

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

**Analyses of PCNL's performed between
January 1st 2014 and December 31st 2015**

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AUDIT RESULTS SUMMARY – PCNL dataset

All the data presented here are a summary of the data extracted from the web-based database on 18th April 2016 and relate to operations performed during the whole of 2014 and 2015. 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.

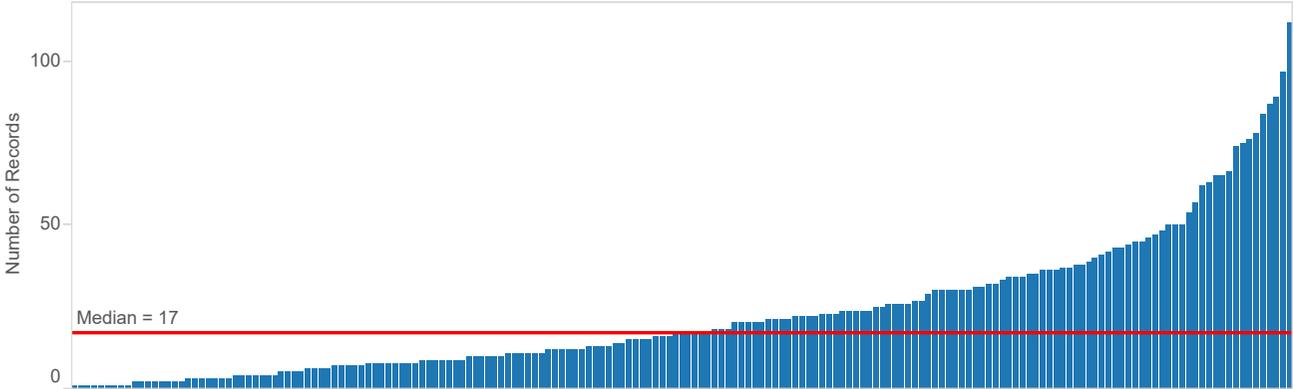
The data collection period was from 1 January 2014 to 31 December 2015.

4,166 procedures were recorded from 183 consultants at 113 centres in the United Kingdom, including 127 private patients from 36 consultants. Four of the consultants returning data are not BAUS members.

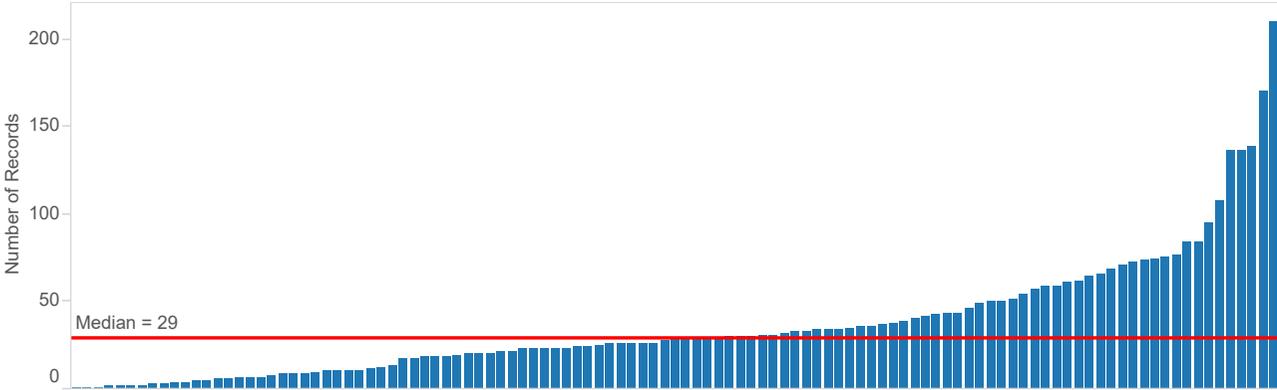
- Median number of cases per consultant: 17 (range 1 - 112)
- Median number of cases per centre: 29 (range 1 - 210)
- All data were entered by hand and there was no bulk uploading of data from other systems.
- Hospital Episode Statistics (HES) for 2014 and 2015 indicate that there were 2,714 PCNL cases in England. We do not, however, believe that HES data accurately record the total number of procedures undertaken as we are aware there are 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 that we have collected data on about 90% of the procedures undertaken in England in 2014 and 2015.

