



OSCE TESTS

(Experience of the local Orthopaedic Unit)

DR. NARESH KUMAR

MBBS, MS, DNB, FRCS Ed,

FRCS (Orth), DM (Orth – Spinal Surgery)

***Consultant Orthopaedics & Spine
Surgeon***

National University of Singapore.





Extent of the talk

- **What is assessment?**
- **What are recent trends in assessment in Orthopaedics?**
- **Why OSCE?**

- **History of OSCE in the local Orthopaedic department?**
- **What is the present status of OSCE in Orthopaedics.**
- **Recent trends in the other departments**





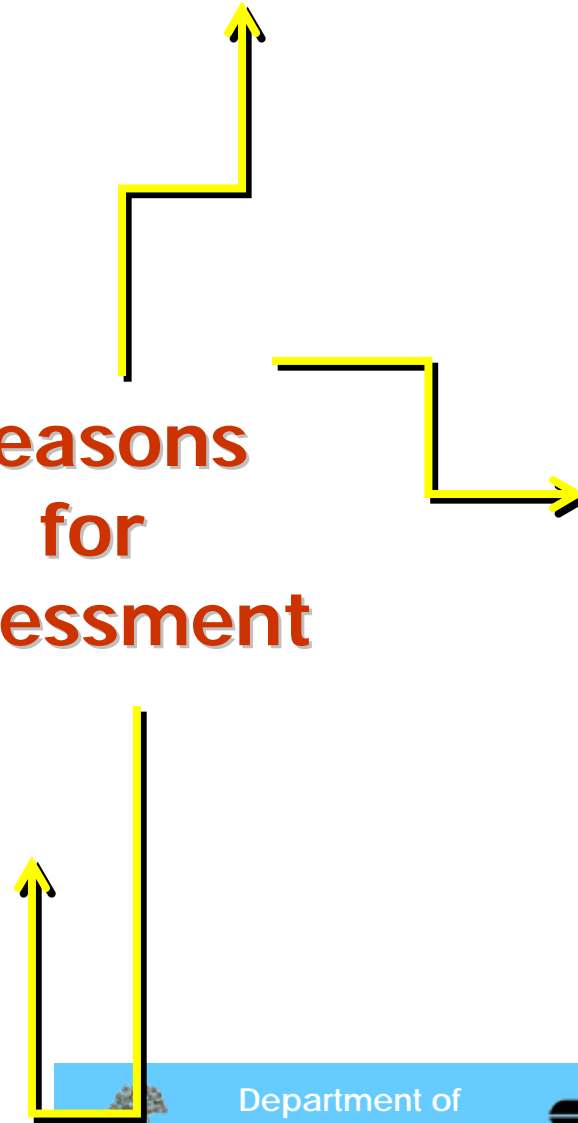
- To help the student learn
- This is called **Formative Assessment**

- To assess the mission of the institution
- This is called **Values Assessment**

- To test competence
- This is called **Summative Assessment**

Reasons for Assessment

- To assess course outcomes
- This is called **Programme Assessment**





What needs assessing?

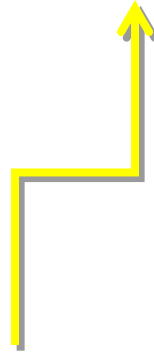
- **Cognition or the processing of information**
- **Knowledge**
- **What are other 3 things?**
 - ➔ **Skills**
 - ➔ **Attitude**
 - ➔ **Communication**





Reliability

- The assessment must measure the students' performance consistently



Characteristics of Assessment

- Every time the student is assessed a similar mark must be obtained
- Strong students must score highly every time they take the examination and poor students must score low consistently





There are 4 other characteristics of assessments...

- **What are they?**
- **What do they measure?**





Acceptability

- It must be acceptable to patients, students and examiners

- This refers to privacy, examination duration, patient fatigue, and marking time

Educational Impact

- The assessment must *drive learning*

- If students are required to have clinical skills, then these must be tested by an assessment which will *motivate* the student to acquire these skills

Reliability

- The assessment must measure the students' performance consistently

Characteristics of Assessment

Validity

- Assessment must measure what you want to measure

Feasibility

- It must be feasible in terms of resources

- There must be sufficient numbers of examiners with sufficient time and training to make the examination feasible

