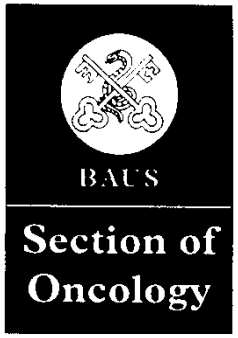



# THE BRITISH ASSOCIATION OF

# UROLOGICAL SURGEONS

# SECTION of ONCOLOGY

## Analyses of Prostatectomy Dataset

## January 1st – 31st December 2013

## June 2014

**MEMBERS OF THE EXECUTIVE COMMITTEE**

| | | | | |
|---|---|---|---|---|
| J Adshead | S Brewster | D Cahill | J Cresswell | S Khan |
| A McNeill | H Mostafid | T O'Brien | E Rowe | |



**PRODUCED FOR BAUS SECTION OF ONCOLOGY**

**by**

**Sarah Fowler**

**Manager BAUS data & audit project**

## CONTENTS

## GENERAL INTRODUCTION

2013 was the first year that compulsory surgeon level outcome data was published in urology for nephrectomy. In actual fact the results, when published, attracted very little media scrutiny, perhaps because they showed that on the whole nephrectomy is performed well by UK urologists. It is worth noting however that the BAUS nephrectomy audit did not represent a complete picture of every nephrectomy performed in 2012 in the UK, based on HES figures BAUS estimates data on about 75% of nephrectomies undertaken in England were returned.

Turning to the prostatectomy and cystectomy data, a review of the 2013 data seems to suggest that the changes recommended by the IOG guidance are slowly changing the way urologists practice pelvic oncology. In 2012 2093 radical prostatectomies (RPs) were performed by 110 surgeons in 57 centres compared with 3695 RPs performed by 130 surgeons in 62 centres in 2013. Further analysis shows an encouraging increase in median RP per surgeon from 9 to 16 and per centre up from 19 to 38.

For radical cystectomy (RC) the data are less encouraging. The number of RCs reported increased from 743 performed by 74 surgeons in 45 centres to 1024 RCs performed by 105 surgeons in 57 centres. The median number of RCs per surgeon remains largely unchanged: 6 in 2012 and 7 in 2013. It could be argued that RC is increasingly performed by teams and to support this the number of RCs performed per centre has increased from 6 in 2012 to 13 in 2013. This upward trend is to be welcomed, although it still represents about 1 RC per month - well short of numbers that studies consistently show are needed to show improved outcomes.

The increasing dominance of robotic techniques is also evident; between 2012 and 2013 open RP fell from 21% to 13%, laparoscopic RP fell from 40% to 30% and robotic RP increased from 32% to 50%. Robotic techniques are also starting to take hold with RC; between 2012 and 2013 open RC fell from 75% to 60% whilst robotic RC increased from 7 to 15%.

As always, BAUS and the Section of Oncology are extremely grateful to Sarah Fowler, BAUS Data & Audit Manager, for her hard work in collecting and analysing the data. The quality of this work is reflected in the fact that much of the data will be used by NHS England to inform its quality dashboards to measure robust outcome data for pelvic oncology. We are always keen to encourage any urologists or trainees who wish to use the data for a research or audit project and finally we would encourage all urologists who perform these operations to routinely collect and submit their data.

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

Hugh Mostafid

June 2014

## AUDIT RESULTS SUMMARY - Radical Prostatectomy dataset (January 1st – December 31st 2013)

- 3695 Prostatectomies reported by 130 consultants from 62 centres (including 70 private patients from 16 consultants)
  - 68% of the data (2499/3695) was individually entered by hand as oppose to being bulk imported
  - Median per consultant = 16, range 1 – 157
  - Median per centre = 38, range 1 – 234
  - Median Age at operation = 64, range 31 - 85
  - 29% have 1 or more follow up

**How were the data analysed?**

All the data presented here are a summary of the data extracted from the web-based database on 24th April 2013 and relate to operations performed during the whole of 2013. 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.

