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HARCUS, James and WRIGHT, Chris

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Published version

HARCUS, James and WRIGHT, Chris (2014). What, where, and how : a proposal for structuring preliminary clinical evaluations. In: UKRC, Manchester, 9-11th June 2014.

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WHAT, WHERE, and HOW:

A Proposal for Structuring Preliminary Clinical Evaluations

James Harcus BHSc(Hons), MSc, PgCert & Dr Chris Wright PhD, MSc, HDCR, CertEd

James Harcus is a Lecturer at Sheffield Hallam University, England (j.harcus@shu.ac.uk)

Chris Wright is a Senior Lecturer at Sheffield Hallam University, England (chris.wright@shu.ac.uk)

INTRODUCTION

The vision of the Society and College of Radiographer's to introduce commenting skills as a competency for Radiography graduates by 2010¹ has passed, relatively unanswered. However, there are renewed calls for 'preliminary clinical evaluations' (comments) to be integrated into the training of new Diagnostic Radiographers.² 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 bench-marking tool; the next step is to provide an ordered process for writing commentary.^{2,3}

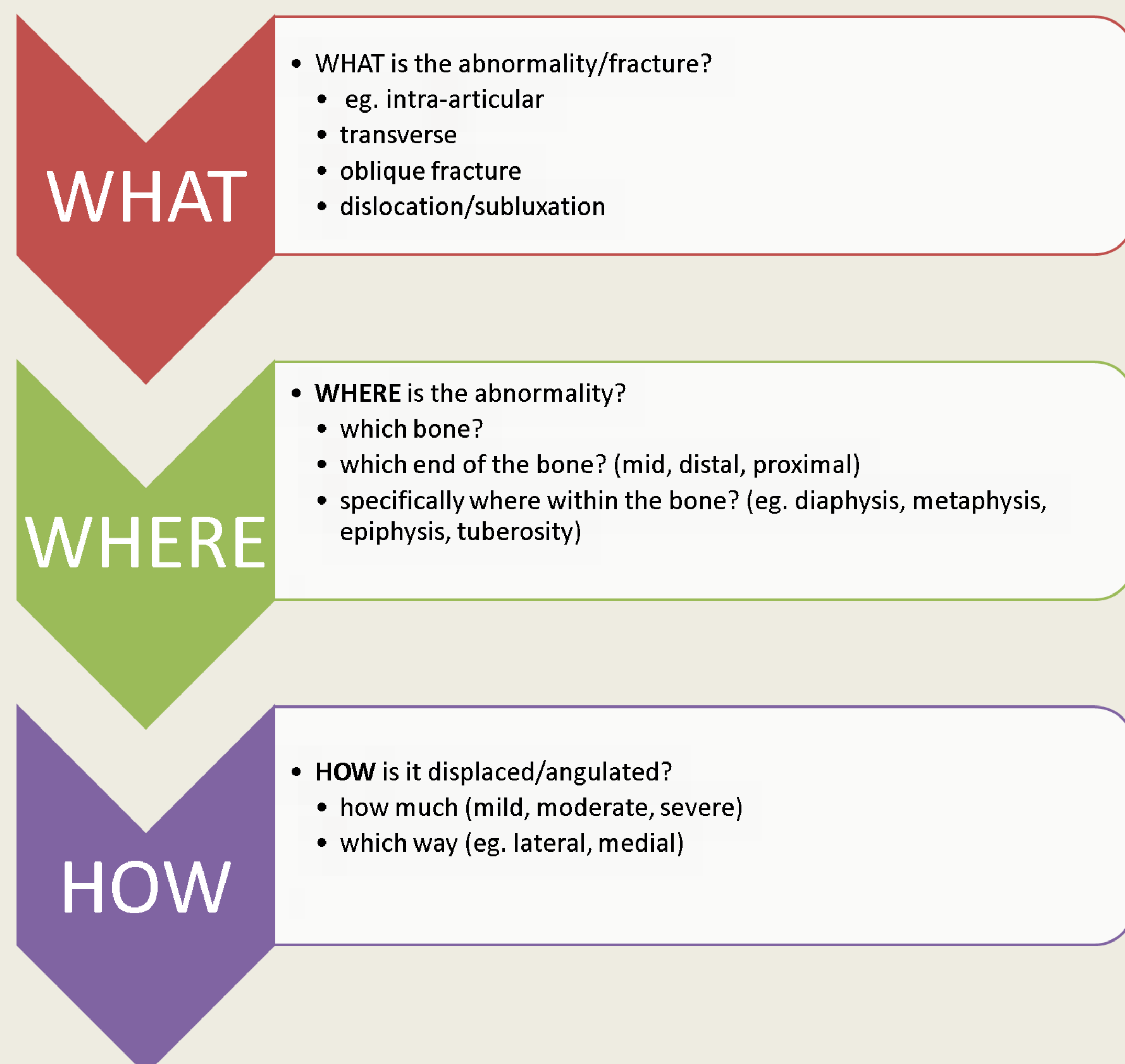
The literature provides sparse discussion⁴ of how the comments describing abnormalities are structured and formulated besides the use of a proforma¹ and to give a description and location of an abnormality.⁵ Here we suggest a method for structuring preliminary clinical evaluations in acute musculoskeletal trauma implemented within an undergraduate training program. It outlines a simplistic but informative method of constructing comments. Introduced early in the undergraduate program, this will engender an understanding of common injury types, anatomical knowledge, and medical terminology which will translate into the acute clinical situation and facilitate the vision of the 'modern Radiographer'.

