imported
 - 89% (1918/2163) entered using the new dataset launched in April 2011
 - Median per consultant = 11, range 1 – 154
 - Median per centre = 21, range 1 – 234
 - Median Age at operation = 64, range 14 – 81
 - 29% have 1 or more follow up

How were the data analysed?

All the data presented here are a summary of the data extracted from the web-based database on 17th April 2012 and relate to operations performed during the whole of 2011. Once extracted the data was transferred to an AccessTM database for validation before being imported into TableauTM for generation of the analyses. The validation mainly comprised checks for duplicate and / or empty entries and invalid / inappropriate dates.

For each of the ranked charts the individual consultant or centre identification numbers were removed and replaced with rank numbers starting at 1. A unique, confidential "Ranking Sheet" has been prepared for each surgeon to enable them to identify their rank in every chart. For those charts where overall figures for the entire database are shown the ranking sheet displays the consultant's individual figures. No one else can identify the results of an individual consultant. The ranked charts comprise single bars and are ranked from left to right in the ascending order of the data item being measured. Where percentages are included figures have been rounded up to one decimal point.

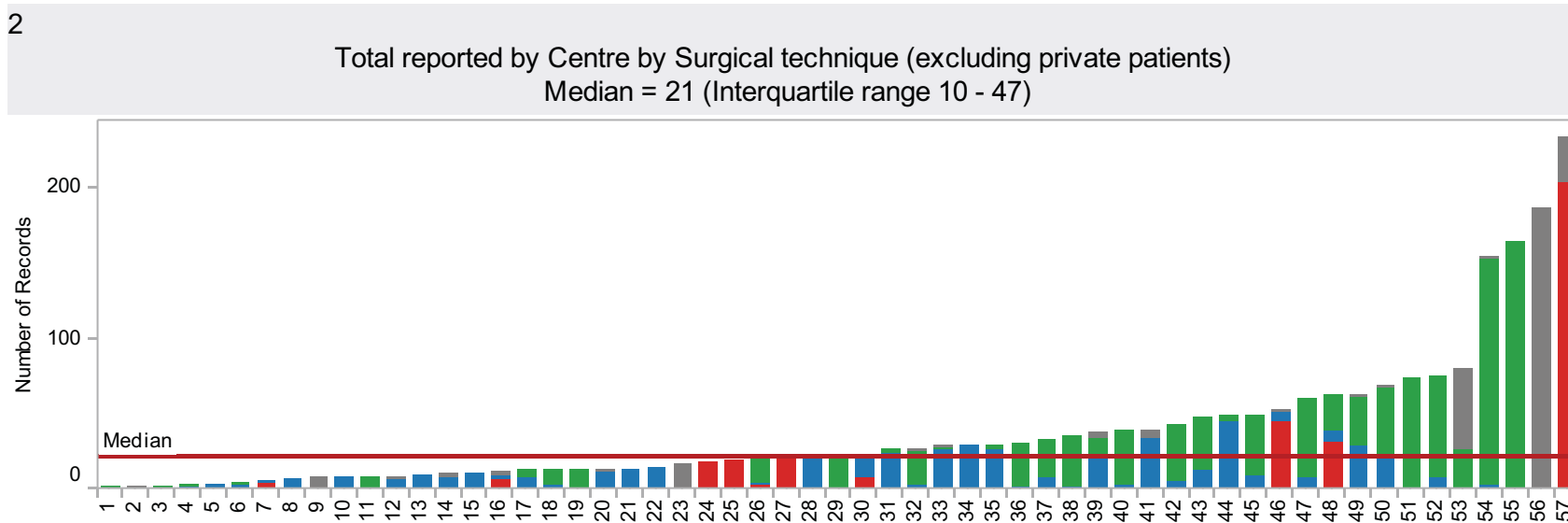
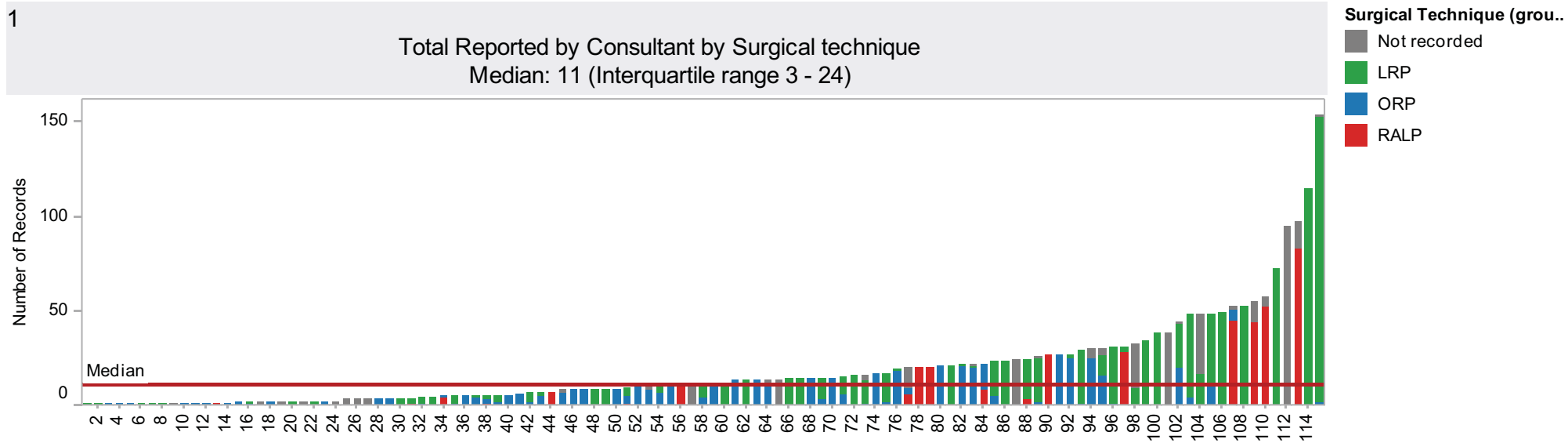
A personal ranking sheet for each consultant registering three or more tumours is available individually to go with this document. Centres or cancer networks that have returned sufficient data may request a copy of these analyses filtered to contain only that data.

