

## THE BRITISH ASSOCIATION OF

# **UROLOGICAL SURGEONS Section of Oncology**

**Analyses of Radical Prostatectomies performed between** 

January 1st and December 31st 2019

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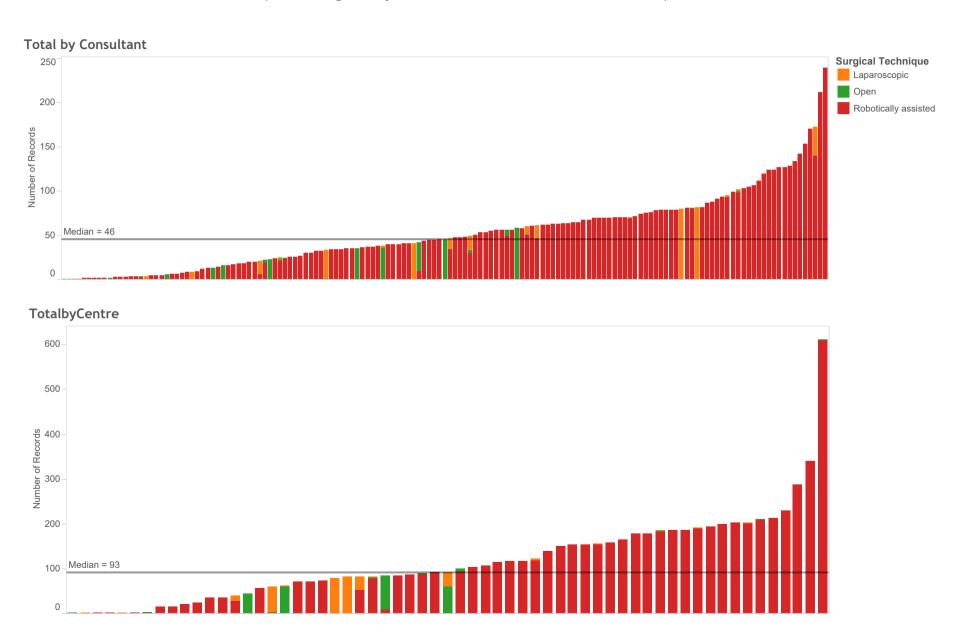
#### **AUDIT RESULTS SUMMARY – Radical Prostatectomy dataset**

All the data presented here are a summary of the data extracted from the web-based database on 30<sup>th</sup> June 2020 and relate to operations performed during the whole of 2019. Once extracted the data was transferred to an Access<sup>TM</sup> database for validation before being imported into Tableau<sup>TM</sup> for generation of the analyses. The validation mainly comprised checks for duplicate and / or empty entries and invalid / inappropriate dates.

The data collection period was from 1 January 2019 to 31 December 2019.

- 7,913 cases were submitted in total, of which 7,298 were from England (6,587 NHS funded); these 7,913 cases came from 149 consultants at 61 NHS sites and include 754 private patients from 67 consultants.
- Median number of cases per consultant: 46 (range 1 240)
- Median number of cases per centre: 93 (range 1 611)
- The overall transfusion rate was 0.2% By technique, the transfusion rates were: open 0.0%, laparoscopic 0.3% and robotic 0.17%.
- 7,160 of the entries recorded whether there had been adverse post operative events. The total post-operative complication rate was **6.6%** (469/7160). Of these 469 cases, 467 recorded the Clavien Dindo grade (i.e. 2 or 0.4% did not). Complications classified as Clavien Dindo Grade III or above were seen in **1.3%** of cases.
- Hospital Episode Statistics (HES) for 2019 indicate that there were 7,935 radical prostatectomies undertaken in England so we collected data on 83% of the NHS funded radical prostatectomies undertaken in England during 2019.
- It is also important to note that as a result of the COVID-19 crisis some surgeons and units may have been unable to submit all or any of their 2019 data.