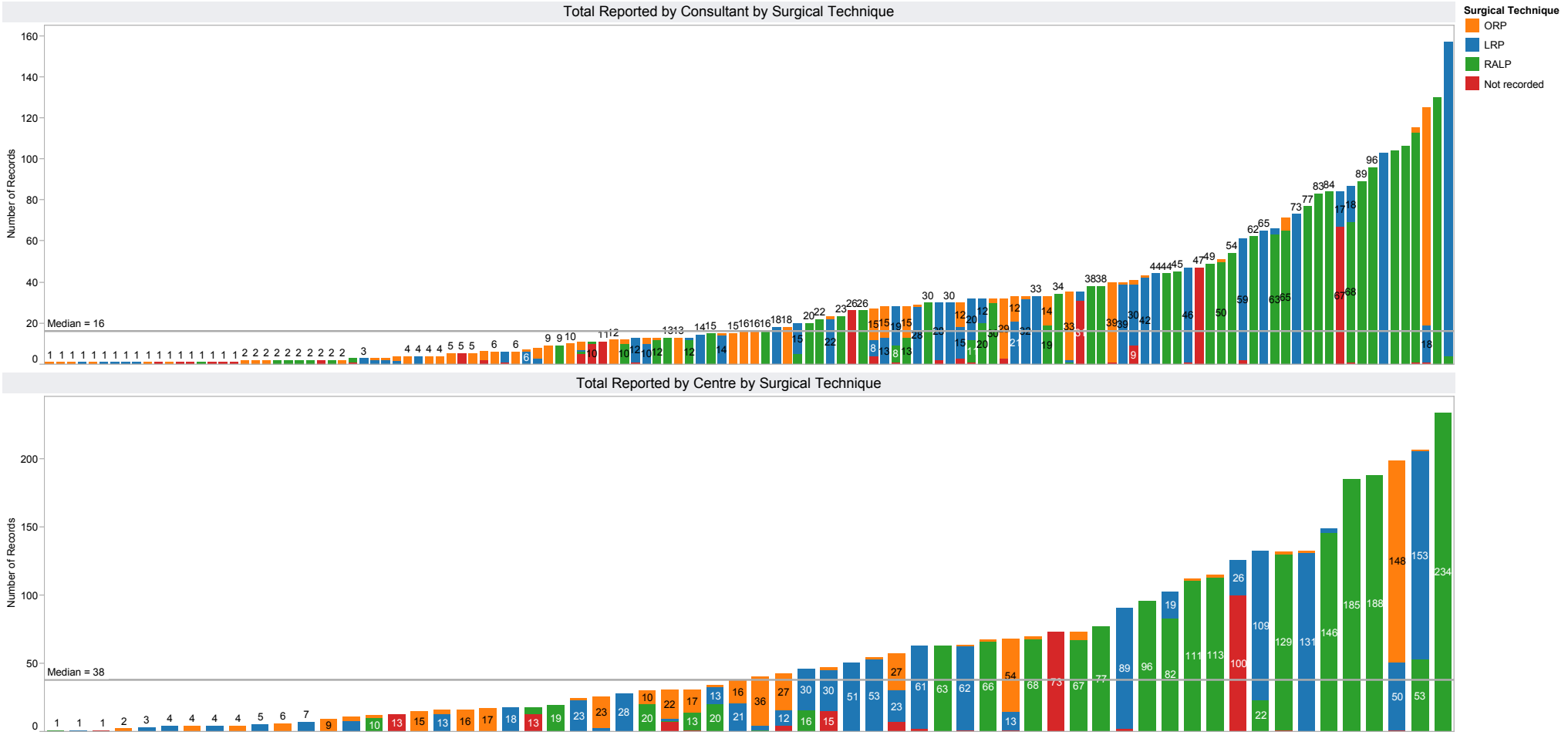
For each of the ranked charts the individual consultant or centre identification numbers were removed and replaced with rank numbers starting at 1. A unique, confidential "Ranking Sheet" has been prepared for each surgeon to enable them to identify their rank in every chart. For those charts where overall 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.

