

**THE BRITISH ASSOCIATION OF
UROLOGICAL SURGEONS
Section of Endourology**

**Analyses of PCNL's performed between
January 1st 2016 and December 31st 2018**

Copyright

It is important to remind you that, under the Copyright Designs and Patents Act 1988 (CDPA) copyright of this Report, including the charts produced in it, is owned by The British Association of Urological Surgeons Limited (BAUS). Copying or reproducing any part of this material in any other publication without seeking the prior permission of BAUS is a breach of copyright.

Please contact Mrs Sarah Fowler (E-mail: sarahfowler99@gmail.com)

AUDIT RESULTS SUMMARY – PCNL dataset

All the data presented here are a summary of the data extracted from the web-based database on 24th April 2019 and relate to operations performed during the whole of 2016, 2017 and 2018. 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.

The data collection period was from 1 January 2016 to 31 December 2018.

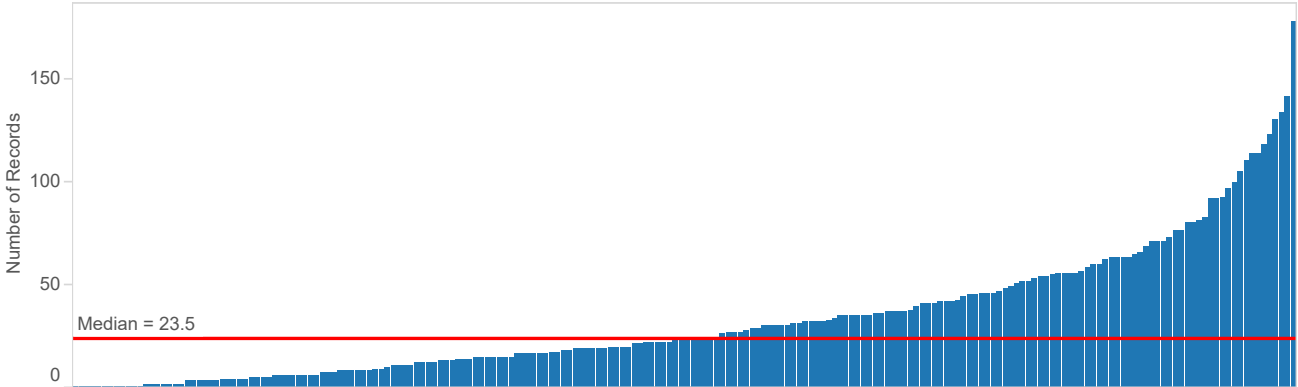
6877 procedures were recorded from 208 consultants at 129 centres in the United Kingdom, including 247 private patients from 52 consultants. Eight of the consultants returning data are not BAUS members.

- Median number of cases per consultant: 23.5 (range 1 - 178)
- Median number of cases per centre: 47 (range 1 - 307)
- All data were entered by hand; there was no bulk uploading of data from other systems.
- We do not have access to the [Hospital Episode Statistics \(HES\)](#) for 2018 and we are also aware that the number of these procedures undertaken are not accurately recorded by HES due to differences in the way this procedure is coded by different units. However we do think we have received a very good response from the surgeons undertaking this procedure, and we estimate, using figures for previous years, that we have collected data on about 85% of the procedures undertaken in England during this time period.

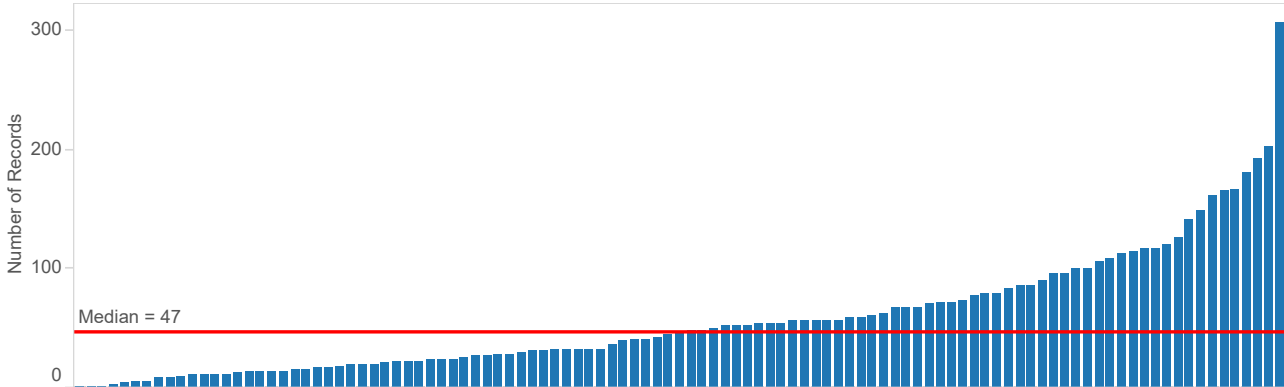
PCNL's performed between 01/01/2016 and 31/12/2018