PCNL's performed between 01/01/2014 and 31/12/2015
4166 procedures from 183 consultants at 113 sites including 127 private cases from 36 consultants

Total by Surgeon



Total by Centre



Gender

Gender	N	% Total
Female	1,910	45.8%
Male	2,256	54.2%
Grand Total	4,166	100.0%

Side

Side Of Stones	N	% Total
Left	2,336	56.1%
Right	1,804	43.3%
Bilateral	26	0.6%
Grand Total	4,166	100.0%

BMI

BMI	N	% Total
Underweight	56	1.3%
Normal	504	12.1%
Obese	883	21.2%
Overweight	779	18.7%
Not recorded	1,944	46.7%
Grand Total	4,166	100.0%

Age

N	% Total	Median Age	Min. Age	Max. Age
4,166	100.0%	56	0	109

Complexity

Stone Complexity	N	% Total
I	935	22.4%
II	1,246	29.9%
III	1,093	26.2%
IV	622	14.9%
Not recorded	270	6.5%
Grand Total	4,166	100.0%

Stone Dimensions

Stone Dimensions ..	Stone Dimensions	2014		2015		Grand Total	
		N	% Total	N	% Total	N	% Total
0-2cm	0-1 cm	99	4.7%	93	4.5%	192	4.6%
	1-2 cm	613	29.1%	549	26.7%	1,162	27.9%
>2cm	2-4 cm	44	2.1%	708	34.4%	752	18.1%
	>2 cm	1,282	60.8%	160	7.8%	1,442	34.6%
	>4 cm	20	0.9%	353	17.2%	373	9.0%
Not recorded	Not recorded	51	2.4%	194	9.4%	245	5.9%
Grand Total		2,109	100.0%	2,057	100.0%	4,166	100.0%

LOS by Complexity

Stone Complexity (group)	N	% Total	Median LOS	Min LOS	Max LOS
I	2,181	52.4%	2	0	106
III	1,715	41.2%	3	0	157
Null	270	6.5%	2	1	31
Grand Total	4,166	100.0%	3	0	157

Transfusion Rate by Complexity

Stone Complexity (group)	Blood Transfusion					
	Yes		No		Grand Total	
	N	% of Total Number of Records ..	N	% of Total Number of Records ..	N	% of Total Number of Records ..
I	36	1.7%	2,058	98.3%	2,094	100.0%
III	57	3.5%	1,585	96.5%	1,642	100.0%
Null	3	1.3%	220	98.7%	223	100.0%
Grand Total	96	2.4%	3,863	97.6%	3,959	100.0%

LOS by Size

Stone Dimensions (group)	N	% Total	Median LOS	Min LOS	Max LOS
0-2cm	1,354	32.5%	2	0	77
>2cm	2,567	61.6%	3	0	157
Not recorded	245	5.9%	3	0	29
Grand Total	4,166	100.0%	3	0	157

Transfusion Rate by Size

Stone Dimensions (group)	Blood Transfusion					
	Yes		No		Grand Total	
	N	% of Total Number of Records ..	N	% of Total Number of Records ..	N	% of Total Number of Records ..
0-2cm	17	1.3%	1,295	98.7%	1,312	100.0%
>2cm	73	3.0%	2,386	97.0%	2,459	100.0%
Not recorded	6	3.2%	182	96.8%	188	100.0%
Grand Total	96	2.4%	3,863	97.6%	3,959	100.0%

LOS by Comorbidities

Charlson Comorbidities (group)	N	% Total	Median LOS	Min LOS	Max LOS
Not recorded, other	3,982	95.6%	3	0	157
Spina Bifida, Spinal Injury, Kyphoscoliosis	184	4.4%	4	0	72
Grand Total	4,166	100.0%	3	0	157

