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WHAT, WHERE, and HOW: A Proposal for Structuring Preliminary Clinical Evaluations

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INTRODUCTION
The vision of the Society and College of Radiographer’s to introduce commenting skills as a competency for Radiography graduates by 2010 has passed, relatively unanswered. However, there are renewed calls for ‘preliminary clinical evaluations’ (comments) to be integrated into the training of new Diagnostic Radiographers. In order for Radiographers, both new graduates and current professionals, to be adequately trained to provide an initial interpretation on all standard plain film and contrast examinations, their current level of ability needs to be defined in order to scaffold their further learning. RadBench provides the decision making benchmarking tool; the next step is to provide an ordered process for writing comments.

The Literature provides sparse discussion of how the comments describing abnormalities are structured and formulated besides the use of a proforma and to give a description and location of an abnormality.

Here we suggest a method for structuring preliminary clinical evaluations in acute musculoskeletal trauma images. The following structure is suggested when writing comments on musculoskeletal trauma images:

- WHAT is the abnormality/fracture?
  - eg. intra-articular
  - transverse
  - oblique fracture
  - dislocation/subluxation

- WHERE is the abnormality?
  - which bone?
  - which end of the bone? (med, distal, proximal)
  - specifically where within the bone? (eg. diaphysis, metaphysis, epiphysis, tubercosity)

- HOW is it displaced/aligned?
  - How much (eg, mild, moderate, severe)
  - which way (eg, lateral, medial)

For example:

- WHAT oblique fracture
- WHERE distal metaphysis of little finger metacarpal
- HOW moderate volar angulation

Try it yourself...

(dislocation of the elbow joint with posterior-lateral displacement)

Students were asked to provide their opinion on their feelings concerning writing comments and to evaluate the new system and compare it to any other methods they had experienced in practice.

RESULTS AND DISCUSSION
Students responded with a number of opinions and experiences of commenting including:

- “although I have a decent level of understanding of what is normal or abnormal from an examination, ‘commenting’ or communicating this is my weak point” (2nd year student)

- “it can be very daunting when asked to interpret and image... all advice I’ve read on systematic interpretation goes out of my head in the pressure of the situation” (2nd year student)

- “The area which I struggle with the most is not the identification of an injury but the ability to accurately describe the appearances to aid someone else to see what I have seen... I struggled to find a starting point” (3rd year student)

Example responses from students regarding the ‘What, Where, How’ system:

- “I found the structure very helpful for the exam. It’s easy to remember and simple to follow when looking at X rays. Very beneficial for future”

- “I do like the methodical, structured approach you implemented and it has certainly helped when preparing for the exam and in sessions with reporting radiographers”

- “Simple concept that is easy to grasp and implement right from the beginning of the course. Provides a simple structured approach to writing comments. Increases confidence of writing... even when approaching complicated cases.”

- “I think [this] way of doing it is by far the best and most effective. I also think it can be used from undergraduates to experienced radiographers.”

- “I think this is a great idea, make it simple, informative and effective works for me”

Consistent with the findings of previous studies, students elicit concerns regarding commenting in terms of it being forced upon them, being unsure about accountability, an unconfident about how to structure what they produce. The simplistic, yet detailed WHAT, WHERE, HOW structure appears to focus the concentration on the appearances of an abnormality, rather than be concerned about how to actually portray the verbal or written description. Early indications from OSCE-type assessments and student feedback indicate a willingness for Radiography students to utilise this method when presented with case studies in an examination and clinical situation.

CONCLUSION
Used within the classroom and clinical practice setting the WHAT, WHERE, HOW method enhances student understanding of theoretical concepts of image interpretation and is readily open to assessment to demonstrate accuracy of diagnosis and content. The WHAT, WHERE, HOW structure allows students to break down appearances into components and make sense of even complex traumatic radiographic findings, instilling a feeling of competence and understanding. It is proposed that this structure be integrated into undergraduate and postgraduate education programs and courses, with the potential to develop knowledge and understanding of musculoskeletal anatomy, but also the confidence to provide a useful and meaningful role in clinical practice. It would also provide additional value to Radbench and enable the benchmarking of commentary.

Further adaption and development is being undertaken to develop the practice into other clinical areas such as non-trauma and chest radiography, and CT head interpretation. The vision of the Society and College of Radiographer’s to introduce commenting skills as a competency for Radiography graduates by 2010 may have passed, but is very much alive and this work is a key step forward.

REFERENCES
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