

THE BRITISH ASSOCIATION OF

UROLOGICAL SURGEONS Section of Oncology

Analyses of Radical Cystectomies performed between

January 1st and December 31st 2015

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AUDIT RESULTS SUMMARY – Cystectomy dataset

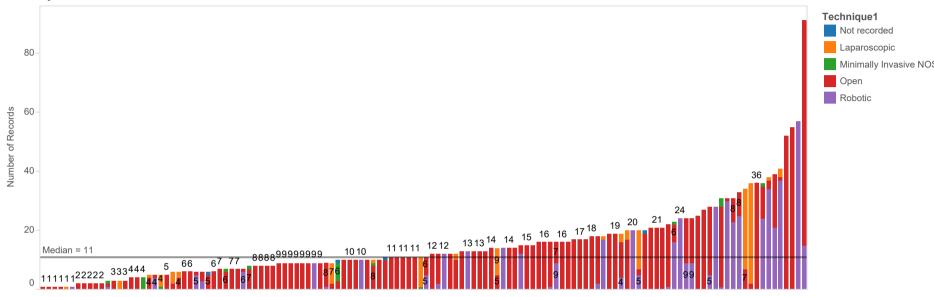
All the data presented here are a summary of the data extracted from the web-based database on 1st September 2016 and relate to operations performed during the whole of 2015. Once extracted the data was transferred to an AccessTM database for validation before being imported into TableauTM for generation 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 2015 to 31 December 2015.

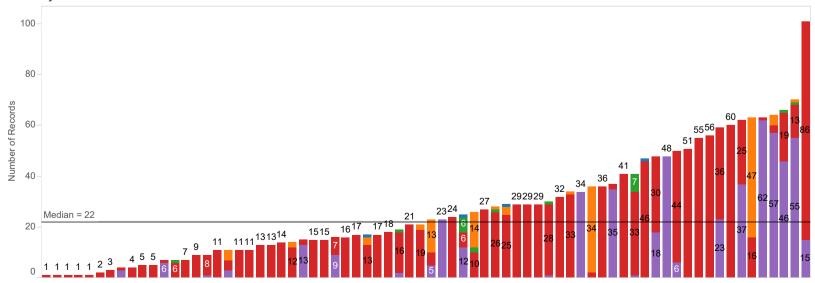
- 1,948 cases were submitted in total, of which 1,770 were from England. The 1,948 cases came from 117 consultants at 61 sites and include 45 private patients from 15 consultants.
- Median number of cases per consultant: 11 (range 1 91)
- Median number of cases per centre: 22(range 1 101)
- The overall transfusion rate was 17.3% By technique, the transfusion rates were: open 23.1%, laparoscopic 6.0% and robotic 6.6%.
- The overall Clavien Dindo Grade III plus post-operative complication rate was 9.6%. (Open 10.3%, laparoscopic 7.7% and robotic 8.5%)
- Hospital Episode Statistics (HES) for 2015 indicate that there were 1,952 cystectomies undertaken so we collected data on 91% of the cases undertaken in England in 2015.

Total returns for Radical Cystectomy procedures performed between 01/01/2015 and 31/12/2015 1948 cases from 130 consultants at 71 centres including 45 private cases from 15 consultants





Total by Centre



Totals by Technique

Technique1

| | Оре | en | Rob | otic | Laparo | scopic | Minimally NO | | Not rec | orded | Grand | Total |
|-------------|-------|---------|-----|---------|--------|---------|-----------------|---------|---------|---------|-------|---------|
| Gender1 | N | % Total | N | % Total | N | % Total | N | % Total | N | % Total | N | % Total |
| Male | 938 | 73.3% | 415 | 80.6% | 97 | 75.2% | 17 | 81.0% | 4 | 100.0% | 1,471 | 75.5% |
| Female | 341 | 26.7% | 100 | 19.4% | 32 | 24.8% | 4 | 19.0% | | | 477 | 24.5% |
| Grand Total | 1,279 | 100.0% | 515 | 100.0% | 129 | 100.0% | 21 | 100.0% | 4 | 100.0% | 1,948 | 100.0% |

Technique by Age

| Technique1 | N | Median | Min | Max |
|------------------------|-------|--------|-----|-----|
| Open | 1,279 | 69 | 0 | 100 |
| Robotic | 515 | 68 | 0 | 100 |
| Laparoscopic | 129 | 69 | 0 | 85 |
| Minimally Invasive NOS | 21 | 64 | 48 | 84 |
| Not recorded | 4 | 61 | 50 | 77 |

