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Musculoskeletal Imaging Education in a Doctor of Physical Therapy Program

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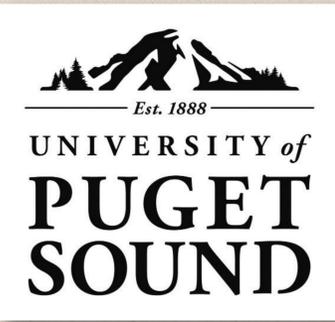
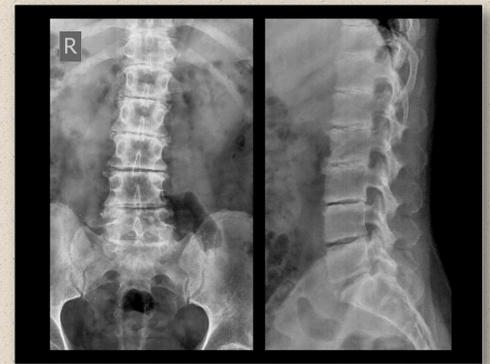
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Musculoskeletal Imaging Education in a Doctor of Physical Therapy Program

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Introduction

- Imaging is already an integral part of the practice of physical therapy (PT). However, with the exception of a few practice settings, PTs do not have the privilege to order imaging even though research has shown that it is more cost effective and efficient for PTs, as musculoskeletal experts, to order imaging when compared to other providers.^{3,4,5}
- The APTA's goal is for entry level DPT programs to partake in enough imaging education to prepare new graduate PTs for imaging privileges. In a survey of 155 professional PT programs, 152 included some amount of imaging curriculum. Unfortunately, the amount and quality of the imaging curriculum varied widely. Programs estimated anywhere from 2-75 hours of imaging education. This is the first study to look at the exact number of hours of exposure to imaging in a doctor of physical therapy program.²
- The purpose of this study is to quantify the amount and type of imaging education experienced in the University of Puget Sound entry-level DPT program.**

Materials/Methods

- Three cohorts of physical therapy students between Jan. 2015 and May 2016 were invited to complete a spreadsheet during the course of their didactic and clinical education in the UPS DPT program.
- Students were instructed to keep track of their amount of exposure to imaging content in 15-minute increments (1 unit per 15 minutes of time). Content included viewing images and/or analyzing imaging reports. The units were recorded according to body part and imaging modality.
- Our study included exposure within the classroom, during on-site clinical experiences, and full time internships. University of Puget Sound students complete 3 full-time internships totaling 36 weeks as well as 3 clinical experiences in our on-site clinic. The instructors tracked the amount of exposure during the 1st year of didactic material.

Results

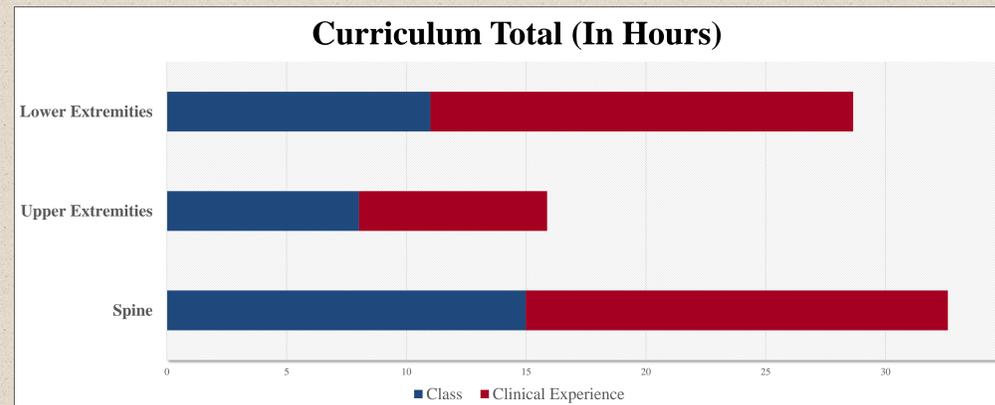


FIGURE 1. Total hours students were exposed to imaging content during class time and clinical experiences by the area of the body imaged including spine, upper extremity, and lower extremity.

