The Value of Postprofessional Residency, Fellowship, and PhD Training

CSM 2019: Section on Research

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Michael Bade, PT, DPT, PhD, OCS, FAAOMPT
Disclosure

Speakers: Michael Bade, Jennifer Stevens-Lapsley & Carole Tucker

Disclosure of Relevant Financial Relationships
We have no financial relationships to disclose.

Disclosure of Off-Label and/or investigative uses:
We will not discuss off label use and/or investigational use in this presentation

Grant/Research support: We have a variety of grant/research support across the following sources: National Institutes of Health, Department of Defense, Patient Centered Outcomes Research Institute, Shriners Hospitals for Children
Learning Objectives

This session will address the costs, benefits, and impact of pursuing residency, fellowship, or PhD training on your career as a PT. The speakers will discuss key differences between programs and questions you should be considering when choosing the right program and mentor, as well as how to make your application more competitive.

Upon completion of this course, you will be able to:

1. Describe the advantages of post-professional education.

2. Define the key differences between residency, fellowship, and PhD programs.

3. Articulate the key questions you should ask programs to evaluate which program is the best fit for you and your unique career goals.

4. Define strategies to make your application more competitive as well as find the right mentor.
Session: Part 1

• Objective 1
  – Describe the advantages of post-professional education
  – Describe the need for post-professional education
Overview: PT Programs 2016

- Number of Accredited Programs: 236*
- Students Enrolled 2016-17: 31,380*

Table 3: Distribution of accredited and developing programs in the US by Carnegie Classification 2011 – 17 [as of 8/2016]

<table>
<thead>
<tr>
<th>2006 Classification</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doctoral/Research Universities</td>
<td>25</td>
<td>22</td>
<td>23</td>
<td>17</td>
<td>18</td>
<td>18</td>
</tr>
<tr>
<td>Research Universities (very high research activity)</td>
<td>33</td>
<td>32</td>
<td>33</td>
<td>39</td>
<td>39</td>
<td>39</td>
</tr>
<tr>
<td>Research Universities (high research activity)</td>
<td>29</td>
<td>30</td>
<td>37</td>
<td>35</td>
<td>35</td>
<td>35</td>
</tr>
<tr>
<td>Master’s Colleges and Universities (larger programs)</td>
<td>62</td>
<td>60</td>
<td>57</td>
<td>71</td>
<td>74</td>
<td>76</td>
</tr>
<tr>
<td>Master’s Colleges and Universities (medium programs)</td>
<td>20</td>
<td>19</td>
<td>19</td>
<td>15</td>
<td>17</td>
<td>17</td>
</tr>
<tr>
<td>Master’s Colleges and Universities (smaller programs)</td>
<td>11</td>
<td>11</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>Baccalaureate Colleges – Arts &amp; Sciences</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Baccalaureate Colleges – Diverse Fields</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>5</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Special Focus Institutions – Medical Schools and Medical Centers</td>
<td>33</td>
<td>40</td>
<td>32</td>
<td>30</td>
<td>31</td>
<td>31</td>
</tr>
<tr>
<td>Special Focus Institutions – Other Health Professions Schools</td>
<td>9</td>
<td>6</td>
<td>4</td>
<td>12</td>
<td>14</td>
<td>12</td>
</tr>
<tr>
<td>Not Classified</td>
<td>2</td>
<td>3</td>
<td>6</td>
<td>2</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>229</td>
<td>231</td>
<td>216</td>
<td>239</td>
<td>255</td>
<td>256</td>
</tr>
</tbody>
</table>

Source: http://www.capteonline.org/uploadedFiles/CAPTEorg/About_CAPTE/Resources/Aggregate_Program_Data/AggregateProgramData_PTPrograms.pdf
On-going Demand for PT Education

Source: http://www.capteonline.org/uploadedFiles/CAPTEorg/About_CAPTE/Resources/Aggregate_Program_Data/AggregateProgramData_PTPrograms.pdf
PT Faculty Characteristics