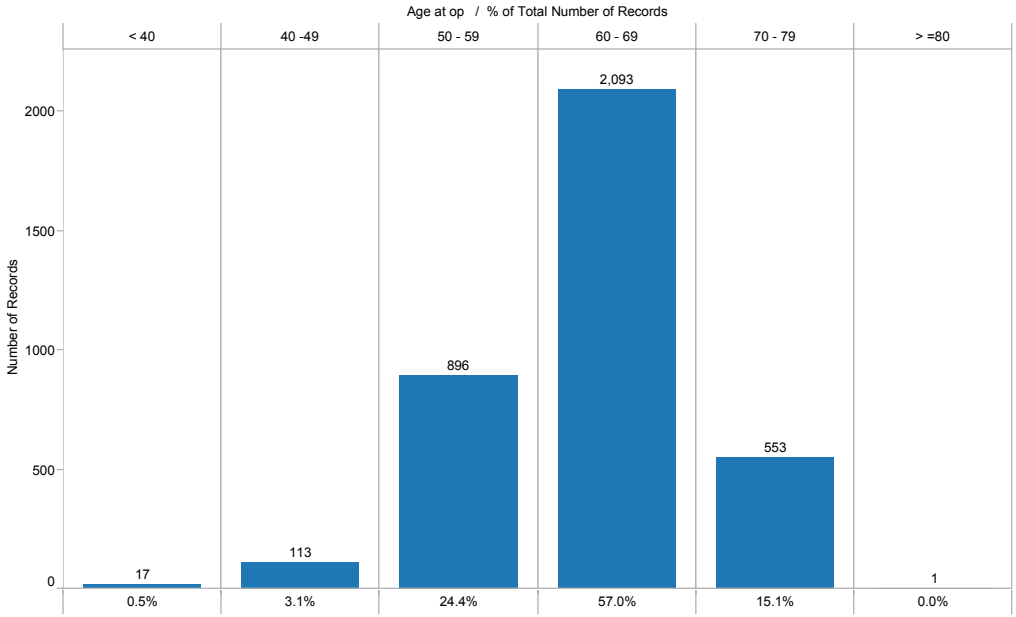
Sarah Fowler
BAUS Data & Audit Project Manager
June 2014

# Total returns for procedures reported between 01/01/2013 and 31/12/2013

3695 procedures from 130 consultants at 62 centres



## Percentage Age Distribution




## Reason for Prostatectomy

| 4: Reason for prostatectomy | N | % Total |
|---|---|---|
| Primary treatment of cancer | 2,839 | 77.3% |
| Previous active surveillance | 486 | 13.2% |
| Salvage therapy | 27 | 0.7% |
| Not recorded | 321 | 8.7% |
| **Grand Total** | 3,673 | 100.0% |

## Reason If Previous Active Surveillance

| 5: If previous active surveillance, reason for prosta | N | % Total |
|---|---|---|
| PSA progression | 183 | 37.7% |
| Gleason progression | 111 | 22.8% |
| Clinical progression | 55 | 11.3% |
| Patient decision | 92 | 18.9% |
| Not recorded | 45 | 9.3% |
| **Grand Total** | 486 | 100.0% |

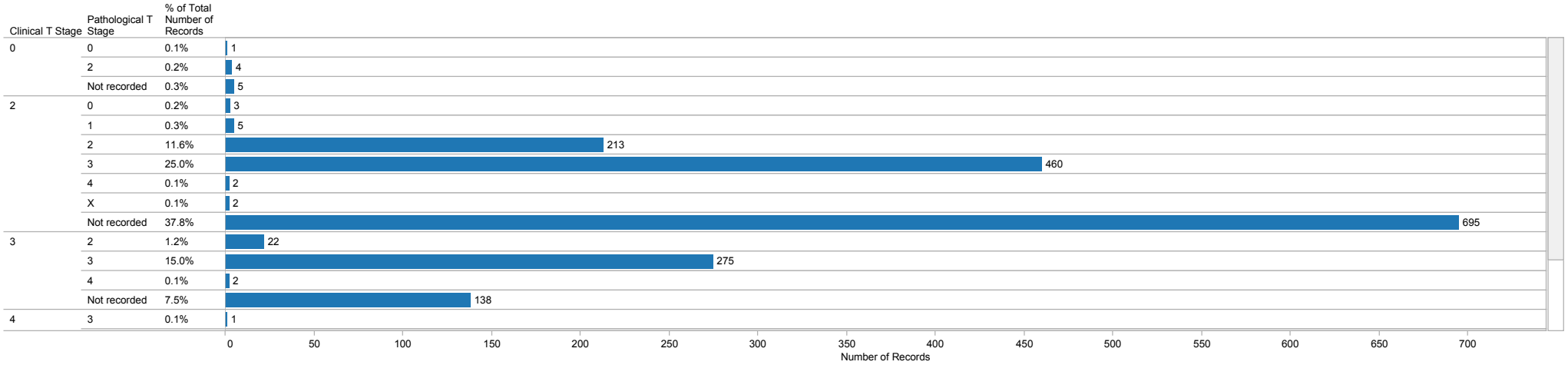
## Previous Management

| 6: Previous management | N | % Total |
|---|---|---|
| None | 3,128 | 85.2% |
| Radiotherapy | 21 | 0.6% |
| Brachytherapy | 3 | 0.1% |
| HIFU | 2 | 0.1% |
| TURP | 59 | 1.6% |
| Not recorded | 460 | 12.5% |
| **Grand Total** | 3,673 | 100.0% |

