One centre still prefers traditional IVU if the patient is young, 2 for stone follow up and 1 out of hours. If known TCC, one centre also scans the chest.
For stone disease all perform unenhanced imaging only.
Relevance/Impact/Outcomes:The CT IVU is fast replacing the traditional IVU in most departments placing a large burden on resources. In the absence of a universal technique each institution needs to establish which methods work best for them. We have provided some examples.

Clinical: Uroradiology

P-030 **Incidental urological findings on CT colonography**

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Aims/Objectives

1) To illustrate the range of incidental urological findings encountered on CT colonoscopy in a symptomatic population.
2) To discuss the features that may help to distinguish between pathologies.
3) To discuss appropriate radiological management and further imaging where appropriate.

Content: We reviewed 525 reports from CT colonography examinations performed between Jan 2010 and June 2011. Images of clinically significant and unusual urological lesions were collected for this pictorial review and where possible comparison was made to further imaging, operative and endoscopic findings.

Relevance/Impact: There has been an increase in the use of CT colonography and in the investigation of symptomatic patients with lower GI symptoms. The major difference with CT techniques compared to traditional methods of investigation is the detectection of extra colonic findings. The majority of patients with incidental urological findings will require further medical input. We compare our findings to the current literature and describe and illustrate the range of pathologies encountered as well as demonstrating features that may help to distinguish between pathologies.

Outcomes: Of the 525 cases, significant extracolonic urological findings included: Renal cell carcinoma (1), bladder carcinoma (3), TCC kidney (1), renal lymphoma (1), xanthogranulomatous pyelonephritis (1), PUJ obstruction(1) and bilateral duplex kidneys (1) and locally advanced prostate cancer(1)

Discussion: Urological findings are common findings in CT colonography, whether incidental or mimicking the non-specific symptoms of colon cancer. Careful review of the urinary tract can often unearth a variety of conditions which have an impact on patient management.

P-031 **Solid renal masses – diagnostic correlation of CT findings and pathology post partial nephrectomy. a single institution, 2.5yr retrospective study**

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Aims/Objectives: To determine our sensitivity and false positive rate for CT suspected primary renal malignancy.Identify imaging characteristics of pathologies most often result in false positives.

Content: CT reports were retrospectively reviewed on all patients who underwent a partial nephrectomy for suspected primary renal malignancy at our institution from 09/08/2006 to 09/01/2009. Comparison was subsequently made to the pathology report.

Relevance/Impact: The diagnosis of suspicious renal masses is rising with increasing use of abdominal CT scanning. Most CT suspected malignancies are currently managed by surgical resection with the attendant risks. False positives may lead to unnecessary surgery.

Outcomes: Total of 69 patients.
55 positive on pathology, 14 benign.
CT imaging - 65 diagnosed as malignant, 4 as non-malignant (decision to excise was made subsequently at MDT).

Of the 65 CT malignancies, 13 false positives, 52 true positives.
Of the 4 CT benign, (subsequently revised on MDT), 3 were false negatives.
Our CT sensitivity over the period = 94.5% (52/52+3). False positive rate 20% (13/65).
Of the false positives, oncocytomas (46%) and angiomyolipomas (23%) were most common.
Discussion: 20% of patients with CT suspected renal malignancy may be undergoing unnecessary surgery. Characteristic imaging features of oncocytoma and angiomyolipomas have been described. In practice they are often difficult to distinguish. Unexpectedly, 4 false negatives were obtained. Some of these were avoidable had a triple phase CT scan been performed.
Study highlights importance of radiology led multidisciplinary teams. Has led to new protocols based on imaging characteristics of common renal masses.

P-032 **Contrast induced nephropathy: a study of inpatients undergoing body CT**

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Northumbria Healthcare NHS Trust: Gateshead Health NHS Foundation Trust;

Purpose:Contrast induced nephropathy (CIN) is a major cause of iatrogenic renal failure associated with significant morbidity and mortality. However, it is preventable. CIN is defined as a rise in serum creatinine by 44micromols/l or 25% in the 3 days following IV contrast administration (ESUR guidelines 2007). Within our institution, clinicians requesting an investigation requiring IV contrast need to provide a recent EGFR for the patient.
Methods:We looked at all inpatients who underwent body CT scans requiring contrast (100mls Omnipaque), over a six week period in 2011. We looked to see whether an accurate, recent EGFR value was provided and whether the request was vetted by a consultant radiologist. We checked whether contrast was administered to patients with abnormal renal function, and if so, what their post-contrast renal function was.
Results:198 patients were included in our study. Only 132 patients (66%) had request forms with a correct EGFR value. There was documentation of the vetting process for 176 requests (88%). As a result of the vetting process, 14 patients were not given IV contrast due to their poor EGFR.Seven patients had pre-and post-contrast EGFR values which fulfilled the criteria for potential CIN.
Conclusion:Despite local protocol, a significant proportion of patients (34%) did not have an accurate, recent EGFR value provided on their request form.The potential for contrast induced nephropathy is real and measures should be taken to try and reduce the risk. We made several recommendations to try and reduce this risk within our institution.