Figure 6: Percentage of highest academic degree held by all core faculty 2015 – 16

Table 22: Average number of core faculty vacancies 2016 – 17

<table>
<thead>
<tr>
<th></th>
<th>2015 (n=2845)</th>
<th>2016 (n=2901)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total current vacancies in allocated positions</td>
<td>141</td>
<td>94</td>
</tr>
<tr>
<td>Total projected vacancies in allocated positions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total number of new positions to be filled</td>
<td>55</td>
<td></td>
</tr>
</tbody>
</table>

Table 27: Number of core faculty who are certified clinical specialists 2004 – 17

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>562</td>
<td>650</td>
<td>754</td>
<td>746</td>
<td>828</td>
<td>891</td>
<td>1103</td>
<td>1196</td>
<td>1268</td>
</tr>
<tr>
<td>%</td>
<td>20.1</td>
<td>29.1</td>
<td>31.7</td>
<td>30.5</td>
<td>33.9</td>
<td>33.9</td>
<td>33.5</td>
<td>33.5</td>
<td>33.5</td>
</tr>
</tbody>
</table>

Source: http://www.capteonline.org/uploadedFiles/CAPTEorg/About_CAPTE/Resources/Aggregate_Program_Data/AggregateProgramData_PTPrograms.pdf
PT Faculty: Scholarship & Grant Funding

Table 25: Scholarship productivity of core faculty 2016 – 17

<table>
<thead>
<tr>
<th>Category</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of peer reviewed articles</td>
<td>2,737</td>
</tr>
<tr>
<td>Total number of other articles</td>
<td>560</td>
</tr>
<tr>
<td>Total number of books or book chapters</td>
<td>424</td>
</tr>
<tr>
<td>Total number of presentations</td>
<td>5,911</td>
</tr>
<tr>
<td>Total number of other scholarly products subjected to external review</td>
<td>490</td>
</tr>
<tr>
<td>and disseminated</td>
<td></td>
</tr>
<tr>
<td>Total number of papers, proposals, etc. submitted but not yet accepted</td>
<td>2,308</td>
</tr>
<tr>
<td>or published</td>
<td></td>
</tr>
</tbody>
</table>

Mean:
- Peer reviewed articles (excluding abstracts): 11.6
- Other articles accepted or published: 2.4
- Books or book chapters published: 1.8
- Presentations: 25.1
- Other scholarly products subjected to external review and disseminated: 2.1
- Papers, proposals, etc. submitted but not yet accepted or published: 9.8

Table 26: Grants and grant funding FY 2016 – 17

<table>
<thead>
<tr>
<th>Category</th>
<th>Range</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of core faculty with grant funding</td>
<td>813</td>
<td></td>
</tr>
<tr>
<td>Total amount of grant funding</td>
<td>$434,587,064</td>
<td></td>
</tr>
<tr>
<td>Total amount of above funding from NIH</td>
<td>$224,940,209</td>
<td></td>
</tr>
<tr>
<td>Total number of core faculty who submitted proposals for funding, not</td>
<td>1037</td>
<td></td>
</tr>
<tr>
<td>funded or are not yet funded</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Per Program

- Number of core faculty with grant funding (per program):
  - Range: 0 – 16
  - Mean: 3.4

- Amount of grant funding (per program):
  - Range: $0 – $45,954,158
  - Mean: $1,841,471

- Amount of funding from NIH (per program):
  - Range: $0 – $38,476,943
  - Mean: $953,136

- Number of core faculty who submitted proposals for funding that were not
  funded or are not yet funded (per program):
  - Range: 0 – 74
  - Mean: 4.4
Research doctorate.

