

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

Analyses of PCNL's performed between

January 1st and December 31st 2014

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AUDIT RESULTS SUMMARY – PCNL dataset

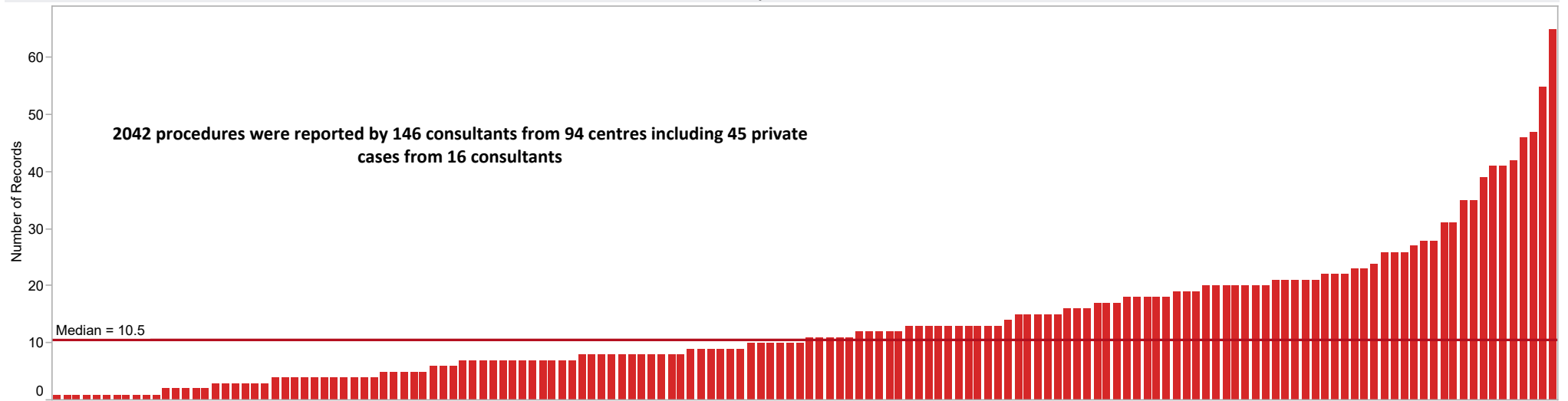
All the data presented here are a summary of the data extracted from the web-based database on 16th April 2015 and relate to operations performed during the whole of 2014. Once extracted the data was transferred to an AccessTM database for validation before being imported into TableauTM for generation 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 2014.

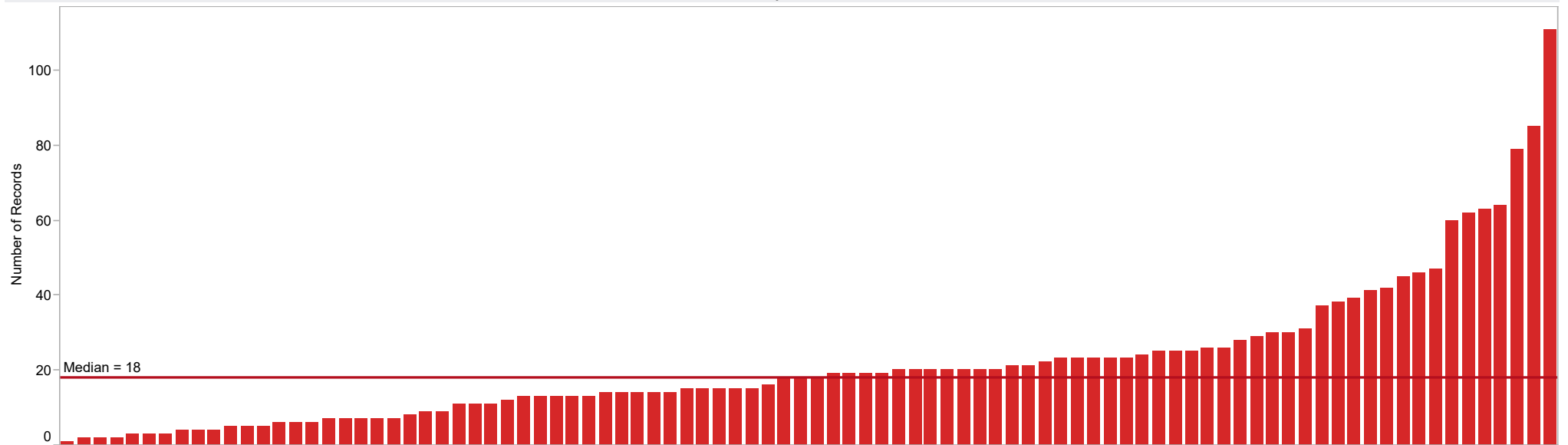
- 2,042 procedures were recorded from 146 consultants at 94 centres in the United Kingdom, including 45 private patients from 16 consultants. Four of the consultants returning data are not BAUS members.
- Median number of cases per consultant: 10 (range 1 - 65)
- Median number of cases per centre: 18 (range 1 - 111)
- All data were entered by hand and there was no bulk uploading of data from other systems.
- Hospital Episode Statistics (HES) for 2013 indicate that there were 1,687 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. We think we have received a very good response from the surgeons undertaking this procedure and we estimate that we have collected data on at about 90% of the procedures undertaken in England in 2014.

