

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

Analyses of Nephrectomy Dataset

January 1st – 31st December 2012

June 2013

MEMBERS OF THE EXECUTIVE COMMITTEE

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GENERAL INTRODUCTION

As in previous years we are extremely grateful for Sarah Fowler's hard work to produce the 2012 complex operation datasets. This year the introduction of compulsory publication of individual surgeon's outcome data and the start of revalidation has underlined the importance of contributing to these national datasets.

Urologists performing nephrectomy will be the first to have their results published and this is reflected in the significant increase (240%) in returns for the nephrectomy dataset (from 2,382 in 2011 to 5,851 in 2012). We estimate this represents 75% of all nephrectomies carried out in England and emphasizes the need for all of us carrying out complex operations to record our results.

As a section our task now is to decide for each operation what constitutes a good outcome and what we use to measure this (ideally using no more than 1-2 outcome measures!) We can then make each dataset fit for this purpose whilst hopefully being easier to use by removing some unnecessary fields.

The datasets have evolved over time to incorporate new information (e.g. the Clavien-Dindo classification for complications) so that each now represents the most comprehensive and up to date national snapshot of that operation. However we can all help to improve them still further by recording all cases and collecting follow up data.

It is also worth reminding members that centre and individual results are available on request and would form a valuable tool for departmental audit and individual revalidation.

As always your feedback as section members is invaluable – please feel free to contact Sarah or myself with your suggestions.

Hugh Mostafid

June 2013

AUDIT RESULTS SUMMARY - Nephrectomy dataset (January 1st – December 31st 2012)

- 5851 Nephrectomies reported by 307 consultants from 136 centres (including 125 private patients from 34 consultants)
 - 92% of the data (5367/5851) was individually entered by hand as oppose to being bulk imported
 - 47% have 1 or more follow up
 - Median per consultant = 14, range 1 – 107
 - Median per centre = 35, range 1 – 231
 - 60% males (34545/5799 recorded); Median Age at operation = 64, range 7 - 95

How were the data analysed?

All the data presented here are a summary of the data extracted from the web-based database on 20th May 2013 and relate to operations performed during the whole of 2012. Once extracted the data was transferred to an Access™ database for validation before being imported into Tableau™ 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.

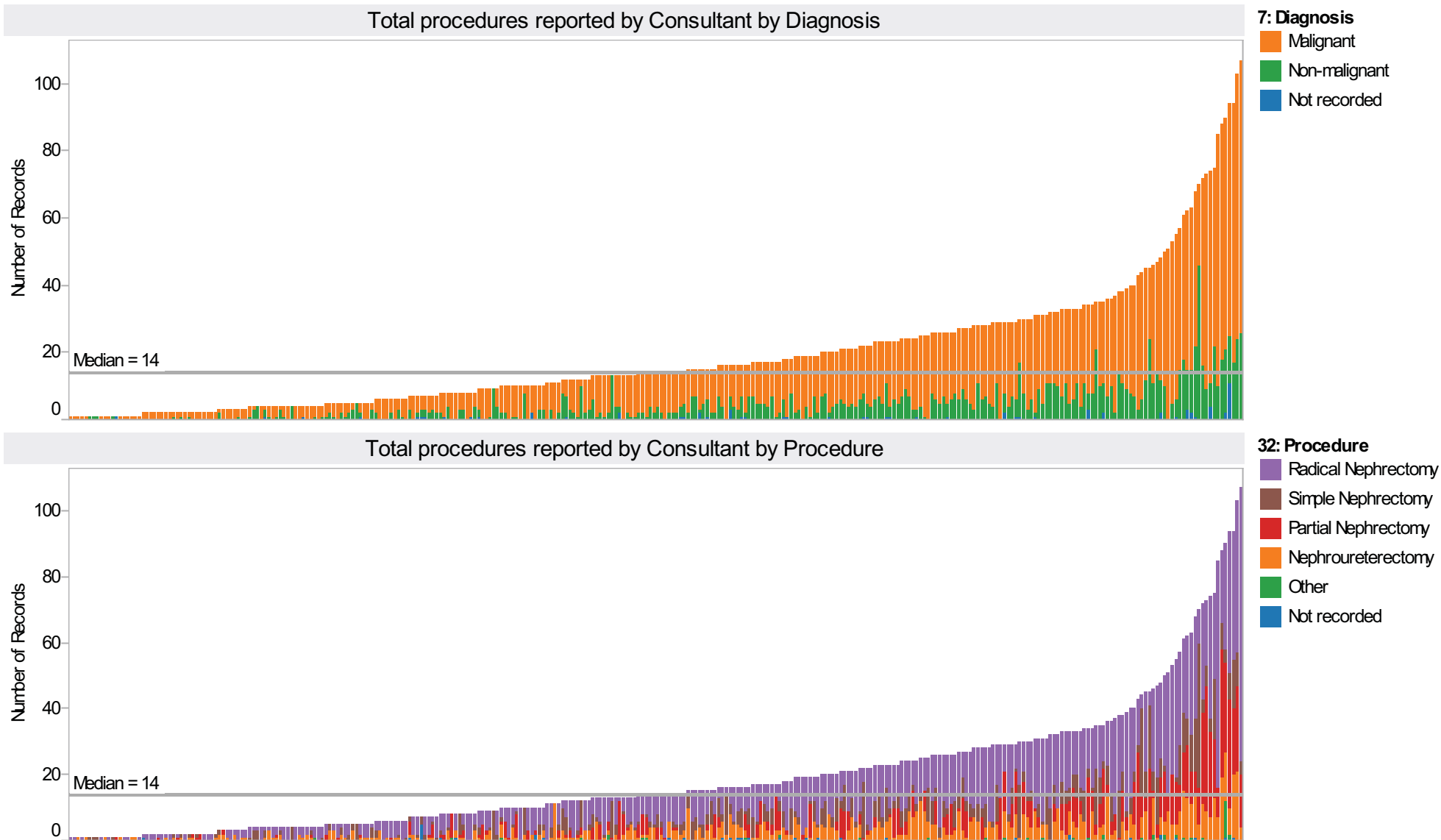
A personal ranking sheet for each consultant registering three or more tumours is available individually to go with this document. Centres or cancer networks that have returned sufficient data may request a copy of these analyses filtered to contain only that data.