Indication

| Indication For Cystectomy | N | % Total |
|--|-------|---------|
| Muscle invasive TCC | 889 | 45.6% |
| Primary NMIBC | 226 | 11.6% |
| NMIBC refractory to intravesical treatment | 321 | 16.5% |
| Primary adenocarcinoma | 27 | 1.4% |
| Primary CIS | 55 | 2.8% |
| Salvage after radiotherapy | 52 | 2.7% |
| Sarcoma | 21 | 1.1% |
| Squamous cell carcinoma | 67 | 3.4% |
| Uncontrolled non-muscle invasive disease | 7 | 0.4% |
| Benign disease | 28 | 1.4% |
| Gynaecological cancer | 16 | 0.8% |
| Secondary adenocarcinoma | 18 | 0.9% |
| Other | 107 | 5.5% |
| Not recorded | 114 | 5.9% |
| Grand Total | 1,948 | 100.0% |

Pre-op Imaging

| Pre Operative Imaging (group) | N | % Total |
|-----------------------------------|-------|---------|
| СТ | 1,111 | 57.0% |
| CT +/- Bone scan, USS, MRI Others | 602 | 30.9% |
| MRI | 70 | 3.6% |
| MRI + others | 14 | 0.7% |
| USS +/- Other | 5 | 0.3% |
| None | 59 | 3.0% |
| Other | 1 | 0.1% |
| Not recorded | 86 | 4.4% |
| Grand Total | 1,948 | 100.0% |

Pre-op Serum Creatinine

| Pre-op Serum Creat | N | % Total |
|--------------------|-------|---------|
| 0 - 120 | 1,279 | 65.7% |
| 121 - 200 | 229 | 11.8% |
| > 200 | 26 | 1.3% |
| Not recorded | 414 | 21.3% |
| Grand Total | 1,948 | 100.0% |

Pre-operative Serum Egfr

| Egfr Normal | Serum Egfr | N | % Total |
|--------------|---------------------------|-------|---------|
| Yes (>60) | 40 - 60 | 1 | 0.1% |
| | not recorded / applicable | 1,209 | 62.1% |
| | Total | 1,210 | 62.1% |
| No | 20 - 39 | 72 | 3.7% |
| | 40 - 60 | 293 | 15.0% |
| | <20 | 20 | 1.0% |
| | not recorded / applicable | 43 | 2.2% |
| | Total | 428 | 22.0% |
| Not recorded | not recorded / applicable | 310 | 15.9% |
| | Total | 310 | 15.9% |
| Grand Total | | 1,948 | 100.0% |
| | | | |

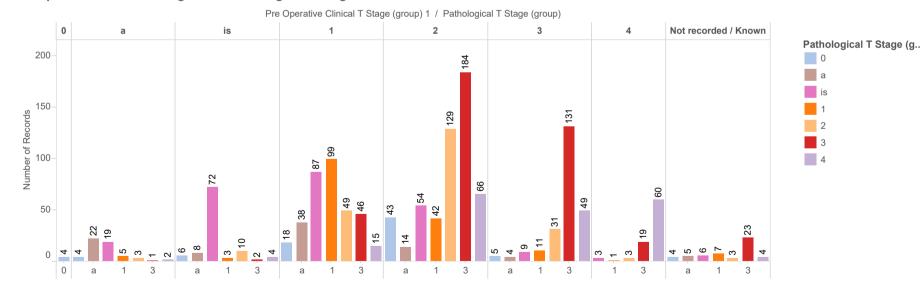
Status Upper Tracts

| Status Upper Tracts | N | % Total |
|---------------------------|-------|---------|
| Normal | 1,306 | 67.0% |
| Unilateral hydronephrosis | 251 | 12.9% |
| Bilateral hydronephrosis | 98 | 5.0% |
| TCC | 21 | 1.1% |
| Other | 27 | 1.4% |
| Single functioning kidney | 49 | 2.5% |
| Not recorded | 196 | 10.1% |
| Grand Total | 1,948 | 100.0% |

Pre-operative CT stage

| Pre Operative Clinical T Stage (group) | % of Total Number of Records | | | | | | | |
|---|------------------------------------|----|-----|-------------|------------------|--------------|-----|-----|
| 0 | 0.8% | 16 | i | | | | | |
| is | 6.3% | | 12 | 22 | | | | |
| а | 4.5% | | 87 | | | | | |
| 1 | 23.6% | | | | | | 460 | |
| 2 | 26.0% | | | | | | | 507 |
| 2a | 4.7% | | 91 | | | | | |
| 2b | 4.4% | | 85 | | | | | |
| 3 | 8.0% | | | 155 | | | | |
| 3a | 2.5% | | 48 | | | | | |
| 3b | 4.2% | | 81 | | | | | |
| 4a | 3.9% | | 75 | | | | | |
| 4b | 1.8% | 3 | 35 | | | | | |
| Not recorded / Known | 9.5% | | | 186 | | | | |
| | | 0 | 100 | 200 Numb | 300 er of Red | 400 cords | 500 |) |