Sarah Fowler

June 2012

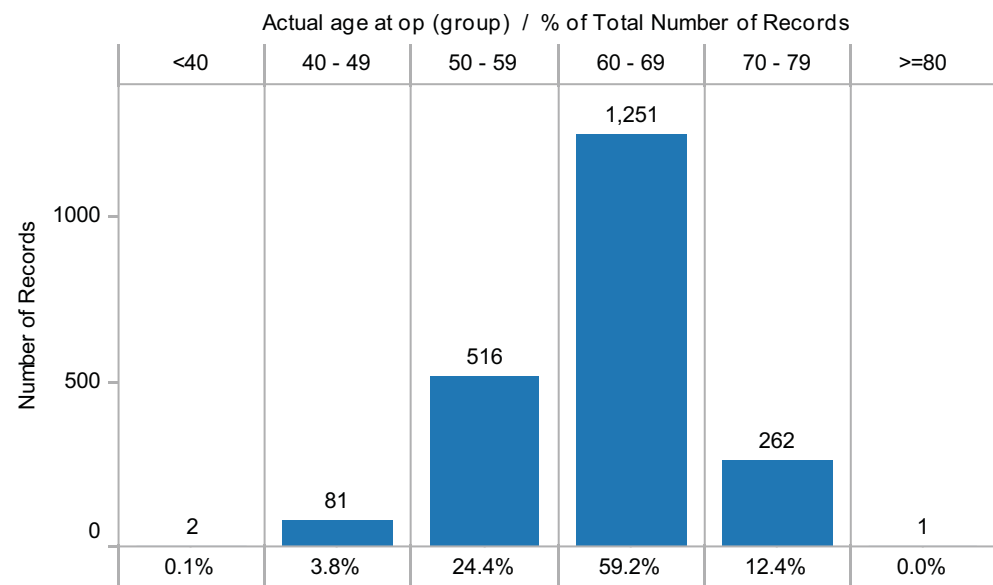
BAUS Data & Audit Project Manager

Total Cases Reported



Age Distribution, Previous Management and Reason for Prostatectomy

3 Percentage Age Distribution
Median = 64; Range = 14 -81 9 (n = 2113)



4 Previous Management

	N	%Total
None	1,350	62.4%
Radiotherapy	11	0.5%
Brachytherapy	1	0.0%
Cryotherapy	1	0.0%
TURP	36	1.7%
Null	764	35.3%
Grand Total	2,163	100.0%