# 2019 Radical Prostatectomies -7,913 cases reported by 149 consultants at 61 NHS sites (including 754 private cases from 67 consultants)



#### **Reason for Prostatectomy**

Reason For Prostatectomy	of	% of Total Number of Recor
Primary treatment of cancer	6,403	80.92%
Previous active surveillance	816	10.31%
Salvage therapy	84	1.06%
Not recorded	610	7.71%
Grand Total	7,913	100.00%

## Reason if Previous Active surveillance

If Previous Active Surveillan	Number	% of Tot
Clinical progression	84	10.3%
Clinical progression + Other	62	7.6%
Gleason progression	209	25.6%
Gleason progression + Other	81	9.9%
PSA progression	222	27.2%
PSA progression +/- other	19	2.3%
Patient decision	99	12.1%
Not recorded	40	4.9%
Grand Total	816	100.0%

#### **Previous Management**

Previous Management	of	% of Total Number of Recor
None	6,822	86.21%
Brachytherapy	13	0.16%
HIFU	30	0.38%
Radiotherapy	37	0.47%
TURP	50	0.63%
Cryotherapy	7	0.09%
Hormonal suppression ther	71	0.90%
Not recorded	883	11.16%
Grand Total	7,913	100.00%

#### Age

Age Group	% of Total						
<60	29.1%						2,294
60 - 64	21.8%					1,717	
65 - 69	28.2%						2,219
70 - 74	18.4%				1,447		
75 - 79	2.2%	174	4				
>=80	0.3%	22					
		0	500	1000	1500	2000	2500
				Numbe	r of Records		

#### SurgicalTechnique

Surgical Technique	of	% of Total Number of Recor
Open	290	3.66%
Laparoscopic	357	4.51%
Robotically assisted	7,266	91.82%
Grand Total	7,913	100.00%

#### Median Age

Surgical Technique	Number of Records	Median Age	Min. Age	Max. Age
Open	279	66	41	75
Laparoscopic	351	64	41	75
Robotically assisted	7,133	64	40	75
Grand Total	7,763	64	40	75

#### **BMI**

	BMI												
	Under	weight Normal		Overweight		Obese		Not Recorded		Grand Total			
Surgical Technique	% of Total Numbe	Number of Records											
Open	0.34%	1	14.48%	42	39.66%	115	19.31%	56	26.21%	76	100.00%	290	
Laparoscopic	0.28%	1	12.04%	43	33.89%	121	14.85%	53	38.94%	139	100.00%	357	
Robotically assisted	1.29%	94	16.50%	1,199	41.38%	3,007	21.86%	1,588	18.97%	1,378	100.00%	7,266	
Grand Total	1.21%	96	16.23%	1,284	40.98%	3,243	21.45%	1,697	20.13%	1,593	100.00%	7,913	

#### **ASA Grade**

Asa Grade	of	% of Total Number of Recor
ASA 1	1,218	15.39%
ASA 2	5,371	67.88%
ASA 3	302	3.82%
ASA 4	3	0.04%
Not recorded	1,019	12.88%
Grand Total	7 913	100 00%

#### Clinical T stage

Clinical T Stage (group) 1	of	% of Total Number of Recor
0	12	0.15%
1	783	9.90%
2	4,876	61.62%
3	1,520	19.21%
4	5	0.06%
Not recorded/Known	717	9.06%
Grand Total	7,913	100.00%

### Comparison of Clinical and Pathological T stage

Pathological T	Stage (group) 1
----------------	-----------------

								0 10						
	0	)	1		2	2	3	3	4		Not recor	ded/ Kn	Grand	Total
Clinical T Stage (group) 1	% of Total Numbe	Number of Records	% of Total Numbe	Number of Records										
0	8.33%	1			50.00%	6	16.67%	2			25.00%	3	100.00%	12
1	0.13%	1			58.88%	461	27.20%	213			13.79%	108	100.00%	783
2	0.08%	4	0.02%	1	55.29%	2,696	35.89%	1,750	0.06%	3	8.65%	422	100.00%	4,876
3	0.07%	1	0.07%	1	25.46%	387	65.07%	989	0.07%	1	9.28%	141	100.00%	1,520
4							80.00%	4			20.00%	1	100.00%	5
Not recorded	0.28%	2	0.14%	1	34.59%	248	24.13%	173			40.86%	293	100.00%	717
Grand Total	0.11%	9	0.04%	3	48.00%	3,798	39.57%	3,131	0.05%	4	12.23%	968	100.00%	7,913