Comparison Clinical T stage with Pathological T stage



Operating Surgeon

| Grade Of Mai | Supervised Training | N | % Total |
|--------------|---------------------|-------|---------|
| Consultant | Yes | 69 | 3.5% |
| | No | 153 | 7.9% |
| | Not recorded | 1,677 | 86.1% |
| | Total | 1,899 | 97.5% |
| SpR | Yes | 34 | 1.7% |
| | Total | 34 | 1.7% |
| Not recorded | Not recorded | 15 | 0.8% |
| | Total | 15 | 0.8% |
| Grand Total | | 1,948 | 100.0% |

Diversion Procedure

| | Technique1 | | | | | | | | | | | |
|---------------------|------------|---------|-----|---------|--------|---------|------------------|-----------------|---------|---------|-------|---------|
| | Ор | en | Rob | otic | Laparo | scopic | Minir Invasiv | nally re NOS | Not red | orded | Grand | l Total |
| Diversion Procedure | N | % Total | N | % Total | N | % Total | N | % Total | N | % Total | N | % Total |
| Continent cutaneous | 26 | 2.0% | 4 | 0.8% | | | 1 | 4.8% | | | 31 | 1.6% |
| lleal conduit | 1,111 | 86.9% | 459 | 89.1% | 119 | 92.2% | 11 | 52.4% | 2 | 50.0% | 1,702 | 87.4% |
| Orthotopic | 64 | 5.0% | 42 | 8.2% | 2 | 1.6% | | | | | 108 | 5.5% |
| Rectal diversion | 1 | 0.1% | | | | | | | | | 1 | 0.1% |
| Other | 27 | 2.1% | 9 | 1.7% | 4 | 3.1% | 1 | 4.8% | | | 41 | 2.1% |
| Not recorded | 50 | 3.9% | 1 | 0.2% | 4 | 3.1% | 8 | 38.1% | 2 | 50.0% | 65 | 3.3% |
| Grand Total | 1.279 | 100.0% | 515 | 100.0% | 129 | 100.0% | 21 | 100.0% | 4 | 100.0% | 1.948 | 100.0% |

Joint Operating Cases

| Grade Of Mai | Joint Operating C | N | % Total |
|--------------|-------------------|-------|---------|
| Consultant | Yes | 503 | 25.8% |
| | No | 1,396 | 71.7% |
| | Total | 1,899 | 97.5% |
| SpR | No | 34 | 1.7% |
| | Total | 34 | 1.7% |
| Not recorded | Yes | 4 | 0.2% |
| | No | 11 | 0.6% |
| | Total | 15 | 0.8% |
| Grand Total | | 1,948 | 100.0% |
| | | | |

Time from Diagnosis to Cystectomy

| Time Diagno | N | % Total |
|-------------|-------|---------|
| 31 to 60 | 5.0 | 1.0% |
| 61-90 | 26.0 | 5.0% |
| 91-180 | 122.0 | 23.4% |
| 181-360 | 104.0 | 20.0% |
| >360 | 264.0 | 50.7% |
| Grand Total | 521.0 | 100.0% |

CPEX Testing

| Cpex Testing | N | % Total |
|--------------|-------|---------|
| Yes | 455 | 23.4% |
| No | 1,209 | 62.1% |
| Not recorded | 284 | 14.6% |
| Grand Total | 1,948 | 100.0% |

Duration of Operation

Duration Of Operation (group)

| | <3 ho | urs | 3-5 hc | 3-5 hours | | ours | Not recorded | | Grand Total | |
|------------------------|-------|-------|--------|-----------|-----|-------|--------------|-------|-------------|--------|
| Technique1 | N | % | N | % | N | % | N | % | N | % |
| Open | 135 | 10.6% | 619 | 48.4% | 427 | 33.4% | 98 | 7.7% | 1,279 | 100.0% |
| Robotic | 28 | 5.4% | 157 | 30.5% | 294 | 57.1% | 36 | 7.0% | 515 | 100.0% |
| Laparoscopic | 6 | 4.7% | 84 | 65.1% | 26 | 20.2% | 13 | 10.1% | 129 | 100.0% |
| Minimally Invasive NOS | 2 | 9.5% | 3 | 14.3% | 5 | 23.8% | 11 | 52.4% | 21 | 100.0% |
| Not recorded | 1 | 25.0% | 2 | 50.0% | | | 1 | 25.0% | 4 | 100.0% |
| Grand Total | 172 | 8.8% | 865 | 44.4% | 752 | 38.6% | 159 | 8.2% | 1,948 | 100.0% |

