The Implementation of Peer-led Anatomy Review Sessions for USMLE Step 1 Examination Preparation

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**Rationale/Need**

- USMLE Step 1 scores are one of the most important factors considered by residency programs.
- Currently, the Brody School of Medicine (BSOM) only has one Step 1 preparatory program. Aim higher, which is a peer-led program that focuses on answering board-style practice questions.
- While BSOM students have historically scored at or above the national Step 1 average, discipline-specific data revealed that the same students consistently performed below the national average in the area of Gross Anatomy and Embryology (GAE).
- This below-average performance may be attributed to the time lapse between when medical students complete GAE in the fall of their first year and when they take the USMLE Step 1 examination in the spring of their second year.

**Methods**

Two one-hour peer-led gross anatomy laboratory review sessions were offered to all second-year medical students. One session reviewed high yield upper extremity anatomy, while the other covered lower extremity topics. Both sessions were offered on six occasions and limited to 8 students (n=33). The sessions were structured as follows:

- Pre-session assessment (8 minutes)
- Interactive chalk-talk on the brachial plexus and/or nerve lesions (15 minutes)
- Laboratory Stations (30 minutes)
- Identifying nerve lesions and their clinical presentations using a prosected specimen
- Reviewing osteology, high-yield fractures, and their associated nerve lesions
- Comparing normal radiologic images (Plain film and CT images) to images of common abnormal pathologies
- Using prosected joints to review ligaments, and special diagnostic tests
- Post-session assessment (8 minutes)

The pre- and post-session assessments consisted of 4-6 multiple-choice, board-style examination questions. Participants were also asked to complete a qualitative survey to assess learner perceptions of the review, both immediately after the review session and after completing the USMLE Step 1.

**Results**

A 10-year-old girl fell on an outstretched hand while roller-skating. Physical exam shows weakness with abduction and adduction of the digits, opposition of the 5th digit, and abduction of the thumb. The patient is still able to make a fist, but has difficulty extending digits 4 and 5 completely. There is reduced sensation and tenderness to palpation over the medial aspect of the palm. Injury to which carpal bone is most likely responsible for her symptoms?

a. Fracture of the scaphoid
b. Disslocation of the lunate
c. Avascular necrosis of the scaphoid
d. Fracture of the trapezium
e. Fracture of the hook of the hamate

**Lesons Learned**

- After the review students felt more comfortable and confident answering board-style exam questions on the musculoskeletal system.
- Average post-test scores improved by 29.5% and 35.8% following the upper and lower extremity review sessions respectively.

**Future Directions**

- Feedback from participants will be used to improve and add to the review sessions.
- Future studies will look at the impact of these reviews on student performance on musculoskeletal portions of the USMLE Step 1.

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