- A doctoral degree that is oriented toward preparing students to make original intellectual contributions in a field of study and that is not primarily intended for the practice of a profession.
- Research doctorates require the completion of a dissertation or equivalent project.
NSF Doctorate Statistics

Challenge Statement

• A shortage of qualified DPT faculty +
• Current rate of enrollment in PhD programs +
• Short-term future uncertainty about graduation education funding (domestic & foreign)
• **ACAPT: American Council of Academic Physical Therapy?**

The American Council of Academic Physical Therapy (ACAPT) is a component of the American Physical Therapy Association (APTA), originally created as a subgroup by the APTA board of directors in August 2010, then renamed ACAPT, during the 2013 House of Delegates.

• The purpose of ACAPT is to advance the enterprise of academic physical therapy by promoting the highest standards of excellence.
RIPPT

• RIPPT: Research Intensive Programs in Physical Therapy

• RIPPT is a consortium within ACAPT whose purpose is to promote academic excellence by strengthening the community of research-intensive physical therapy programs in the Academic Council.
  – Promote the importance of organized research to contribute to improved health care and excellence in physical therapy education.
  – Establish a forum for research-intensive programs to share strategies for organizing, building, and supporting their research enterprises.
  – Develop an exchange that will promote research collaborations across institutions.
  – Serve as a resource for programs that are attempting to develop into research-intensive programs.
  – Develop a set of accepted benchmarks of research activity
RIPPT Task Force Survey: Creating The Future of Physical Therapy: Addressing the Faculty Shortage April 2017

• April 2017- A survey was designed to identify factors that may be limiting the capacity to train future professors of physical therapy.

• ACAPT-ELC 2017: RIPPT Session
  – Reviewed Survey results
  – Discussion of Models of (Post-Professional) PhD Training
    • Traditional: DPT → Clinical Experience → PhD
    • Integrated/ Dual Degree: DPT ↔ PhD
    • Fellowship Model: DPT + Research Fellowship (no PhD)
    • Flipped: PhD related field → DPT
RIPPT Survey Results:

- About half of PhD Programs have existed > 10 years
- Recruitment Difficulties noted:
  - PTs post clinical experience returning for PhD
  - PT new graduates entering immediately into PhD
  - Dual degree DPT/PhD
  - * students who need funding, domestic applicants (+/- PT degree)
- General perception of decline in PhD applicants that are domestic licensed PTs
- Almost all feel their PhD graduates can succeed in research intensive universities post PhD and all encourage postdoctoral training
RIPPT Survey: Doctoral Program
Sources of Funding

- Faculty Grants (RA): 81%
- University/Department: 86%
- Teaching Assistantships: 57%
- Clinical Practice: 32%
- Training grants: 41%
- Outside Scholarships/Grants: 63%
- Other: 5%
- None: 5%

- Annual PhD graduates:
  - 0-4 students (ideally 1–6)
- PhD Graduates employed as:
  - 23% - TT
  - 23% - NTT
  - 11% - Outside Academia
RIPPT Survey: Challenges in PhD Recruitment

• Applicants Reasons to Defer Entry into PhD
  – Reduction in pay during PhD (71%)
  – Other programs students felt were a better fit (17%), more flexible, less demanding (29%)
  – Time commitment of a PhD Program too much (57%)
  – Academic career not desirable (9%)
  – Did not want to leave the clinic (51%)
  – Comments: relocation, fit with available faculty interest, financial support/funding
RIPPT Survey Conclusions

• There is clear evidence for a shortage of faculty prepared to conduct original research relevant to physical therapy.
• The overall capacity of the system to train PhDs seems sufficient, though funding remains a challenge.
• Regardless of the age of the program, almost all found it difficult to recruit experienced clinicians.
  – DPT PhD option has gained acceptance as a way to get students into training sooner and keep them engaged.
Our primary concern is that students are not looking for a degree advancement. More the mindset of "I already have a doctoral degree, why get another". If I can talk to them, they often then understand the difference in a DPT vs a PhD, but reaching them with this issue is challenging. We also have a number of PTs who choose to do online PhD programs but this does not create many PhD, PT who we can hire at an R1 institute.
Survey Comments …