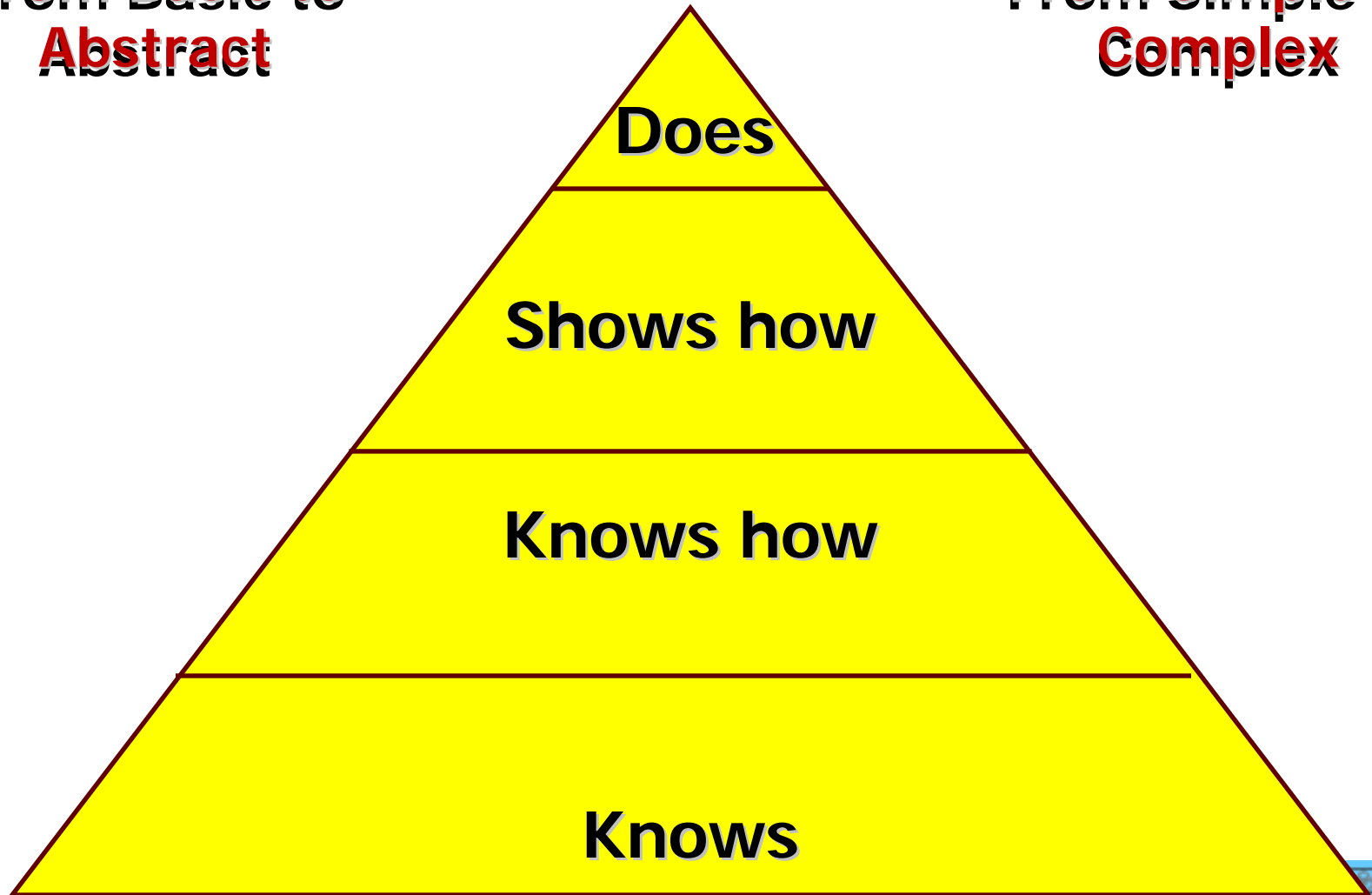




Miller's triangle

**From Basic to
Abstract**

**From Simple to
Complex**





Selection of the assessment technique

- **Can be based on ‘Miller’s Triangle’**





Assessment of 'knows'

- **Knows**

- = **straight factual recall of knowledge**
- **Multiple choice question**
 - **A variety of formats**
 - **True/False**
 - **Single best answer**
 - **Extended matching questions**
 - **Only trivial knowledge tested**
- **As active generation of knowledge is avoided**





Assessment of 'knows how'

- **Knows how**
 - **application of knowledge to problem solving and decision making**
 - **Essays & Oral Tests**
 - **Problems in standardizing**
 - **Inconsistency in marking**
 - **Despite this oral test are popular in UK**
 - **Ability to recall & synthesise best assessed**
- **Short answer written formats**





Assessment of 'shows how' and 'does'