Total Returns for Procedures performed between 01/01/2014 and 31/12/2014

Total by Consultant



Total by Centre



Procedural Details

Stone Dimensions		
7: Stone Dim..	N	% Total
0 - 1 cm	96	4.7%
1 - 2 cm	597	29.2%
> 2 cm	1,298	63.6%
Not recorded	51	2.5%
Grand Total	2,042	100.0%

Side				
20: Date of Operation				
5: Side	2014		Grand Total	
	N	% Total	N	% Total
Left	1,116	54.7%	1,116	54.7%
Right	895	43.8%	895	43.8%
Not recorded	31	1.5%	31	1.5%
Grand Total	2,042	100.0%	2,042	100.0%

Pre-op MSU		
16: Pre-op M..	N	% Total
Yes	1,819	89.1%
No	139	6.8%
Not recorded	84	4.1%
Grand Total	2,042	100.0%

Patient Position		
27: Patient position	N	% Total
Prone	1,565	76.6%
Supine	425	20.8%
Other	37	1.8%
Not recorded	15	0.7%
Grand Total	2,042	100.0%

Renal Access - 1			
24: Puncture / Tract performed by	N	% Total	
Urologist	664	32.5%	
Radiologist	1,350	66.1%	
Not recorded	28	1.4%	
Grand Total	2,042	100.0%	

Fragmentation		
34: Stone extraction / fragmentation	N	% Total
Laser	178	8.7%
Lift out	234	11.5%
Lithoclast	568	27.8%
USL	994	48.7%
Not recorded	68	3.3%
Grand Total	2,042	100.0%

Renal Access - 2		
30: Placement of tract	N	% Total
Subcostal	1,772	86.8%
Supracostal	185	9.1%
Not recorded	85	4.2%
Grand Total	2,042	100.0%

Number of tracts			
28: Number of tracts planned	N	% Total	
1	1,818	89.0%	
2	118	5.8%	
3	7	0.3%	
Not recorded	99	4.8%	
Grand Total	2,042	100.0%	