Sarah Fowler
BAUS Data & Audit Project Manager

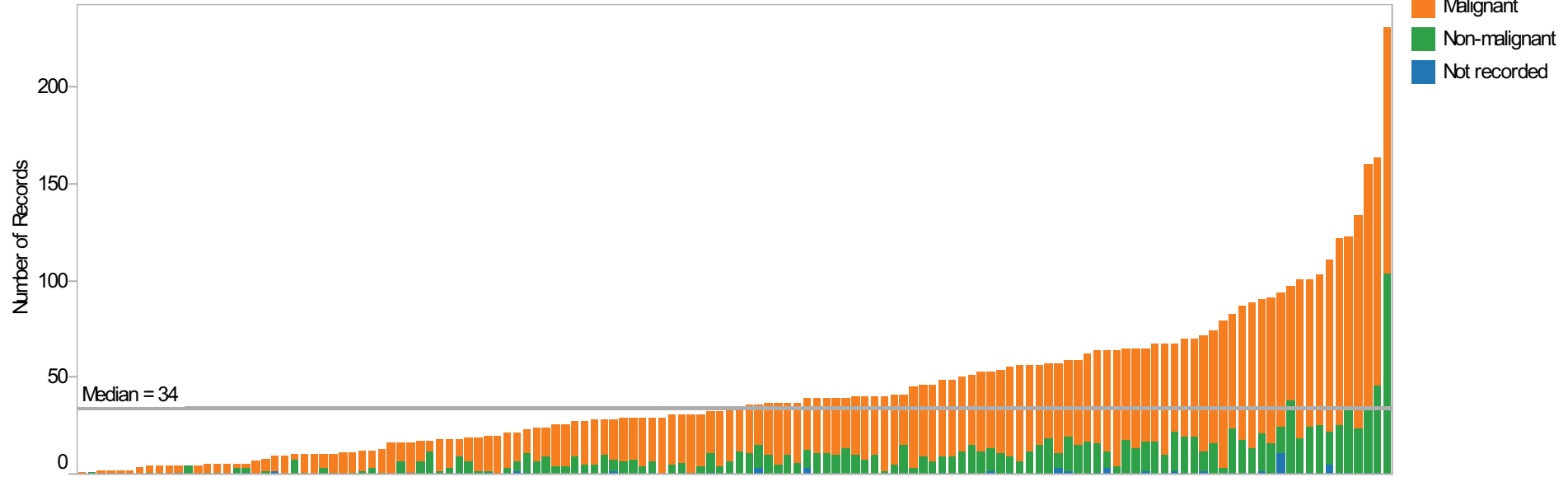
June 2013

Total Returns for Procedures performed between 01/01/2012 and 31/12/2012

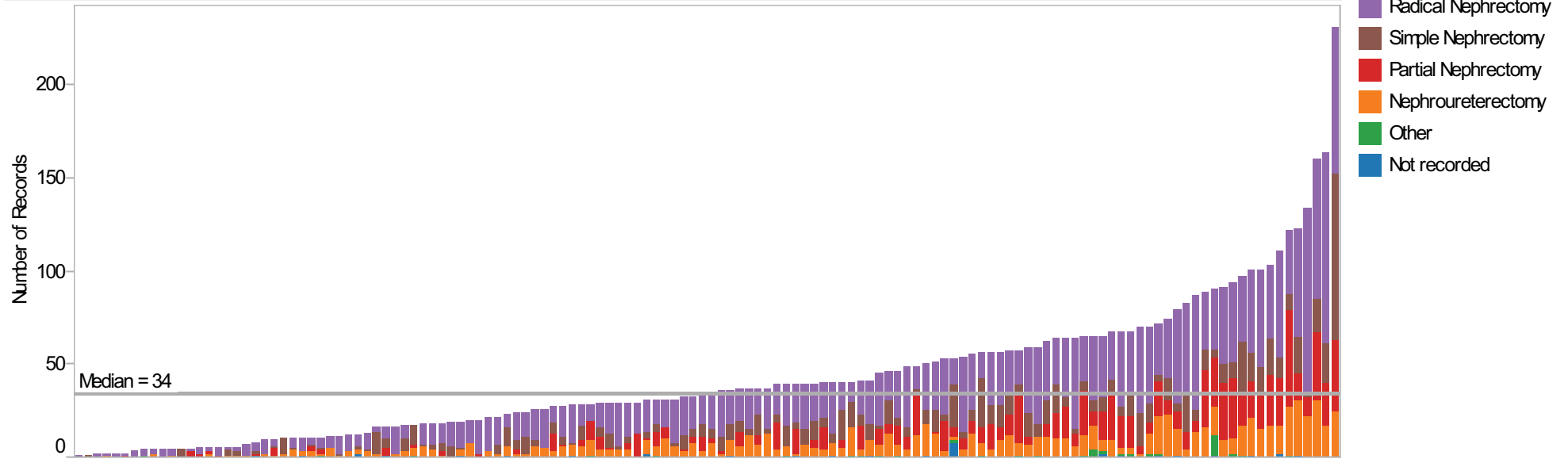
5851 procedures from 307 consultants at 136 centres in UK