Transfusion Rate by Comorbidities

Charlson Comorbidities (group)	Blood Transfusion					
	Yes		No		Grand Total	
	N	% of Total Number of Records ..	N	% of Total Number of Records ..	N	% of Total Number of Records ..
Spina Bifida, Spinal Injury, Kyphoscoliosis	7	4.0%	167	96.0%	174	100.0%
Not recorded, other	89	2.4%	3,696	97.6%	3,785	100.0%
Grand Total	96	2.4%	3,863	97.6%	3,959	100.0%

Sepsis by Complexity

Post Operative Infection (group)										
Stone Complexity (group)	Sepsis		Fever		None		Not recorded		Grand Total	
	% of Total Number of		% of Total Number of		% of Total Number of		% of Total Number of		N	% of Total Number of
	N	Records ..	N	Records ..	N	Records ..	N	Records ..		
I	35	1.6%	161	7.4%	1,856	85.1%	129	5.9%	2,181	100.0%
III	81	4.7%	206	12.0%	1,315	76.7%	113	6.6%	1,715	100.0%
Null	15	5.6%	12	4.4%	198	73.3%	45	16.7%	270	100.0%
Grand Total	131	3.1%	379	9.1%	3,369	80.9%	287	6.9%	4,166	100.0%

Sepsis by Size

Post Operative Infection (group)										
Stone Dimensions (group)	Sepsis		Fever		None		Not recorded		Grand Total	
	% of Total Number of		% of Total Number of		% of Total Number of		% of Total Number of		N	% of Total Number of
	N	Records ..	N	Records ..	N	Records ..	N	Records ..		
Not recorded	8	3.3%	20	8.2%	159	64.9%	58	23.7%	245	100.0%
0-2cm	21	1.6%	88	6.5%	1,181	87.2%	64	4.7%	1,354	100.0%
>2cm	102	4.0%	271	10.6%	2,029	79.0%	165	6.4%	2,567	100.0%
Grand Total	131	3.1%	379	9.1%	3,369	80.9%	287	6.9%	4,166	100.0%

Sepsis by Comorbidities

Post Operative Infection (group)										
Charlson Comorbidities (group)	Sepsis		Fever		None		Not recorded		Grand Total	
	% of Total Number of		% of Total Number of		% of Total Number of		% of Total Number of		N	% of Total Number of
	N	Records ..	N	Records ..	N	Records ..	N	Records ..		
Spina Bifida, Spinal Injury, Kyphoscoliosis	21	11.4%	31	16.8%	118	64.1%	14	7.6%	184	100.0%
Not recorded, other	110	2.8%	348	8.7%	3,251	81.6%	273	6.9%	3,982	100.0%
Grand Total	131	3.1%	379	9.1%	3,369	80.9%	287	6.9%	4,166	100.0%

Clearance on Post operative radiological imaging by Complexity

Clearance On Post Operative Radiological Imaging

Stone Complexity (group)	Yes		No		Not done		Not recorded		Grand Total	
	N	% of Total Number of Records ..	N	% of Total Number of Records ..	N	% of Total Number of Records ..	N	% of Total Number of Records ..	N	% of Total Number of Records ..
I	1,405	64.4%	303	13.9%	244	11.2%	229	10.5%	2,181	100.0%
III	740	43.1%	662	38.6%	161	9.4%	152	8.9%	1,715	100.0%
Null	82	30.4%	29	10.7%	26	9.6%	133	49.3%	270	100.0%
Grand Total	2,227	53.5%	994	23.9%	431	10.3%	514	12.3%	4,166	100.0%