• I have heard rumors about consideration of a research type of residency/clinical specialist type of certificate for PT research. If that is true, I would urge that the time/effort/support going toward this be redirected to PhD education.
As a whole, our profession is not always represented in interdisciplinary efforts to influence health care. However, there are a few individuals who have been rigorously PhD trained who have been able to influence large health care decisions by demonstrating the value of our services (e.g. low-back pain). We need to attract the highest caliber talent and rigorously train those individuals to be the future leaders of our profession and better protect our interests. At present, our voice does not have the influence we need to be consistently invited into such discussions. Residency and Fellowship training provide rigorous clinical skills, but not the ability to conduct paradigm shifting research. Yet, residency and fellowship options are attractive to individuals who want to do something more than clinical work, but don't want to sacrifice financially or time-wise to get a PhD. As such, these individuals are trained to be exceptional clinicians (and teachers), but are not often successfully funded researchers who provide strong evidence to really influence healthcare systems and related decision-making.
Section 1: References

• Data Sources
  – CAPTE
    – http://www.capteonline.org/uploadedFiles/CAPTEorg/About_CAPTE/Resources/Aggregate_Program_Data/AggregateProgramData_PTPrograms.pdf
    – CAPTE’s Home Page address is www.capteonline.org
    – CAPTE’s Resource Documents address is www.capteonline.org/resources

• NSF Graduate Education
The Value of PhD Training

Jennifer Stevens-Lapsley PT, PhD
Professor, Physical Therapy Program
Director, Rehab Science PhD Program
University of Colorado
How do residency/fellowships and a PhD program differ?

- Residency and Fellowship Programs
  - Greater clinical expertise and specialization

- PhD Program
  - Rigorous training in clinical research designed to advance clinical practice in the PT profession
What Are Your Goals?

Residency/Fellowship

- Management or clinical roles
- Be a clinical expert and specialize
- Developing case studies on individual patients

PhD

- Professor or clinical instructor in academia
- Change and advance clinical practice
- Conducting large scale, funded clinical research on population and health systems level
Decision Making Considerations
A Growing Need for PT Faculty

Figure 6  Number of actual and projected graduates, 1981 – 2019

* Indicates years where one or the other, not both, graduate numbers were available.

http://www.capteonline.org/uploadedFiles/CAPTEorg/About_CAPTE/Resources/Aggregate_Program_Data/AggregateProgramData_PTPrograms.pdf
Core Faculty with PhDs Comprise Half of PT Faculty Positions

Figure 7: Percentage of highest academic degree held by all core faculty 2013 – 14

*Not including DPT Degree

http://www.capteonline.org/uploadedFiles/CAPTEorg/About_CAPTE/Resources/Aggregate_Program_Data/AggregateProgramData_PTPrograms.pdf
What Does a Professor Do?

- Research
- Teaching
- Clinical
- Service
Cost Assumptions

- Full time, funded PhD student
  - Four years with a $23,000-$30,000/yr stipend (amount varies by program)
  - Paid Tuition ($8,000-$20,000/yr)
  - Paid Health Insurance (~$5000/yr)
- Two year post-doctoral fellowship
  - ~$50,000 stipend per year + health insurance
- PT starting salary
  - Years 0-3: $65,000*
  - Years 4-6: $74,000*

*2013 Median Income summary report – APTA, inflated to 2015 USD
Financial Considerations

- $180,000 to $200,000 in “lost earnings” with PhD + post-doc over 6 years
  - Attenuated by:
    - Foundation for Physical Therapy Scholarships (up to $50,000 additional income over 4 years of PhD training)
    - Additional scholarships (APTA sections, National Institute of Health, Foundations): ~$8,000
    - Loan repayment grant: can pay off all federal student loans (e.g. 100K)

