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### Educational and Practice Standard Differences Between Third World Physiotherapy and First World Physical Therapy

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Honors Senior Capstone

Professor McWhorter, Professor Hopkins

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Educational and Practice Standard Differences Between Third World Physiotherapy and First  
World Physical Therapy

In the medical field, physical therapists or physiotherapists as many countries outside the United States refer to the profession as, are “highly-educated, licensed health care professionals who can help patients reduce pain and improve or restore mobility...” Physical therapists/physiotherapists are responsible for teaching patients how to prevent or manage their condition so that they will achieve long-term health benefits. Physical therapists/physiotherapists do this by examining each individual and developing a plan, using treatment techniques to promote the ability to move, reduce pain, restore function, and prevent disability. In addition, PTs work with individuals to prevent the loss of mobility before it occurs by developing fitness and wellness oriented programs for healthier and more active lifestyles (APTA). According to the Health Professions Council of South Africa, their definition of a physiotherapist is the same as the United States’ definition for a physical therapist, however, the profession has very different educational standards in the respective countries. One might be tempted to think that this would be obvious due to South Africa’s third world status but when it comes to the medical field, south african medicine is ranked pretty high in the global standards, in the top 200 according to the World Health Organization. It was in South Africa where the first ever successful heart transplant occurred. In 1967, South African surgeon Dr. Christiaan Barnard made history by successfully transplanting a human heart.

In the United States, “as of January 1, 2016, the [Doctor of Physical Therapy] will be the required degree for all entry-level physical therapist education programs” (APTA “Physical Therapist”). Prior to 2016, physical therapy professionals earned professional baccalaureate, post-baccalaureate certificate, and master’s degrees, however, to ensure that entry-level physical therapy graduates have the competence to accurately and safely provide evidence-based and effective physical therapy services, “the profession has responded to advances in research, technology, science, health care, and access to care with changes in the academic and clinical curriculum” (APTA “Physical Therapist”). Physical Therapists treat patients of all ages and with all types of injuries and ailments, neonatal to geriatrics, sports medicine to amputees, etc. Thus requiring the need to specialize in a specific area of expertise. All DPT students are required to partake in clinical observation, clinical internships, clinical residences, clinical fellowships, and certified clinical specialization courses.

A clinical residency program is “designed to substantially advance the resident’s expertise in examination, evaluation, diagnosis, prognosis, intervention, and management of patients within a specialty” (APTA “Physical Therapist”). Clinical residencies are part of the curriculum in the last year of graduate school. Depending on the length of the program the number and length of each residency varies; for instance, at the Massachusetts General Hospital Institute of Health Professions students enrolled in a in a three year, full-time program

participate in three “clinical experiences”, one of which is a clinical residency. The first two clinical experiences are ten-week long full-time clinical internships and the third takes place after the completion of all graduate courses and before graduation and is a full-time, twelve month paid clinical residency. Students at MGH Institute of Health Professions also participate in clinical hours throughout the semester each week in correlation with their course work (“Physical Therapy”). At the U.S. News and World Report number one ranked DPT program in the United States, the University of Delaware has a full-time two and a half year program which provides students with the opportunity to participate in six clinical experiences, three full-time clinical residencies and three part-time semester long clinical studies (“Study With Us”). A residency must be completed before a DPT student can become a board-certified specialist through the American Board of Physical Therapy Specialists.

A clinical fellowship program is designed to provide DPTs greater depth in a specialty or subspecialty area than that covered in a residency program. Therefore new graduates are not eligible for admission to a fellowship program. Applicants of a clinical fellowship program must possess one or more of the following qualifications: 1) specialist certification, 2) completion of a residency in a specialty area, or 3) demonstrable clinical skills within a particular specialty area (“FAQ’s”).

Clinical specialization is the process by which a DPT builds on a broad base of professional education and practice to develop a greater depth of knowledge and skills related to a particular area of practice. Currently the American Board of Physical Therapy Specialties (ABPTS) coordinates and oversees the certified clinical specialization process in 8 clinical specialty areas; these specialty areas include cardiovascular and pulmonary physical therapy, clinical electrophysiology, geriatrics, neurology, orthopedics, pediatrics, sports, and women's health (APTA "Physical Therapist").