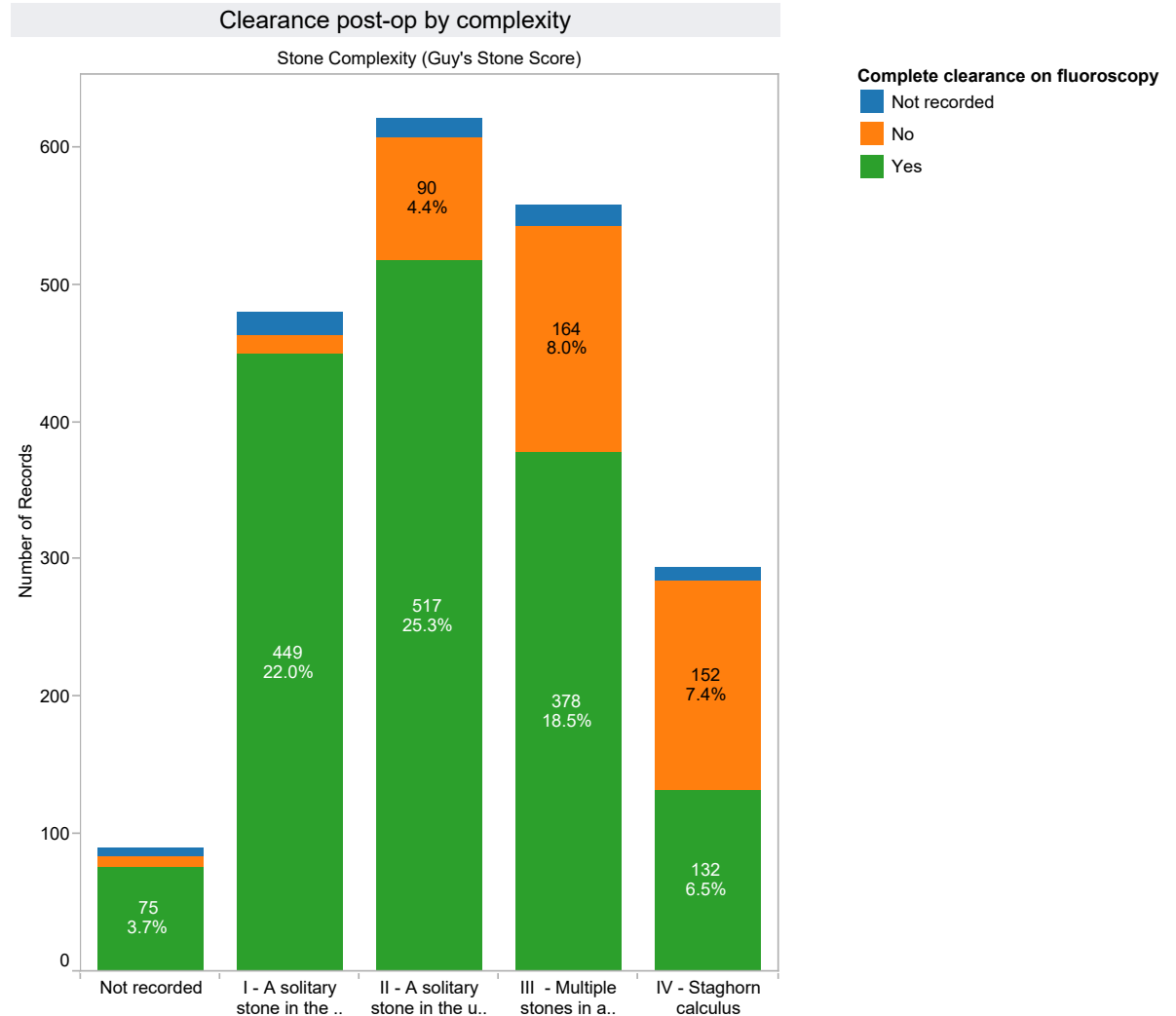
Image Guidance		
26: Image guidance for renal puncture	N	% Total
Fluoroscopy	989	48.4%
Ultrasound	95	4.7%
Both	935	45.8%
CT	2	0.1%
Not recorded	21	1.0%
Grand Total	2,042	100.0%

Stone Complexity and Clearance rates

Stone Complexity		
Stone Complexity (Guy's Ston..	N	% of Total
I - A solitary stone in the mid/l..	480	23.5%
II - A solitary stone in the uppe..	621	30.4%
III - Multiple stones in a patie..	558	27.3%
IV - Staghorn calculus	294	14.4%
Not recorded	89	4.4%
Grand Total	2,042	100.0%

Complete Clearance on Fluoroscopy		
35: Complete clearance on fluoroscopy	N	% Total
Yes	1,551	76.0%
No	429	21.0%
Not recorded	62	3.0%
Grand Total	2,042	100.0%