- **'Mini CEX format'**
 - **Observation of history taking**
 - **physical examination**
 - **Part management of case**
- **OSCE**
 - **Globally well established.**





OSCE

- **Addresses problem of:**
 - **Adequate sampling**
 - **Standardisation**
 - **Each case with same examiner**
 - **Improves reliability**
- **Loss of validity**
 - **Cannot address complex skills requiring integrated judgement**





OSCE

- **OSCE is proving less objective than initially thought:**
 - **Scoring against checklist is not ideal**
 - **Global rating may be ‘ideal for judging performance’.**

- **Rater training is essential**
 - **Ensure consistency**





OSCE

- **Standardised patient**

Vs

Real patient

- **Simulated patient**

- **extensive training**

- **For reproducibility**

- **Consistency of scenarios**

- **OSCE ≠ Real life performance**





Local History of OSCE.



- **1984**
- **Interaction with educators from Canada**
- **PBL & OSCE**





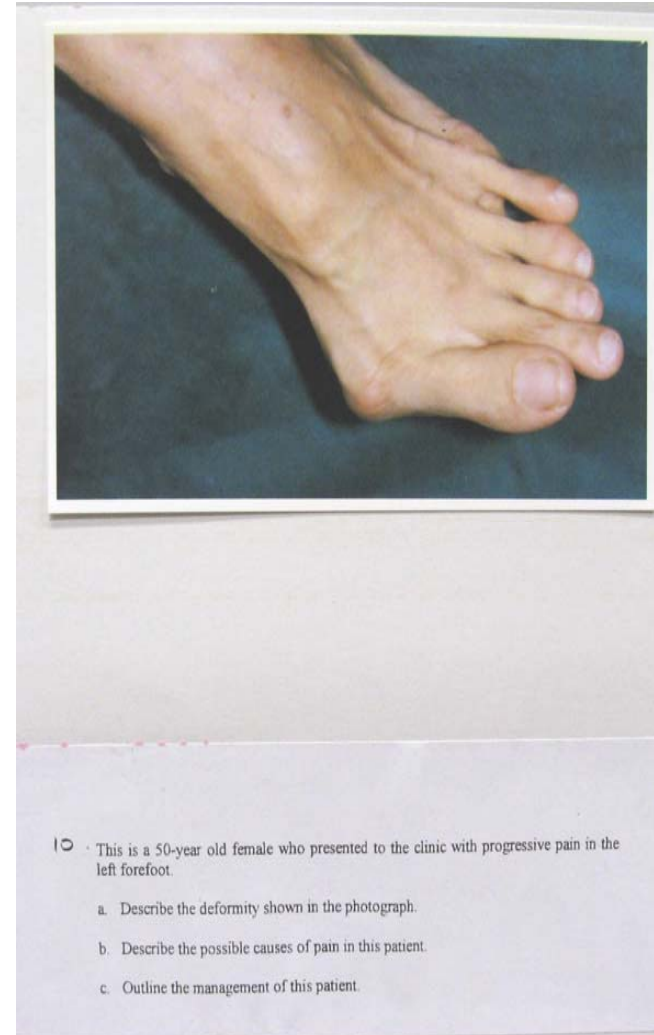
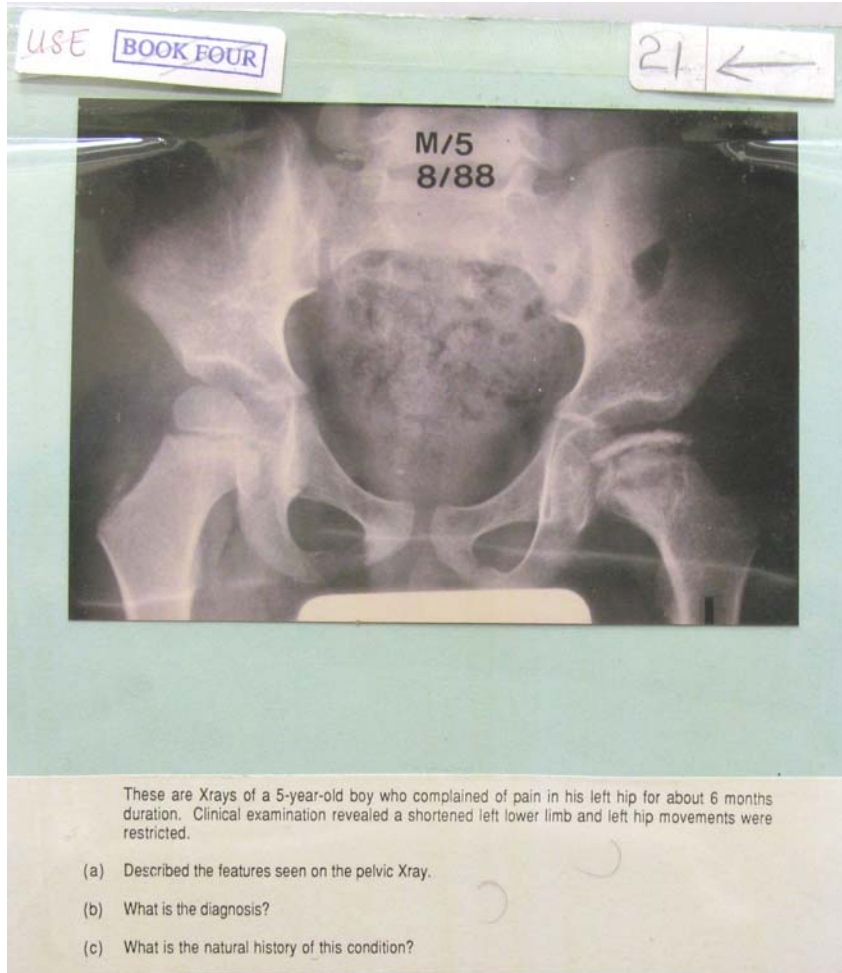
Past Examination