6877 procedures from 208 consultants at 129 centres in the United Kingdom, including 247 private patients from 52 consultants

Total by Surgeon



Total by Centre



Gender

Gender	N	% Total
Female	3,202	46.6%
Male	3,675	53.4%
Grand Total	6,877	100.0%

Side

Side Of Stones	N	% Total
Left	3,720	54.1%
Right	3,043	44.2%
Bilateral	114	1.7%
Grand Total	6,877	100.0%

BMI

BMI	N	% Total
Underweight	91	1.3%
Normal	1,007	14.6%
Obese	1,716	25.0%
Overweight	1,434	20.9%
Not recorded	2,629	38.2%
Grand Total	6,877	100.0%

Age

N	% Total	Median Age
6,842	100.0%	56

Complexity

Stone Complexity	N	% Total
I	1,580	23.0%
II	2,012	29.3%
III	1,812	26.3%
IV	1,197	17.4%
Not recorded	276	4.0%
Grand Total	6,877	100.0%

Stone Dimensions

Stone Dimensions ..	Stone Dimensions	Yearofop						Grand Total	
		2016		2017		2018		N	% Total
		N	% Total	N	% Total	N	% Total		
0-2cm	0-1 cm	97	3.9%	104	4.3%	73	3.7%	274	4.0%
	1-2 cm	737	30.0%	759	31.0%	539	27.3%	2,035	29.6%
>2cm	2-4 cm	1,050	42.7%	1,028	42.0%	776	39.4%	2,854	41.5%
	>4 cm	502	20.4%	532	21.7%	399	20.2%	1,433	20.8%
Not recorded	Null	73	3.0%	24	1.0%	184	9.3%	281	4.1%
Grand Total		2,459	100.0%	2,447	100.0%	1,971	100.0%	6,877	100.0%

LOS by Complexity

Stone Compl..	N	% Total	Median	Min	Max
I	1,580	23.0%	2	0	107
II	2,012	29.3%	2	0	63
III	1,812	26.3%	3	0	76
IV	1,197	17.4%	3	0	115
Not recorded	276	4.0%	2	0	114
Grand Total	6,877	100.0%	2	0	115

LOS by Size

Stone Dimen..	N	% Total	Median	Min	Max
0-2cm	2,309	33.6%	2	0	76
>2cm	4,287	62.3%	3	0	115
Not recorded	281	4.1%	2	0	16
Grand Total	6,877	100.0%	2	0	115

LOS by Comorbidities

Co-Morbidities	N	% Total	Median	Min	Max
Spina Bifida, Spinal Injury, Kyphoscoliosis	354	5.1%	4	0	50
Other Co-morbidity	6,431	93.5%	2	0	115
Not recorded	92	1.3%	2	1	9
Grand Total	6,877	100.0%	2	0	115

Transfusion Rate by Complexity

Stone Compl..	Blood Transfusion					
	Yes		No		Grand Total	
	N	% of Total	N	% of Total	N	% of Total
I	24	1.6%	1,516	98.4%	1,540	100.0%
II	24	1.2%	1,940	98.8%	1,964	100.0%
III	41	2.3%	1,736	97.7%	1,777	100.0%
IV	35	3.0%	1,131	97.0%	1,166	100.0%
Not recorded	3	1.4%	204	98.6%	207	100.0%
Grand Total	127	1.9%	6,527	98.1%	6,654	100.0%

Transfusion Rate by Size

Stone Dimen..	Blood Transfusion					
	Yes		No		Grand Total	
	N	% of Total	N	% of Total	N	% of Total
0-2cm	27	1.2%	2,225	98.8%	2,252	100.0%
>2cm	97	2.3%	4,099	97.7%	4,196	100.0%
Not recorded	3	1.5%	203	98.5%	206	100.0%
Grand Total	127	1.9%	6,527	98.1%	6,654	100.0%