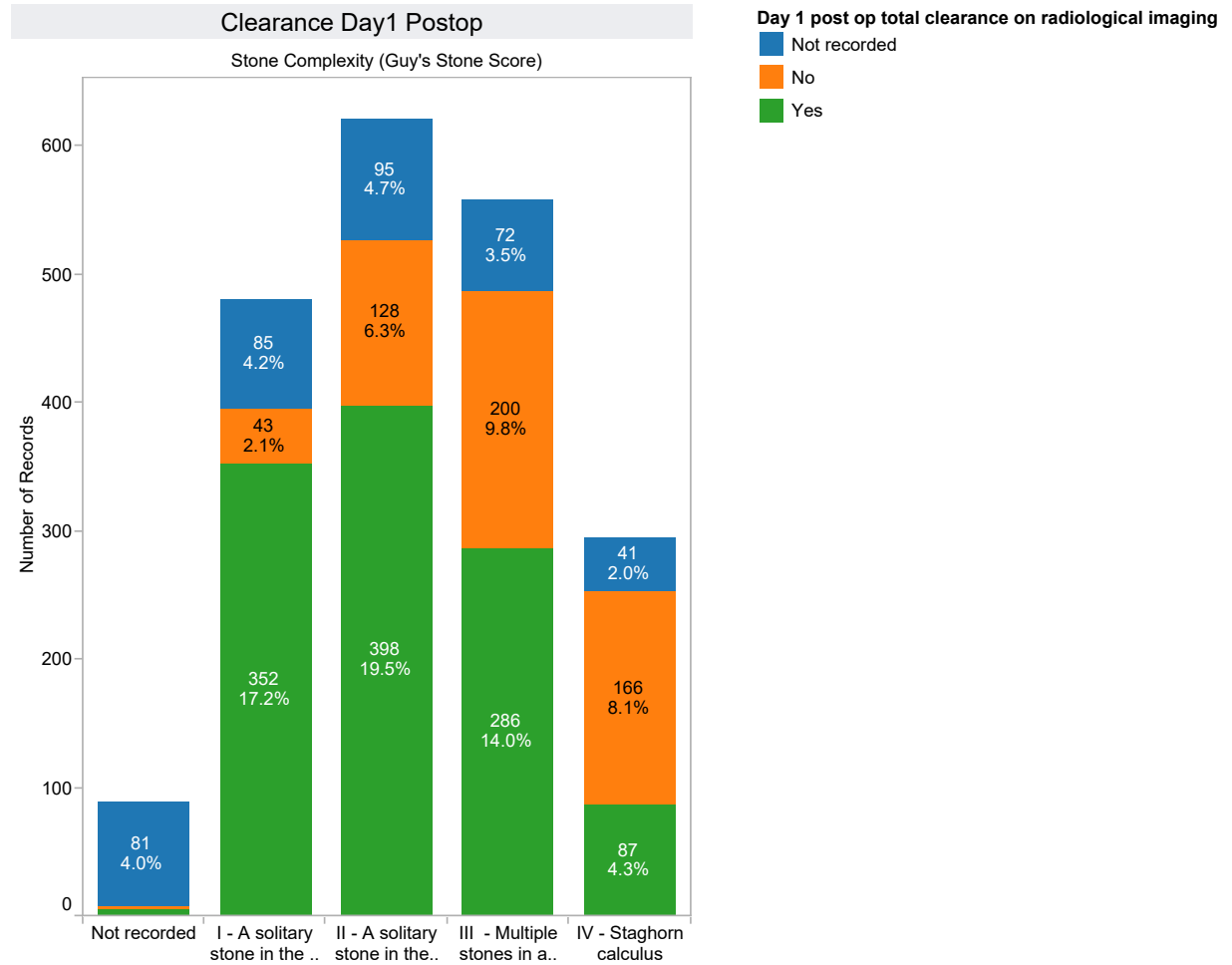
Staghorn Calculi - Clearance		
35: Complete clearance on fluoroscopy	N	% Total
Yes	132	44.9%
No	152	51.7%
Not recorded	10	3.4%
Grand Total	294	100.0%



Stone Complexity and Clearance rates contd.