- Net lost earnings: ~$25,000-$50,000
### Clinician Salaries

<table>
<thead>
<tr>
<th>Years of Practice</th>
<th>Median Salary (2015*)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-3</td>
<td>$65,000</td>
</tr>
<tr>
<td>4-6</td>
<td>$74,000</td>
</tr>
<tr>
<td>7-9</td>
<td>$79,000</td>
</tr>
<tr>
<td>10-15</td>
<td>$92,000</td>
</tr>
<tr>
<td>16+</td>
<td>$94,000</td>
</tr>
</tbody>
</table>

### CAPTE PT Faculty Salaries*

<table>
<thead>
<tr>
<th>Academic Rank (years)</th>
<th>Median Salary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assistant (0-5)</td>
<td>$86,000</td>
</tr>
<tr>
<td>Assistant (6-7)</td>
<td>$92,000</td>
</tr>
<tr>
<td>Associate (8-14)</td>
<td>$98,000</td>
</tr>
<tr>
<td>Professor (15+)</td>
<td>$114,000</td>
</tr>
</tbody>
</table>

### Estimates of PhD-Trained 12 month Faculty Salaries…

<table>
<thead>
<tr>
<th>Academic Rank (years)</th>
<th>Median salary (2015*)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assistant (0-7)</td>
<td>$95,000</td>
</tr>
<tr>
<td>Associate (8-13)</td>
<td>$118,000</td>
</tr>
<tr>
<td>Professor (14+)</td>
<td>$141,000</td>
</tr>
</tbody>
</table>

*http://www.capteonline.org/uploadedFiles/CAPTEorg/About_CAPTE/Resources/Aggregate_Program_Data/AggregateProgramData_PTPrograms.pdf
Additional Financial Opportunities to Narrow the Gap

- As Faculty:
  - Consulting opportunities
  - Patents/royalties
  - Paid travel opportunities (national/international)
  - Paid editorial board memberships
  - Paid continuing education teaching opportunities
What Doors Open With a PhD?

- Impact on advancing and sustaining our profession
- Intellectual stretching and challenge
- Tremendous flexibility!
- Professional connectedness
- Travel and professional networking opportunities
- Mentoring the next generation of PTs
Characteristics of Successful PhD Candidates

- **Perseverance and Tenacity**
  - PhD training demands perseverance, in the face of uncertainty, in the face of rejection, and in the face of frustration.

- **Cogency**
  - A good Ph.D. student must have the ability to clearly articulate their ideas in person and in writing.

- **Self-discipline**
  - Setting priorities and optimizing time management

http://matt.might.net/articles/successful-phd-students/
PhD Programs

http://www.apta.org/PostprofessionalDegree/PhDScDPrograms/

Directory of Postprofessional PhD and ScD/DSc Programs

The programs listed provide only postprofessional doctoral (i.e., PhD, ScD) graduate educational and research opportunities for physical therapists. The degrees offered are housed in institutions that either have physical therapist degree programs or are associated with a physical therapist degree program.
What to Look for in a PhD Program

- Research areas should match your interests
  - However, understanding the research process may be more important

- Avoid programs with excessive coursework

- Look for a program with a history of students getting funded
  - Foundation for Physical Therapy
  - APTA Section Awards
  - National Institute of Health

- Look for a program within an institution that is large enough to support a variety of collaborations

- Look for a program that gives you some teaching experience
What to Look for in a PhD Program

- **Full-Time**
  - Full time allows you to finish sooner
  - Paid tuition + health insurance
  - Often more productivity in terms of publications and grants
  - More competitive for scholarships and loan repayment grant funding

- **Part-Time**
  - Allows you to work clinically while completing your PhD
  - Unpaid tuition and health insurance benefits
  - May not meet the requirements for loan repayment programs
What to Look for in a PhD Mentor

- Mentoring experience
- Mentor’s productivity (e.g. publication record)
- Mentor’s grant funding
- Track record of PhD students getting funding
- Mentoring style matches how you work and learn best
- History of graduates getting desired jobs upon graduation
How to Prepare

- Get involved in some aspect of research to test the waters
- Visit research labs/mentors
  - Spend time with a mentor and their team to get an appreciation of the training environment
Decision Making Considerations

BALANCE YOUR LIFE
Thank you!