Blood Loss

Measured Blood Loss

| | <300 | ml | 300-50 | 0 ml | >500-10 | 00 ml | >1000-20 | 000 ml | >2000 | ml (| Not rec | orded | Grand | Total |
|--------------|------|-------|--------|-------|---------|-------|----------|--------|-------|------|---------|-------|-------|--------|
| Technique1 | N | % | N | % | N | % | N | % | N | % | N | % | N | % |
| Open | 161 | 12.6% | 337 | 26.3% | 376 | 29.4% | 193 | 15.1% | 44 | 3.4% | 168 | 13.1% | 1,279 | 100.0% |
| Robotic | 311 | 60.4% | 113 | 21.9% | 47 | 9.1% | 10 | 1.9% | 1 | 0.2% | 33 | 6.4% | 515 | 100.0% |
| Laparoscopic | 74 | 57.4% | 30 | 23.3% | 14 | 10.9% | 2 | 1.6% | | | 9 | 7.0% | 129 | 100.0% |
| Minimally In | 9 | 42.9% | 1 | 4.8% | 1 | 4.8% | | | | | 10 | 47.6% | 21 | 100.0% |
| Not recorded | | | 1 | 25.0% | | | 2 | 50.0% | | | 1 | 25.0% | 4 | 100.0% |
| Grand Total | 555 | 28.5% | 482 | 24.7% | 438 | 22.5% | 207 | 10.6% | 45 | 2.3% | 221 | 11.3% | 1,948 | 100.0% |

Transfusions

Units Of Blood Transfused During This Surgical Admission

| | | | | Offics | OI DIOOG IIIGI | isiasca De | igioai / taii | 11331011 | | | | |
|--------------|-------|-------|-----------|--------|----------------|------------|------------------|----------|--------------|-------|-------------|--------|
| | Nil | | Minor (<2 | , , | | 3-6 units) | Major (>6 units) | | Not recorded | | Grand Total | |
| Technique1 | N | % | N | % | N | % | N | % | N | % | N | % |
| Open | 864 | 67.6% | 181 | 14.2% | 66 | 5.2% | 13 | 1.0% | 155 | 12.1% | 1,279 | 100.0% |
| Robotic | 464 | 90.1% | 28 | 5.4% | 5 | 1.0% | | | 18 | 3.5% | 515 | 100.0% |
| Laparoscopic | 109 | 84.5% | 6 | 4.7% | 1 | 0.8% | | | 13 | 10.1% | 129 | 100.0% |
| Minimally In | 4 | 19.0% | | | | | | | 17 | 81.0% | 21 | 100.0% |
| Not recorded | 2 | 50.0% | 1 | 25.0% | | | | | 1 | 25.0% | 4 | 100.0% |
| Grand Total | 1,443 | 74.1% | 216 | 11.1% | 72 | 3.7% | 13 | 0.7% | 204 | 10.5% | 1,948 | 100.0% |

Known Transfusion Rate

Transfusion

| | Ye | es | N | lo |
|--------------------|-----|-------|-------|--------|
| Technique1 | N | % | N | % |
| Open | 260 | 23.1% | 864 | 76.9% |
| Robotic | 33 | 6.6% | 464 | 93.4% |
| Laparoscopic | 7 | 6.0% | 109 | 94.0% |
| Minimally Invasive | | | 4 | 100.0% |
| Not recorded | 1 | 33.3% | 2 | 66.7% |
| Grand Total | 301 | 17.3% | 1,443 | 82.7% |

Intraoperative Complications by Technique

Technique1

| | Оре | en | Robe | otic | Laparo | scopic | Minimally | Invasiv | Not rec | orded | Grand | Total |
|-------------------------------|-------|---------|------|---------|--------|---------|-----------|---------|---------|---------|-------|---------|
| Intra Operative Complications | N | % Total | Ν | % Total | N | % Total | N | % Total | Ν | % Total | N | % Total |
| None | 1,014 | 79.3% | 462 | 89.7% | 105 | 81.4% | 11 | 52.4% | 2 | 50.0% | 1,594 | 81.8% |
| Adhesions | 57 | 4.5% | 15 | 2.9% | 1 | 0.8% | | | | | 73 | 3.7% |
| Difficult dissection | 51 | 4.0% | 13 | 2.5% | 5 | 3.9% | | | | | 69 | 3.5% |
| Haemorrhage / Bleeding | 51 | 4.0% | 1 | 0.2% | 9 | 7.0% | | | 1 | 25.0% | 62 | 3.2% |
| Nerve injury | 1 | 0.1% | | | | | | | | | 1 | 0.1% |
| Rectal Injury | 17 | 1.3% | | | 1 | 0.8% | | | | | 18 | 0.9% |
| Small bowel injury | 3 | 0.2% | 1 | 0.2% | | | | | | | 4 | 0.2% |
| Unresectable tumour | 14 | 1.1% | 4 | 0.8% | 2 | 1.6% | | | | | 20 | 1.0% |
| Vascular injury | 4 | 0.3% | 2 | 0.4% | | | | | | | 6 | 0.3% |
| Port complications | | | 1 | 0.2% | | | | | | | 1 | 0.1% |
| Not recorded | 67 | 5.2% | 16 | 3.1% | 6 | 4.7% | 10 | 47.6% | 1 | 25.0% | 100 | 5.1% |
| Grand Total | 1,279 | 100.0% | 515 | 100.0% | 129 | 100.0% | 21 | 100.0% | 4 | 100.0% | 1,948 | 100.0% |