Day 1 post op Imaging		
Day 1 post op total clearance on radiological imaging	N	% of Total
Yes	1,128	55.2%
No	540	26.4%
Not recorded	374	18.3%
Grand Total	2,042	100.0%

Staghorn Day 1		
Day 1 post op total clearance on radiological imaging	N	% Total
Yes	87	29.6%
No	166	56.5%
Not recorded	41	13.9%
Grand Total	294	100.0%



Ureteric stent insertion			
44: Ureteric st..	N	% of Total	
Yes	682	33.4%	
No	1,332	65.2%	
Not recorded	28	1.4%	
Grand Total	2,042	100.0%	

Ureteric catheter			
46: Ureteric c..	N	% of Total	
Yes	359	17.6%	
No	1,592	78.0%	
Not recorded	91	4.5%	
Grand Total	2,042	100.0%	

Totally tubeless			
47: Totally tubeless (to include no urethral cathe..	N	% of Total	
Yes	111	5.4%	
No	1,831	89.7%	
Not recorded	100	4.9%	
Grand Total	2,042	100.0%	

Blood Transfusions			
49: Blood transfusion	50: Number of units	N	% Total
Yes	1	4	0.2%
	2	26	1.3%
	3	4	0.2%
	4	6	0.3%
	5	1	0.1%
	6	2	0.1%
	Not recorded / N/A	6	0.3%
	Total	49	2.5%
No	Not recorded / N/A	1,922	97.5%
	Total	1,922	97.5%
Grand Total		1,971	100.0%

Blood transfusions by performer						
		49: Blood transfusion				
24: Puncture / Tract performed by		Yes	No	Not recorded	Grand Total	
Urologist	N	15	643	6	664	
	% of Total	2.3%	96.8%	0.9%	100.0%	
Radiologist	N	34	1,253	63	1,350	
	% of Total	2.5%	92.8%	4.7%	100.0%	
Not recorded	N		26	2	28	
	% of Total		92.9%	7.1%	100.0%	
Grand Total	N	49	1,922	71	2,042	
	% of Total	2.4%	94.1%	3.5%	100.0%	

Post-operative Length of Stay				
N	Median	Min	Max	
2,042	3	0	49	

Complications

Difficult Access		
12: Difficult Access	N	% Total
Yes	421	20.6%
No	1,524	74.6%
Not recorded	97	4.8%
Grand Total	2,042	100.0%

Procedure abandoned				
36: Procedure abandoned	37: If abandoned why	N	% Total	
Yes	Failed Access	16	0.8%	
	Inaccessible stones	36	1.8%	
	Intra-operative bleedi..	23	1.1%	
	Other	14	0.7%	
	Not recorded / N/A	3	0.1%	
No	Intra-operative bleedi..	1	0.0%	
	Other	1	0.0%	
	Not recorded / N/A	1,932	94.6%	
Not recorded	Other	1	0.0%	
	Not recorded / N/A	15	0.7%	
Grand Total		2,042	100.0%	

Complications		
38: Complications - visceral injury	N	% of Total
Yes	6	0.3%
No	2,024	99.1%
Not recorded	12	0.6%
Grand Total	2,042	100.0%

PostopInfection		
51: Post op Infection (..	N	% of Total
None	1,616	79.1%
Fever	208	10.2%
SIRS - Sepsis	65	3.2%
Fever; SIRS - Sepsis	14	0.7%
Not recorded	139	6.8%
Grand Total	2,042	100.0%

CD grade of complications		
Clavien Dindo Grade	N	% of Total
Grade I	18	0.9%
Grade II	32	1.6%
Grade IIIa	21	1.0%
Grade IIIb	12	0.6%
None / Not recorded	1,959	95.9%
Grand Total	2,042	100.0%