Jennifer Stevens-Lapsley PT, PhD
Professor, Physical Therapy Program
Director, Rehab Science PhD Program
University of Colorado

Jennifer.Stevens-Lapsley@ucdenver.edu
The Value of Residency & Fellowship Training

Michael Bade, PT, PhD, OCS, FAAOMPT
Assistant Professor, Physical Therapy Program
University of Colorado
How do residency and fellowship programs differ from internships?

- Clinical Internship
  - Clinical education experience required for graduation from an entry-level physical therapy program
    - Degree can be awarded before, during, or after the internship

- Residency and Fellowship Programs
  - Post-professional degree programs
  - Greater specialization
Clinical Residency

- Formal program ≥ 1800 hours of education
  - Didactic
  - Mentoring
    - 1:1 mentoring by Experts/Specialists
- Defined area of clinical practice
- Designed to progress clinician skill from entry-level to specialist level
- 10 months to 60 months in length
Clinical Fellowship

- Formal program ≥ 1000 hours of education
  - Didactic
  - Mentoring
    - 1:1 mentoring with Experts/Specialists/Sub-specialists
- Defined area of **advanced** clinical practice
- Designed to progress clinician skill from specialist to sub-specialist level
- 10 to 60 months in length
Residency vs Fellowship

**Similarities**
- Didactic and mentoring components
- Both advance clinical reasoning and expertise within a focused area of practice

**Differences**
- Specialization vs Sub-Specialization
- DRP vs DFP
- Residency training prepares you for specialist certification e.g. OCS
Residency vs Fellowship
Admission Requirements

- **Residency**
  - Licensed PT (in the state of clinical practice)
  - Demonstrated level of competency at entry-level

- **Fellowship**
  - Licensed PT (in the state of clinical practice)
  - ABPTS specialist certification or completion of residency within related area (Jan 1, 2018)
  - Demonstrated level of competency at specialist level
Benefits of Residency and Fellowship Training

- Mentored experience vs trial and error
- Planned curriculum
  - Educational Resources
    - E.g. cadaver labs, grand rounds, etc
  - Oversight of competency
    - Practice under an expert
    - Formalized testing
- Improved outcomes?
- Satisfaction
- Professional development and leadership
- Potential other job opportunities
  - Teaching
  - Research
- Improved pass rates on specialty exams
- Salary? and Marketability
Mentorship

Residency Program
Learning Through Mentoring and Other Guided Learning Experiences

- Professionalism
- Ethical & Moral Issues
- Leadership
- Consultant
- ENTRY-LEVEL PRACTITIONER
  - MENTORING
  - Advanced Practitioner able to serve the needs of patients, other health professionals, and society
  - Prepared for ABPTS Specialist Examination
  - Interprofessional & Team-based Care (e. shadowing, observation, grand rounds, athletic venue hours, etc)
  - Clinical Reasoning Models
  - Research
  - Teacher/educator
- Component of Other Guided Learning Experiences
- Components of Mentoring
Planned Curriculum

American Board of Physical Therapy Residency and Fellowship Education
Description of Residency Practice Orthopaedics

Name of Resident: [Insert Name]