METHODOLOGY

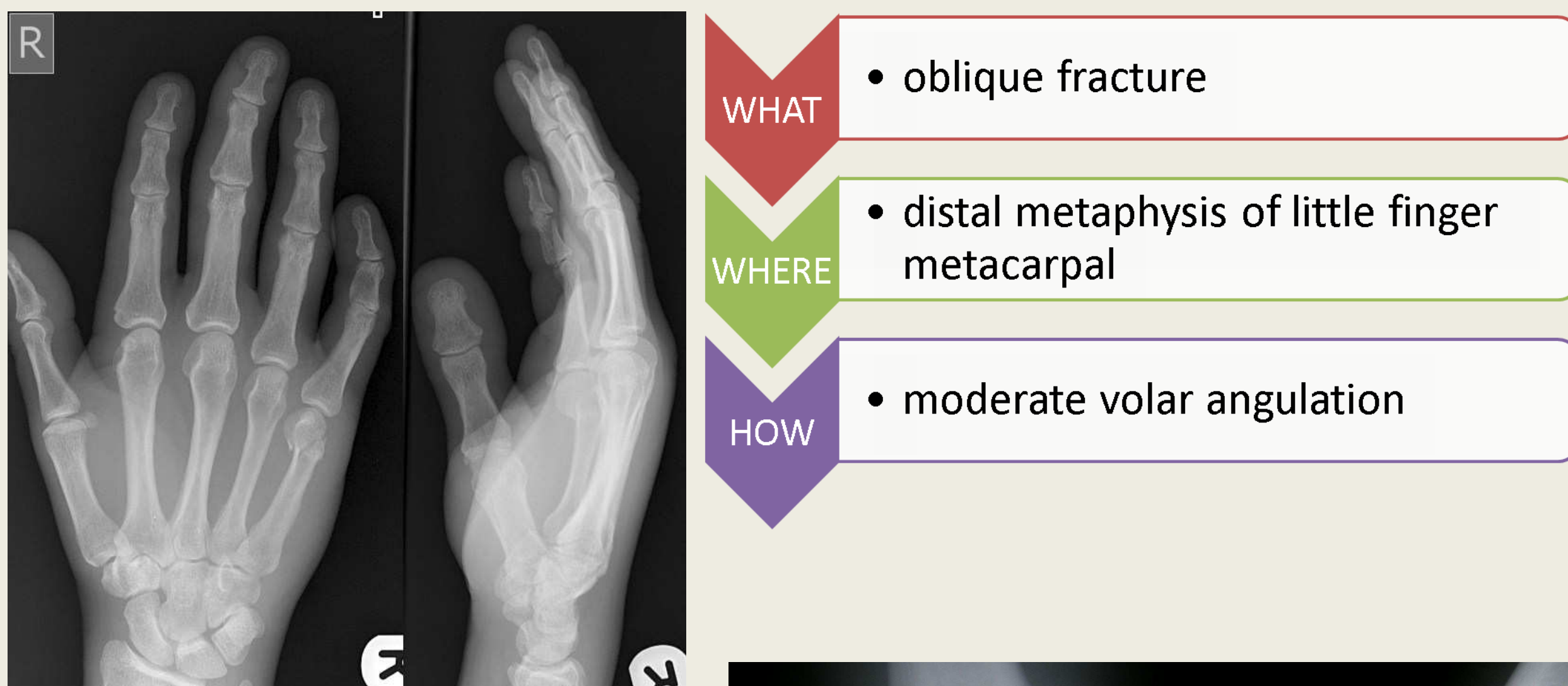
The **WHAT, WHERE, HOW** concept was introduced in a formal lecture setting to all three years of an undergraduate Diagnostic Radiography program. This was then followed up with small group tutorial sessions initially focussed on musculoskeletal image interpretation.