Postoperative Complications by Technique

Technique1

| | Ope | n | Laparos | conic | Robo | otic | Minimally NO: | | Not reco | orded | Grand | Total |
|--------------------------------------|-------|---------|---------|---------|------|---------|------------------|---------|----------|---------|-------|---------|
| Post Operative Complications (gro | N | % Total | N | % Total | N | % Total | N | % Total | N | % Total | N | % Total |
| No Complications | 768 | 60.0% | 85 | 65.9% | 345 | 67.0% | 10 | 47.6% | 1 | 25.0% | 1,209 | 62.1% |
| Anastomotic leak | 8 | 0.6% | 2 | 1.6% | 2 | 0.4% | | | | | 12 | 0.6% |
| Bleeding/Haemorrhage | 7 | 0.5% | 1 | 0.8% | 1 | 0.2% | | | | | 9 | 0.5% |
| Bowel obstruction | 10 | 0.8% | 2 | 1.6% | 7 | 1.4% | | | | | 19 | 1.0% |
| Chest Infection +/_ Others | 71 | 5.6% | 7 | 5.4% | 17 | 3.3% | 1 | 4.8% | | | 96 | 4.9% |
| Intra-abdominal infection +/- others | 38 | 3.0% | 1 | 0.8% | 18 | 3.5% | | | | | 57 | 2.9% |
| Lymphocoele | 2 | 0.2% | | | 2 | 0.4% | | | | | 4 | 0.2% |
| MI | 6 | 0.5% | | | | | | | | | 6 | 0.3% |
| PE / DVT | 6 | 0.5% | | | | | | | | | 6 | 0.3% |
| Prolonged ileus +/- others | 104 | 8.1% | 13 | 10.1% | 52 | 10.1% | | | | | 169 | 8.7% |
| Urine leak | 11 | 0.9% | 2 | 1.6% | 5 | 1.0% | 1 | 4.8% | | | 19 | 1.0% |
| Wound infection / dehiscence | 94 | 7.3% | 4 | 3.1% | 9 | 1.7% | | | | | 107 | 5.5% |
| Bowel obstruction,MI | 1 | 0.1% | | | | | | | | | 1 | 0.1% |
| Chest infection, Prolonged ileus, Ur | | | | | 1 | 0.2% | | | | | 1 | 0.1% |
| Intra-abdominal infection,Prolong | 1 | 0.1% | | | | | | | | | 1 | 0.1% |
| Not recorded | 152 | 11.9% | 12 | 9.3% | 56 | 10.9% | 9 | 42.9% | 3 | 75.0% | 232 | 11.9% |
| Grand Total | 1,279 | 100.0% | 129 | 100.0% | 515 | 100.0% | 21 | 100.0% | 4 | 100.0% | 1,948 | 100.0% |

Post-operative complication rate

Post Operative Complications (group)

| | Complic | ation | No Comp | lication | Not red | orded | Grand | Total | | |
|------------------|---------|-------|---------|----------|---------|-------|-------|--------|--|--|
| Technique1 | N | % | N | % | N | % | N | % | | |
| Open | 359 | 28.1% | 768 | 60.0% | 152 | 11.9% | 1,279 | 100.0% | | |
| Robotic | 114 | 22.1% | 345 | 67.0% | 56 | 10.9% | 515 | 100.0% | | |
| Laparoscopic | 32 | 24.8% | 85 | 65.9% | 12 | 9.3% | 129 | 100.0% | | |
| Minimally Invasi | 2 | 9.5% | 10 | 47.6% | 9 | 42.9% | 21 | 100.0% | | |
| Not recorded | | | 1 | 25.0% | 3 | 75.0% | 4 | 100.0% | | |
| Grand Total | 507 | 26.0% | 1,209 | 62.1% | 232 | 11.9% | 1,948 | 100.0% | | |

Clavien Dindo Grade of Post operative complications

Clavien Dindo Grade Of Complications

| | Grad | e I | Grad | e II | Grade | IIIa | Grade | IIIb | Grade I | Va | Grade I | Vb | Grade | V | Not rec | orded | Grand | Total |
|--------------|------|-------|------|-------|-------|-------|-------|-------|---------|------|---------|------|-------|------|---------|--------|-------|--------|
| Technique1 | N | % | N | % | N | % | N | % | N | % | N | % | N | % | N | % | N | % |
| Open | 72 | 20.1% | 153 | 42.6% | 39 | 10.9% | 55 | 15.3% | 11 | 3.1% | 5 | 1.4% | 6 | 1.7% | 18 | 5.0% | 359 | 100.0% |
| Robotic | 32 | 28.1% | 43 | 37.7% | 10 | 8.8% | 16 | 14.0% | 4 | 3.5% | 3 | 2.6% | 5 | 4.4% | 1 | 0.9% | 114 | 100.0% |
| Laparoscopic | 12 | 37.5% | 9 | 28.1% | 3 | 9.4% | 3 | 9.4% | 1 | 3.1% | | | 2 | 6.3% | 2 | 6.3% | 32 | 100.0% |
| Minimally In | | | | | | | | | | | | | | | 2 | 100.0% | 2 | 100.0% |
| Grand Total | 116 | 22.9% | 205 | 40.4% | 52 | 10.3% | 74 | 14.6% | 16 | 3.2% | 8 | 1.6% | 13 | 2.6% | 23 | 4.5% | 507 | 100.0% |