- **Pathology Museum**
 - **NUH Level 3**
- **75 students were examined at one time**
 - **5 clinical cases**
 - **Foot drop**
 - **History taking**
 - **5 stations**
 - **Projection**
 - **Pathology specimen**



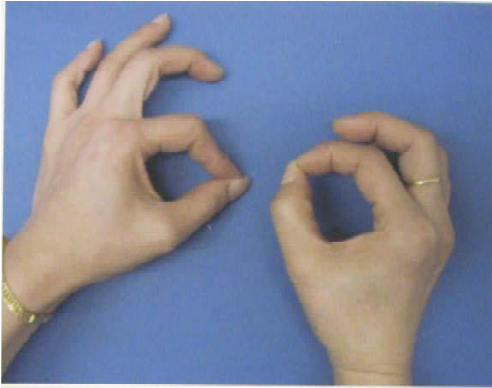


Examples Radiographs





Examples clinical cases



Ref: 00116

- a. Describe the disability
- b. Diagnosis
- c. The appropriate investigation should be



- 10 This is a 50-year old female who presented to the clinic with progressive pain in the left forefoot.
- a. Describe the deformity shown in the photograph.
 - b. Describe the possible causes of pain in this patient.
 - c. Outline the management of this patient.





Example Photographs



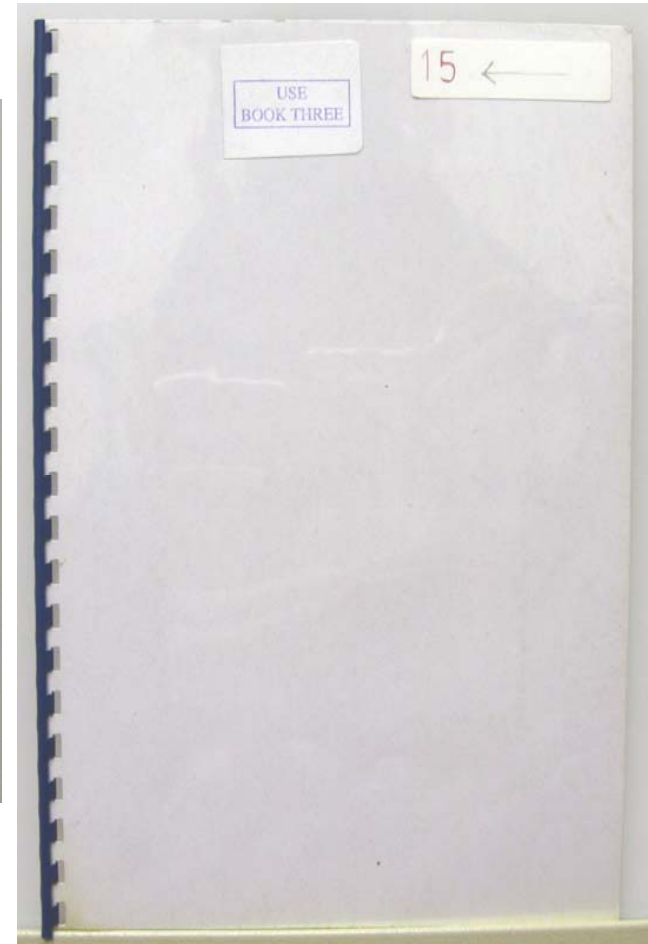
ORTHOPAEDIC

NATIONAL UNIVERSITY OF SINGAPORE
DEPARTMENT OF SURGERY

OSCE in ORTHOPAEDIC SURGERY

This sixty five year old gentleman presented with pain and swelling in the arm after arm-wrestling with his neighbour.