Total procedures reported by Centre by Diagnosis

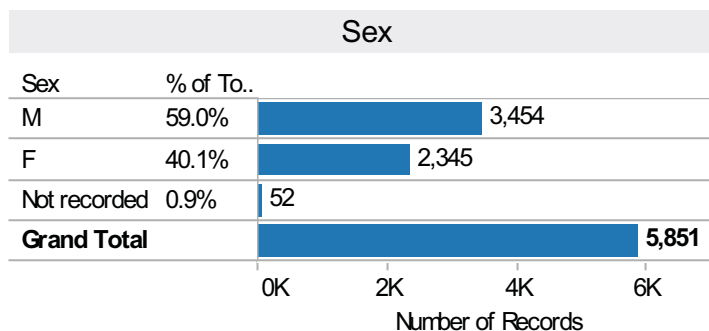


Total procedures reported by Centre by Procedure



To centres/cedures: 5851 from 307 consultants at 136 centres

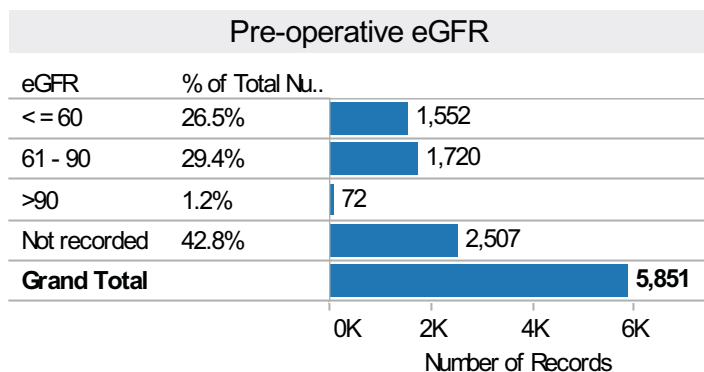
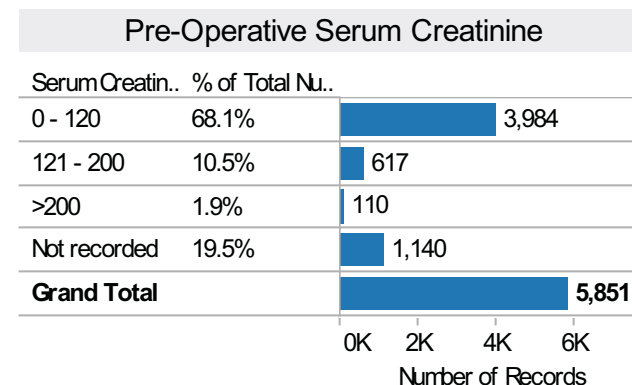
Pre-op Presentation		
4: Pre-Op Presentation	N	% Total
Hæmaturia	1,496	25.6%
Incidental finding with no symptoms	1,989	34.0%
Other	1,834	31.3%
Not recorded	532	9.1%
Grand Total	5,851	100.0%



Diagnosis		
7: Diagnosis	N	% Total
Malignant	3,957	75.5%
Non-malignant	1,223	23.3%
Not recorded	58	1.1%
Grand Total	5,238	100.0%

Malignant Diagnoses		
8: Malignant Diagnosis	N	% Total
Clear Cell Renal Cell ca	2,918	65.5%
TCC	756	17.0%
Sarcoma	15	0.3%
Papillary	246	5.5%
Chromophobe	135	3.0%
Collecting duct	10	0.2%
Other Cancer	85	1.9%
NA	290	6.5%
Grand Total	4,455	100.0%

Non-Malignant Diagnoses		
9: Non-malignant Diagnosis	N	% Total
Non-functioning kidney	505	38.1%
Stone disease	139	10.5%
Oncocytoma	196	14.8%
Being performed as a don..	81	6.1%
Polycystic	33	2.5%
Pyelonephritis	126	9.5%
Other	173	13.0%
Not recorded / NA	73	5.5%
Grand Total	1,326	100.0%

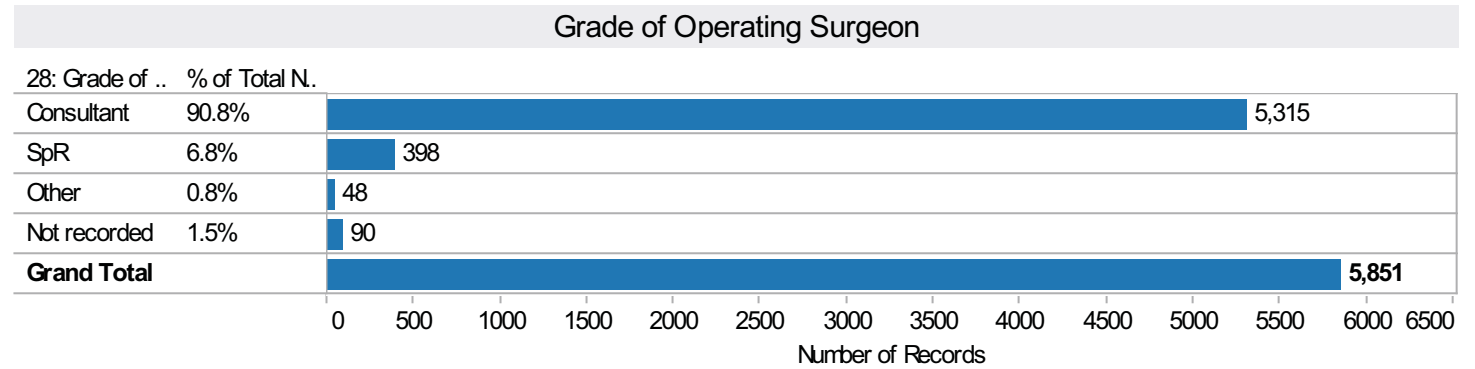


WHO Performance status		
19: WHO performance status	N	% Total
0	2,600	44.4%
1	1,630	27.9%
2	544	9.3%
3	95	1.6%
4	17	0.3%
Not recorded	965	16.5%
Grand Total	5,851	100.0%

Clinical T stage (malignancies)		
Clinical T stage	N	% Total
0	24	0.5%
a	71	1.6%
is	2	0.0%
1	2,015	45.2%
2	833	18.7%
3	624	14.0%
4	65	1.5%
X	166	3.7%
Not recorded	655	14.7%
Grand Total	4,455	100.0%

To centres/codes: 5851 from 307 consultants at 136 centres

Age		
Age at Operat..	N	% Total
0 - 40	492	8.5%
41 - 50	708	12.2%
51 - 60	1,140	19.7%
61 - 70	1,714	29.6%
71 - 80	1,350	23.3%
> 80	391	6.7%
Grand Total	5,795	100.0%