## Clinical T stage

| Clinical T Stage | N | % Total |
|---|---|---|
| 0 | 10 | 0.3% |
| 2 | 1,380 | 37.6% |
| 3 | 437 | 11.9% |
| 4 | 2 | 0.1% |
| X | 9 | 0.2% |
| Not recorded | 1,835 | 50.0% |
| **Grand Total** | 3,673 | 100.0% |

## Comparison Clinical and Pathological T stage




## Clinical Staging by Pre-operative PSA

| | Pre-operative PSA | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0-5 | | 6 - 10 | | 11 - 20 | | 21 - 50 | | >50 | | Not recorded | | **Grand Total** | |
| Clinical T Stage | N | % Total | N | % Total | N | % Total | N | % Total | N | % Total | N | % Total | N | % Total |
| 0 | 4 | 0.8% | 2 | 0.3% | 4 | 1.0% | | | | | | | 10 | 0.5% |
| 2 | 404 | 80.5% | 602 | 78.0% | 270 | 68.9% | 58 | 54.2% | 5 | 45.5% | 41 | 75.9% | 1,380 | 75.1% |
| 3 | 89 | 17.7% | 165 | 21.4% | 115 | 29.3% | 49 | 45.8% | 6 | 54.5% | 13 | 24.1% | 437 | 23.8% |
| 4 | 2 | 0.4% | | | | | | | | | | | 2 | 0.1% |
| X | 3 | 0.6% | 3 | 0.4% | 3 | 0.8% | | | | | | | 9 | 0.5% |
| **Grand Total** | 502 | 100.0% | 772 | 100.0% | 392 | 100.0% | 107 | 100.0% | 11 | 100.0% | 54 | 100.0% | 1,838 | 100.0% |

## Pathological Staging by Pre-operative PSA

| | Pre-operative PSA | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0-5 | | 6 - 10 | | 11 - 20 | | 21 - 50 | | >50 | | **Grand Total** | |
| Pathological T Stage | N | % Total | N | % Total | N | % Total | N | % Total | N | % Total | N | % Total |
| 0 | 2 | 0.5% | 2 | 0.3% | 1 | 0.3% | | | | | 5 | 0.3% |
| 1 | 1 | 0.2% | 2 | 0.3% | 2 | 0.5% | | | | | 5 | 0.3% |
| 2 | 150 | 35.6% | 211 | 28.1% | 75 | 19.5% | 13 | 12.0% | | | 449 | 26.9% |
| 3 | 264 | 62.7% | 530 | 70.5% | 307 | 79.7% | 93 | 86.1% | 6 | 100.0% | 1,200 | 71.8% |
| 4 | 3 | 0.7% | 5 | 0.7% | | | 2 | 1.9% | | | 10 | 0.6% |
| X | 1 | 0.2% | 2 | 0.3% | | | | | | | 3 | 0.2% |
| **Grand Total** | 421 | 100.0% | 752 | 100.0% | 385 | 100.0% | 108 | 100.0% | 6 | 100.0% | 1,672 | 100.0% |

## Age at Operation by Biopsy Gleason Sum

| | Biopsy Gleason Score | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 5 - 6 | | 7 | | 8 - 10 | | **Grand Total** | |
| Age at op 1 | N | % Total | N | % Total | N | % Total | N | % Total |
| < 60 | 331 | 35.0% | 552 | 25.4% | 83 | 23.7% | 966 | 27.8% |
| 60 -64 | 229 | 24.2% | 536 | 24.6% | 71 | 20.3% | 836 | 24.1% |
| 65 - 69 | 280 | 29.6% | 746 | 34.3% | 123 | 35.1% | 1,149 | 33.1% |
| 70 - 74 | 97 | 10.3% | 308 | 14.2% | 64 | 18.3% | 469 | 13.5% |
| 75 - 79 | 9 | 1.0% | 32 | 1.5% | 9 | 2.6% | 50 | 1.4% |
| > =80 | | | 1 | 0.0% | | | 1 | 0.0% |
| **Grand Total** | 946 | 100.0% | 2,175 | 100.0% | 350 | 100.0% | 3,471 | 100.0% |