Transfusion Rate by Comorbidities

Co-Morbidities	Blood Transfusion					
	Yes		No		Grand Total	
	N	% of Total	N	% of Total	N	% of Total
Spina Bifida, Spinal Injury, Kyphoscoliosis	11	3.2%	335	96.8%	346	100.0%
Other Co-morbidity	116	1.9%	6,148	98.1%	6,264	100.0%
Not recorded			44	100.0%	44	100.0%
Grand Total	127	1.9%	6,527	98.1%	6,654	100.0%

Sepsis by Complexity

Stone Compl..	Post Operative Infection (group)									
	Sepsis		Fever		None		Not recorded		Grand Total	
	N	% of Total	N	% of Total	N	% of Total	N	% of Total	N	% of Total
I	17	1.1%	81	5.1%	1,313	83.1%	169	10.7%	1,580	100.0%
II	27	1.3%	113	5.6%	1,651	82.1%	221	11.0%	2,012	100.0%
III	36	2.0%	160	8.8%	1,432	79.0%	184	10.2%	1,812	100.0%
IV	58	4.8%	154	12.9%	859	71.8%	126	10.5%	1,197	100.0%
Not recorded	3	1.1%	12	4.3%	155	56.2%	106	38.4%	276	100.0%
Grand Total	141	2.1%	520	7.6%	5,410	78.7%	806	11.7%	6,877	100.0%

Sepsis by Size

Stone Dimen..	Post Operative Infection (group)									
	Sepsis		Fever		None		Not recorded		Grand Total	
	N	% of Total	N	% of Total	N	% of Total	N	% of Total	N	% of Total
0-2cm	33	1.4%	124	5.4%	1,857	80.4%	295	12.8%	2,309	100.0%
>2cm	107	2.5%	385	9.0%	3,395	79.2%	400	9.3%	4,287	100.0%
Not recorded	1	0.4%	11	3.9%	158	56.2%	111	39.5%	281	100.0%
Grand Total	141	2.1%	520	7.6%	5,410	78.7%	806	11.7%	6,877	100.0%

Sepsis by Comorbidities

Co-Morbidities	Post Operative Infection (group)									
	Sepsis		Fever		None		Not recorded		Grand Total	
	N	% of Total	N	% of Total	N	% of Total	N	% of Total	N	% of Total
Spina Bifida, Spinal Injury, Kyphoscoliosi..	26	7.3%	40	11.3%	254	71.8%	34	9.6%	354	100.0%
Other Co-morbidity	115	1.8%	476	7.4%	5,135	79.8%	705	11.0%	6,431	100.0%
Not recorded			4	4.3%	21	22.8%	67	72.8%	92	100.0%
Grand Total	141	2.1%	520	7.6%	5,410	78.7%	806	11.7%	6,877	100.0%

Clearance on Post operative radiological imaging by Complexity

Clearance On Post Operative Radiological Imaging During A

Stone Compl..	Yes		No		Not done		Deferred		Not recorded		Grand Total	
	N	% of Total	N	% of Total	N	% of Total	N	% of Total	N	% of Total	N	% of Total
I	862	54.6%	115	7.3%	342	21.6%	108	6.8%	153	9.7%	1,580	100.0%
II	1,006	50.0%	273	13.6%	390	19.4%	161	8.0%	182	9.0%	2,012	100.0%
III	770	42.5%	427	23.6%	299	16.5%	164	9.1%	152	8.4%	1,812	100.0%
IV	351	29.3%	475	39.7%	180	15.0%	88	7.4%	103	8.6%	1,197	100.0%
Not recorded	9	3.3%	7	2.5%	7	2.5%			253	91.7%	276	100.0%
Grand Total	2,998	43.6%	1,297	18.9%	1,218	17.7%	521	7.6%	843	12.3%	6,877	100.0%