CD by Stone Complexity												
Clavien Dindo Grade	Stone Complexity (Guy's Stone Score)											
	I - A solitary stone in the mid/lower pole with simple anatomy..		II - A solitary stone in the upper pole with simple anatomy Or ..		III - Multiple stones in a patient with abnormal anatomy ..		IV - Staghorn calculus		Not recorded		Grand Total	
	N	% of Total	N	% of Total	N	% of Total	N	% of Total	N	% of Total	N	% of Total
Grade I	3	0.6%	7	1.1%	5	0.9%	2	0.7%	1	1.1%	18	0.9%
Grade II	4	0.8%	3	0.5%	16	2.9%	9	3.1%			32	1.6%
Grade IIIa	4	0.8%	2	0.3%	13	2.3%	2	0.7%			21	1.0%
Grade IIIb	1	0.2%	3	0.5%	4	0.7%	4	1.4%			12	0.6%
None / Not recorded	468	97.5%	606	97.6%	520	93.2%	277	94.2%	88	98.9%	1,959	95.9%
Grand Total	480	100.0%	621	100.0%	558	100.0%	294	100.0%	89	100.0%	2,042	100.0%

Difficult access by Performer

24: Puncture / Tract performed by	12: Difficult Access							
	Yes		No		Not recorded		Grand Total	
	N	% of Total	N	% of Total	N	% of Total	N	% of Total
Urologist	126	19.0%	517	77.9%	21	3.2%	664	100.0%
Radiologist	289	21.4%	986	73.0%	75	5.6%	1,350	100.0%
Not recorded	6	21.4%	21	75.0%	1	3.6%	28	100.0%
Grand Total	421	20.6%	1,524	74.6%	97	4.8%	2,042	100.0%

Abandoned by Performer

24: Puncture / Tract performed by	36: Procedure abandoned							
	Yes		No		Not recorded		Grand Total	
	N	% of Total	N	% of Total	N	% of Total	N	% of Total
Urologist	24	3.61%	637	95.93%	3	0.45%	664	100.00%
Radiologist	67	4.96%	1,270	94.07%	13	0.96%	1,350	100.00%
Not recorded	1	3.57%	27	96.43%			28	100.00%
Grand Total	92	4.51%	1,934	94.71%	16	0.78%	2,042	100.00%

