

Introduction

- Knowledge of the fundamentals of lymphology is important for physical therapists to provide safe and effective care to patients with edema.
- Beginning in 2018, the National Physical Therapy Examination (NPTE) partitioned the learning objectives for the lymphatic system from the cardiovascular and pulmonary systems, as required comprehension of key knowledge of entry-level physical therapist practitioners.^{1,2}
- The most recent survey on lymphedema content in physical therapy programs was conducted in 1998 and recommended more curricular content in anatomy, physiology, and treatment of the lymphatic system.³
- Currently, there is a need to understand if educational gaps in lymphology exist in entry-level doctorate physical therapist (ELDPT) programs.

Aims of Study

- Describe current, typical lymphology content within ELDPT.
- Identify whether lymphology content is perceived as entry-level material amongst PT faculty who teach lymphology content.
- Identify the perceived grade of the content adequacy of the lymphology curriculum in the U.S. amongst all survey respondents.

Methods

- Cross-sectional survey research design.
- 37-item online survey through Qualtrics® software, Version 2018 (Qualtrics, LLC, Provo, Utah). Data were analyzed using SPSS® version 24 (Armonk, NY).
- Approved by the University of Michigan – Flint Institutional Review Board.
- Survey links were emailed to program directors of 221 ELDPT programs in the U.S., and were requested to disseminate the survey link through to all of their faculty.
- 53 surveys were returned (24% return rate), with 10 surveys excluded secondary to not being fully completed, leaving 43 surveys with completed data sets for analysis.
- Survey responses were identified as being from faculty who were responsible for teaching lymphology content and faculty who did not teach lymphology content.
- Thirty-five separate universities were represented.

Results

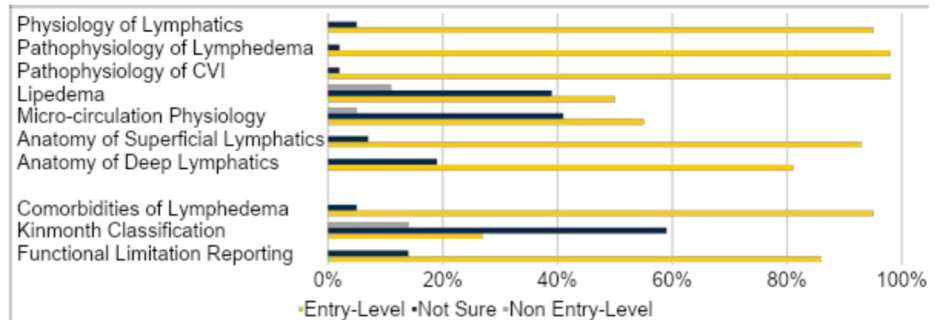
- **Types of edema taught:**
 1. Mechanical insufficiency (87%, n=33)
 2. Dynamic insufficiency (74%, n=28)
 3. Combined insufficiency (68%, n=26)
 4. Lipo-lymphedema (58%, n=22).

Results

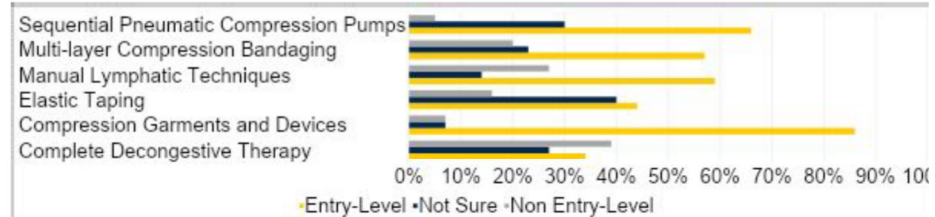
Courses in which subject matter was taught.

- **Anatomy and physiology of the lymphatics:** anatomy (53%, n=20), integumentary (47%, n=18), pathophysiology (45%, n=17), and cardiopulmonary (34%, n=13).
- **Pathophysiology:** integumentary (45%, n=17), cardiopulmonary (26%, n=10), and pathophysiology (47%, n=18).
- **Examination:** integumentary course (45%, n = 17), followed by cardiopulmonary (29%, n=11), and musculoskeletal (21%, n=8).
- **Lymphedema interventions:** integumentary (47%, n=18), and cardiopulmonary (32%, n=12) courses, and rarely in neuromuscular (3%, n=1), or musculoskeletal (8%, n=3).

Frequency of respondents (n = 43) rating didactic material as entry-level or non entry-level.



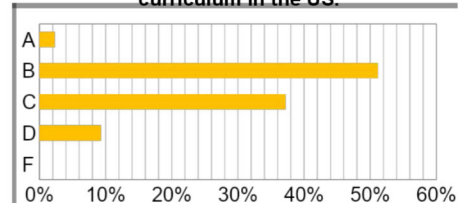
Frequency of respondents (n = 43) rating intervention material as entry-level or non entry-level.



Hours of lecture and lab education.

	Anatomy & Physiology Hours n=33	Pathophysiology Hours n=34	Lab Hours Examination n=25	Lecture Hours Examination n=29
Mean	2.80	2.51	2.03	1.56
Median	2.00	1.65	1.00	1.00
SD	2.79	2.68	2.05	1.40
Min.	0.50	0.40	0.50	0.50
Max.	14.00	14.10	8.10	6.10

Frequency (n = 43) of perceived grade of the content adequacy of the ELDPT lymphology curriculum in the US.



Conclusions

- Consistent content, and format (didactic vs laboratory, and hours) is lacking, with regards to lymphatic system examination skills, and intervention techniques within the ELDPT programs.
- Overall, the perceived grade of the content adequacy of the lymphology curriculum in the U.S. averaged a “C”.
- LANA® curriculum recommendations could serve as a foundation for future deliberations to establish commonality across curriculums.

References

1. NPTE-PT Test Content Outline, Effective January 2018. Supplemental Materials for the Physical Therapist Practice Examination and Assessment Tool; Physical Therapist National Physical Therapy Examination. http://www.fsbpt.org/Portals/0/documents/free-resources/ContentOutline_2018PTT_20170126.pdf. Published 2018. Accessed December 10, 2018.
2. Supplemental Materials for the Physical Therapist Practice Examination and Assessment Tool; Physical Therapist National Physical Therapy Examination. Alexandria: Federation of State Boards of Physical Therapy; 2017. <https://www.fsbpt.net/peat3/downloads/PTSupplementalMaterials.pdf>.
3. Augustine E, Corn M, Danoff J. Lymphedema management training for physical therapy students in the United States. *Cancer*. 1998;83(12):2869-2873.