Results: We identified 19 studies investigating simulation options in robotic surgery. Eleven studies compared performance between two different groups; Expert and Novice. Experts ranged in experience from 21–2200 robotic cases. The novice groups consisted of participants with no prior experience on a robotic platform. The MdVT, ProMIS, SEP and Intuitive systems have shown face, content and construct validity. The Ross system has only been face and content validated. All of the simulators except SEP have shown educational impact. Feasibility, educational impact and cost-effectiveness of simulation systems was not evaluated by the studies. Virtual reality simulators were demonstrated to be effective training tools for junior trainees.

Conclusions: Simulation training holds the greatest potential to be used as an adjunct to traditional training methods in order to equip the next generation of robotic surgeons with the skills required to operate safely. More research is needed to validate simulated environments and investigate the effectiveness of animal and cadaveric training in robotic surgery.

0337: STAGING IT BEFORE DIAGNOSING IT. A NOVEL RISK ASSESSMENT TOOL FOR PROSTATE CANCER
Rozh Jalil, Nirav Patel, John O’Neil, James Green. Imperial College, London, UK; Whips Cross University Hospital, London, UK

Introduction: A 4-6 weeks waiting lapse is necessary if staging MRI is performed after TRUS-Prostate biopsy due to the challenging interpretation of MRI because of the haemorrhage and swelling. To improve treatment times, we discuss a novel idea of identifying patients who would benefit most from a staging-type MRI before TRUS-P biopsy using a simple risk assessment tool.

Materials and Methods: A retrospective study enrolled 503 patients who were referred to our hospital on the 2 week wait prostate pathway. After analysing data from these patients, a tool was developed primarily using age and PSA. Ages 60-80 (grouped into 60-64, 65-69, 70-74 and 75-79) were included due to the feasibility of radical treatment. Each group was allocated a specific PSA range in an attempt to render most possible cancer patients who had MRI.

Results: The application of this tool identified a subgroup of patients aged 60-79 (n=124) with MRI rates of 48.4% and a cancer rate of 57.3%. These comprised 43.3% of all cancers in this age group 60-79.

Conclusions: Applying this tool will identify patients that can benefit from upfront staging MRI and hence early commencement of definitive treatment. Subsequently the cancer target wait is easier to achieve.

0346: NEWLY DIAGNOSED PROSTATE CANCER: ARE MEN BEING REFERRED SAFELY AND APPROPRIATELY FROM PRIMARY CARE?
M. Fullarton, T. Balling, N.I. Osman, B.A. Petersson, C.S. Powell. Countess of Chester Hospital, Chester, UK

Aim: Many GPs find prostate cancer (CaP) diagnosis difficult. Although referral guidelines are available, anecdotal evidence suggests a disparity in approach between GPs and urologists. We determined whether men with histological CaP were referred appropriately from primary care.

Methods: We conducted a retrospective case-note review of 77 consecutive patients undergoing Trans-rectal prostate biopsies after 1st outpatient visit. Type, reason and quality of referral were determined.

Results: 77 men underwent biopsies with a mean-age of 71.1. 27.3% were routine referrals, 13% urgent and 59.7% 2-week rule. 5 patients had no PSA testing pre-referral, 42 had 1, 26 had 2 and 4 had >2. 90.3% were referred with a raised PSA. 67.5% had rectal examinations (RE) pre-referral. 31.2% patients had urinalysis pre-referral. 64.9% had histological CaP, 1.3% PIN, 33.8% benign histology (1 patient failed to attend biopsy). 72% of those with histological CaP were referred by 2-week-rule, 70% of whom had RE.

Conclusions: Most patients with suspected or proven CaP were referred under 2-week rule. Although quality of referral varied, most were appropriate. Areas for improvement include performance of RE and urinalysis. To avoid delays in diagnosis, education is needed to bring the practices of GPs and urologists in concordance.