Difficult Access and Procedures abandoned by Performer

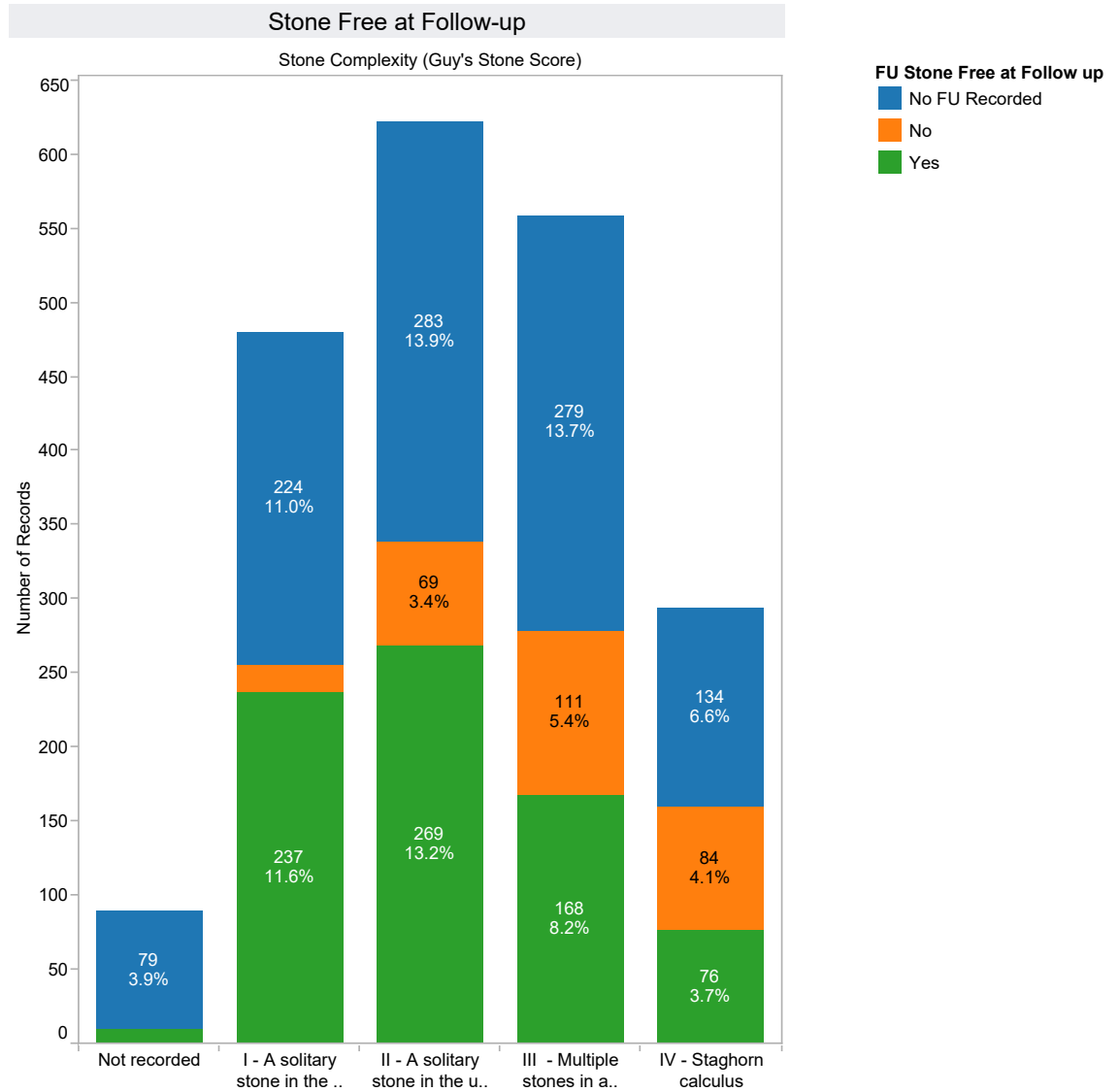
24: Puncture / Tract performed by	12: Difficult Access	36: Procedure abandoned							
		Yes		No		Not recorded		Grand Total	
		N	% of Total	N	% of Total	N	% of Total	N	% of Total
Urologist	Yes	14	11.1%	110	87.3%	2	1.6%	126	100.0%
	No	10	1.9%	506	97.9%	1	0.2%	517	100.0%
	Not recorded			21	100.0%			21	100.0%
	Total	24	3.6%	637	95.9%	3	0.5%	664	100.0%
Radiologist	Yes	28	9.7%	256	88.6%	5	1.7%	289	100.0%
	No	38	3.9%	940	95.3%	8	0.8%	986	100.0%
	Not recorded	1	1.3%	74	98.7%			75	100.0%
	Total	67	5.0%	1,270	94.1%	13	1.0%	1,350	100.0%
Not recorded	Yes	1	16.7%	5	83.3%			6	100.0%
	No			21	100.0%			21	100.0%
	Not recorded			1	100.0%			1	100.0%
	Total	1	3.6%	27	96.4%			28	100.0%
Grand Total		92	4.5%	1,934	94.7%	16	0.8%	2,042	100.0%

Predicted vs Actual Difficulty

13: Predicted difficulty	14: Actual peri-operative difficulty									
	None		Patient Anatomy		Renal Anatomy		Not recorded		Grand Total	
	N	%	N	%	N	%	N	%	N	%
None	1,313	66.5%	28	1.4%	86	4.4%	18	0.9%	1,445	73.2%
Patient Anatomy	71	3.6%	151	7.6%	12	0.6%	4	0.2%	238	12.1%
Renal Anatomy	93	4.7%	6	0.3%	190	9.6%	2	0.1%	291	14.7%
Grand Total	1,477	74.8%	185	9.4%	288	14.6%	24	1.2%	1,974	100.0%

Stone Free Rate at FU by Complexity

StoneFreeatFU		
FU Stone Free at Follow up	N	% of Total
Yes	760	37.2%
No	283	13.9%
No FU Recorded	999	48.9%
Grand Total	2,042	100.0%