Known CD IIIplus complication rate

Clavien Dindo Grade Of Complications (group)

| | Grade I & | Grade II | Grade | III plus | Grand Total | | |
|------------------------|-----------|----------|-------|----------|-------------|--------|--|
| Technique1 | N | % | N | % | N | % | |
| Open | 228 | 20.2% | 116 | 10.3% | 1,127 | 100.0% | |
| Robotic | 76 | 16.6% | 39 | 8.5% | 459 | 100.0% | |
| Laparoscopic | 22 | 18.8% | 9 | 7.7% | 117 | 100.0% | |
| Minimally Invasive NOS | 1 | 8.3% | | | 12 | 100.0% | |
| Not recorded | 1 | 100.0% | | | 1 | 100.0% | |
| Grand Total | 328 | 19.1% | 164 | 9.6% | 1,716 | 100.0% | |

Total by LOS

| Technique1 | N | Median LOS | Min LOS | Max LOS |
|------------------------|-------|---------------|---------|---------|
| Open | 1,279 | 11 | 1 | 248 |
| Robotic | 515 | 7 | 1 | 93 |
| Laparoscopic | 129 | 9 | 1 | 88 |
| Minimally Invasive NOS | 21 | 6 | 2 | 32 |
| Not recorded | 4 | 7 | 7 | 7 |
| Grand Total | 1,948 | 10 | 1 | 248 |

30 day mortality

Thirty Day Mortality (group)

| | | | . , , | 7 (5 1 | 17 | | | |
|------------------------|----|-------|-------|---------|-------|---------|--|--|
| | Y | es | N | 0 | Grand | l Total | | |
| Technique1 | N | % | N | % | N | % | | |
| Open | 21 | 1.64% | 1,258 | 98.36% | 1,279 | 100.00% | | |
| Robotic | 6 | 1.17% | 509 | 98.83% | 515 | 100.00% | | |
| Laparoscopic | 2 | 1.55% | 127 | 98.45% | 129 | 100.00% | | |
| Minimally Invasive NOS | | | 21 | 100.00% | 21 | 100.00% | | |
| Not recorded | | | 4 | 100.00% | 4 | 100.00% | | |
| Grand Total | 29 | 1.49% | 1,919 | 98.51% | 1,948 | 100.00% | | |

cumulative 90 day mortality

Ninety Day Mortality (group)

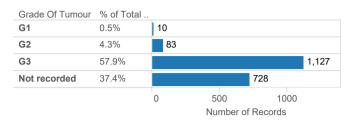
| | Ye | es | N | 0 | Grand Total | | |
|------------------------|----|-------|-------|---------|--------------------|---------|--|
| Technique1 | N | % | N | % | N | % | |
| Open | 33 | 2.58% | 1,246 | 97.42% | 1,279 | 100.00% | |
| Robotic | 9 | 1.75% | 506 | 98.25% | 515 | 100.00% | |
| Laparoscopic | 5 | 3.88% | 124 | 96.12% | 129 | 100.00% | |
| Minimally Invasive NOS | | | 21 | 100.00% | 21 | 100.00% | |
| Not recorded | | | 4 | 100.00% | 4 | 100.00% | |
| Grand Total | 47 | 2.41% | 1,901 | 97.59% | 1,948 | 100.00% | |

EnhancedRecovery

Enhanced Recovery Pathway

| | | | | | | • | | | |
|------------------------|-------|-------|-----|-------|---------|--------|-------------|--------|--|
| | Yes | | N | 0 | Not red | corded | Grand Total | | |
| Technique1 | N | % | N | % | N | % | N | % | |
| Open | 878 | 68.6% | 224 | 17.5% | 177 | 13.8% | 1,279 | 100.0% | |
| Robotic | 406 | 78.8% | 56 | 10.9% | 53 | 10.3% | 515 | 100.0% | |
| Laparoscopic | 110 | 85.3% | 6 | 4.7% | 13 | 10.1% | 129 | 100.0% | |
| Minimally Invasive NOS | 3 | 14.3% | 5 | 23.8% | 13 | 61.9% | 21 | 100.0% | |
| Not recorded | 3 | 75.0% | | | 1 | 25.0% | 4 | 100.0% | |
| Grand Total | 1,400 | 71.9% | 291 | 14.9% | 257 | 13.2% | 1,948 | 100.0% | |