5 Reason for Prostatectomy
(New question from April 2011)

	N	%Total
Primary treatment of cancer	1,154	60.17%
Previous active surveillance	223	11.63%
Salvage therapy	10	0.52%
Not recorded	531	27.69%
Grand Total	1,918	100.00%

6 If previous Active Surveillance - reason for Prostatectomy

	N	%Total
PSA progression	95	42.60%
Gleason progression	30	13.45%
Clinical progression	37	16.59%
Patient decision	55	24.66%
Not recorded	6	2.69%
Grand Total	223	100.00%

Known Clinical and Pathological Staging

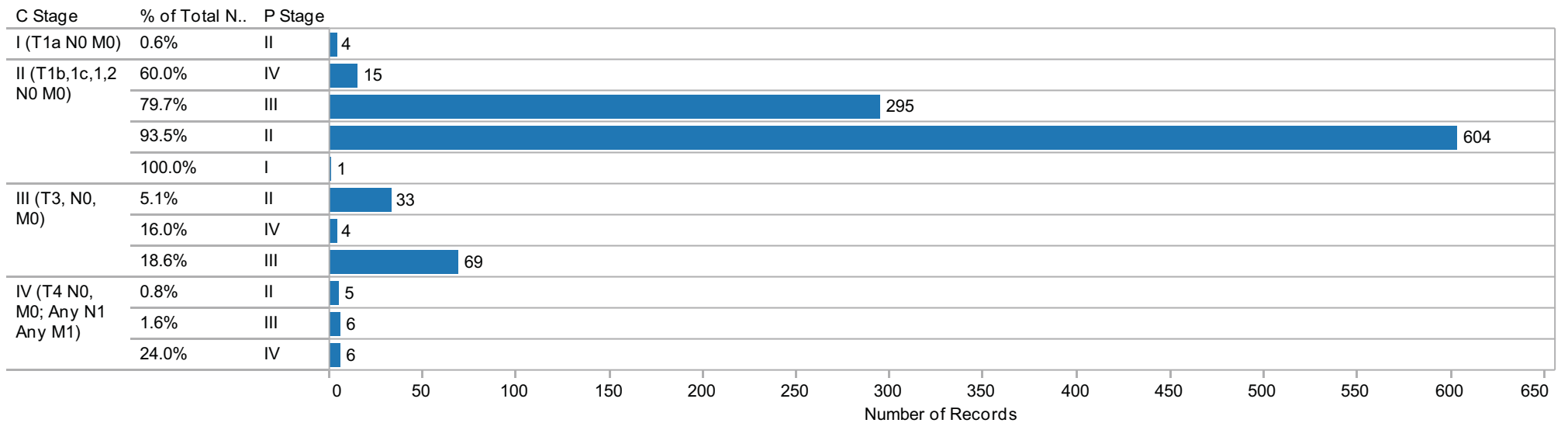
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Known Pre-operative Clinical Staging Staging could be estimated in 75.7% cases

C Stage	C Stage II	N	%Total
I (T1a N0 M0)	-	6	0.4%
II (T1b,1c,1,2 N0 M0)	T1,1a,1b	67	4.1%
	T1c	671	41.0%
	T2	719	43.9%
III (T3, N0, M0)	-	152	9.3%
IV (T4 N0, M0; Any N1 Any M1)	-	22	1.3%
Grand Total		1,637	100.0%

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Comparison of Clinical & Pathological Staging



Staging by PSA

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Clinical Staging by pre-operative PSA