Clearance on Post operative radiological imaging by Stone Size

Clearance On Post Operative Radiological Imaging During A

Stone Dimen..	Yes		No		Not done		Deferred		Not recorded		Grand Total	
	N	% of Total	N	% of Total	N	% of Total	N	% of Total	N	% of Total	N	% of Total
0-2cm	1,104	47.8%	268	11.6%	501	21.7%	183	7.9%	253	11.0%	2,309	100.0%
>2cm	1,883	43.9%	1,021	23.8%	713	16.6%	338	7.9%	332	7.7%	4,287	100.0%
Not recorded	11	3.9%	8	2.8%	4	1.4%			258	91.8%	281	100.0%
Grand Total	2,998	43.6%	1,297	18.9%	1,218	17.7%	521	7.6%	843	12.3%	6,877	100.0%

Clearance on Post operative radiological imaging by Comorbidities

Clearance On Post Operative Radiological Imaging During A

Co-Morbidities	Yes		No		Not done		Deferred		Not recorded		Grand Total	
	N	% of Total	N	% of Total	N	% of Total	N	% of Total	N	% of Total	N	% of Total
Spina Bifida, Spinal Injury, Kyphoscoliosis	156	44.1%	83	23.4%	53	15.0%	26	7.3%	36	10.2%	354	100.0%
Other Co-morbidity	2,828	44.0%	1,210	18.8%	1,160	18.0%	495	7.7%	738	11.5%	6,431	100.0%
Not recorded	14	15.2%	4	4.3%	5	5.4%			69	75.0%	92	100.0%
Grand Total	2,998	43.6%	1,297	18.9%	1,218	17.7%	521	7.6%	843	12.3%	6,877	100.0%

Intra-Operative Complications

Intraop Complic..	N	% Total
Yes	153	2.2%
No	5,994	87.2%
Not recorded	730	10.6%
Grand Total	6,877	100.0%

Post-Operative Complications

Postop Complicati..	N	% Total
Yes	828	12.0%
No	5,349	77.8%
Not recorded	700	10.2%
Grand Total	6,877	100.0%

CD Grade of Post Operative Complications

ClavienDind..	N	% Total
Grade I	289	34.9%
Grade II	335	40.5%
Grade IIIa	97	11.7%
Grade IIIb	70	8.5%
Grade IVa	25	3.0%
Grade IVb	4	0.5%
Grade V	6	0.7%
Not recorded	2	0.2%
Grand Total	828	100.0%

CD by complexity

ClavienDindoGradeOfComplications

Stone Complexity	Grade I		Grade II		Grade IIIa		Grade IIIb		Grade IVa		Grade IVb		Grade V		Not recorded		Grand Total	
	N	% of Total	N	% of Total	N	% of Total	N	% of Total	N	% of Total	N	% of Total	N	% of Total	N	% of Total	N	% of Total
I	70	42.9%	60	36.8%	14	8.6%	13	8.0%	2	1.2%	1	0.6%	3	1.8%			163	100.0%
II	75	37.9%	73	36.9%	32	16.2%	14	7.1%	4	2.0%							198	100.0%
III	78	33.1%	97	41.1%	28	11.9%	24	10.2%	4	1.7%	1	0.4%	3	1.3%	1	0.4%	236	100.0%
IV	56	27.3%	97	47.3%	18	8.8%	17	8.3%	14	6.8%	2	1.0%			1	0.5%	205	100.0%
Not recorded	10	38.5%	8	30.8%	5	19.2%	2	7.7%	1	3.8%							26	100.0%
Grand Total	289	34.9%	335	40.5%	97	11.7%	70	8.5%	25	3.0%	4	0.5%	6	0.7%	2	0.2%	828	100.0%

CD by Size

ClavienDindoGradeOfComplications

Stone Dimensions ..	Grade I		Grade II		Grade IIIa		Grade IIIb		Grade IVa		Grade IVb		Grade V		Not recorded		Grand Total	
	N	% of T..	N	% of T..	N	% of T..	N	% of T..	N	% of T..	N	% of T..	N	% of T..	N	% of T..	N	% of T..
0-2cm	89	38.7%	89	38.7%	24	10.4%	19	8.3%	5	2.2%			3	1.3%	1	0.4%	230	100.0%
>2cm	192	33.3%	241	41.8%	68	11.8%	49	8.5%	19	3.3%	4	0.7%	3	0.5%	1	0.2%	577	100.0%
Not recorded	8	38.1%	5	23.8%	5	23.8%	2	9.5%	1	4.8%							21	100.0%
Grand Total	289	34.9%	335	40.5%	97	11.7%	70	8.5%	25	3.0%	4	0.5%	6	0.7%	2	0.2%	828	100.0%