Procedure by Technique

32: Procedure	Open		Laparoscopic		48: Technique Hand Assisted		Not recorded		Grand Total	
	N	%	N	%	N	%	N	%	N	%
	Radical Nephrectomy	864	29.5%	1,947	66.6%	76	2.6%	37	1.3%	2,924
Partial Nephrectomy	593	59.2%	379	37.9%	13	1.3%	16	1.6%	1,001	100.0%
Simple Nephrectomy	139	14.9%	770	82.5%	9	1.0%	15	1.6%	933	100.0%
Nephroureterectomy	151	16.5%	730	79.7%	22	2.4%	13	1.4%	916	100.0%
Other	18	42.9%	22	52.4%			2	4.8%	42	100.0%
Not recorded	3	8.6%	10	28.6%			22	62.9%	35	100.0%
Grand Total	1,768	30.2%	3,858	65.9%	120	2.1%	105	1.8%	5,851	100.0%

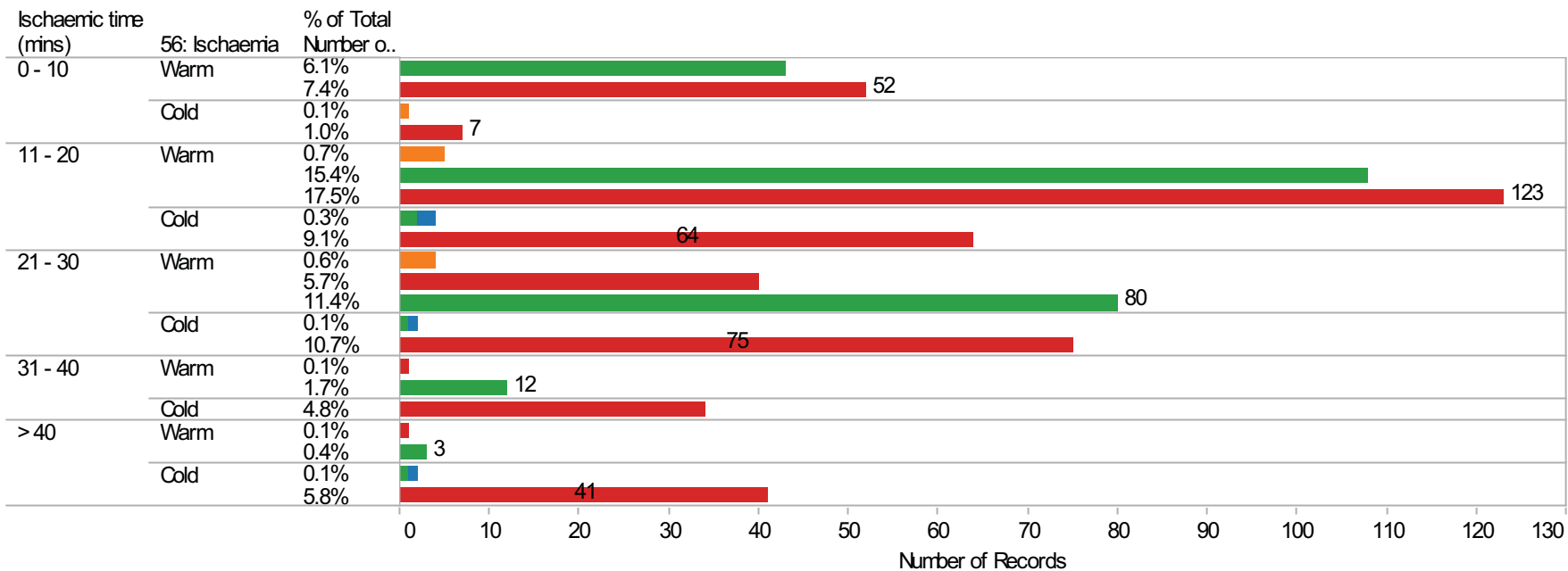
To centres/cedures: 5851 from 307 consultants at 136 centres

Indication for Partial Nephrectomies

37: If partial - Indication	Open		Laparoscopic		48: Technique Hand Assisted		Not recorded		Grand Total	
	N	% Total	N	% Total	N	% Total	N	% Total	N	% Total
Elective (<4.5cm, normal contralateral kidney)	304	51.3%	264	69.7%	9	69.2%	2	12.5%	579	57.8%
Imperative (bilateral, single kidney, renal impairm.)	101	17.0%	24	6.3%			2	12.5%	127	12.7%
Relative (small mass, normal renal function but p..)	43	7.3%	23	6.1%	1	7.7%	1	6.3%	68	6.8%
Elective (>4.5cm, normal contralateral kidney)	71	12.0%	27	7.1%	2	15.4%			100	10.0%
VHL	10	1.7%							10	1.0%
Not recorded	64	10.8%	41	10.8%	1	7.7%	11	68.8%	117	11.7%
Grand Total	593	100.0%	379	100.0%	13	100.0%	16	100.0%	1,001	100.0%

48: Technique
■ Not recorded
■ Hand Assisted
■ Laparoscopic
■ Open

Partial Nephrectomies - Ischaemia



To centres/cures: 5851 from 307 consultants at 136 centres

Tumour size by Procedure and Technique employed

32: Procedure

Maximum Diameter of T..	48: Technique	Radical Nephrectomy		Partial Nephrectomy		Simple Nephrectomy		Nephroureterectomy		Other		Grand Total	
		N	% Total	N	% Total	N	% Total	N	% Total	N	% Total	N	% Total
0 - 4.9	Open	60	2.1%	319	32.4%			39	4.3%	1	2.5%	419	7.3%
	Laparoscopic	530	18.4%	229	23.2%	28	3.1%	318	35.2%	9	22.5%	1,114	19.4%
	Hand Assisted	16	0.6%	6	0.6%			13	1.4%			35	0.6%
5 - 6.9	Open	72	2.5%	59	6.0%			21	2.3%	1	2.5%	153	2.7%
	Laparoscopic	466	16.1%	14	1.4%	8	0.9%	68	7.5%			556	9.7%
	Hand Assisted	19	0.7%	1	0.1%			2	0.2%			22	0.4%
> 7	Open	532	18.4%	35	3.6%	2	0.2%	21	2.3%	6	15.0%	596	10.4%
	Laparoscopic	468	16.2%	14	1.4%	7	0.8%	52	5.8%			541	9.4%
	Hand Assisted	36	1.2%					1	0.1%			37	0.6%
Not recorded	Open	200	6.9%	180	18.3%	137	14.9%	70	7.8%	10	25.0%	597	10.4%
	Laparoscopic	483	16.7%	122	12.4%	727	79.2%	292	32.3%	13	32.5%	1,637	28.6%
	Hand Assisted	5	0.2%	6	0.6%	9	1.0%	6	0.7%			26	0.5%
Grand Total		2,887	100.0%	985	100.0%	918	100.0%	903	100.0%	40	100.0%	5,733	100.0%