C Stage	Pre-opPSA (group)										Grand Total	
	0 - 5		6-10		11-20		21-50		> 50			
	N	% Total	N	% Total	N	% Total	N	% Total	N	% Total	N	% Total
I (T1a N0 M0)	5	83.3%	1	16.7%							6	100.0%
II (T1b,1c,1,2 N0 M0)	433	30.4%	651	45.7%	298	20.9%	41	2.9%	3	0.2%	1,426	100.0%
III (T3, N0, M0)	25	17.7%	62	44.0%	42	29.8%	9	6.4%	3	2.1%	141	100.0%
IV (T4 N0, M0; Any N1 Any ..	9	45.0%	5	25.0%	4	20.0%	2	10.0%			20	100.0%
Grand Total	472	29.6%	719	45.1%	344	21.6%	52	3.3%	6	0.4%	1,593	100.0%

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Pathological Staging by pre-operative PSA

P Stage	Pre-opPSA (group)										Grand Total	
	0 - 5		6-10		11-20		21-50		> 50			
	N	% Total	N	% Total	N	% Total	N	% Total	N	% Total	N	% Total
I	1	100.0%									1	100.0%
II	281	35.4%	366	46.1%	127	16.0%	18	2.3%	2	0.3%	794	100.0%
III	91	20.3%	200	44.5%	129	28.7%	28	6.2%	1	0.2%	449	100.0%
IV	25	52.1%	14	29.2%	8	16.7%			1	2.1%	48	100.0%
Grand Total	398	30.8%	580	44.9%	264	20.4%	46	3.6%	4	0.3%	1,292	100.0%

Gleason Sum scores by Age

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By Biopsy Gleason sum Score

Actual age a..	Gleason sum (group)						Grand Total	
	5-6		7		8-10			
	N	% Total	N	% Total	N	% Total	N	% Total
<60	213	37.8%	307	54.5%	43	7.6%	563	100.0%
60-64	196	34.6%	314	55.4%	57	10.1%	567	100.0%
65-69	213	35.1%	339	55.9%	54	8.9%	606	100.0%
70-74	61	26.4%	147	63.6%	23	10.0%	231	100.0%
75-79	6	35.3%	10	58.8%	1	5.9%	17	100.0%
>=80			1	100.0%			1	100.0%
Grand Total	689	34.7%	1,118	56.3%	178	9.0%	1,985	100.0%

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By Surgical specimen Gleason Sum score

Actual age a..	Surg Gleason sum (group)						Grand Total	
	5-6		7		8-10			
	N	% Total	N	% Total	N	% Total	N	% Total
<60	109	26.0%	279	66.6%	31	7.4%	419	100.0%
60-64	93	22.6%	282	68.6%	36	8.8%	411	100.0%
65-69	61	15.0%	302	74.4%	43	10.6%	406	100.0%
70-74	21	13.9%	113	74.8%	17	11.3%	151	100.0%
75-79			6	75.0%	2	25.0%	8	100.0%
Grand Total	284	20.4%	982	70.4%	129	9.2%	1,395	100.0%

Potency and Continence

13 Pre-operative vs. Post-operative Potency* * at latest follow-up

PreopPotency	postopotency									
	Fully Potent		Partially Potent		Impotent		Not recorded		Grand Total	
	N	%Total	N	%Total	N	%Total	N	%Total	N	%Total
Fully Potent	14	60.9%	60	55.0%	144	37.5%	569	34.5%	787	36.4%
Partially Potent	2	8.7%	26	23.9%	73	19.0%	225	13.7%	326	15.1%
Impotent	2	8.7%	3	2.8%	48	12.5%	151	9.2%	204	9.4%
Not recorded	5	21.7%	20	18.3%	119	31.0%	702	42.6%	846	39.1%
Grand Total	23	100.0%	109	100.0%	384	100.0%	1,647	100.0%	2,163	100.0%