CD by Comorbidities

ClavienDindoGradeOfComplications

Co-Morbidities	Grade I		Grade II		Grade IIIa		Grade IIIb		Grade IVa		Grade IVb		Grade V		Not recorded		Grand Total	
	N	% of ..	N	% of ..	N	% of ..	N	% of ..	N	% of ..	N	% of ..	N	% of T..	N	% of ..	N	% of ..
Spina Bifida, Spinal Injury, Kyphoscoliosis	14	23.3%	29	48.3%	6	10.0%	4	6.7%	5	8.3%	2	3.3%					60	100.0%
Other Co-morbidity	275	35.8%	306	39.8%	91	11.8%	66	8.6%	20	2.6%	2	0.3%	6	0.8%	2	0.3%	768	100.0%
Grand Total	289	34.9%	335	40.5%	97	11.7%	70	8.5%	25	3.0%	4	0.5%	6	0.7%	2	0.2%	828	100.0%

Clearance on Post operative radiological imaging by Complexity

Clearance On Post Operative Radiological Imaging During A

Stone Compl..	Yes		No		Not done		Deferred		Not recorded		Grand Total	
	N	% of Total	N	% of Total	N	% of Total	N	% of Total	N	% of Total	N	% of Total
I	862	54.6%	115	7.3%	342	21.6%	108	6.8%	153	9.7%	1,580	100.0%
II	1,006	50.0%	273	13.6%	390	19.4%	161	8.0%	182	9.0%	2,012	100.0%
III	770	42.5%	427	23.6%	299	16.5%	164	9.1%	152	8.4%	1,812	100.0%
IV	351	29.3%	475	39.7%	180	15.0%	88	7.4%	103	8.6%	1,197	100.0%
Not recorded	9	3.3%	7	2.5%	7	2.5%			253	91.7%	276	100.0%
Grand Total	2,998	43.6%	1,297	18.9%	1,218	17.7%	521	7.6%	843	12.3%	6,877	100.0%

Clearance on Post operative radiological imaging by Stone Size

Clearance On Post Operative Radiological Imaging During A

Stone Dimen..	Yes		No		Not done		Deferred		Not recorded		Grand Total	
	N	% of Total	N	% of Total	N	% of Total	N	% of Total	N	% of Total	N	% of Total
0-2cm	1,104	47.8%	268	11.6%	501	21.7%	183	7.9%	253	11.0%	2,309	100.0%
>2cm	1,883	43.9%	1,021	23.8%	713	16.6%	338	7.9%	332	7.7%	4,287	100.0%
Not recorded	11	3.9%	8	2.8%	4	1.4%			258	91.8%	281	100.0%
Grand Total	2,998	43.6%	1,297	18.9%	1,218	17.7%	521	7.6%	843	12.3%	6,877	100.0%

Patients with Follow up

Follow up	N	% Total
Follow-up	1,198	17.4%
No Follow up	5,679	82.6%
Grand Total	6,877	100.0%

Stone Free at Follow up

Stone Compl..	Stone Free At Follow Up						Grand Total	
	No		Yes		Null			
	N	% of Total	N	% of Total	N	% of Total	N	% of Total
I	35	11.7%	248	82.9%	16	5.4%	299	100.0%
II	75	20.9%	275	76.8%	8	2.2%	358	100.0%
III	99	30.5%	213	65.5%	13	4.0%	325	100.0%
IV	85	43.4%	95	48.5%	16	8.2%	196	100.0%
Not recorded	10	50.0%	10	50.0%			20	100.0%
Grand Total	304	25.4%	841	70.2%	53	4.4%	1,198	100.0%

Stone Free by Size

Stone Dimen..	Stone Free At Follow Up						Grand Total	
	No		Yes		Null			
	N	% of Total	N	% of Total	N	% of Total	N	% of Total
0-2cm	70	19.2%	282	77.3%	13	3.6%	365	100.0%
>2cm	226	27.8%	548	67.3%	40	4.9%	814	100.0%
Not recorded	8	42.1%	11	57.9%			19	100.0%
Grand Total	304	25.4%	841	70.2%	53	4.4%	1,198	100.0%