Primary Health Conditions Orthopaedics

<table>
<thead>
<tr>
<th>NERVOUS SYSTEM</th>
<th>Number of Patients Evaluated, Treated, or Managed by the Resident as Part of the Program’s Curriculum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carpal Tunnel Syndrome</td>
<td></td>
</tr>
<tr>
<td>Cervical Radiculopathy</td>
<td></td>
</tr>
<tr>
<td>Cubital Tunnel Syndrome</td>
<td></td>
</tr>
<tr>
<td>Lumbar Radiculopathy</td>
<td></td>
</tr>
<tr>
<td>Thoracic Outlet Syndrome</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MUSCULOSKELETAL SYSTEM</th>
<th>Number of Patients Evaluated, Treated, or Managed by the Resident as Part of the Program’s Curriculum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chronic Pain Syndromes (e.g., fibromyalgia)</td>
<td></td>
</tr>
<tr>
<td>Ankle / Foot Fracture</td>
<td></td>
</tr>
<tr>
<td>Ankle / Foot Ligamentous Injuries</td>
<td></td>
</tr>
<tr>
<td>Ankle / Foot Tendinopaties</td>
<td></td>
</tr>
<tr>
<td>Hallux Valgus</td>
<td></td>
</tr>
<tr>
<td>Other Disorders of the Lower Leg, Ankle and Foot</td>
<td></td>
</tr>
<tr>
<td>Plantar Fasciitis</td>
<td></td>
</tr>
</tbody>
</table>

Furze 2016
Can you describe the schedule over the course of a typical week?

<table>
<thead>
<tr>
<th>Time</th>
<th>Mon</th>
<th>Tues</th>
<th>Wed</th>
<th>Thurs</th>
<th>Fri</th>
<th>Sat</th>
<th>Sun</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00 AM</td>
<td>Rounds</td>
<td>Rounds</td>
<td>Rounds</td>
<td>Rounds</td>
<td>Teaching -</td>
<td>On-Site Didactic</td>
<td></td>
</tr>
<tr>
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<td>Clinical practice</td>
<td>Clinical practice</td>
<td>Clinical practice</td>
<td>Clinical practice</td>
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<td>(Los Angeles, CA)</td>
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<td>8:00 AM</td>
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<td></td>
<td></td>
<td>*4 days (Thurs-Sun)</td>
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<tr>
<td>9:00 AM</td>
<td></td>
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<td>in August and</td>
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<td>November</td>
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<tr>
<td>11:00 AM</td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1:1 with mentor)</td>
<td></td>
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<td>12:00 PM</td>
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<tr>
<td>1:00 PM</td>
<td>Clinical practice</td>
<td></td>
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<tr>
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</tr>
<tr>
<td>3:00 PM</td>
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<td>Clinical practice</td>
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<td>4:00 PM</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>5:00 PM</td>
<td></td>
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<tr>
<td>6:00 PM</td>
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<tr>
<td>7:00 PM</td>
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</tr>
<tr>
<td>8:00 PM</td>
<td>Didactic</td>
<td></td>
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</tr>
<tr>
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<td>Webinars / Journal Club</td>
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<td></td>
<td></td>
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<tr>
<td>9:00 PM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*1:1 menteeing 4 hours per week Mon-Thurs
*Meeting with Residency Director 1 hour per week
*Community Service – schedule varies depending on the nature of the experience

Example from Boston University Neurologic Physical Therapy Residency Program
Fellowship trained PTs had significantly better outcomes than PTs with residency training or no formal post-professional education.

Residents did not have superior outcomes however they were younger and less-experienced than the comparison group.
Outcomes Perceived by Graduates

TABLE 3. Graduate ratings of influence of residency training on professional development: clinical skills and career.*  