#### Clinical Stage by Pre-op PSA

Pre-operative	DCV

	0-	5	6-1	10	11-	20	21-	50	>5	50	Grand	Total
Clinical T Stage (group) 1	Number of Reco	% of Total N	Number of Recor	% of Total N	Number of Reco	% of Total N	Number of Reco	% of Total N	Number of Recor	% of Total N	Number of Reco	% of Total N
0	2	16.7%	7	58.3%	3	25.0%					12	100.0%
1	204	26.2%	388	49.9%	157	20.2%	25	3.2%	4	0.5%	778	100.0%
2	1,108	23.0%	2,435	50.6%	1,038	21.6%	209	4.3%	19	0.4%	4,809	100.0%
3	235	15.7%	699	46.6%	391	26.1%	155	10.3%	20	1.3%	1,500	100.0%
4	1	20.0%			1	20.0%	2	40.0%	1	20.0%	5	100.0%
Not recorded/Known	95	23.8%	205	51.4%	76	19.0%	23	5.8%			399	100.0%
Grand Total	1,645	21.9%	3,734	49.8%	1,666	22.2%	414	5.5%	44	0.6%	7,503	100.0%

#### Median pre-operative PSA

Surgical Technique	of	% of Total Number of Recor	-	Median Pr e Operati ve
Open	221	3.0%	9	8
Laparoscopic	324	4.4%	9	8
Robotically assisted	6,760	92.5%	9	7
Grand Total	7,305	100.0%	9	7

#### Pathological Staging by Pre-op PSA

#### Pre-operative PSA

	0-	5	6-	10	11-	-20	21-	50	>{	50	Grand	Total
Pathological T Stage (group) 1	Number of Records	% of Total Number										
0	5	55.56%	1	11.11%	3	33.33%					9	100.00%
1			2	100.00%							2	100.00%
2	986	26.45%	1,923	51.58%	700	18.78%	111	2.98%	8	0.21%	3,728	100.00%
3	489	15.90%	1,471	47.82%	822	26.72%	263	8.55%	31	1.01%	3,076	100.00%
4			2	50.00%	1	25.00%			1	25.00%	4	100.00%
Not recorded/ Known	165	24.12%	335	48.98%	140	20.47%	40	5.85%	4	0.58%	684	100.00%
Grand Total	1,645	21.92%	3,734	49.77%	1,666	22.20%	414	5.52%	44	0.59%	7,503	100.00%

#### Age at Operation by Biopsy Gleason Sum

Biopsy Gleason Sum Score

	5 - 6		7		8 -	10	Grand	I Total
Age Group	Number of Records	% of Total Number of Records	Number of Records	% of Total Number of Records	Number of Records	% of Total Number of Records	Number of Records	% of Total Number of Records
<60	291	13.26%	1,689	76.98%	214	9.75%	2,194	100.00%
60 - 64	191	11.57%	1,258	76.20%	202	12.24%	1,651	100.00%
65 - 69	208	9.86%	1,642	77.82%	260	12.32%	2,110	100.00%
70 - 74	120	8.61%	1,089	78.12%	185	13.27%	1,394	100.00%
75 - 79	12	7.32%	124	75.61%	28	17.07%	164	100.00%
>=80			18	90.00%	2	10.00%	20	100.00%
Grand Total	822	10.91%	5,820	77.26%	891	11.83%	7,533	100.00%

#### Age at Operation by Surgical Gleason Sum Score

Surgical Gleason Sum Score

	5 - 6		7		8 -	10	<b>Grand Total</b>		
Age Group	Number of Records	% of Total Number of Records	Number of Records	% of Total Number of Records	Number of Records	% of Total Number of Records	Number of Records	% of Total Number of Records	
<60	126	6.44%	1,669	85.33%	161	8.23%	1,956	100.00%	
60 - 64	84	5.62%	1,243	83.20%	167	11.18%	1,494	100.00%	
65 - 69	76	3.95%	1,617	84.13%	229	11.91%	1,922	100.00%	
70 - 74	28	2.22%	1,071	85.00%	161	12.78%	1,260	100.00%	
75 - 79	8	5.19%	117	75.97%	29	18.83%	154	100.00%	
>=80			16	88.89%	2	11.11%	18	100.00%	
Grand Total	322	4.73%	5,733	84.26%	749	11.01%	6,804	100.00%	

#### **Operating Surgeon**

#### Supervised Training Operation

	No		Yes		Not red	corded	Grand Total		
Grade Of Main Operating Surgeon	Number of Records	% of Total Number	Number of Records	% of Total Number	Number of Records	% of Total Number	Number of Records	% of Total Number	
Consultant	723	10.23%	29	0.41%	6,318	89.36%	7,070	100.00%	
SpR	10	2.42%	395	95.64%	8	1.94%	413	100.00%	
Other					111	100.00%	111	100.00%	
Not recorded					319	100.00%	319	100.00%	
Grand Total	733	9.26%	424	5.36%	6,756	85.38%	7,913	100.00%	