## Age at Operation by Surgical Specimen Gleason Sum

| | Surgical Gleason Score | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 5 - 6 | | 7 | | 8 - 10 | | **Grand Total** | |
| Age at op 1 | N | % Total | N | % Total | N | % Total | N | % Total |
| 60 -64 | 98 | 23.7% | 589 | 24.4% | 60 | 22.1% | 747 | 24.1% |
| 65 - 69 | 113 | 27.3% | 824 | 34.2% | 101 | 37.3% | 1,038 | 33.5% |
| 70 - 74 | 40 | 9.7% | 322 | 13.4% | 45 | 16.6% | 407 | 13.1% |
| 75 - 79 | 3 | 0.7% | 28 | 1.2% | 8 | 3.0% | 39 | 1.3% |
| < 60 | 160 | 38.6% | 647 | 26.8% | 57 | 21.0% | 864 | 27.9% |
| > =80 | | | 1 | 0.0% | | | 1 | 0.0% |
| **Grand Total** | 414 | 100.0% | 2,411 | 100.0% | 271 | 100.0% | 3,096 | 100.0% |

## Operating Surgeon

| 24: Grade of main operating Surgeon | 25: Supervised training operation | N | % Total |
|---|---|---|---|
| Consultant | Yes | 879 | 23.9% |
| | No | 2,053 | 55.9% |
| | Null | 449 | 12.2% |
| SpR | Yes | 114 | 3.1% |
| | No | 3 | 0.1% |
| | Null | 1 | 0.0% |
| Other | Yes | 5 | 0.1% |
| | No | 23 | 0.6% |
| Not recorded | Yes | 11 | 0.3% |
| | No | 3 | 0.1% |
| | Null | 132 | 3.6% |
| **Grand Total** | | 3,673 | 100.0% |

## Surgical Technique Including number of conversions & reason if applicable

| Surgical Technique | 39: Conversion reason | N | % Total |
|---|---|---|---|
| ORP | Not applicable / No conversion | 490 | 13.3% |
| LRP | Not applicable / No conversion | 1,105 | 30.1% |
| | Failure to progress | 3 | 0.1% |
| | Adhesions | 1 | 0.0% |
| | Haemorrhage | 3 | 0.1% |
| | Other | 1 | 0.0% |
| RALP | Not applicable / No conversion | 1,824 | 49.7% |
| | Adhesions | 1 | 0.0% |
| Not recorded | Not applicable / No conversion | 245 | 6.7% |
| **Grand Total** | | 3,673 | 100.0% |

## ASA Grade

| 32: ASA Grade | N | % Total |
|---|---|---|
| 1 | 988 | 26.9% |
| 2 | 1,450 | 39.5% |
| 3 | 87 | 2.4% |
| Not recorded | 1,148 | 31.3% |
| **Grand Total** | 3,673 | 100.0% |