Participating Hospital Centres 2016, 2017 and 2018

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

Aberdeen Royal Infirmary	Cheltenham General Hospital	Eastbourne District General Hospital
Addenbrooke's Hospital, Cambridge	Chesterfield Royal Hospital	Epsom General Hospital, Surrey
Aintree University Hospital, Liverpool	Churchill Hospital, Oxford	Forth Valley Royal Hospital, Larbert
Alexandra Hospital, Redditch	City Hospital Birmingham	Freeman Hospital, Newcastle
Arrowe Park Hospital, Wirral	Colchester General Hospital	Frimley Park Hospital
Barking, Havering & Redbridge University Hospital	Countess of Chester Hospital	Glasgow Royal Infirmary
Basildon University Hospital, Essex	County Hospital, Stafford	Good Hope Hospital, Sutton Coldfield
Basingstoke and North Hampshire Hospital	Cumberland Infirmary, Carlisle	Guy's & Thomas's Hospital
Bedford Hospital	Darent Valley Hospital, Kent	Hairmyres Hospital, East Kilbride
Blackpool Victoria Hospital	Derriford Hospital, Plymouth	Heartlands Hospital, Birmingham
Bradford Royal Infirmary	Diana, Princess of Wales Hospital, Grimsby	Huddersfield Royal Infirmary
Broadgreen Hospital, Liverpool	Doncaster Royal Infirmary	Ipswich Hospital, Suffolk
Broomfield Hospital, Chelmsford	Dorset County Hospital, Dorchester	James Cook University Hospital, Middlesbrough
Castle Hill Hospital, Hull	Ealing Hospital	Kent & Canterbury Hospital
Chelsea & Westminster Hospital, London	East Surrey Hospital, Redhill	King's College Hospital, London

Leicester General Hospital	Nottingham City Hospital	Royal Hallamshire Hospital, Sheffield
Leighton Hospital, Cheshire	Pilgrim Hospital, Boston	Royal Hampshire County Hospital, Winchester
Lincoln County Hospital	Pinderfields General Hospital, Wakefield	Royal Liverpool University Hospital
Lister Hospital, Stevenage	Queen Alexandra Hospital, Portsmouth	Royal Preston Hospital
Luton & Dunstable University Hospital	Queen Elizabeth Hospital, Birmingham	Royal Stoke University Hospital
Maidstone Hospital	Raigmore Hospital, Inverness	Royal Sussex County Hospital, Brighton
Manchester Royal Infirmary	Rotherham Hospital	Royal United Hospital, Bath
Milton Keynes Hospital	Royal Blackburn Hospital	Russells Hall Hospital, Dudley
Monklands District General Hospital, Airdrie	Royal Albert Edward Infirmary, Wigan	Salford Royal Hospital
Morrison Hospital, Swansea	Royal Berkshire Hospital, Reading	Salisbury District Hospital
Musgrove Park Hospital, Taunton	Royal Bolton Hospital	Scunthorpe General Hospital
New Cross Hospital, Wolverhampton	Royal Bournemouth General Hospital	South Eastern Health Trust, Northern Ireland
Norfolk & Norwich University Hospital	Royal Cornwall Hospital, Truro	Southampton General Hospital
North Manchester General Hospital	Royal Derby Hospital	Southend Hospital
North Middlesex Hospital, London	Royal Devon & Exeter Hospital	Southmead Hospital, Bristol
Northampton General Hospital	Royal Free Hospital, London	Southport & Ormskirk Hospitals
Northwick Park Hospital	Royal Gwent Hospital	St George's Hospital, London

St James's University Hospital, Leeds

St Peter's Hospital, Chertsey

St Richard's Hospital, Chichester

Stepping Hill Hospital, Stockport

Sunderland Royal Hospital

The Queen Elizabeth Hospital, King's Lynn

Torbay Hospital, Torquay

University College Hospital, London

University Hospital of Wales, Cardiff

University Hospital, Ayr

Walsgrave Hospital, Coventry

Watford General Hospital

West Suffolk Hospital, Bury St Edmunds

Western General Hospital, Edinburgh

Wexham Park Hospital, Slough

Whipps Cross University Hospital, London

Whiston Hospital, Prescot

Whittington Hospital, London

Worthing Hospital

Wycombe Hospital, High Wycombe

Wythenshawe Hospital, Manchester

Yeovil District Hospital

York Hospital