Grade of Tumour



Unplanned readmission

Unplanned Readmission To Hospital

| | Yes | | N | o | Not re | corded | Grand Total | | |
|----------------------|-----|-------|-------|-------|--------|--------|-------------|--------|--|
| Technique1 | N | % | N | % | N | % | N | % | |
| Open | 123 | 9.6% | 1,031 | 80.6% | 125 | 9.8% | 1,279 | 100.0% | |
| Robotic | 69 | 13.4% | 391 | 75.9% | 55 | 10.7% | 515 | 100.0% | |
| Laparoscopic | 11 | 8.5% | 105 | 81.4% | 13 | 10.1% | 129 | 100.0% | |
| Minimally Invasive N | | | 13 | 61.9% | 8 | 38.1% | 21 | 100.0% | |
| Not recorded | | | 1 | 25.0% | 3 | 75.0% | 4 | 100.0% | |
| Grand Total | 203 | 10.4% | 1,541 | 79.1% | 204 | 10.5% | 1,948 | 100.0% | |

Operative Histology

| Operative Histology | N | % Total |
|--------------------------------------|-------|---------|
| No cancer | 256 | 13.1% |
| Gynaecological cancer | 10 | 0.5% |
| Primary adenocarcinoma | 31 | 1.6% |
| Primary CIS | 151 | 7.8% |
| Primary CIS,Other | 5 | 0.3% |
| Radiation change only | 2 | 0.1% |
| Sarcoma | 17 | 0.9% |
| Secondary adenocarcinoma | 21 | 1.1% |
| Squamous cell carcinoma | 69 | 3.5% |
| TCC | 959 | 49.2% |
| TCC,Other | 16 | 0.8% |
| TCC,Primary CIS | 32 | 1.6% |
| Sarcoma, Other | 2 | 0.1% |
| Squamous cell carcinoma, Gynaecologi | 4 | 0.2% |
| Squamous cell carcinoma,Sarcoma | 1 | 0.1% |
| TCC,Primary adenocarcinoma | 4 | 0.2% |
| TCC,Sarcoma | 1 | 0.1% |
| TCC,Secondary adenocarcinoma | 4 | 0.2% |
| TCC,Squamous cell carcinoma | 5 | 0.3% |
| TCC,Squamous cell carcinoma,Sarcoma | 1 | 0.1% |
| Other | 125 | 6.4% |
| Not recorded | 231 | 11.9% |
| Squamous cell carcinoma,Other | 1 | 0.1% |
| Grand Total | 1,948 | 100.0% |

Lymph nodes

Positive Lymph Nodes

| | Non | е | 1 - 9 | 5 | 6-10 | | 11-2 | 0 | 21- | 30 | Not reco | orded | >30 |) | Grand | Total |
|-------------|-------|-------|-------|-------|------|------|------|------|-----|------|----------|-------|-----|------|-------|--------|
| Lymph Node | N | % | N | % | N | % | N | % | N | % | N | % | N | % | N | % |
| 1 - 5 | 130 | 83.9% | 24 | 15.5% | | | | | | | 1 | 0.6% | | | 155 | 100.0% |
| 6-10 | 265 | 79.6% | 58 | 17.4% | 4 | 1.2% | | | | | 6 | 1.8% | | | 333 | 100.0% |
| 11-20 | 522 | 80.4% | 108 | 16.6% | 13 | 2.0% | 4 | 0.6% | | | 2 | 0.3% | | | 649 | 100.0% |
| 21-30 | 173 | 75.5% | 45 | 19.7% | 6 | 2.6% | 4 | 1.7% | | | 1 | 0.4% | | | 229 | 100.0% |
| >30 | 63 | 76.8% | 14 | 17.1% | 2 | 2.4% | 1 | 1.2% | 1 | 1.2% | | | 1 | 1.2% | 82 | 100.0% |
| Grand Total | 1,153 | 79.6% | 249 | 17.2% | 25 | 1.7% | 9 | 0.6% | 1 | 0.1% | 10 | 0.7% | 1 | 0.1% | 1,448 | 100.0% |

LNDlevel2

| Level I,Level II 94 6.5% | Lymph Node Dissection | N | % Total |
|---------------------------------|-----------------------|-------|---------|
| • | Level I | 270 | 18.6% |
| Level II 799 55.2% | Level I,Level II | 94 | 6.5% |
| | Level II | 799 | 55.2% |
| Level II,Level III 9 0.6% | Level II,Level III | 9 | 0.6% |
| Level III 178 12.3% | Level III | 178 | 12.3% |
| Level I,Level III 3 0.2% | Level I,Level III | 3 | 0.2% |
| None 36 2.5% | None | 36 | 2.5% |
| Not recorded 59 4.1% | Not recorded | 59 | 4.1% |
| Grand Total 1,448 100.0% | Grand Total | 1,448 | 100.0% |

