Student-Based Ultrasound Imaging Brings New Excitement to the Undergraduate Anatomy & Physiology Lab Experience

Nathan Andrew Trueblood. Biology, Earlham College, 801 National Road West, Richmond, IN 47374

Intro: Medical images (e.g. MRI, CT, ultrasound) are valuable supplements to the standard art used in anatomy and physiology (A&P) texts and lectures. Some shortfalls of all textbook images are that they are impersonal, and static. Furthermore, it is often not clear to students how the medical images are generated or how they relate with the standard anatomy art. I tested the hypotheses that 1)undergraduate students are readily able to generate “self-portrait” cardiac and vascular ultrasound cine loops with minimal training, and 2) that this "live" imaging would add excitement and understanding to A&P. **Methods:** A Sonosite ultrasound machine was used with general (4-2 MHz) and vascular (10-5 MHz) transducers. Following a brief intro to the machine and imaging basics, students held the transducers against themselves to obtain cardiac (2-D and M-Mode) and vascular (color and PW Doppler) recordings. After 2.5 months of traditional and non-traditional labs (10 different exercises), students ranked their enjoyment and gain from each lab exercise. **Results:** All students were capable of obtaining ultrasound images, and cardiac ultrasound imaging tied for highest popularity score. **Conclusions:** Students are readily able to acquire ultrasound images and the use of this technology can add excitement and understanding to the A&P lab experience.