P-033 **Scrotal ultrasound referrals: current trends**

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Aims: Our aim was to study all scrotal ultrasounds referrals with a view to assess appropriateness of requests.
Content: Data was collected retrospectively of all scrotal ultrasounds performed over a three month period using PACS, radis, request forms and patient administration system.
Relevance: We perform approximately 2600 scrotal ultrasounds annually in our university hospital. Majority of these requests are from primary care physicians.
Inappropriate referrals reduce the efficiency of the department to diagnose more serious and urgent treatable diseases and hence needs to be addressed.
Outcomes: Total number of scrotal ultrasounds studied was 502. The referrals were mainly from the primary care GPs 70% (353) followed by urologist 18% (91) and other departments 12% (58).
Median age was 41 years (Range 10-91 years).
Median waiting time from referral to examination was 19 days (0-80 days).
Common clinical indications were scrotal lump 27%, epididymal cyst 24%, scrotal pain 23%, hydrocele 6%, varicocele 6% and probable malignancy 5%.

Ultrasound findings of these referrals were mainly epididymal cyst 38%, normal 35% and hydrocele in 7%. Malignancy was diagnosed in 3 cases only (Age range 18-44 years).
Discussion: Majority of ultrasound findings were normal or benign conditions and performed with poor clinical indications.
Testicular cancer is uncommon after fifth decade.
Robust training of GPs on scrotal diseases management may improve efficiency.
Ultrasound showing an innocent condition can be reassuring for patients, but GP with confident clinical skills can do the same.

P-034 **Audit of Down syndrome screening in ultrasound**

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Kingston Hospital NHS Trust

Downs syndrome affects approximately 1:1000 pregnancies in the UK every year. Our maternity department offers women a combined screening test at 11 - 14 weeks, comprising an Ultrasound scan to measure Crown Rump Length (CRL) and Nuchal Translucency (NT), and a maternal blood test. NT is the area of subcutaneous fluid at the back of the neck which is present in all foetuses. Increase in NT thickness can be associated with chromosomal abnormality. Operators must accurately measure NT to improve detection rates and keep false positive rates (FPR) low.
Downs syndrome screening Quality Assurance Support Service (DQASS) monitor NT and CRL measurements. Individual performances are compared to the expected distribution curve and assigned a Green flag (good), Amber flag (satisfactory) or Reg flag (needs further training).
Fetal Anomaly Screening Programme (FASP) guidelines state that the local Screening Support Sonographer informs all operators of their DQASS flag and reviews images to improve performance. Sonographers were asked to submit 1 CRL image and 3 NT images to be scored against the FASP criteria. Findings were presented.
Prior to the audit (03/2011), 100% sonographers had an Amber flag, and the department had a DR of 76% and FPR of 2.4%. Following the second DQASS cycle (09/2011), the department has 33% Green flags and 66% top Amber with an improved DR of 91% and FPR of 3.4%. (expected DR 83%, FPR 3.4%).
The aim of the audit; to improve antenatal screening, has been achieved, and further image review sessions will commence in April 2012.

Clinical: MSK

P-035 **The pediatric cervical spine: a pictorial review of developmental anomalies**

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Urgent radiological assessment of the paediatric cervical spine can be challenging since there are numerous confusing vertebral manifestation of normal anatomical variations, ossification centres and synchondroses (Fesmire, 2004). More so, the paediatric spine is the location of both congenital and acquired conditions, which presents particular risks to the reviewing advanced practitioner radiographer. Radiological appearances which infrequently occur and offer challenges to emergency and radiology clinicians, such as congenital bony and ligamentous disorders are discussed and pictorially reviewed.
Proficient recall of anatomical variants is paramount for accurate image interpretation. Many cervical variants include anatomical wedging (C3/4), exaggerated predental space, widening of intervertebral spaces, pseudosubluxation, reduced or reversal of cervical lordosis and pseudo fractures are amongst some of the difficult radiological manifestations that clinicians encounter (kilmo, 2007).
Lustrin (2003) and Jeneau (2010) explains that cervical spine trauma in children is typically located in the superior vertebral region owing to the unique biomechanics and anatomy with increased threat of neurologic injury rather than damage to skeletal structures. Kilmo (2007) clarifies that although