To become a licensed physical therapist with a board certified specialization in the United States, it takes seven plus years to complete and each state has different licensure standards. Physical therapists provide care for people in a variety of settings, including hospitals, private practices, outpatient clinics, home health agencies, schools, sports and fitness facilities, work settings, and nursing homes.

<b>Bachelor of Science in Exercise Science</b> 32 Course Curriculum <a href="#">Click Here for Printable Version</a>	
<b>Freshman Year I</b> HSC1122 Anatomy & Physiology I (STEM) HSC1000 Careers in Health Sciences* MTH1016 Pre-Calculus/MTH1217 Calc FYW1050 Intro to College Writing (FYW)	<b>Freshman Year II</b> HSC1123 Anatomy & Physiology II HSC3302 Intro to Public Health MTH1111 Statistics (STEM, Q) PHL1000 Intro to Philosophy (PHL)
<b>Sophomore Year I</b> BIO1025: Biological Sciences CHM1210 Chemistry for Health Professions HSC2300 Intro to Nutritional Sciences SME2345 Strength & Conditioning HSC2350 Prof Development in HS	<b>Sophomore Year II</b> HSC3310 Health Behavior Promotion CHM1220 Chemistry for Health Professions II SME2250 Research Design Religious Studies (RTS)
<b>Junior Year I</b> SME3311: Exercise Physiology PHY2201: General Physics I Health Sciences Elective 1 Social Science 1 (SOSC)	<b>Junior Year II</b> SME3308 Biomechanics PHY2202 General Physics II Social Science 2+ (D) Health Sciences Elective 2
<b>Senior Year I</b> HSC4850 Health Sciences Internship (X) SME4348 Exercise Program Design Historical Studies (H) or (FL) Arts & Literature (AL)	<b>Senior Year II</b> HSC3336W: Pathophysiology (W) SME3347 Exercise Prescription & Testing Ethics (E) Open Elective 2

Fig. 1.1 Bachelor of Science in Exercise Science Curriculum at Merrimack College (“Exercise Science”)

# Curriculum Plan - DPT

## Current Curriculum Plan

### Year 1 - Summer Semester

PT-601N Fund Pt/Client Management 1	6
PT-602N Fund Pt/Client Management 2	6
Total credits: 12	

### Year 1 - Fall Semester

PT-603N Fund Pt/Client Management 3	6
PT-604N Pt/Client Mgmt: Diag and Prog	6
PT-605N Pt/Client Mgmt: CVP	6
HP-818 IMPACT 1: Interprofessional Practice	1
Total credits: 19	

### Year 1 - Spring Semester

PT-606N Pt/Client Mgmt: Hip Lumbopelv	6
PT-607N Pt/Client Mgmt: LE/Gait	6
PT-608N Pt/Client Mgmt: Head Neck	6
HP-819 IMPACT 2: Interprofessional Project	1
Total credits: 19	

### Year 2 - Summer Semester

PT-709N Pt/Client Mgmt: Upper Extrem	6
PT-741N Clinical Experience I	3
Total credits: 9	

### Year 2 - Fall Semester

PT-710N Pt/Client Mgmt: Balance	6
PT-711N Pt/Client Mgmt: Acq Brain Dys	6
PT-712N Pt/Client Mgmt: Degen/Lifespan	6
Total credits: 18	



**Year 2 - Spring Semester**

PT-713N Pt/Client Mgmt: SCI & Amp	6
PT-742N Clinical Experience II	3
HP-999 Interprof Sem - 2nd Year Spr	0
<hr/>	
	Total credits: 9

**Year 3 - Summer Semester**

PT-814N Pt/Client Mgmt: Contxt Factors	3
PT-815N Pt/Client Mgmt: Pol Pract Lead	3
PT-850N Capstone - 2 Credits	2
- or	0
PT-851N Capstone - 3 Credits	3
- or	0
PT-852N Capstone - 4 Credits	4
HP-821 IMPACT 3: Interprofessional Ethics	1
- Electives - As approved by academic advisor	0
<hr/>	
	Total credits: 11

**Year 3 - Fall Semester**

PT-843N Clinical Internship	5
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	Total credits: 5