Students were actively encouraged to use the **WHAT, WHERE, HOW** concept to produce their own written comments. Complexity of the images and pathologies was increased with increasing student experience and capability.

The following structure is suggested when writing comments on musculoskeletal trauma images:

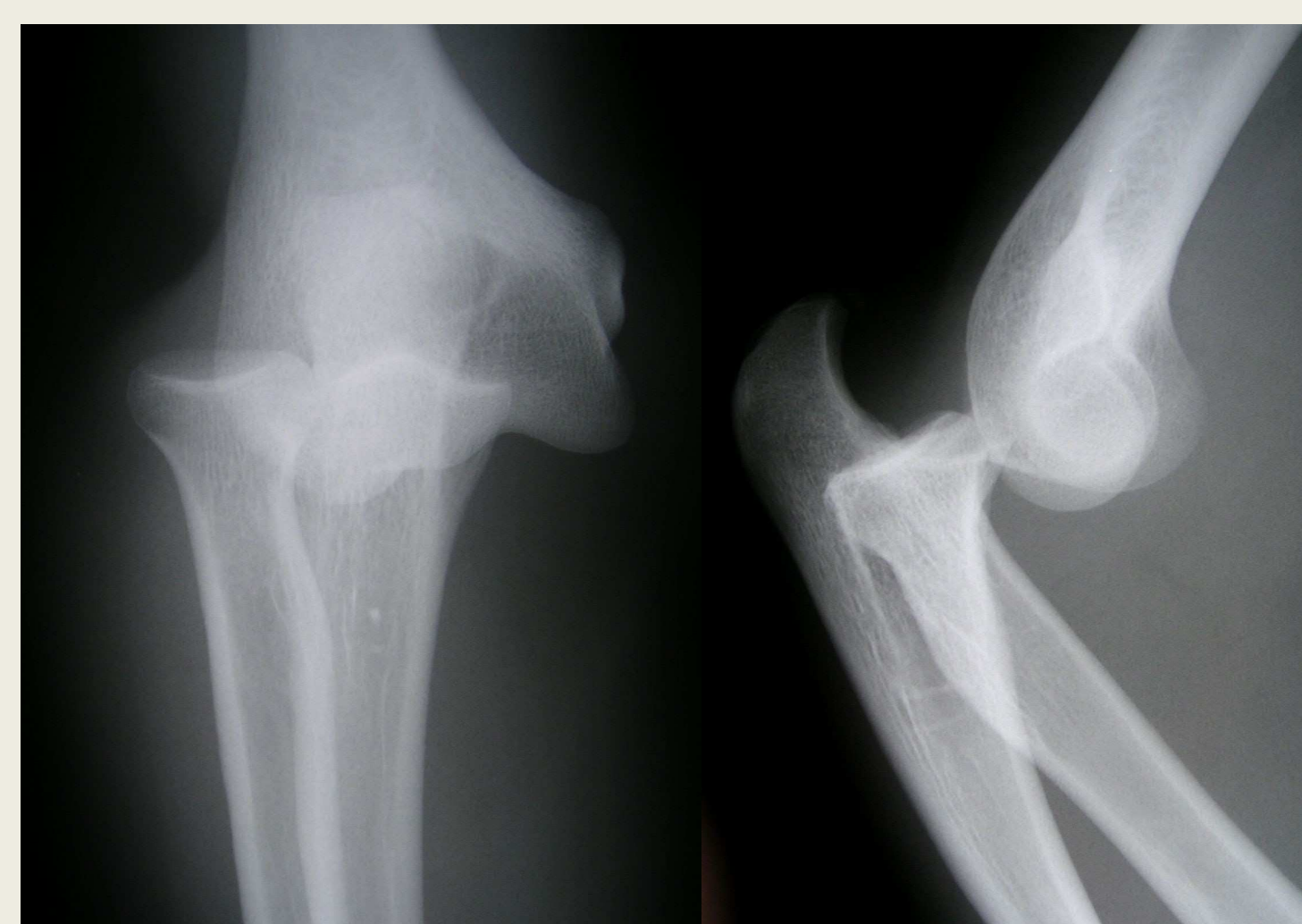


For example:



Try it yourself!...

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



Students were asked to provide their opinion on their feelings concerns of 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 produce⁴⁻⁶ 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 2010¹ may have passed, but is very much alive and this work is a key step forward.

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