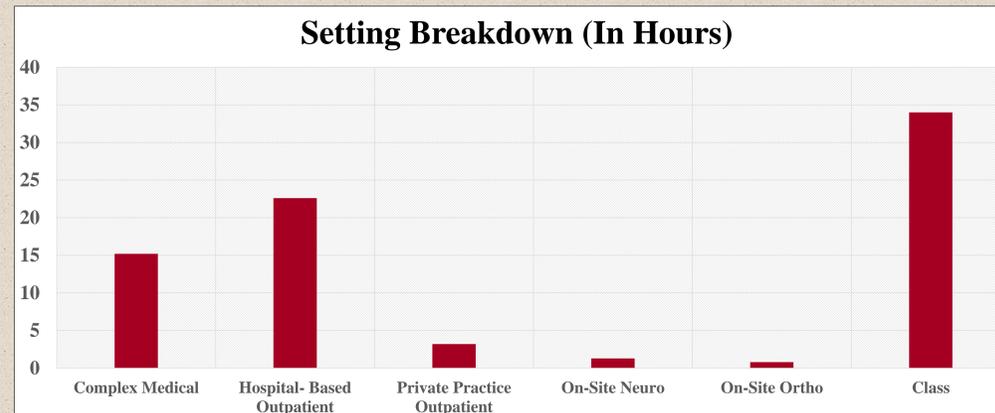


FIGURE 2. Total hours of imaging exposure separated by setting including complex medical, hospital-based outpatient, private practice outpatient, on-site neurological clinic, on-site orthopedic clinic, and classroom.

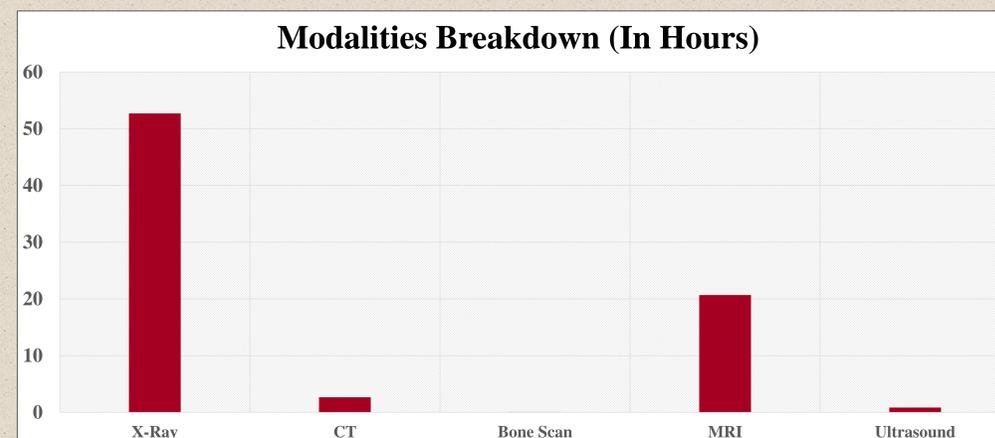


FIGURE 3. Total hours of imaging exposure separated by type of imaging modalities including x-ray, computed tomography (CT), bone scan, magnetic resonance imaging (MRI) and ultrasound.

Discussion

- Average student exposure to imaging during clinical experiences was 43.13 hours. Average exposure during the didactic portion was 34 hours (FIGURE 1). Clinical hours are variable and one of the limitations to this survey was that students were less likely to track imaging units after leaving school for their full time internships.
- The private practice orthopedics and outpatient hospital settings yielded the highest exposure to imaging out of all the clinical experiences (Figure 2). Distribution of imaging exposure by modality yielded results consistent with the survey done by Boissonnault et al.² There was a heavy bias toward exposure to X-Ray and MRI in both the didactic portion and clinical experiences when compared to other modalities (FIGURE 3).
- Looking at other comparable guidelines for imaging hour exposure, the amount of hours required in Washington state to perform spinal manipulations, we see that the number of hours that an average University of Puget Sound Doctor of Physical Therapy student sees is 77.13 as compared to the guideline of 150 hours for spinal manipulation privileges.⁶ Future research needs to define how much imaging is adequate to prepare new graduates to be direct access providers with the privilege to order imaging.

Clinical Relevance

This study provides valuable information for Doctor of Physical Therapy programs nation wide. In combination with the APTA's imaging education guidelines,¹ programs will be able to objectively assess their imaging education in order to better prepare students for the responsibility of being a competent provider with the privilege to refer patients to appropriate imaging. This survey is one of the first steps towards better patient outcomes and increased efficiency with imaging in all physical therapy settings.

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