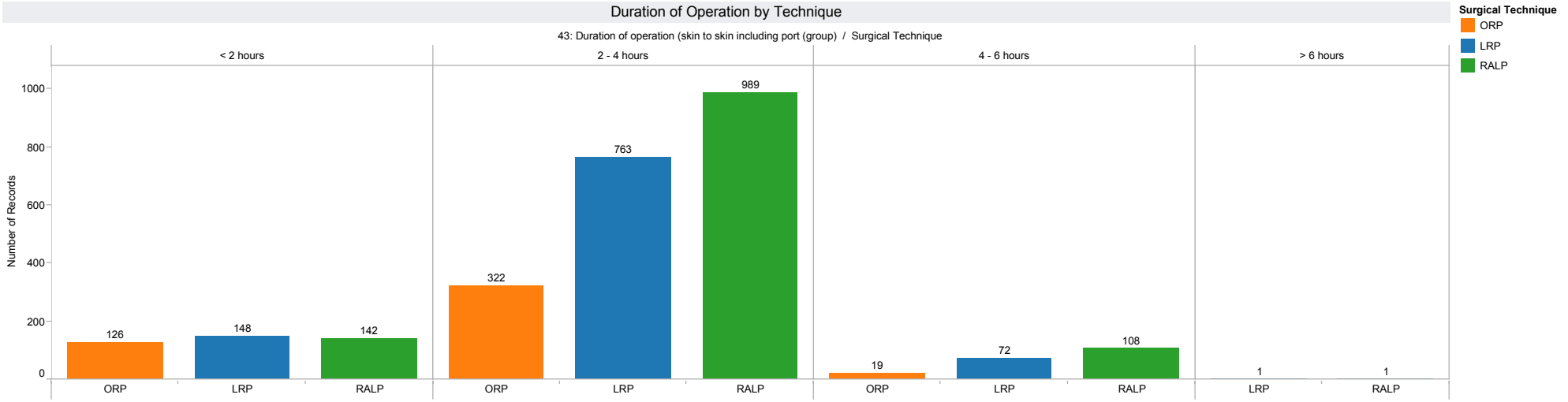
## Nerve sparing

| 33: Procedure - Nerve sparing | N | % Total |
|---|---|---|
| Bilateral | 1,033 | 28.1% |
| Unilateral | 610 | 16.6% |
| None | 908 | 24.7% |
| Not recorded | 1,122 | 30.5% |
| **Grand Total** | 3,673 | 100.0% |

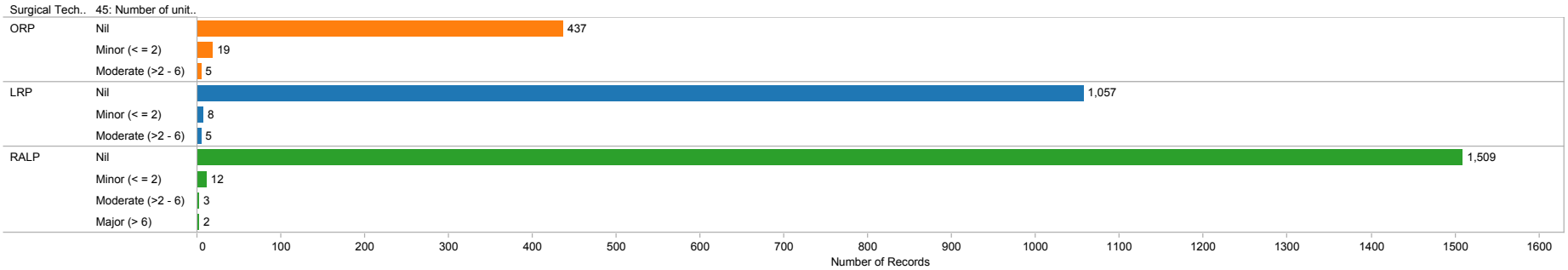
## Lymph Node Dissection

| 41: Lymph node dissection | N | % Total |
|---|---|---|
| None | 1,992 | 54.2% |
| Obturator fossae | 775 | 21.1% |
| Extended | 597 | 16.3% |
| Not recorded | 309 | 8.4% |
| **Grand Total** | 3,673 | 100.0% |

## Duration of Operation by Technique




## Known Units of Blood Transfused by Technique



## Intraoperative Complications

| | Surgical Technique | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | ORP | | LRP | | RALP | | **Grand Total** | |
| 49: Intraoperative complications (group) | N | % Total | N | % Total | N | % Total | N | % Total |
| None | 411 | 83.9% | 993 | 89.2% | 1,502 | 82.3% | 2,906 | 84.8% |
| Problematic bleeding | 21 | 4.3% | 29 | 2.6% | 12 | 0.7% | 62 | 1.8% |
| Difficult dissection | 16 | 3.3% | 49 | 4.4% | 54 | 3.0% | 119 | 3.5% |
| Rectal injury | | | 5 | 0.4% | 1 | 0.1% | 6 | 0.2% |
| Adhesions | | | 3 | 0.3% | 21 | 1.2% | 24 | 0.7% |
| Robotic device failure | | | | | 3 | 0.2% | 3 | 0.1% |
| Vascular injury | 1 | 0.2% | | | 1 | 0.1% | 2 | 0.1% |
| Nerve injury | | | | | 3 | 0.2% | 3 | 0.1% |
| Port complications | | | | | 4 | 0.2% | 4 | 0.1% |
| Not recorded | 41 | 8.4% | 34 | 3.1% | 224 | 12.3% | 299 | 8.7% |
| **Grand Total** | 490 | 100.0% | 1,113 | 100.0% | 1,825 | 100.0% | 3,428 | 100.0% |