Operating Time by Procedure & Technique

32: Procedure

59: Operating time (skin to s..	48: Technique	Radical Nephrectomy		Partial Nephrectomy		Simple Nephrectomy		Nephroureterectomy		Grand Total	
		N	% Total	N	% Total	N	% Total	N	% Total	N	% Total
< 60 mins	Open	6	0.2%	18	2.1%	4	0.5%	1	0.1%	29	0.6%
	Laparoscopic	42	1.7%	3	0.4%	19	2.5%	4	0.5%	68	1.4%
	Hand Assisted	1	0.0%							1	0.0%
1 - 2 hours	Open	141	5.7%	188	22.4%	37	4.8%	10	1.3%	376	7.7%
	Laparoscopic	511	20.6%	80	9.5%	254	33.0%	55	7.1%	900	18.5%
	Hand Assisted	34	1.4%	4	0.5%	7	0.9%	6	0.8%	51	1.1%
2 - 3 hours	Open	304	12.3%	226	26.9%	39	5.1%	44	5.7%	613	12.6%
	Laparoscopic	711	28.7%	160	19.1%	256	33.3%	209	27.1%	1,336	27.5%
	Hand Assisted	32	1.3%	7	0.8%	2	0.3%	12	1.6%	53	1.1%
3 - 4 hours	Open	189	7.6%	54	6.4%	16	2.1%	32	4.2%	291	6.0%
	Laparoscopic	318	12.8%	57	6.8%	90	11.7%	196	25.4%	661	13.6%
	Hand Assisted	5	0.2%	1	0.1%			2	0.3%	8	0.2%
4 - 6 hours	Open	69	2.8%	15	1.8%	3	0.4%	27	3.5%	114	2.3%
	Laparoscopic	96	3.9%	22	2.6%	38	4.9%	154	20.0%	310	6.4%
	Hand Assisted	1	0.0%							1	0.0%
> 6 hours	Open	13	0.5%	2	0.2%	1	0.1%	6	0.8%	22	0.5%
	Laparoscopic	2	0.1%	2	0.2%	3	0.4%	13	1.7%	20	0.4%
	Hand Assisted	1	0.0%							1	0.0%
Grand Total		2,476	100.0%	839	100.0%	769	100.0%	771	100.0%	4,855	100.0%

To centres/cures: 5851 from 307 consultants at 136 centres

Blood Loss by Procedure & Technique

32: Procedure

61: Measured blood loss (ml..)	48: Technique	Radical Nephrectomy		Partial Nephrectomy		Simple Nephrectomy		Nephroureterectomy		Grand Total	
		N	% Total	N	% Total	N	% Total	N	% Total	N	% Total
< 500	Open	383	16.2%	384	46.2%	80	10.7%	75	10.4%	922	19.7%
	Laparoscopic	1,476	62.3%	289	34.7%	600	80.3%	520	71.9%	2,885	61.8%
	Hand Assisted	74	3.1%	11	1.3%	8	1.1%	20	2.8%	113	2.4%
> 500 - 1000	Open	161	6.8%	72	8.7%	17	2.3%	25	3.5%	275	5.9%
	Laparoscopic	81	3.4%	39	4.7%	26	3.5%	50	6.9%	196	4.2%
	Hand Assisted	1	0.0%							1	0.0%
> 1000 - 2000	Open	82	3.5%	19	2.3%	3	0.4%	12	1.7%	116	2.5%
	Laparoscopic	32	1.4%	10	1.2%	7	0.9%	13	1.8%	62	1.3%
	Hand Assisted			1	0.1%	1	0.1%	1	0.1%	3	0.1%
> 2000 - 5000	Open	55	2.3%	5	0.6%	3	0.4%	3	0.4%	66	1.4%
	Laparoscopic	9	0.4%	2	0.2%	2	0.3%	3	0.4%	16	0.3%
	Hand Assisted	1	0.0%							1	0.0%
> 5000	Open	13	0.5%							13	0.3%
	Laparoscopic	2	0.1%					1	0.1%	3	0.1%
Grand Total		2,370	100.0%	832	100.0%	747	100.0%	723	100.0%	4,672	100.0%

Blood Transfused by Procedure & Technique

63: Number of units of blood transfused during surgica

48: Technique	32: Procedure	Nil		Mnor (<= 2)		Mderate (>2 - 6)		Major (> 6)		Grand Total	
		N	%	N	%	N	%	N	%	N	%
Open	Radical Nephrectomy	512	72.0%	101	14.2%	74	10.4%	24	3.4%	711	100.0%
	Partial Nephrectomy	473	96.3%	7	1.4%	8	1.6%	3	0.6%	491	100.0%
	Simple Nephrectomy	102	90.3%	6	5.3%	5	4.4%			113	100.0%
	Nephroureterectomy	93	77.5%	14	11.7%	12	10.0%	1	0.8%	120	100.0%
	Total	1,180	82.2%	128	8.9%	99	6.9%	28	2.0%	1,435	100.0%
Laparoscopic	Radical Nephrectomy	1,659	95.0%	54	3.1%	29	1.7%	4	0.2%	1,746	100.0%
	Partial Nephrectomy	347	96.7%	5	1.4%	6	1.7%	1	0.3%	359	100.0%
	Simple Nephrectomy	675	96.4%	15	2.1%	9	1.3%	1	0.1%	700	100.0%
	Nephroureterectomy	611	93.7%	27	4.1%	12	1.8%	2	0.3%	652	100.0%
	Total	3,292	95.2%	101	2.9%	56	1.6%	8	0.2%	3,457	100.0%
Hand Assisted	Radical Nephrectomy	72	94.7%	3	3.9%			1	1.3%	76	100.0%
	Partial Nephrectomy	11	91.7%	1	8.3%					12	100.0%
	Simple Nephrectomy	8	88.9%	1	11.1%					9	100.0%
	Nephroureterectomy	21	100.0%							21	100.0%
	Total	112	94.9%	5	4.2%			1	0.8%	118	100.0%
Grand Total		4,584	91.5%	234	4.7%	155	3.1%	37	0.7%	5,010	100.0%