14 Pre-operative vs. Post-operative Continence* * at latest follow-up

PreopContinence	postopcontinence													
	Complete		Minor Stress Leakage		1 Pad / day		>1 Pad / day		Appliance		Not recorded		Grand Total	
	N	%Total	N	%Total	N	%Total	N	%Total	N	%Total	N	%Total	N	%Total
Complete	197	83.8%	89	88.1%	101	86.3%	102	85.7%	9	81.8%	966	61.1%	1,464	67.7%
Minor Stress Leakage	11	4.7%	4	4.0%	1	0.9%	4	3.4%	1	9.1%	25	1.6%	46	2.1%
1 Pad / day											3	0.2%	3	0.1%
>1 Pad / day											1	0.1%	1	0.0%
Appliance	1	0.4%			1	0.9%	1	0.8%	1	9.1%			4	0.2%
Null	26	11.1%	8	7.9%	14	12.0%	12	10.1%			585	37.0%	645	29.8%
Grand Total	235	100.0%	101	100.0%	117	100.0%	119	100.0%	11	100.0%	1,580	100.0%	2,163	100.0%

Operating Surgeon & Joint Procedures

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Grade of Main Operating Surgeon

GradeSurgeon	Supervised training						Grand Total	
	Null		No		Yes			
	N	% Total	N	% Total	N	% Total	N	% Total
Consultant	191	9.7%	1,525	77.2%	260	13.2%	1,976	100.0%
SpR					45	100.0%	45	100.0%
Other			89	81.7%	20	18.3%	109	100.0%
Null	5	15.2%	23	69.7%	5	15.2%	33	100.0%
Grand Total	196	9.1%	1,637	75.7%	330	15.3%	2,163	100.0%

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Number of procedures carried out jointly with another consultant

GradeSurgeon	Jointprocedure	Supervised training						Grand Total	
		Null		No		Yes			
		N	% Total	N	% Total	N	% Total	N	% Total
Consultant	Null	155	15.4%	695	69.2%	154	15.3%	1,004	100.0%
	No	27	3.1%	754	87.9%	77	9.0%	858	100.0%
	Yes	9	7.9%	76	66.7%	29	25.4%	114	100.0%
	Total	191	9.7%	1,525	77.2%	260	13.2%	1,976	100.0%
SpR	Null					28	100.0%	28	100.0%
	No					14	100.0%	14	100.0%
	Yes					3	100.0%	3	100.0%
	Total					45	100.0%	45	100.0%
Other	Null			65	80.2%	16	19.8%	81	100.0%
	No			24	85.7%	4	14.3%	28	100.0%
	Total			89	81.7%	20	18.3%	109	100.0%
Null	Null	5	20.8%	15	62.5%	4	16.7%	24	100.0%
	No			5	83.3%	1	16.7%	6	100.0%
	Yes			3	100.0%			3	100.0%
	Total	5	15.2%	23	69.7%	5	15.2%	33	100.0%
Grand Total		196	9.1%	1,637	75.7%	330	15.3%	2,163	100.0%

Procedure

17 ASA Grade		
ASA Grade	N	%Total
1	718	33.2%
2	803	37.1%
3	60	2.8%
4	2	0.1%
Null	580	26.8%
Grand Total	2,163	100.0%

19 Surgical Technique Including number of conversions & reason if applicable			
		N	%Total
ORP	Null	477	22.1%
	Total	477	22.1%
LRP	Null	992	45.9%
	Adhesions	1	0.0%
	Failure to progress	9	0.4%
	Haemorrhage	3	0.1%
	Other	3	0.1%
	Total	1,008	46.6%
RALP	Null	362	16.7%
	Total	362	16.7%
Not recorded	Null	316	14.6%
	Total	316	14.6%
Grand Total		2,163	100.0%