#### Conversions

#### Converted

				00	nivoltod					
	Ye	s	N	0	N	ull	Grand Total			
Surgical Technique	Numbe	% of T	Numbe	% of To	Numbe	% of To	Numbe	% of To		
Open					290	100.00%	290	100.00%		
Laparoscopic	5	1.40%	324	90.76%	28	7.84%	357	100.00%		
Robotically assisted	21	0.29%	6,688	92.05%	557	7.67%	7,266	100.00%		
Grand Total	26	0.33%	7,012	88.61%	875	11.06%	7,913	100.00%		

#### **Duration of Operation by Technique**

#### Surgical Technique

		outgroat rectifique									
	Ор	en	Laparo	scopic	Roboticall	y assisted	Grand	Total			
Duration Of Operation	Number of Records	% of Total Number of Records	Number of Records	% of Total Number of Records	Number of Records	% of Total Number of Records	Number of Records	% of Total Number of Records			
<2.0 hours	14	0.80%	55	3.14%	1,685	96.07%	1,754	100.00%			
2.0-3.9 hours	201	3.91%	259	5.04%	4,680	91.05%	5,140	100.00%			
4.0-5.9 hours	9	3.35%	13	4.83%	247	91.82%	269	100.00%			
>= 6.0 hours			5	41.67%	7	58.33%	12	100.00%			
Not recorded	66	8.94%	25	3.39%	647	87.67%	738	100.00%			
Grand Total	290	3.66%	357	4.51%	7,266	91.82%	7,913	100.00%			

#### **Lymph Node Dissection**

Lymph Node Dissection	of	% of Total Number of Recor
None	4,713	59.56%
Extended	1,236	15.62%
Obturator fossae	855	10.81%
Not recorded	1,109	14.01%
Grand Total	7,913	100.00%

#### **Nerve Sparing**

Nerve Sparing	of	% of Total Number of Recor
None	2,263	28.60%
Bilateral	2,677	33.83%
Unilateral	2,311	29.21%
Not recorded	662	8.37%
Grand Total	7,913	100.00%

#### KnownTransfusionRate

Transfused	of	% of Total Number of Recor
Not transfused	7,779	99.83%
Transfused	13	0.17%
Grand Total	7,792	100.00%

#### TransfusionRatebyAge

#### Transfused

	Trans	fused	Not tran	nsfused	Grand	Total						
Age Group	Number of Records	% of Total Number of Records	Number of Records	% of Total Number of Records	Number of Records	% of Total Number of Records						
<60	2	0.09%	2,262	99.91%	2,264	100.00%						
60 - 64	1	0.06%	1,690	99.94%	1,691	100.00%						
65 - 69	3	0.14%	2,180	99.86%	2,183	100.00%						
70 - 74	6	0.42%	1,417	99.58%	1,423	100.00%						
75 - 79	1	0.59%	169	99.41%	170	100.00%						
>=80			21	100.00%	21	100.00%						
Grand Total	13	0.17%	7,739	99.83%	7,752	100.00%						
>=80			21	100.00%	21	100.00%						

#### TransfusionRatebyASA

#### Transfused

	Transfused		Not tran	nsfused	Grand Total			
		% of Total		% of Total		% of Total		
Asa Grade	Number of Records	Number of Records	Number of Records	Number of Records	Number of Records	Number of Records		
ASA 1	1	0.08%	1,213	99.92%	1,214	100.00%		
ASA 2	9	0.17%	5,348	99.83%	5,357	100.00%		
ASA 3	1	0.33%	298	99.67%	299	100.00%		
ASA 4			3	100.00%	3	100.00%		
Not recorded	2	0.22%	917	99.78%	919	100.00%		
Grand Total	13	0.17%	7,779	99.83%	7,792	100.00%		

#### Tranfusions by Surgical Technique

#### Surgical Technique

	Ор	en	Laparo	scopic	Roboticall	y assisted	Grand Total		
		% of Total							
Blood Units Transfused	Number of Records	Number of Records							
Nil	243	3.12%	332	4.27%	7,204	92.61%	7,779	100.00%	
Minor (<3 units)			1	10.00%	9	90.00%	10	100.00%	
Moderate (3-6 units)					1	100.00%	1	100.00%	
Major (>6 units)					2	100.00%	2	100.00%	
Not recorded	47	38.84%	24	19.83%	50	41.32%	121	100.00%	
Grand Total	290	3.66%	357	4.51%	7,266	91.82%	7,913	100.00%	