0353 WINNER OF ASIT-SURG PRIZE: CONTEMPORARY OCCUPATIONAL BLADDER CANCER: A SYSTEMATIC REVIEW OF CURRENT EXPOSURES
Marcus Cumberbatch, James Catto, Simon Pickvance. University of Sheffield, Sheffield, UK

Background: Bladder cancer is a common disease that often arises following occupational exposure to carcinogens. Improved workplace hygiene and industrial sanctions have controlled or substituted the use of known bladder carcinogens. However, between 5 and 25% of contemporary tumours still arise following workplace carcinogen exposure, suggesting either unknown or uncontrolled exposure is still common.

Aim: To systematically review recent evidence (since 1990) for occupational bladder cancer and to identify contemporary occupations implicated in its aetiology.

Method: A systematic review using Pubmed with strings to search for occupational and bladder cancer was conducted using limits to control for study design and select contemporary studies. After review using strict exclusion criteria, and following reference checks, 87 studies were included for analysis.

Results: Contemporary at risk occupations include: agricultural workers, drivers, engineers, fire-fighters, laundry workers, metal and metal-fluid workers, miners, nurses, plastics workers, pharmaceutical workers, print workers, textile workers, tool-makers, waiters, and wood workers.

Conclusion: Many of these are modern additions to our database of at risk occupations to bladder cancer and alterations in disease demographics suggest a variety of possible carcinogens requiring investigation. Occupational exposure remains an important public health problem that should be understood and incorporated into patient management.

0370: DOES OPERATOR EXPERIENCE AFFECT THE OUTCOME OF TRANSRECTAL PROSTATE BIOPSIES?
Adam Hussein, Sergey Tadtayev, Gregory Boustead. Lister Hospital, Stevenage, UK

Cancer detection rate (CDR) is the single most important outcome measure of transrectal ultrasound-guided (TRUS) prostate biopsies. It is established that a number of factors influence outcome of the biopsy, but there is a paucity of data on the effect of operator experience.

We conducted a retrospective review of 344 patients who underwent their first TRUS biopsy in a single institution over a 12 month period. Biopsies were undertaken by 6 consultants (103), 8 senior trainees practicing TRUS for >1 year (139) and 3 junior trainees who just started TRUS training (102).

Fisher’s test was used for statistical analysis. There was a significant difference in the CDR between consultants and juniors (p<0.005), and senior and junior trainees (p=0.008) at the expense of more Gleason 6 cancer found in the first vs third group (p=0.03). We could not identify evidence of a learning curve amongst juniors.

We have demonstrated higher CDR by more experienced TRUS operators, likely due to superior sampling. This finding implies that mentoring, self-audit and close follow-up are essential. The TRUS learning curve is likely to exceed 30 cases. CDR in our study is similar to values published in comparable cohorts (30–40%).

0481: IMPROVED FIVE YEAR SURVIVAL ESTIMATES OF RADICAL CYSTECTOMIES PERFORMED AT A HIGH VOLUME DISTRICT GENERAL HOSPITAL
Robert Pallas, James Osborne, James Wilson, Adam Carter. Royal Gwent Hospital, Newport, UK

Radical cystectomy is a major operation with significant complications. There has been suggestion of centralising this operation to high volume cancer centres. All cystectomies for cancer performed at our centre between 2000 and 2010 were retrospectively analysed for survival data. Results were compared to published data from gold standard institutions.

A total of 160 cystectomies were performed by six surgeons, an average of 26 per year between 2000 and 2006, and 18 per year since 2007. Data was gathered from theatre database operation codes and correlated with follow up data from electronic hospital records. Survival was estimated using Kaplan-Meier estimation, and sub-divided based on T-grading.

Results of cystectomies performed prior to 2007 were compared to subsequent operations. There is a statistically significant difference between 5 year survival of T1/ T2 and T3/4 patients. Cases performed between 2000-2006 had a 5-year survival rate of 45%, this improved to 57% in patients operated 2007-2010. The 5-year survival and 30 day mortality figures are comparable to publications from major institutions. Recent cystectomies have improved 5