Clearance on Post operative radiological imaging by Stone Size

Clearance On Post Operative Radiological Imaging

Stone Dimensions (group)	Yes		No		Not done		Not recorded		Grand Total	
	N	% of Total Number of Records ..	N	% of Total Number of Records ..	N	% of Total Number of Records ..	N	% of Total Number of Records ..	N	% of Total Number of Records ..
0-2cm	819	60.5%	191	14.1%	178	13.1%	166	12.3%	1,354	100.0%
>2cm	1,323	51.5%	758	29.5%	220	8.6%	266	10.4%	2,567	100.0%
Not recorded	85	34.7%	45	18.4%	33	13.5%	82	33.5%	245	100.0%
Grand Total	2,227	53.5%	994	23.9%	431	10.3%	514	12.3%	4,166	100.0%

Clearance on Post operative radiological imaging by Comorbidities

Clearance On Post Operative Radiological Imaging

Charlson Comor..	Yes		No		Not done		Not recorded		Grand Total	
	N	% of Tot..	N	% of Tot..	N	% of Tot..	N	% of Tot..	N	% of Tot..
Spina Bifida, Spinal Injury, Kyphoscoliosis	89	48.4%	52	28.3%	17	9.2%	26	14.1%	184	100.0%
Not recorded, other	2,138	53.7%	942	23.7%	414	10.4%	488	12.3%	3,982	100.0%
Grand Total	2,227	53.5%	994	23.9%	431	10.3%	514	12.3%	4,166	100.0%

Complications

complication	N	% Total
Yes	336	8.1%
No	3,755	90.1%
Not recorded	75	1.8%
Grand Total	4,166	100.0%

PostopComps

Postopcomp..	N	% Total
Yes	306	7.3%
No	1,675	40.2%
Not recorded	2,185	52.4%
Grand Total	4,166	100.0%

CD Grade of Complications

Clavien Dindo Grade Of Complications	N	% Total
Grade I	73	23.9%
Grade II	129	42.2%
Grade IIIa	52	17.0%
Grade IIIb	31	10.1%
Grade IVa	13	4.2%
Grade V	3	1.0%
Not recorded	5	1.6%
Grand Total	306	100.0%

CD by complexity

Stone Complexity (..	Clavien Dindo Grade Of Complications															
	Grade I		Grade II		Grade IIIa		Grade IIIb		Grade IVa		Grade V		Not recorded		Grand Total	
	N	% of Total Number ..	N	% of Total Nu..	N	% of Total Number ..	N	% of Total Nu..	N	% of Total Number ..	N	% of Total Nu..	N	% of Total Number ..	N	% of Total Nu..
I	44	34.1%	43	33.3%	23	17.8%	11	8.5%	5	3.9%	1	0.8%	2	1.6%	129	100.0%
III	25	15.3%	79	48.5%	28	17.2%	20	12.3%	8	4.9%	2	1.2%	1	0.6%	163	100.0%
Null	4	28.6%	7	50.0%	1	7.1%							2	14.3%	14	100.0%
Grand Total	73	23.9%	129	42.2%	52	17.0%	31	10.1%	13	4.2%	3	1.0%	5	1.6%	306	100.0%

CD by Size

Stone Dimensions (group)	Clavien Dindo Grade Of Complications															
	Grade I		Grade II		Grade IIIa		Grade IIIb		Grade IVa		Grade V		Not recorded		Grand Total	
	N	% of Total Number..	N	% of Total Number..	N	% of Total Number..	N	% of Total Number ..	N	% of Total Number..	N	% of Total Number..	N	% of Total Number ..	N	% of Total Number..
0-2cm	26	31.0%	33	39.3%	15	17.9%	6	7.1%	2	2.4%	1	1.2%	1	1.2%	84	100.0%
>2cm	37	18.4%	90	44.8%	35	17.4%	25	12.4%	10	5.0%	1	0.5%	3	1.5%	201	100.0%
Not recorded	10	47.6%	6	28.6%	2	9.5%			1	4.8%	1	4.8%	1	4.8%	21	100.0%
Grand Total	73	23.9%	129	42.2%	52	17.0%	31	10.1%	13	4.2%	3	1.0%	5	1.6%	306	100.0%