## Postoperative Complications

| | Surgical Technique | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | ORP | | LRP | | RALP | | **Grand Total** | |
| 51:Postoperative complications (group) | N | % Total | N | % Total | N | % Total | N | % Total |
| None | 369 | 75.5% | 793 | 71.4% | 1,486 | 81.6% | 2,648 | 77.4% |
| Anastomotic leak | 2 | 0.4% | 9 | 0.8% | 4 | 0.2% | 15 | 0.4% |
| Haematuria | 2 | 0.4% | 8 | 0.7% | 8 | 0.4% | 18 | 0.5% |
| Haemorrhage / Bleeding | 3 | 0.6% | 1 | 0.1% | 6 | 0.3% | 10 | 0.3% |
| Ileus | 5 | 1.0% | 6 | 0.5% | 5 | 0.3% | 16 | 0.5% |
| Other | 19 | 3.9% | 24 | 2.2% | 47 | 2.6% | 90 | 2.6% |
| PE / DVT | 1 | 0.2% | 2 | 0.2% | 1 | 0.1% | 4 | 0.1% |
| Sepsis | 3 | 0.6% | 10 | 0.9% | 2 | 0.1% | 15 | 0.4% |
| Urine Leak | 3 | 0.6% | 11 | 1.0% | 7 | 0.4% | 21 | 0.6% |
| Wound infection | 4 | 0.8% | 2 | 0.2% | 5 | 0.3% | 11 | 0.3% |
| Chest infection | 2 | 0.4% | 6 | 0.5% | 5 | 0.3% | 13 | 0.4% |
| Lymphocoele | 1 | 0.2% | 2 | 0.2% | 6 | 0.3% | 9 | 0.3% |
| Pelvic haematoma | 2 | 0.4% | 2 | 0.2% | 6 | 0.3% | 10 | 0.3% |
| Not recorded | 73 | 14.9% | 234 | 21.1% | 234 | 12.8% | 541 | 15.8% |
| **Grand Total** | 489 | 100.0% | 1,110 | 100.0% | 1,822 | 100.0% | 3,421 | 100.0% |

## Recorded Clavien Dindo grade of Complication(s)

| | Surgical Technique | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | ORP | | LRP | | RALP | | **Grand Total** | |
| 52: Clavien Dindo grade of complication(s) (gr.. | N | % Total | N | % Total | N | % Total | N | % Total |
| Grade I | 183 | 86.7% | 115 | 74.2% | 102 | 61.1% | 400 | 75.0% |
| Grade II | 20 | 9.5% | 27 | 17.4% | 42 | 25.1% | 89 | 16.7% |
| Grade IIIa | 5 | 2.4% | 8 | 5.2% | 14 | 8.4% | 27 | 5.1% |
| Grade IIIb | 2 | 0.9% | 4 | 2.6% | 7 | 4.2% | 13 | 2.4% |
| Grade IVa | 1 | 0.5% | 1 | 0.6% | | | 2 | 0.4% |
| Grade V (death) | | | | | 2 | 1.2% | 2 | 0.4% |
| **Grand Total** | 211 | 100.0% | 155 | 100.0% | 167 | 100.0% | 533 | 100.0% |

## Stage and Technique Related Positive Surgical Margin Rates

| | | 70: Positive margins | | | | | |
|---|---|---|---|---|---|---|---|
| | | No | | Yes | | **Grand Total** | |
| Pathological T Stage | Surgical Technique | N | % Total | N | % Total | N | % Total |
| 1 | LRP | 1 | 0.2% | | | 1 | 0.1% |
| 2 | LRP | 45 | 10.4% | 17 | 5.6% | 62 | 8.4% |
| | ORP | 46 | 10.7% | 19 | 6.3% | 65 | 8.8% |
| | RALP | 85 | 19.7% | 14 | 4.6% | 99 | 13.5% |
| 3 | LRP | 56 | 13.0% | 75 | 24.7% | 131 | 17.8% |
| | ORP | 57 | 13.2% | 53 | 17.4% | 110 | 15.0% |
| | RALP | 141 | 32.7% | 124 | 40.8% | 265 | 36.1% |
| 4 | ORP | | | 2 | 0.7% | 2 | 0.3% |
| **Grand Total** | | 431 | 100.0% | 304 | 100.0% | 735 | 100.0% |