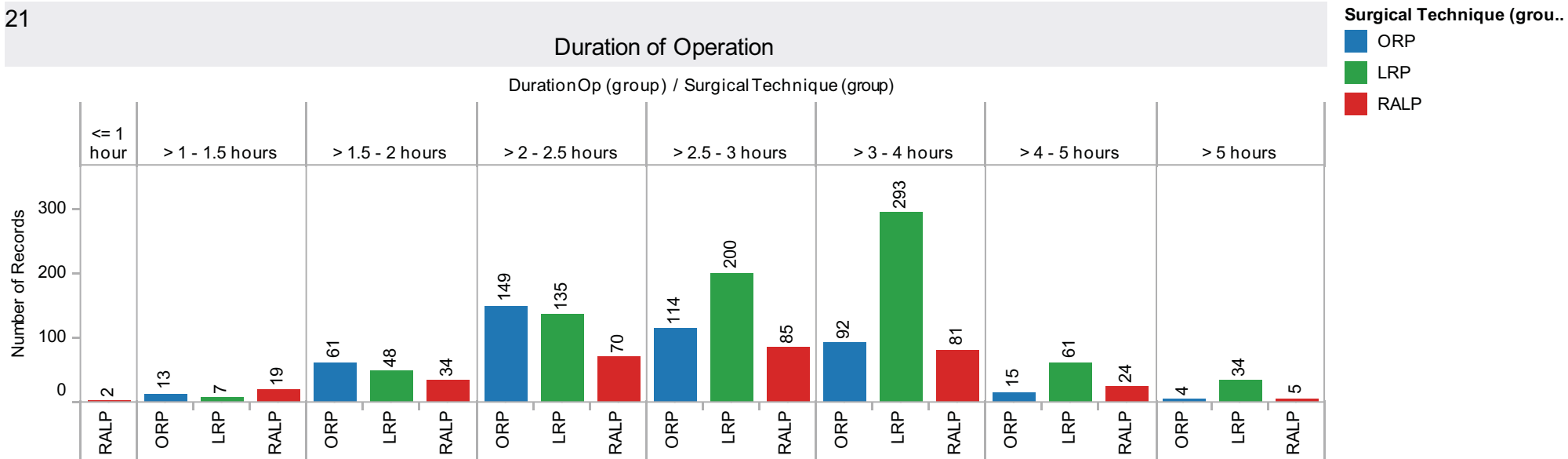
18 Nerve sparing		
	N	%Total
Bilateral	544	25.2%
Unilateral	297	13.7%
None	435	20.1%
Null	887	41.0%
Grand Total	2,163	100.0%

20 Lymph Node Dissection		
LND	N	%Total
Null	399.0	18.4%
None	1,105.0	51.1%
Obturator fossae	383.0	17.7%
Extended	170.0	7.9%
Yes (pre 2011 question)	106.0	4.9%
Grand Total	2,163.0	100.0%

Duration of Operation and Transfusion rates by Technique

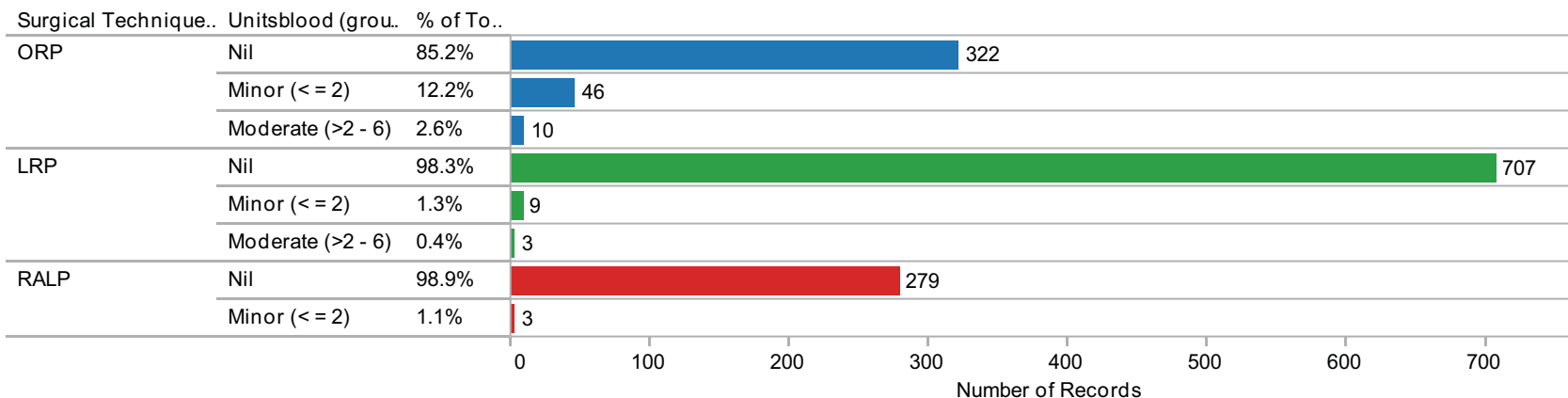
21

Duration of Operation



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Known Transfusion Rates



Complications

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Intra operative complications by technique