Fig. 1.2 Entry-level Doctor of Physical Therapy Curriculum Plan at Massachusetts General Hospital Institute of Health Professions (“Curriculum Plan - DPT”)

In South Africa, there are seven universities that offer degrees in physiotherapy. Physiotherapy is a four year Bachelor’s degree and a year of paid community service in a clinical setting following the completion of the bachelor’s degree and pending national licensure. Throughout the four year program, South African students will complete three five-week clinical experiences in different specialities (“BSc Physiotherapy”). Once these students graduate and earn a bachelor’s degree, they take their licensure test and do a year of community service in their professional field while awaiting their official license. The year of community service will

test their abilities as a physiotherapist, as a clinician, and as a leader. These young graduates will be put in charge of an outpatient clinic or run the physiotherapy wing of a township hospital as their community service (“BSc Physiotherapy”). Not only do they now have to function fully on their own as a therapist, they have to run a clinic, and do so in the most impoverished areas in the world with an extreme lack of resources. Townships are informal settlements with tens of thousands of people living on public land in hand-build shacks made out of scraps of wood and tin pulled from the side of the road. The people populating townships are unemployed, sickly, and usually run into problems with gangsterism and drugs. Students have typically never seen the inside of a township nor dealt personally with the residents of these informal settlements and this presents a huge challenge in-and-of-itself to the new graduates. Once licensed, physiotherapists may go on to earn a board certified specialty, a master’s degree, or a doctoral degree. Unlike in the United States, a doctoral degree is not required to obtain a job, most physiotherapists actually only have their bachelor’s degree and then become certified in one or two specialties. Just as physical therapists in the United States have to be registered members of the American Physical Therapy Association (APTA), in South Africa licensed Physiotherapists need to become members of the HPCSA, Health Professions Council of South Africa and they need to complete thirty CPD (Continuing Professional Development) requirement five of which must be in the field of ethics, human rights, or medical law (South Africa).

**First year**

Becoming a Professional  
 Biosciences 1 for Physiotherapy Students  
 Movement Science 1  
 Anatomy and Physiology 1A  
 Psychology 1  
 Becoming a Health Professional  
 Chemistry for Physiotherapy students  
 Anatomy and Physiology 1B  
 Introduction to Applied Physiotherapy

Any student who fails one or more of the following courses will be required to enter the **Intervention Programme part 1**:

AHS 1033F Movement Science 1  
 HUB 1019F Anatomy and Physiology Sciences 1A  
 HUB 1021F Biomechanics for Physiotherapist

Any student who was not required to enter the Intervention Programme Part 1, and **fails** a first year second semester course may be required to enter the **Intervention Programme Part 2**:

**Second year**

Afrikaans for Health and Rehabilitation Sciences or  
 Xhosa for Health & Rehabilitation Sciences  
 Anatomy and Physiology 2 for Health and Rehabilitation Sciences  
 Biosciences 2 for Physiotherapy Students  
 Clinical Physiotherapy 1  
 Movement Science 2  
 Applied Physiotherapy 1  
 Clinical Sciences 1

**Third year**

Clinical Sciences 2  
 Clinical Physiotherapy 2  
 Becoming a Rehabilitation Professional 1  
 Movement Science 3  
 Applied Physiotherapy 2  
 Research Methods and Biostatistics 1

**Fourth year**

Clinical Physiotherapy 3  
 Becoming a Rehabilitation Professional 2  
 Applied Physiotherapy 3  
 Research Methods and Biostatistics 2

Fig 1.3 Bachelor of Science in Physiotherapy Curriculum at the University of Cape Town (“Undergraduate Courses”)

In the United States, hourly wages and annual salaries vary from state to state. On average the median wage for a physical therapist in the United States in 2015 was \$40.40 hourly totaling approximately \$84,020 for an annual salary. The average wages made on the high end of the scale are about \$55.81 hourly totaling an annual salary of \$116,090 and the average wages on the low end of the scale are approximately \$27.31 as an hourly rate and about \$56,800 for an annual salary. According to the Bureau of Labor Statistics and the Office of Occupational Statistics and Employment Projections, in 2014 there were 210,900 licensed physical therapists employed in the United States with a projected 34% increase in employment opportunities by 2024 resulting in 12,830 job openings annually (“Fastest Growing Occupations”).