## Positive Lymph Nodes

| | Number of positive lymph nodes | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | | 1 -5 | | 6 - 10 | | 11 - 20 | | **Grand Total** | |
| Number of Lymph nodes sampled | N | % Total | N | % Total | N | % Total | N | % Total | N | % Total |
| 1 -5 | 358 | 43.1% | 17 | 19.8% | | | | | 375 | 40.7% |
| 6 - 10 | 255 | 30.7% | 27 | 31.4% | | | | | 282 | 30.6% |
| 11 - 20 | 181 | 21.8% | 33 | 38.4% | 2 | 50.0% | 1 | 50.0% | 217 | 23.5% |
| >20 | 36 | 4.3% | 9 | 10.5% | 2 | 50.0% | 1 | 50.0% | 48 | 5.2% |
| **Grand Total** | 830 | 100.0% | 86 | 100.0% | 4 | 100.0% | 2 | 100.0% | 922 | 100.0% |

# Status at most recent Follow-up

## Current Status at Most recent Follow-up

| | Time to most recent Follow up | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 0 - 90 | | 91 - 180 | | 181 - 360 | | > 360 | |
| currentstatus | N | % Total | N | % Total | N | % Total | N | % Total |
| Alive with no evidence of prostate cancer | 544 | 95.6% | 274 | 96.1% | 150 | 93.2% | 36 | 90.0% |
| Alive with local recurrence of prostate cancer | 8 | 1.4% | 5 | 1.8% | 8 | 5.0% | 1 | 2.5% |
| Alive with lymph node involvement by prostate .. | 4 | 0.7% | 2 | 0.7% | | | | |
| Alive with metastatic disease | 2 | 0.4% | 2 | 0.7% | 1 | 0.6% | 1 | 2.5% |
| Not recorded | 11 | 1.9% | 2 | 0.7% | 2 | 1.2% | 2 | 5.0% |
| **Grand Total** | 569 | 100.0% | 285 | 100.0% | 161 | 100.0% | 40 | 100.0% |

## Participating Hospital Centres 2013

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

Aberdeen Royal Infirmary
Addenbrooke's Hospital
Arrowe Park Hospital
Ashford Hospital; St Peter's Hospital
Barking, Havering and Redbridge University Hospitals NHS Trust
Belfast City Hospital
Buckinghamshire Hospitals NHS Trust
Castle Hill Hospital
Cheltenham General Hospital
Churchill Hospital
City Hospitals Sunderland NHS Foundation Trust
Colchester Hospital University NHS Foundation Trust
Darent Valley Hospital
Derby Hospitals NHS Foundation Trust
Derriford Hospital
East Sussex Hospitals NHS Trust
Freeman Hospital
Guy's & Thomas's Hospital
Heatherwood & Wexham Park NHS Trust
Imperial College Healthcare NHS Trust
Kent & Canterbury Hospital
Lincoln & Louth NHS Trust
Medway Maritime Hospital
Monklands District General Hospital
Morriston Hospital
New Cross Hospital, Wolverhampton
Norfolk & Norwich Hospital
North Bristol NHSTrust (Southmead)
Northampton General Hospital
Northwick Park Hospital; Central Middlesex Hospital
Pinderfields Hospital
Portsmouth Hospitals NHS Trust
Princess Elizabeth Hospital, Guernsey
Queen Elizabeth Hospital, B'ham
Raigmore Hospital
Royal Berkshire NHS Foundation Trust
Royal Bournemouth Hospital
Royal Devon And Exeter Hospital
Royal Hallamshire Hospital
Royal Hampshire County Hospital
Royal Liverpool University Hospital
Royal Marsden Hospital
Royal Preston Hospital
Royal Surrey County Hospital
Royal United Hospital, Bath
Salisbury District Hospital
Southampton General Hospital
Southend University Hospital NHS Foundation Trust
St George's Hospital
St James' Hospital, Dublin
St James's University Hospital
Stepping Hill Hospital
Stirling Royal Infirmary / Forth Valley Royal
Taunton And Somerset Hospital
United Bristol Health Care Trust
University College Hospital London
University Hospital of North Stafford
University Hospitals Coventry & Warwickshire NHS Trust Victoria Hospital, Kirkcaldy
Western General, Edinburgh
Wythenshawe Hospital
Ysbyty Gwynedd Hospital