

## Medical Education - The AP Lateral and Oblique Views

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Dear Sir,

The Orthopaedic Clerkship has been a part of the surgical rotation for medical students since the inception of The University of the West Indies (UWI). Initially, it was an appendage (two weeks) to the senior surgical rotation, but with ever-increasing medical and surgical conditions affecting the musculoskeletal system and the need for medical students to be educated about the wide-range of common musculoskeletal conditions, a specific rotation in orthopaedics was introduced (1).

### The AP view

A five-week rotation in the second clinical year was established. During this rotation, students were exposed to the management of fractures and their complications. Bone and joint infections as well as the clinical features and treatment of tumours were also taught. Content was delivered through formal didactic lectures in the Main Lecture Theatre, Ward Rounds, Out-patient Clinics and observation in the Main Operating Theatre. Initially, the number of medical students in each rotation was small (8 to 10 students), and this allowed greater interaction between the students and the orthopaedic consultants. Also, because of the small groups, there was a greater opportunity for each student to develop his/her examination skills. The end-of-clerkship assessment included an oral examination which was conducted by a single lecturer and a written paper (MCQ and short answers). Students were also required to submit essays on a fixed number of musculoskeletal topics for grading (2).

As the groups of students in the rotation increased, it became clear that a new approach was needed. At the same time, the orthopaedic staff increased and this allowed the formation of three Orthopaedic Firms at the University Hospital of the West Indies (UHWI). The students were then divided into three groups and assigned to the three Firms. Each Firm was responsible for the teaching of medical students on Ward Rounds, Out-patient Clinics and in the operating theatre. The residents in the Orthopaedic Post-Graduate Programme were also involved in the teaching of students, in particular, physical examinations of the shoulder, spine, hip and knee. The end-of-rotation assessment was in the form of an

objective structured clinical examination (OSCE) with two clinical stations and a number of unmanned stations which included devices, radiographs and implants (2).

### The lateral view

The UWI again significantly increased the number of students in the Medical Undergraduate Programme. This resulted in extremely large groups being assigned to each orthopaedic rotation. The Orthopaedic Service at the UHWI was now unable to satisfy the needs of the students with respect to adequate teachings and appropriate end-of-clerkship examinations.

To address this issue, in addition to the UHWI, students were assigned to other teaching sites namely: The Kingston Public Hospital (KPH), Cornwall Regional Hospital (CRH) and Mandeville Regional Hospital (MRH). Orthopaedic Consultants at the above sites were appointed as Associate Lecturers by UWI and their responsibilities were to deliver content and provide the necessary clinic experience for the students.

Some students expressed the view that their experience at the various teaching sites was not uniform. The associate lecturers, because of their heavy service load at the hospitals were unable to host student examinations or to attend the end-of-clerkship examinations at the UHWI.

To address the above problems, the end-of-clerkship examination was hosted online, through Ourvle (University of the West Indies' Online Learning Environment), at the Medical Library's computer laboratory. The evaluation consisted of a computer generated MCQ and OSCE type examination in which videos, pictures and radiographic images were shown and related questions were asked. This digital OSCE was a 10-station quiz with one clinical examination station included and a fixed time for completion of each station (2).

### The oblique view

Recently, a few changes have been made with respect to content delivery. The course content, objectives and structure are disseminated to the students and lecturers online and a Virtual Course Room has been created using Blackboard Collaborate to encourage students to

collaborate and learn from each other online (2). In addition, weekly online tutorials are held with all students at all sites thus ensuring that the same content is delivered to all students. A student feedback system is hosted on Ourvle to track student issues and address them in real-time.

In looking to the future of medical education in the orthopaedic clinical rotation, a more critical review of the following should be undertaken: length of the rotation, content delivery, staff, assessment, standardization and sustainability.

## CONCLUSION

Information technology and specifically online content, delivery and evaluation are likely to be the main adjuncts to medical education in the out-patient clinics especially with large groups of medical students at multiple sites.

**Keywords:** Medical Education, orthopaedics, The University of the West Indies

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