Preliminary Clinical Evaluation
what is its value in clinical practice?

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Review of abnormality detection systems
Definition of PCE
Education in PCE
Barriers
Alternatives

And...

A few cases throughout – test your PCE skills
Radiographer led abnormality detection systems

- Started as the red dot system over 30 years ago (Berman, de Lacey et al, 1985)
- Aimed to address errors in A&E and for radiographers to offer advice to (often) inexperienced casualty officers (Renwick et al, 1991)
- Reduce the costs of litigation and negative impact on patient management
Radiographer led abnormality detection systems

- But...Renwick (1991) found that radiographers often overcalled cases compared with the definitive report.
- Loughran’s study (1994) showed that with 6 months training (tutorials and assessments) performance improved significantly.
- Other studies concur with this conclusion (Hargreaves & Mackay, 2003; Piper & Paterson, 2009).
- However there was no national expectation of training or standard protocol eg. Red dot for a tumour or other non-trauma abnormalities.
Red Dot – not a perfect system?

- Can be unreliable – usually no training. Confusion possible if more than 1 pathology. Some staff may choose not to participate.

- Now:
  - “Clinical imaging examinations undertaken by radiographers should receive an immediate preliminary clinical evaluation ....to assist in on-going patient management.”

(COR, 2013)
Preliminary Clinical Evaluation – what’s it about?

- It replaces the ‘Red Dot' system traditionally used in skeletal radiography

HCPC Recommendations
Standards of Proficiency – Radiographers

All radiographers should be able to:

- distinguish between normal and abnormal appearances evident on images
- appraise image information for clinical manifestations and technical accuracy
- take further action as required
- to be able to distinguish disease and trauma processes as they manifest on diagnostic images

At point of registration

Case 4
The SCoR definitions of PCE

- **Preliminary Clinical Evaluation:**
  
  “The term used to describe the practice of radiographers whereby they assess imaging appearances, make informed clinical judgements and decisions and communicate these in written forms to referrers.

  ...Where a radiographer is unable to provide a preliminary clinical evaluation this must be communicated to the referrer in written form”

- All diagnostic examinations undertaken by radiographers ‘should receive an immediate preliminary clinical evaluation as part of the examination to assist in on-going patient management’.

- Ongoing education and training is key to this

**REMEMBER:** PCE is not reporting, it is an informal comment
Current UG education and into practice

- Image interpretation/ PCE are core components of HEI curricula (Stevens & White, 2018)
- Education required in workplace to support ongoing competency and varying range of ability/ knowledge
- Structuring the PCE – guidance on how to write it (Neep et al, 2013)
Take up of PCE

- Uptake has been slow
- Lack of confidence and inadequate training?
- Practical aspects of adding a PCE to PACS/RIS
- Twitter feed last week – what methods used:
  - Sticky note in PACS
  - RIS comment but not linked to PACS
  - Red dot on image – comment on RIS
  - Resistance from radiographers (prefer red dot)

Case courtesy of Dr Hani Salam, Radiopaedia.org, rID: 12979
Do we need PCE?

Common missed diagnoses:

- Lunate/perilunate dislocations
- Elbow fractures eg. Avulsed medial epicondyle
- Lisfranc injuries
- Pneumothoraces
- Misplaced NG tube (not just for A&E referrals?)
- Red flag signs. Initial evaluation in MRI or other modalities – not just for DR/CR?
How to approach PCE commenting

- Analyse the images and all other relevant information
- Identify both normal and abnormal structures
- Review the normal and abnormal structures with reference to the request
- Use technical language
- Draw a conclusion based on the above factors
- Does NOT confirm a definitive diagnosis but may help to inform the patient’s management
PCE education

- UG education
- CPD sessions by reporting radiographers – ongoing
- E-Learning for Healthcare
- Other online or taught programmes
Increased use of radiologists – unlikely with current radiology workforce issues

24 hour reporting service - expensive

Increased use of reporting radiographers

Immediate reporting within “busier” periods. Study by Snaith et al (2013) found immediate reporting reduced interpretive error and patient recall rates for MSK
What does research tell us?

- There is variation in radiology reporting agreement at all levels.
- With suitable training radiographers can report to similar standards as radiologists.
- “Radiographers are in a unique position to communicate their professional observations directly with the treating clinician in a timely manner and thereby have a significant influence on patient care” (Woznitza, 2014).
- PCE has a role to play in supporting patient care.
What do we offer at CCCU?

Non credit bearing short course or web based course
Case answers

1. Tarsometatarsal dislocation on lateral ankle – needs further foot imaging
2. Impacted transcervical fracture left neck of femur
3. Lunate dislocation on DP wrist
4. Limbus vertebra – normal variant
5. Bipartite patella
6. Right eyebrow sign – intraorbital emphysema from likely blow out fracture
Thank you
Any Questions?
REFERENCES

- Berlin, L. Perceptual Errors, AJR, 167, pp.587-590
- Chest Radiographic Analysis. Churchill Livingstone
- Cosson and Dash (2014) A taxonomy of anatomical and pathological entities to support commenting on radiographs (preliminary clinical evaluation) Radiography.