To centres/cures: 5851 from 307 consultants at 136 centres

Conversions

		32: Procedure								Grand Total	
48: Technique	53: Conversion Reason	Radical Nephrectomy		Partial Nephrectomy		Simple Nephrectomy		Nephroureterectomy		N	%
		N	%	N	%	N	%	N	%		
Laparoscopic	Not recorded	10	50.0%	4	20.0%	3	15.0%	3	15.0%	20	100.0%
	Adhesions	10	58.8%	2	11.8%	4	23.5%	1	5.9%	17	100.0%
	Bowel perforation	1	25.0%	1	25.0%			2	50.0%	4	100.0%
	Difficult dissection	22	44.0%	4	8.0%	12	24.0%	12	24.0%	50	100.0%
	Failure to progress	9	30.0%	3	10.0%	13	43.3%	5	16.7%	30	100.0%
	Haemorrhage	31	62.0%	3	4.0%	9	18.0%	8	16.0%	50	100.0%
	Other	13	54.2%	1	4.2%			10	41.7%	24	100.0%
	Patient obesity	2	100.0%							2	100.0%
	Size of tumour / mass	14	77.8%			2	11.1%	2	11.1%	18	100.0%
	Total		112	52.1%	17	7.9%	43	20.0%	43	20.0%	215
Hand Assisted	Not recorded					1	100.0%			1	100.0%
	Failure to progress	1	100.0%							1	100.0%
	Other					1	100.0%			1	100.0%
Total		1	33.3%			2	66.7%			3	100.0%
Grand Total		113	51.8%	17	7.8%	45	20.6%	43	19.7%	218	100.0%

Clavien Dindo Grade of Complication(s)

		48: Technique						Grand Total	
69: Clavien-Dindo grade(s) of comp..	32: Procedure	Open		Laparoscopic		Hand Assisted		N	% Total
		N	% Total	N	% Total	N	% Total		
Grade I	Radical Nephrectomy	31	8.1%	97	17.3%	1	9.1%	129	13.5%
	Partial Nephrectomy	32	8.4%	14	2.5%			46	4.8%
	Simple Nephrectomy	3	2.1%	27	4.8%	1	9.1%	31	3.2%
	Nephroureterectomy	1	2.1%	34	6.1%			35	3.6%
Grade II	Radical Nephrectomy	5	14.7%	95	17.0%	1	9.1%	101	10.5%
	Partial Nephrectomy	2	5.3%	20	3.6%			22	2.3%
	Simple Nephrectomy	1	2.6%	8	1.4%	1	9.1%	10	1.0%
Grade IIIa	Radical Nephrectomy	1	2.6%	10	1.8%	1	9.1%	12	1.2%
	Partial Nephrectomy	10	26.3%	1	0.2%			11	1.1%
	Simple Nephrectomy	2	5.3%	1	0.2%			3	0.3%
Grade IIIb	Radical Nephrectomy	1	2.6%	10	1.8%	1	9.1%	12	1.2%
	Partial Nephrectomy	1	2.6%	1	0.2%			2	0.2%
	Simple Nephrectomy	1	2.6%	1	0.2%			2	0.2%
Grade IVa	Radical Nephrectomy	1	2.6%	9	1.6%	1	9.1%	11	1.1%
	Partial Nephrectomy	3	7.9%	1	0.2%			4	0.4%
	Simple Nephrectomy	2	5.3%	4	0.7%			6	0.6%
Grade IVb	Radical Nephrectomy	1	2.6%	5	0.9%			6	0.6%
	Partial Nephrectomy	2	5.3%			1	9.1%	3	0.3%
	Simple Nephrectomy								
Grade V (death)	Radical Nephrectomy	7	1.8%	1	0.2%			8	0.8%
	Partial Nephrectomy			1	0.2%			1	0.1%
	Simple Nephrectomy	3	0.8%	2	0.4%			5	0.5%
	Nephroureterectomy	2	5.3%	2	0.4%			4	0.4%
Not recorded	Radical Nephrectomy	4	10.5%	5	0.9%	1	9.1%	10	1.0%
	Partial Nephrectomy	2	5.3%	3	0.5%			5	0.5%
	Simple Nephrectomy	1	2.6%	2	0.4%	1	9.1%	4	0.4%
	Nephroureterectomy	1	2.6%	6	1.1%	1	9.1%	8	0.8%
Grand Total		382	100.0%	560	100.0%	11	100.0%	953	100.0%

To centres/codes: 5851 from 307 consultants at 136 centres

Intra-operative Complications

48: Technique

65: Intraoperative..	32: Procedure	Open		Laparoscopic		Hand Assisted		Grand Total	
		N	% Total	N	% Total	N	% Total	N	% Total
Yes	Radical Nephrectomy	87	5.0%	84	2.2%	1	0.8%	172	3.0%
	Partial Nephrectomy	36	2.1%	12	0.3%			48	0.8%
	Simple Nephrectomy	13	0.7%	31	0.8%	1	0.8%	45	0.8%
	Nephroureterectomy	16	0.9%	30	0.8%			46	0.8%
	Total	152	8.7%	157	4.1%	2	1.7%	311	5.5%
No	Radical Nephrectomy	717	41.0%	1,681	43.9%	74	61.7%	2,472	43.4%
	Partial Nephrectomy	535	30.6%	348	9.1%	13	10.8%	896	15.7%
	Simple Nephrectomy	117	6.7%	708	18.5%	8	6.7%	833	14.6%
	Nephroureterectomy	122	7.0%	657	17.2%	22	18.3%	801	14.1%
	Total	1,491	85.3%	3,394	88.7%	117	97.5%	5,002	87.9%
Not recorded	Radical Nephrectomy	60	3.4%	182	4.8%	1	0.8%	243	4.3%
	Partial Nephrectomy	22	1.3%	19	0.5%			41	0.7%
	Simple Nephrectomy	9	0.5%	31	0.8%			40	0.7%
	Nephroureterectomy	13	0.7%	43	1.1%			56	1.0%
	Total	104	6.0%	275	7.2%	1	0.8%	380	6.7%
Grand Total		1,747	100.0%	3,826	100.0%	120	100.0%	5,693	100.0%