#### TransfusionRatebyTechnique

#### Transfused

	Trans	fused	Not tran	nsfused	Grand Total		
Surgical Technique	% of Total Number of Records	Number of Records	% of Total Number of Records	Number of Records	% of Total Number of Records	Number of Records	
Open			100.00%	243	100.00%	243	
Laparoscopic	0.30%	1	99.70%	332	100.00%	333	
Robotically assisted	0.17%	12	99.83%	7,204	100.00%	7,216	
Grand Total	0.17%	13	99.83%	7,779	100.00%	7,792	

#### KnownIntraopCompRate

Intra Operative Complications (group) (copy)	of	% of Total Number of Recor
Complication recorded	279	3.79%
None	7,076	96.21%
Grand Total	7,355	100.00%

# Known Post-operative Complication rate

PostOperative Complication Wit	of	% of Total Number of Recor
Complication	469	6.55%
None	6,691	93.45%
Grand Total	7,160	100.00%

#### Clavien Dindo Grade of Post-Operative Complications by Technique

Surgical Technique

	Laparo	scopic	Op	Open		y assisted	Grand Total				
Clavien Dindo Grade Of Complications (group)	Number of Records	% of Total Number of Records	Number of Records	% of Total Number of Records	Number of Records	% of Total Number of Records	Number of Records	% of Total Number of Records			
Grade I	17	5.12%	18	7.41%	194	2.95%	229	3.20%			
Grade II	19	5.72%	6	2.47%	122	1.85%	147	2.05%			
Grade III plus	4	1.20%	6	2.47%	82	1.25%	92	1.28%			
Not recorded / NA	292	87.95%	213	87.65%	6,187	93.96%	6,692	93.46%			
Grand Total	332	100.00%	243	100.00%	6,585	100.00%	7,160	100.00%			

#### Specific Intraoperative Complications

	of	% of Total Number
Intra Operative Complications	Records	
Difficult dissection	176	63.08%
Problematic bleeding	29	10.39%
Problematic bleeding, Difficult dissection	44	15.77%
Rectal injury	8	2.87%
Ureteric injury	4	1.43%
Vascular injury	2	0.72%
Robotic device failure	4	1.43%
Port complications	1	0.36%
Difficult dissection,Small bowel injury	1	0.36%
Problematic bleeding,Port complications	1	0.36%
Nerve injury	2	0.72%
Difficult dissection,Port complications	2	0.72%
Difficult dissection,Robotic device failure	1	0.36%
Small bowel injury	4	1.43%
Grand Total	279	100.00%

#### Specific Post operative complications

PostOperativeComplicationWithi	Number of Records	% of Total Number of Records along Table (Down)
Anastomotic Leak + others	37	7.89%
Chest infection + others	14	2.99%
Haematuria + others	37	7.89%
Haemorrhage + Others	18	3.84%
lleus	24	5.12%
Ileus + others	3	0.64%
Pelvic Haematoma +/- others	22	4.69%
Sepsis	27	5.76%
Urine leak	18	3.84%
Urine leak & others	4	0.85%
Wound infection	20	4.26%
Sepsis & others	6	1.28%
Return to theatre +/- others	19	4.05%
PE / DVT +/- others	8	1.71%
Others	212	45.20%
Grand Total	469	100.00%

#### LOSbyTechnique

Surgical Technique	Number of Records	Median Length Of Stay	Avg. Length Of Stay	Min. Length Of Stay	Max. Length Of Stay
Open	243	3.0	3	0	37
Laparoscopic	332	2.0	2	0	15
Robotically a	6,748	1.0	2	0	91
Grand Total	7,323	1.0	2	0	91

#### pT2 Positive Surgical Margin Rate

Margins (group) 1	of	% of Total Number of Recor
Positive	614	16.55%
Negative	3,095	83.45%
Grand Total	3,709	100.00%

#### pT2 Margins by Technique

Margins (group) 1

	Wargins (group)									
	Pos	itive	Nega	ative	Grand Total					
Surgical Technique	Number of Records	% of Total Number of Records		% of Total Number of Records	Number of Records	% of Total Number of Records				
Open	9	11.69%	68	88.31%	77	100.00%				
Laparoscopic	38	18.36%	169	81.64%	207	100.00%				
Robotically assisted	567	16.55%	2,858	83.45%	3,425	100.00%				
Grand Total	614	16.55%	3,095	83.45%	3,709	100.00%				

#### **Positive Lymph Nodes**

Number Of Positive Lymph Nodes (group)