IntraopComps	Surgical Technique (group)						Grand Total	
	ORP		LRP		RALP			
	N	%Total	N	%Total	N	%Total	N	%Total
None	383	80.3%	705	69.9%	282	77.9%	1,370	74.2%
Adhesions					23	6.4%	23	1.2%
Difficult dissection	13	2.7%	17	1.7%	6	1.7%	36	1.9%
Difficult dissection; Adhesions	6	1.3%	2	0.2%			8	0.4%
Difficult dissection; Port complications			1	0.1%			1	0.1%
Difficult dissection; Robotic device failure					2	0.6%	2	0.1%
Haemorrhage / Bleeding	9	1.9%	123	12.2%	4	1.1%	136	7.4%
Haemorrhage / Bleeding; Difficult dissection	5	1.0%	2	0.2%			7	0.4%
Port complications			2	0.2%			2	0.1%
Rectal injury	1	0.2%	6	0.6%	1	0.3%	8	0.4%
Robotic device failure					3	0.8%	3	0.2%
Vascular injury					1	0.3%	1	0.1%
Null	60	12.6%	150	14.9%	40	11.0%	250	13.5%
Grand Total	477	100.0%	1,008	100.0%	362	100.0%	1,847	100.0%

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Post operative complications by technique

PostopComps (group)	Surgical Technique (group)						Grand Total	
	ORP		LRP		RALP			
	N	%Total	N	%Total	N	%Total	N	%Total
None	361	75.7%	705	69.9%	280	77.3%	1,346	72.9%
Anastomotic leak	2	0.4%	1	0.1%	1	0.3%	4	0.2%
Anastomotic leak; Ileus					1	0.3%	1	0.1%
Chest infection	2	0.4%					2	0.1%
Haematuria	5	1.0%					5	0.3%
Haemorrhage / Bleeding	1	0.2%	3	0.3%	4	1.1%	8	0.4%
Haemorrhage / Bleeding; Ileus					1	0.3%	1	0.1%
Ileus					2	0.6%	2	0.1%
infection					1	0.3%	1	0.1%
Pelvic haematoma			1	0.1%	1	0.3%	2	0.1%
Sepsis	3	0.6%	2	0.2%	2	0.6%	7	0.4%
Urine leak	9	1.9%	6	0.6%	6	1.7%	21	1.1%
PE / DVT			1	0.1%			1	0.1%
Wound infection	5	1.0%	89	8.8%	2	0.6%	96	5.2%
Other	8	1.7%	18	1.8%	11	3.0%	37	2.0%
Null	81	17.0%	182	18.1%	50	13.8%	313	16.9%
Grand Total	477	100.0%	1,008	100.0%	362	100.0%	1,847	100.0%

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Recorded Clavien Dindo grade of Complication by Surgical Technique

ClavienDindo	Surgical Technique (group)						Grand Total	
	ORP		LRP		RALP			
	N	%Total	N	%Total	N	%Total	N	%Total
Null	401	84.1%	940	93.3%	341	94.2%	1,682	91.1%
Grade I	60	12.6%	54	5.4%	15	4.1%	129	7.0%
Grade II	12	2.5%	9	0.9%	4	1.1%	25	1.4%
Grade IIIa	3	0.6%	3	0.3%	2	0.6%	8	0.4%
Grade IIIb			2	0.2%			2	0.1%
Grade IVa	1	0.2%					1	0.1%
Grand Total	477	100.0%	1,008	100.0%	362	100.0%	1,847	100.0%

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Number of Lymph nodes sampled vs. Number Positive

Number of Lymph nodes sampled	Number of positive lymph nodes						Grand Total	
	1-5		6-10		Null			
	N	%Total	N	%Total	N	%Total	N	%Total
1-5	1	6.3%			50	68.5%	51	56.7%
6-10	5	31.3%			15	20.5%	20	22.2%
11-20	8	50.0%	1	100.0%	8	11.0%	17	18.9%
> 20	2	12.5%					2	2.2%
Grand Total	16	100.0%	1	100.0%	73	100.0%	90	100.0%