Known Positive Surgical Margin Rate

Positive Margins

| | r contro margino | | | | | | | | | |
|------------------------|------------------|-------|-------|--------|-------------|--------|--|--|--|--|
| | Ye | s | N | 0 | Grand Total | | | | | |
| Technique1 | N | % | N | % | N | % | | | | |
| Open | 95 | 10.0% | 854 | 90.0% | 949 | 100.0% | | | | |
| Robotic | 41 | 11.3% | 323 | 88.7% | 364 | 100.0% | | | | |
| Laparoscopic | 9 | 8.5% | 97 | 91.5% | 106 | 100.0% | | | | |
| Minimally Invasive NOS | 1 | 11.1% | 8 | 88.9% | 9 | 100.0% | | | | |
| Not recorded | | | 1 | 100.0% | 1 | 100.0% | | | | |
| Grand Total | 146 | 10.2% | 1,283 | 89.8% | 1,429 | 100.0% | | | | |

Status at most recent Follow-up

Time to Follow Up

| | | 0-90 | | 91 - 180 | | 181 - 360 | | > 360 | | Grand Total | |
|--------------------------------------|------------------|------|-------|----------|-------|-----------|-------|-------|-------|-------------|--------|
| Current Statusfu | Patient Statusfu | N | % | N | % | N | % | N | % | N | % |
| Not recorded / applicable | Alive | 9 | 25.0% | 17 | 47.2% | 9 | 25.0% | 1 | 2.8% | 36 | 100.0% |
| | Died in followup | 13 | 22.0% | 26 | 44.1% | 17 | 28.8% | 3 | 5.1% | 59 | 100.0% |
| Alive with local recurrence of bladd | Alive | 4 | 28.6% | 5 | 35.7% | 3 | 21.4% | 2 | 14.3% | 14 | 100.0% |
| Alive with lymph node involvement | Alive | 5 | 38.5% | 4 | 30.8% | 2 | 15.4% | 2 | 15.4% | 13 | 100.0% |
| Alive with metastatic disease | Alive | 7 | 28.0% | 7 | 28.0% | 8 | 32.0% | 3 | 12.0% | 25 | 100.0% |
| Alive with no evidence of bladder c | Alive | 140 | 31.8% | 118 | 26.8% | 133 | 30.2% | 46 | 10.5% | 440 | 100.0% |
| Grand Total | | 178 | 30.3% | 177 | 30.2% | 172 | 29.3% | 57 | 9.7% | 587 | 100.0% |

Participating Hospital Centres 2015

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

| Αl | berd | leen | Roy | /al | Inf | firmary | 1 |
|----|------|------|-----|-----|-----|---------|---|
|----|------|------|-----|-----|-----|---------|---|

Addenbrooke's Hospital, Cambridge

Alexandra Hospital, Redditch Arrowe Park Hospital, Wirral

Barking, Havering And Redbridge University Hospital

Belfast City Hospital

Bradford Royal Infirmary

Bristol Oncology Centre; United Bristol Health Care

Burnley General Hospital Castle Hill Hospital, Hull

Charing Cross Hospital, London Cheltenham General Hospital

Christie Hospital

Churchill Hospital, Oxford Colchester General Hospital Derriford Hospital, Plymouth

Eastbourne District General Hospital Forth Valley Royal Hospital, Larbert

Freeman Hospital, Newcastle

Gartnavel General Hospital, Glasgow

Guy's & Thomas's Hospital Kent and Canterbury Hospital Leicester General Hospital Lincoln County Hospital

Lister Hospital, Stevenage

Manchester Royal Infirmary

Manchester Royal Illillinary

Medway Maritime Hospital, Gillingham

Morriston Hospital, Swansea

New Cross Hospital, Wolverhampton

Ninewells Hospital, Dundee

Norfolk And Norwich University Hospital

Northwick Park Hospital
Nottingham City Hospital

Pinderfields General Hospital, Wakefield Queen Alexandra Hospital, Portsmouth Queen Elizabeth Hospital, Birmingham

Raigmore Hospital, Inverness Royal Blackburn Hospital

Royal Alexandra Hospital, Paisley
Royal Berkshire Hospital, Reading
Royal Bournemouth General Hospital

Royal Derby Hospital

Royal Devon and Exeter Hospital Royal Free Hospital, London

Royal Hallamshire Hospital, Sheffield

Royal Liverpool University Hospital

Royal Marsden Hospital, London

Royal Preston Hospital

Royal Shrewsbury Hospital

Royal Stoke University Hospital

Royal Surrey County Hospital, Guildford Royal Sussex County Hospital, Brighton

Salford Royal Hospital

Southampton General Hospital

Southend Hospital

Southmead Hospital, Bristol St George's Hospital, London

St James's University Hospital, Leeds Stepping Hill Hospital, Stockport

Stobhill Hospital, Glasgow

Sunderland Royal Hospital

The James Cook University Hospital, Middlesbrough

University College Hospital, London

Walsgrave Hospital, Coventry

Western General Hospital, Edinburgh

Withington Community Hospital, Manchester

Wycombe Hospital, High Wycombe Wythenshawe Hospital, Manchester Ysbyty Gwynedd Hospital, Bangor