Post-operative Complications

48: Technique

67: Postoperative..	32: Procedure	Open		Laparoscopic		Hand Assisted		Grand Total	
		N	% Total	N	% Total	N	% Total	N	% Total
Yes	Radical Nephrectomy	120	6.9%	209	5.5%	5	4.2%	334	5.9%
	Partial Nephrectomy	96	5.5%	60	1.6%			156	2.7%
	Simple Nephrectomy	28	1.6%	54	1.4%	3	2.5%	85	1.5%
	Nephroureterectomy	35	2.0%	115	3.0%	2	1.7%	152	2.7%
	Total	279	16.0%	438	11.4%	10	8.3%	727	12.8%
No	Radical Nephrectomy	646	37.0%	1,486	38.8%	71	59.2%	2,203	38.7%
	Partial Nephrectomy	436	25.0%	297	7.8%	13	10.8%	746	13.1%
	Simple Nephrectomy	99	5.7%	668	17.5%	6	5.0%	773	13.6%
	Nephroureterectomy	95	5.4%	562	14.7%	20	16.7%	677	11.9%
	Total	1,276	73.0%	3,013	78.8%	110	91.7%	4,399	77.3%
Not recorded	Radical Nephrectomy	98	5.6%	252	6.6%			350	6.1%
	Partial Nephrectomy	61	3.5%	22	0.6%			83	1.5%
	Simple Nephrectomy	12	0.7%	48	1.3%			60	1.1%
	Nephroureterectomy	21	1.2%	53	1.4%			74	1.3%
	Total	192	11.0%	375	9.8%			567	10.0%
Grand Total		1,747	100.0%	3,826	100.0%	120	100.0%	5,693	100.0%

To centres/cures: 5851 from 307 consultants at 136 centres

Length of stay						
48: Technique	32: Procedure	N	% Total	Median length of ..	Min. length of stay	Max. length of ..
Open	Radical Nephrectomy	753	14.6%	7	0	66
	Simple Nephrectomy	115	2.2%	6	2	72
	Partial Nephrectomy	518	10.1%	5	0	63
	Nephroureterectomy	136	2.6%	8	1	109
	Other	13	0.3%	7	4	40
	Not recorded	2	0.0%	6	5	7
	Total	1,537	29.9%	6	0	109
Laparoscopic	Radical Nephrectomy	1,720	33.4%	4	0	125
	Simple Nephrectomy	688	13.4%	3	0	62
	Partial Nephrectomy	341	6.6%	4	0	71
	Nephroureterectomy	662	12.9%	5	0	70
	Other	22	0.4%	3	1	27
	Not recorded	9	0.2%	4	2	7
	Total	3,442	66.9%	4	0	125
Hand Assisted	Radical Nephrectomy	74	1.4%	4	1	21
	Simple Nephrectomy	8	0.2%	6	1	15
	Partial Nephrectomy	13	0.3%	1	1	8
	Nephroureterectomy	20	0.4%	5	3	34
	Total	115	2.2%	4	1	34
Not recorded	Radical Nephrectomy	16	0.3%	7	2	12
	Simple Nephrectomy	8	0.2%	6	2	12
	Partial Nephrectomy	7	0.1%	4	3	8
	Nephroureterectomy	12	0.2%	11	4	17
	Other	1	0.0%	14	14	14
	Not recorded	5	0.1%	3	1	25
	Total	49	1.0%	6	1	25
Grand Total	5,143	100.0%	5	0	125	

Nuclear Grade of Parenchymal tumours								
79: Nuclear grade	80: Margins						Grand Total	
	Positive		Negative		Not recorded			
	N	% Total	N	% Total	N	% Total	N	% Total
G1	4	2.2%	154	5.5%	4	1.0%	162	4.8%
G2	42	23.1%	1,142	40.5%	36	8.9%	1,220	35.8%
G3	73	40.1%	1,006	35.6%	31	7.7%	1,110	32.6%
G4	50	27.5%	303	10.7%	16	4.0%	369	10.8%
Not recorded	13	7.1%	217	7.7%	318	78.5%	548	16.1%
Grand Total	182	100.0%	2,822	100.0%	405	100.0%	3,409	100.0%

Grade of Urothelial Tumours		
83: Grade of tumour (uroth..)	N	% Total
G1	34	4.5%
G2	230	30.4%
G3	375	49.6%
Null	117	15.5%
Grand Total	756	100.0%

Follow - up

Late Complications at most recent Follow-up (all cases)

38: Late complicat..	N	% Total
None	2,281	85.7%
Wound	26	1.0%
Wound hernia	28	1.1%
DVT	2	0.1%
Renal impairment	97	3.6%
Other	89	3.3%
Nbt recorded	95	3.6%
Wound pain	43	1.6%
Grand Total	2,661	100.0%

Intervention at most recent Follow-up (Malignancies only)

28: Intervention / adjuvant ..	N	% Total
None	1,752	83.2%
Excision local recurrence	7	0.3%
Hormone therapy	2	0.1%
Hormone therapy; Radiation	1	0.0%
Immunotherapy	66	3.1%
Radiation	15	0.7%
Metatasectomy	4	0.2%
Not recorded	92	4.4%
Other	166	7.9%
Grand Total	2,105	100.0%