- What is the physical sign demonstrated ?
- What is the cause of the swelling ?
- What is your recommended treatment?





Reintroduction

- **Reintroduced OSCE test end of posting assessment as of July 2007.**
- **I had 5 years experience of taking part in OSCE in Orthopaedics and for last 4 years has been an examiner for the 'General Medical Council (GMC) United Kingdom' for writing clinical scenarios for OSCE.**
- **The idea is to use this as an end of posting assessment tool.**





Present Examination

- **Spine**
- **Hip**
- **Knee**
- **Hand**
- **Shoulder**





Methods

- **The first OSCE exam conducted on a Saturday morning over 3 hours**
 - 80 students
 - four circuits of five stations each.
 - Time required for student to complete a cycle of five stations was 40 minutes (6 minutes per station & 2 minute between each patient which included transfer time and time for student to read the scenario).
- **Survey was then conducted on the ‘assessors’ and ‘students’**
- **An ‘audit’ survey was then conducted to see the effect of changes introduced in the examination system**



Analysis of the Student's response



<u>STUDENT'S RESPOSES</u>	<u>JULY 2007</u>	<u>DEC 2007</u>
<u>Student Factors:</u>		
Improves Psychomotor clinical skills	12	9
Fear of Unknown	1	1
<u>Examiner Factors:</u>		
Examiner not helpful	2	3
<i>Examiner Unaware of the examination pattern</i>	7	17
<i>Interference by the examiner</i>	7	12
<u>Scenario/ Case Related:</u>		
Lack of time per station	8	2
Inadequate time for studying the questions	8	4
<u>Examination System Suggestions:</u>		
<i>Well Organized</i>	3	15
Poorly Organized	1	2
Pre-exam briefing poor	2	6
<u>Role Player Related:</u>		
Role players did not play the part well	3	1
<u>Recommendations:</u>		
<i>Overall a good change</i>	12	19
Recommended to continue in the future	10	11
Inclusion of discussion/ mini viva	2	5
Real Patients would be better	2	3





Analysis of Examiner's Responses

<u>EXAMINER'S RESPONSES</u>	<u>JULY 2007</u>			<u>DEC 2007</u>	
	Yes	No		Yes	No
<u>Scenario related</u>					
Scenario was realistic	16	3		16	4
Task required was appropriate	15	8		20	0
Sufficient Time allowed	15	7		15	4
Improved examination skills	11	1		2	0
<u>Role player Related</u>					
Simulated patient was consistent	18	2		15	4
Played Role Realistically	17	3		15	4
<u>Recommendations:</u>					
Should teach in a way wanting to examine	5	0		2	0
Shorten the examination	12	0		0	0
Include Discussions	5	0		5	0





Discussion

- **OSCE well received.**
- **The clinical stations set were similar to the stations set for GMC's 'Professional and Linguistic Assessment Board (PLAB) test, which has been standardized as a performance assessment test.**
- **From the 'students' & 'examiners' responses**
 - it was **good overall change**
 - improves psychomotor skills of the students.
- **Both 'students' and 'examiners' felt that**
 - **time was not adequate** for the first round of examination was a mere indication of lack of the exposure to the assessment technique.





Student's view point

- **There were clear indication by the students that they would be happy for this method of examination to be used as a method of assessment.**
- **Examiners unaware of the examination technique and were interfering.**





Examiner's view point

- **There was an element of inertia and resistance to change that was evident from the responses of the examiners.**
- **great reluctance by the examiners to follow the newly introduced examination technique and they wanted to continue with their established techniques and methods.**





Conclusion of the audit

- **Students will find it easy to adapt.**
- **Examiners will find it difficult to adapt to the new method of assessment.**





University of Birmingham

- **Case based discussion (OSLER)**
 - **Objective structured Long examination of record**
- **MCQ matching type.**





Future

- **Presently we are trialling OSCE as method of 'end of posting assessment'**
- **Future we will have OSCE for end of posting assessment:**
 - **Increase the number of stations**
 - **Include**
 - **'role player station' and**
 - **'interactive station'.**





Thank you