CD by Comorbidities

Charlson Comorbidities (group)	Clavien Dindo Grade Of Complications															
	Grade I		Grade II		Grade IIIa		Grade IIIb		Grade IVa		Grade V		Not recorded		Grand Total	
	N	% of Total Number of Recor..	N	% of Total Number of Recor..	N	% of Total Number of Recor..	N	% of Total Number of Recor..	N	% of Total Number of Recor..	N	% of Total Number of Recor..	N	% of Total Number of Recor..	N	% of Total Number of Recor..
Spina Bifida, Spinal Injury, Kyphoscoliosis	6	22.2%	15	55.6%	4	14.8%	1	3.7%	1	3.7%					27	100.0%
Not recorded, other	67	24.0%	114	40.9%	48	17.2%	30	10.8%	12	4.3%	3	1.1%	5	1.8%	279	100.0%
Grand Total	73	23.9%	129	42.2%	52	17.0%	31	10.1%	13	4.2%	3	1.0%	5	1.6%	306	100.0%

Clearance on Post operative radiological imaging by Complexity

Clearance On Post Operative Radiological Imaging

Stone Complexity (group)	Yes		No		Not done		Not recorded		Grand Total	
	N	% of Total Number of Records ..	N	% of Total Number of Records ..	N	% of Total Number of Records ..	N	% of Total Number of Records ..	N	% of Total Number of Records ..
I	1,405	64.4%	303	13.9%	244	11.2%	229	10.5%	2,181	100.0%
III	740	43.1%	662	38.6%	161	9.4%	152	8.9%	1,715	100.0%
Null	82	30.4%	29	10.7%	26	9.6%	133	49.3%	270	100.0%
Grand Total	2,227	53.5%	994	23.9%	431	10.3%	514	12.3%	4,166	100.0%

Clearance on Post operative radiological imaging by Stone Size

Clearance On Post Operative Radiological Imaging

Stone Dimensions (group)	Yes		No		Not done		Not recorded		Grand Total	
	N	% of Total Number of Records ..	N	% of Total Number of Records ..	N	% of Total Number of Records ..	N	% of Total Number of Records ..	N	% of Total Number of Records ..
0-2cm	819	60.5%	191	14.1%	178	13.1%	166	12.3%	1,354	100.0%
>2cm	1,323	51.5%	758	29.5%	220	8.6%	266	10.4%	2,567	100.0%
Not recorded	85	34.7%	45	18.4%	33	13.5%	82	33.5%	245	100.0%
Grand Total	2,227	53.5%	994	23.9%	431	10.3%	514	12.3%	4,166	100.0%

Patients with Follow up

Flw Id (group)	N	% Total
No follow up	2,649	63.6%
Follow up	1,517	36.4%
Grand Total	4,166	100.0%

Stone Free at Follow up

Stone Complexity	Stone Free At Follow Up							
	No		Yes		Not recorded		Grand Total	
	N	% of Total Number of Records ..	N	% of Total Number of Records ..	N	% of Total Number of Records ..	N	% of Total Number of Records ..
I	21	5.6%	335	89.6%	18	4.8%	374	100.0%
II	89	17.4%	403	78.9%	19	3.7%	511	100.0%
III	143	36.0%	243	61.2%	11	2.8%	397	100.0%
IV	108	49.3%	105	47.9%	6	2.7%	219	100.0%
Not recorded	1	6.3%	13	81.3%	2	12.5%	16	100.0%
Grand Total	362	23.9%	1,099	72.4%	56	3.7%	1,517	100.0%

Stone Free by Size

Stone Dimensions (group)	Stone Free At Follow Up							
	No		Yes		Not recorded		Grand Total	
	N	% of Total Number of Records ..	N	% of Total Number of Records ..	N	% of Total Number of Records ..	N	% of Total Number of Records ..
0-2cm	76	14.4%	433	81.9%	20	3.8%	529	100.0%
>2cm	277	29.2%	640	67.5%	31	3.3%	948	100.0%
Not recorded	9	22.5%	26	65.0%	5	12.5%	40	100.0%
Grand Total	362	23.9%	1,099	72.4%	56	3.7%	1,517	100.0%