Status at most recent Follow-up (Malignancies)

47: Current Status	Time to most recent FU (months)						Grand Total	
	< 6 months		≥ 6 months		No Follow up recorded			
	N	% of Total Number o..	N	% of Total Number o..	N	% of Total Number o..	N	% of Total Number o..
Alive with no evidence of renal cancer	1,102	24.7%	709	15.9%	36	0.8%	1,847	41.5%
Alive with local recurrence of renal cancer	9	0.2%	12	0.3%			21	0.5%
Alive with lymph node involvement by renal c..	21	0.5%	9	0.2%	1	0.0%	31	0.7%
Alive with metastatic disease	83	1.9%	86	1.9%	2	0.0%	171	3.8%
Nbt recorded	37	0.8%	21	0.5%	2,308	51.8%	2,366	53.1%
Dead	11	0.2%	5	0.1%	3	0.1%	19	0.4%
Grand Total	1,263	28.4%	842	18.9%	2,350	52.7%	4,455	100.0%

Participating Hospital Centres 2012

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

Aberdeen Royal Infirmary	Colchester Hospital University NHS Foundation Trust	Hereford Hospitals NHS Trust
Addenbrooke's Hospital	Cwm-Taf LHB (Royal Glamorgan/Prince Charles)	Huddersfield Royal Infirmary
Aintree Hospital NHS Foundation Trust	Darent Valley Hospital	Imperial College Healthcare NHS Trust
Airedale General Hospital	Derby Hospitals NHS Foundation Trust	James Cook University Hospital
Alexandra Hospital; Kidderminster General Hospital; Worcester Royal Infirmary	Derriford Hospital	James Paget University Hospital
Altnagelvin Area Hospital	Doncaster & Bassetlaw Hospitals NHS Trust	Kent & Canterbury Hospital
Arrowe Park Hospital	Dorset County Hospital	Kettering General Hospital
Ashford Hospital; St Peter's Hospital	Dudley Group of Hospitals NHS Trust	King George Hospital
Barnet & Chase Farm Hospital	East Lancashire Hospitals NHS Trust	King's College Hospital
Basildon Hospital	East Surrey Hospital	King's Mill Hospital
Bedford Hospital	East Sussex Hospitals NHS Trust	Kingston Hospital
Belfast City Hospital	Epsom and St Helier University Hospitals	Leicester General Hospital
Blackpool Victoria Hospital	Freeman Hospital	Leighton Hospital
Bradford Teaching Hospitals	Frimley Park Hospital	Lincoln & Louth NHS Trust
Broomfield Hospital	George Eliot Hospital	Lister Hospital; Queen Elizabeth II Hospital, Welwyn
Buckinghamshire Hospitals NHS Trust	Glan Clwyd Hospital	Luton & Dunstable Hospital
Castle Hill Hospital	Gloucestershire Royal Hospital	Maidstone & Tunbridge Wells NHS Trust
Causeway Hospital	Great Western Hospital, Swindon	Manchester Royal Infirmary
Chelsea & Westminster Hospital	Guy's & Thomas's Hospital	Medway Maritime Hospital
Cheltenham General Hospital	Heart of England NHS Foundation Trust	New Cross Hospital, Wolverhampton
Churchill Hospital	Heatherwood & Wexham Park NHS Trust	Noble's Isle of Man Hospital
City Hospital NHS Trust B'ham	Hemel Hempstead General Hospital; Mount Vernon & Watford Hospitals	Norfolk & Norwich Hospital
City Hospitals Sunderland NHS Foundation Trust		North Bristol NHS Trust (Southmead)
		North Cumbria University Hospitals

North Hampshire Hospital
North Manchester General Hospital
North Middlesex Hospital
Northampton General Hospital
Northern Lincolnshire & Goole Hospitals NHS Foundation Trust
Northwick Park Hospital; Central Middlesex Hospital
Nottingham City Hospital
Pinderfields Hospital
Portsmouth Hospitals NHS Trust
Princess Elizabeth Hospital, Guernsey
Private Patients General Centre
Queen Elizabeth Hospital, B'ham
Queen Elizabeth Hospital, King's Lynn
Queen Margaret Hospital
Raigmore Hospital
Rotherham NHS Foundation Trust
Royal Alexandra Hospital (Paisley)
Royal Berkshire NHS Foundation Trust
Royal Bolton Hospital NHS Foundation Trust
Royal Bournemouth Hospital
Royal Cornwall Hospital
Royal Devon And Exeter Hospital
Royal Free Hampstead NHS Trust

Royal Hallamshire Hospital
Royal Hampshire County Hospital
Royal Liverpool University Hospital
Royal Marsden Hospital
Royal Preston Hospital
Royal Shrewsbury Hospital
Royal Surrey County Hospital
Royal Sussex County Hospital
Royal United Hospital, Bath
Royal West Sussex NHS Trust, St Richard's Hospital
Salford Royal NHS Foundation Trust
Salisbury District Hospital
Sandwell District General Hospital
Scarborough Hospital
South Tyneside General Hospital
Southampton General Hospital
Southend University Hospital NHS Foundation Trust
Southern General Hospital
Southport & Ormskirk NHS Trust
St George's Hospital
St James's University Hospital
St Mary's Hospital, IOW
Stepping Hill Hospital

Stracathro Hospital; Perth Royal Infirmary;
Ninewells Hospital
Taunton And Somerset Hospital
The Ipswich Hospital
Torbay Hospital
University College Hospital London
University Hospital of North Stafford
University Hospital Of Wales
Victoria Hospital, Kirkcaldy
Walsgrave Hospital (UNIVERSITY HOSPITALS COVENTRY AND WARWICKSHIRE NHS TRUST)
Warrington District General Hospital
West Suffolk Hospital
Western General Hospital, Edinburgh
Whipps Cross Hospital
Whiston Hospital
Whittington Hospital
Withington Hospital
Worthing Hospital
Wrexham Maelor Hospital
Wrightington, Wigan and Leigh NHS Foundation Trust
Wythenshawe Hospital
York District Hospital
Ysbyty Gwynedd Hospital