Participating Hospital Centres 2014

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

Aberdeen Royal Infirmary
Addenbrooke'S Hospital
Alexandra Hospital
Ayr Hospital
Barking, Havering And Redbridge University Hospitals NHS Trust
Barts Health NHS Trust - Whipps Cross Hospital
Bedford Hospital NHS Trust
Bolton NHS Foundation Trust
Bradford Teaching Hospitals NHS Foundation Trust
Brighton And Sussex University Hospitals NHS Trust
Wycombe General Hospital
Chesterfield Royal Hospital
Churchill Hospital
City Hospitals Sunderland NHS Foundation Trust
Colchester Hospital University NHS Trust
Craigavon Area Hospital
Dartford And Gravesham NHS Trust
Doncaster And Bassetlaw Hospitals NHS Foundation Trust
Dorset County Hospital
East And North Hertfordshire NHS Trust
Kent & Canterbury Hospital

East Lancashire Hospitals NHS Trust
East Sussex Healthcare NHS Trust
Epsom And St Helier University Hospitals NHS Trust
Freeman Hospital
Frimley Park Hospital NHS Foundation Trust
Glasgow Royal Infirmary
Gloucestershire Hospitals NHS Foundation Trust
Guy's & Thomas's Hospital
Harrogate District Hospital
Heart Of England NHS Foundation trust
Ipswich Hospital NHS Trust
Lancashire Teaching Hospitals NHS Trust
Leicester General Hospital
Maidstone Hospital
Manchester Royal Infirmary
Mid Cheshire Hospitals NHS Foundation Trust
Mid Essex Hospital Services NHS Trust
Mid Yorkshire Hospitals NHS Trust
Morrison Hospital
Musgrove Park Hospital, Taunton
New Cross Hospital, Wolverhampton
Norfolk & Norwich Hospital

Norfolk And Norwich University Hospitals NHS Foundation Trust
North Bristol NHS trust (Southmead)
North Middlesex Hospital
Northampton General Hospital NHS Trust
Northern Lincolnshire & Goole Hospitals NHS Foundation Trust
Northwick Park Hospital; Central Middlesex Hospital
Nottingham University Hospitals NHS Trust
Pennine Acute Hospitals NHS Trust - North Manchester General Hospital
Peterborough And Stamford Hospitals NHS Foundation Trust
Plymouth Hospitals NHS Trust
Raigmore Hospital, Inverness
Royal Berkshire NHS Foundation Trust
Royal Cornwall Hospitals NHS Trust
Royal Devon And Exeter NHS Foundation Trust
Royal Devon And Exeter NHS Foundation Trust
Royal Free London NHS Foundation Trust
Royal Gwent Hospital
Royal Hallamshire Hospital
Royal Liverpool University Hospital
Royal United Hospital Bath NHS Trust

Salford Royal NHS Foundation Trust
Salisbury NHS Foundation Trust
Sandwell And West Birmingham Hospitals NHS Trust
Shrewsbury And Telford Hospital NHS Trust
South Eastern Health Trust, Northern Ireland
South Tees Hospitals NHS Foundation Trust
Southend University Hospital NHS Trust
St George'S Healthcare NHS Trust
St Helens And Knowsley Hospitals NHS Trust
St Mary'S Hospital, London
St Peter'S Hospital, Chertsey
Stepping Hill Hospital

The Countess Of Chester Hospital
The Princess Alexandra Hospital NHS Trust
The Rotherham NHS Foundation Trust
The Royal Bournemouth And Christchurch Hospitals NHS Foundation Trust
University College London Hospitals NHS Foundation Trust
University Hospital Of North Stafford
University Hospital Of South Manchester NHS Foundation Trust
University Hospital Of Wales
University Hospital Southampton NHS Foundation Trust

University Hospitals Birmingham NHS Foundation Trust
Western General Hospital, Edinburgh
Western Sussex Hospitals NHS Trust
Whittington Hospital
Wirral University Teaching Hospital NHS Foundation Trust
Wrexham Maelor Hospital
Wrightington, Wigan And Leigh NHS Foundation Trust
Wye Valley NHS Trust
Yeovil District General Hospital