Participating Hospital Centres 2014 and 2015

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

Aberdeen Royal Infirmary	Churchill Hospital, Oxford	Freeman Hospital, Newcastle
Addenbrooke's Hospital, Cambridge	City Hospital Birmingham	Frimley Park Hospital
Alexandra Hospital, Redditch	Colchester General Hospital	George Eliot Hospital, Nuneaton
Arrowe Park Hospital, Wirral	Countess of Chester Hospital	Glasgow Royal Infirmary
Barking, Havering And Redbridge University Hospital	Craigavon Area Hospital, Portadown	Good Hope Hospital, Sutton Coldfield
Basildon University Hospital, Essex	Cumberland Infirmary, Carlisle	Guy's & Thomas's Hospital
Bedford Hospital	Darent Valley Hospital, Kent	Harrogate District Hospital
Bradford Royal Infirmary	Derriford Hospital, Plymouth	Heartlands Hospital, Birmingham
Broadgreen Hospital, Liverpool	Diana, Princess of Wales Hospital, Grimsby	Hereford County Hospital
Broomfield Hospital, Chelmsford	Doncaster Royal Infirmary	Huddersfield Royal Infirmary
Castle Hill Hospital, Hull	Dorset County Hospital, Dorchester	Ipswich Hospital, Suffolk
Chelsea & Westminster Hospital, London	Ealing Hospital	Kent and Canterbury Hospital
Cheltenham General Hospital	Eastbourne District General Hospital	Leicester General Hospital
Chesterfield Royal Hospital	Epsom General Hospital, Surrey	Leighton Hospital, Cheshire
	Forth Valley Royal Hospital, Larbert	Lister Hospital, Stevenage

Luton & Dunstable University Hospital	Raigmore Hospital, Inverness	Royal Sussex County Hospital, Brighton
Manchester Royal Infirmary	Rotherham Hospital	Royal United Hospital, Bath
Monklands District General Hospital, Airdrie	Royal Blackburn Hospital	Salford Royal Hospital
Morrison Hospital, Swansea	Royal Albert Edward Infirmary, Wigan	Salisbury District Hospital
Musgrove Park Hospital, Taunton	Royal Berkshire Hospital, Reading	Scunthorpe General Hospital
New Cross Hospital, Wolverhampton	Royal Bolton Hospital	South Eastern Health Trust, Northern Ireland
Norfolk And Norwich University Hospital	Royal Bournemouth General Hospital	Southampton General Hospital
North Devon District Hospital	Royal Cornwall Hospital, Truro	Southend Hospital
North Manchester General Hospital	Royal Derby Hospital	Southmead Hospital, Bristol
North Middlesex Hospital, London	Royal Devon and Exeter Hospital	St George's Hospital, London
Northampton General Hospital	Royal Free Hospital, London	St James's University Hospital, Leeds
Northwick Park Hospital	Royal Gwent Hospital	St Peter's Hospital, Chertsey
Nottingham City Hospital	Royal Hallamshire Hospital, Sheffield	St Richard's Hospital, Chichester
Peterborough City Hospital	Royal Hampshire County Hospital, Winchester	Stepping Hill Hospital, Stockport
Pinderfields General Hospital, Wakefield	Royal Liverpool University Hospital	Sunderland Royal Hospital
Princess Alexandra Hospital, Harlow	Royal Preston Hospital	The James Cook University Hospital, Middlesbrough
Queen Alexandra Hospital, Portsmouth	Royal Shrewsbury Hospital	University College Hospital, London
Queen Elizabeth Hospital, Birmingham	Royal Stoke University Hospital	University Hospital of Wales, Cardiff

University Hospital, Ayr

Western General Hospital, Edinburgh

Wexham Park Hospital, Slough

Whipps Cross University Hospital, London

Whiston Hospital, Prescot

Whittington Hospital, London

Worthing Hospital

Wrexham Maelor Hospital

Wycombe Hospital, High Wycombe

Wythenshawe Hospital, Manchester

Yeovil District Hospital