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Stage and Technique Related Positive Surgical Margin Rates

PT stage	Surgic..	Positive margins			
		Yes		Grand Total	
		N	% Total	N	% Total
1	ORP			2	100.0%
	LRP	1	50.0%	2	100.0%
	Total	1	25.0%	4	100.0%
2	ORP	34	21.7%	157	100.0%
	LRP	67	18.6%	361	100.0%
	RALP	23	13.0%	177	100.0%
	Total	124	17.8%	695	100.0%
3	ORP	61	46.2%	132	100.0%
	LRP	81	46.3%	175	100.0%
	RALP	40	38.8%	103	100.0%
	Total	182	44.4%	410	100.0%
4	LRP	3	100.0%	3	100.0%
	Total	3	100.0%	3	100.0%
X	RALP	3	100.0%	3	100.0%
	Total	3	100.0%	3	100.0%
Grand Total		313	28.1%	1,115	100.0%

Status

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Current status at most recent Follow-up

	Time to FU								Grand Total	
	0 - 90		91 - 180		181 - 360		> 360			
	N	%Total	N	%Total	N	%Total	N	%Total	N	%Total
Alive with no evidence of prostate cancer	345	93.2%	147	93.6%	75	92.6%	5	100.0%	572	93.3%
Alive with local recurrence of prostate cancer	11	3.0%	5	3.2%	5	6.2%			21	3.4%
Alive with lymph node involvement by prostate cancer	2	0.5%	1	0.6%					3	0.5%
Alive with metastatic disease	1	0.3%	1	0.6%					2	0.3%
Not recorded	11	3.0%	3	1.9%	1	1.2%			15	2.4%
Grand Total	370	100.0%	157	100.0%	81	100.0%	5	100.0%	613	100.0%

Participating Hospital Centres 2011

We are grateful to consultants from the following Centres / trusts who returned data for these analyses:

Aberdeen Royal Infirmary	Leicester General Hospital	Royal United Hospital, Bath
Addenbrooke's Hospital	Lister Hospital; Queen Elizabeth II Hospital, Welwyn	Royal West Sussex NHS Trust, St Richard's Hospital
Arrowe Park Hospital	Medway Maritime Hospital	Salisbury District Hospital
Barnet & Chase Farm Hospital	Morrison Hospital	Southend University Hospital NHS Foundation Trust
Belfast City Hospital	New Cross Hospital, Wolverhampton	Southern General Hospital
Bristol Oncology Centre; United Bristol Health Care Trust	Norfolk & Norwich Hospital	Southport & Ormskirk NHS Trust
Churchill Hospital	North Bristol NHSTrust (Southmead)	St James's University Hospital
City Hospitals Sunderland NHS Foundation Trust	Northampton General Hospital	Stepping Hill Hospital
Colchester Hospital University NHS Foundation Trust	Northwick Park Hospital; Central Middlesex Hospital	Stirling Royal Infirmary / Forth Valley Royal
Darent Valley Hospital	Nottingham City Hospital	Taunton And Somerset Hospital
Derby Hospitals NHS Foundation Trust	Pinderfields Hospital	Torbay Hospital
Derriford Hospital	Portsmouth Hospitals NHS Trust	University College Hospital Galway
Dorset County Hospital	Queen Elizabeth Hospital, B'ham	University Hospital of North Stafford
Freeman Hospital	Queen Margaret Hospital	University Hospital Of Wales
Gartnavel General Hospital	Raigmore Hospital	Walsgrave Hospital
Glan Clwyd Hospital	Royal Devon And Exeter Hospital	Western General Hospital, Edinburgh
Guy's & Thomas's Hospital	Royal Hallamshire Hospital	Withington Hospital
Heatherwood & Wexham Park NHS Trust	Royal Liverpool University Hospital	Wrexham Maelor Hospital
Hereford Hospitals NHS Trust	Royal Preston Hospital	
	Royal Surrey County Hospital	