In South Africa, there are 6,927 practicing physiotherapists with the average annual salary for a physiotherapist at about R205,140--South African currency is the South African Rand designated as “R” or “ZAR” (Physiotherapist Salary South Africa). The exchange rate from U.S. dollars to the South African Rand is about \$1.00 to R15,00, therefore the average annual salary of a South African physiotherapist equals approximately \$13,676. This is \$43,124 less than the lowest average annual physical therapist salary in the United States.

This summer (May-August 2016) I spent a total of 150 hours in a private practice outpatient physical therapy clinic in the United States and 100 hours in a private practice outpatient physiotherapy clinic in South Africa learning about the profession and its differences

within these two countries from a primary viewpoint while gaining valuable hands-on experience. From these two very different experiences I learned a great deal about the education systems in both countries regarding earning a degree and how to be successful in this field. In South Africa, third year students in University are able to work under the license of a physiotherapist at a clinic and perform hands on therapy with patients, they are allowed to perform evaluations of patients, as well as develop treatment plans for patients. In the United States, it isn't until the third and final year of graduate schooling that a physical therapy student is able to perform these tasks by themselves under the license of a physical therapist during their residency year (after six or seven years of education, not just three). Also, once you are a licensed physiotherapist in South Africa, you are licensed to work in all nine of the country's provinces. In the United States, each state has different standards of licensure. Another major difference between the two countries standards for physical therapy/physiotherapy is that it is a national standard and requirement in the United States to obtain a doctorate in physical therapy in order to become licensed whereas in South Africa, only a bachelor's degree is required, not many physiotherapists have a doctoral degree in this country and if they do, they are most likely professors at one of the few universities that has a physiotherapy program. However, on a similar note, it is common practice to become certified in a specific specialty in both the United States as well as in South Africa. If you would like to work with children with profound

disabilities, being specialized in pediatric neurological physical/physio-therapy is typically a requirement of the position in both countries. Through my experiences this summer I found that a popular therapeutic modality in South Africa, one that was used on patients weekly, was hydrotherapy where the clinic that I interned in in the United States didn't even mention hydrotherapy as a modality that was used at all. Hydrotherapy is a cost-effective modality in South Africa, because of the year round heat, they do not need the specialized equipment for this form of treatment like the United States does. The hydrotherapy tubs soak up the heat from the sun and use it to heat the water within the tub as well as a generator, but the natural heat helps make this modality cost effective. Hydrotherapy is used to help patients with pain management and it takes advantage of the different properties of water to allow patients to be stretched, mobilized, and massaged in a comfortable environment which limits pain. In the United States hydrotherapy is utilized but it is very expensive equipment and the regulations (Ph levels, water temperature, and pool upkeep) are very strict and this makes this modality less common. Other modalities and tools used in rehabilitation in South Africa are physioballs, free weights, balance boards - typically homemade - , and resistance bands. In the United States, these tools are all common as well as STIM and Ultrasound machines, hydroculators, fluidotherapy, total gym, exercise machines, versaclimber, upper body ergometer, recumbent or stationary bikes, fitter, BOSU balls, etc. These machines are too expensive to see in clinics in South Africa. Modalities

and therapeutic exercise tools found in South Africa are low-cost and often homemade; because of this, physiotherapists need to be creative in the tactics they use in their rehabilitation protocols. They need to help their patients using what little tools they have and the work they are doing is admirable.

Fig. 2.1 Standing Frame found in the U.S. (“Standing Frames”)



Fig. 2.2 Standing Frame from Friends Day Center. Cape Town, South Africa

In conclusion, the professions of the American physical therapist and the South African physiotherapist are synonymous in their responsibilities within the community, however, the educational and practice standards for this occupation between these two countries is drastically different. In South Africa, a physiotherapist is a four year undergraduate bachelor's degree whereas in the United States a degree in physical therapy requires six plus years of school, obtaining a bachelor's and a doctoral degree. The curriculum of a physiotherapist in South Africa is similar to the curriculum of an Athletic Training Student in the United States except the clinical rotations are focused solely on rehabilitation and the different specialities, not on athletic injuries and wound care. The practice standards are different in terms of updated equipment and resources available, however, the concepts behind rehabilitation are the same.



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