	(	)	1 -	- 5	6 -	10	11	- 20	>	20	Not red	corded	Grand	l Total
Number Of Lymph Nodes Sampled - group	Number of Records	% of Total Number of Records		% of Total Number of Records	Number of Records		Number of Records			% of Total Number of Records		% of Total Number of Records	Number of Records	
1 - 5	602	90.66%	51	7.68%	3	0.45%	1	0.15%	1	0.15%	6	0.90%	664	100.00%
6 - 10	530	88.93%	61	10.23%	1	0.17%					4	0.67%	596	100.00%
11 - 20	517	85.60%	73	12.09%	1	0.17%	4	0.66%	1	0.17%	8	1.32%	604	100.00%
> 20	155	77.11%	39	19.40%	3	1.49%	2	1.00%			2	1.00%	201	100.00%
Grand Total	1,804	87.36%	224	10.85%	8	0.39%	7	0.34%	2	0.10%	20	0.97%	2,065	100.00%

#### Patients followed up

Follow up	of	% of Total Number of Recor
Followed up	2,087	26.37%
Not followed up	5,826	73.63%
Grand Total	7,913	100.00%

#### **Current Status**

Tim		

	0 - 3		4 - 6		7 - 12		> 12		Grand Total	
		% of Total		% of Total		% of Total		% of Total		% of Total
Current Status	Number of Records	Number of Records		Number of Records	Number of Records	Number of Records	Number of Records		Number of Records	
Alive with no evidence of prostate cancer	1,166	73.15%	263	78.74%	98	69.50%	9	56.25%	1,536	73.67%
Alive with local recurrence of prostate cancer	10	0.63%	7	2.10%	3	2.13%			20	0.96%
Alive with lymph node involvement by prostate cancer	3	0.19%	4	1.20%					7	0.34%
Alive with metastatic disease	1	0.06%	1	0.30%					2	0.10%
Discharged to GP / Other consultant	114	7.15%	4	1.20%					118	5.66%
Not recorded	300	18.82%	55	16.47%	40	28.37%	7	43.75%	402	19.28%
Grand Total	1,594	100.00%	334	100.00%	141	100.00%	16	100.00%	2,085	100.00%

### **Participating Hospital Centres 2019**

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

Aberdeen Royal Infirmary	Guy's & Thomas's Hospital	Queen Alexandra Hospital, Portsmouth
Addenbrooke's Hospital, Cambridge	Hammersmith Hospital, London	Queen Elizabeth Hospital, Birmingham
Alexandra Hospital, Redditch	Heartlands Hospital, Birmingham	Queen Elizabeth University Hospital
Arrowe Park Hospital, Wirral	James Cook University Hospital,	Royal Berkshire Hospital, Reading
Barking, Havering & Redbridge University	Middlesbrough	Royal Blackburn Hospital
Hospital	Leicester General Hospital	Royal Bournemouth General Hospital
Broomfield Hospital, Chelmsford	Lister Hospital, Stevenage	Royal Derby Hospital
Castle Hill Hospital, Hull	Maidstone Hospital	Royal Devon & Exeter Hospital
Charing Cross Hospital, London	Medway Maritime Hospital, Gillingham	Royal Hallamshire Hospital, Sheffield
Cheltenham General Hospital	Morriston Hospital, Swansea	Royal Liverpool University Hospital
Christie Hospital	New Cross Hospital, Wolverhampton	Royal Marsden Hospital, London
Churchill Hospital, Oxford	Ninewells Hospital, Dundee	Royal Preston Hospital
Colchester General Hospital	Norfolk & Norwich University Hospital	Royal Shrewsbury Hospital
Derriford Hospital, Plymouth	Nottingham City Hospital	Royal Stoke University Hospital
Eastbourne District General Hospital	Pinderfields General Hospital, Wakefield	Royal Surrey County Hospital, Guildford
Freeman Hospital, Newcastle	Princess Elizabeth Hospital, Guernsey	, , , , , , , , , , , , , , , , , , , ,

Southampton General Hospital	St Mary's Hospital, London	Walsgrave Hospital, Coventry
Southend Hospital	Stepping Hill Hospital, Stockport	Western General Hospital, Edinburgh
Southmead Hospital, Bristol	Sunderland Royal Hospital	Wycombe Hospital, High Wycombe
St George's Hospital, London	University College Hospital, London	
St James's University Hospital, Leeds	University Hospital of Wales, Cardiff	