<table>
<thead>
<tr>
<th>Question</th>
<th>% Major positive</th>
<th>% Some positive</th>
<th>% No effect</th>
<th>% Some negative</th>
<th>% Major negative</th>
<th>% Unable to assess</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ability to perform thorough clinical examination</td>
<td>95</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Ability to use a logical clinical reasoning process</td>
<td>94</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Ability to treat efficiently</td>
<td>79</td>
<td>20</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Ability to treat effectively</td>
<td>83</td>
<td>15</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Ability to “diagnose”</td>
<td>85</td>
<td>15</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Ability to treat complex patients</td>
<td>86</td>
<td>13</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Communication with patients</td>
<td>59</td>
<td>36</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Communication with other health professionals</td>
<td>51</td>
<td>39</td>
<td>10</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Ability to perform overall patient management</td>
<td>68</td>
<td>25</td>
<td>8</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Number of patient referrals</td>
<td>43</td>
<td>27</td>
<td>28</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Number of professionals who refer patients for care</td>
<td>42</td>
<td>28</td>
<td>20</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Salary</td>
<td>23</td>
<td>53</td>
<td>20</td>
<td>4</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Promotion</td>
<td>23</td>
<td>38</td>
<td>35</td>
<td>4</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Job opportunities</td>
<td>40</td>
<td>42</td>
<td>15</td>
<td>3</td>
<td>0</td>
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<tr>
<td>Leadership roles</td>
<td>45</td>
<td>40</td>
<td>13</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Career interest and fulfillment</td>
<td>80</td>
<td>17</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

* Percentages have been rounded to the nearest whole number. n = 84.

Smith 1999
## Impact on Professional Development & Leadership

Comparison of residency trained & non-residency trained orthopedic PTs

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Percent of Respondents (p-value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participation in fellowship programs</td>
<td>42% (0.001)</td>
</tr>
<tr>
<td>Board certification</td>
<td>76% (&lt;0.001)</td>
</tr>
<tr>
<td>Served as a CI</td>
<td>83% (0.007)</td>
</tr>
<tr>
<td>Participation as an instructor in a physical therapy program</td>
<td>42% (0.01)</td>
</tr>
<tr>
<td>Coordinated a course in a physical therapy program</td>
<td>17% (0.05)</td>
</tr>
<tr>
<td>Served as a faculty member in a residency or fellowship program</td>
<td>34% (0.003)</td>
</tr>
</tbody>
</table>

Jones 2008
# Improved Board Certification Exam Pass Rates

## Table 12. 2017 Board Certification Examination Passing Rates for First-Time Test Takers

<table>
<thead>
<tr>
<th>Specialty Area (# of Option B Applicants)</th>
<th>Non-residency graduates* (direct patient care hours, “Option A”)</th>
<th>Residency Graduate (“Option B”)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiovascular &amp; Pulmonary (5)</td>
<td>77%</td>
<td>80%</td>
</tr>
<tr>
<td>Clinical Electrophysiology (0)</td>
<td>50%</td>
<td>Not Applicable/No Graduates</td>
</tr>
<tr>
<td>Geriatrics (25)</td>
<td>86%</td>
<td>96%</td>
</tr>
<tr>
<td>Neurology (57)</td>
<td>79%</td>
<td>96%</td>
</tr>
<tr>
<td>Orthopaedics (353)</td>
<td>74%</td>
<td>87%</td>
</tr>
<tr>
<td>Pediatrics (27)</td>
<td>72%</td>
<td>92%</td>
</tr>
<tr>
<td>Sports (65)</td>
<td>82%</td>
<td>97%</td>
</tr>
<tr>
<td>Women’s Health (8)</td>
<td>88%</td>
<td>100%</td>
</tr>
</tbody>
</table>
Will I get paid more?

- Some evidence to suggest ‘maybe’
  - Jones 2008:
    - Residents annual salary $64,375 (n=41)
    - Non-residents annual salary $58,671 (n=20)
    - Based upon 2005 data and small sample size
  - Smith 1999:
    - Majority of residents perceived positive effects of residency training on promotion, salary, and job opportunities
- You will definitely gain experience and this may improve your marketability
  - Important in highly competitive areas like orthopedics and sports
# Number of Accredited Programs

## Table 1. Number of Accredited Programs by Area of Practice (n=296)

<table>
<thead>
<tr>
<th>Residency Area</th>
<th># Accredited Programs</th>
<th>Fellowship Area</th>
<th># Accredited Programs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Care</td>
<td>3</td>
<td>Critical Care</td>
<td>3</td>
</tr>
<tr>
<td>Cardiovascular &amp; Pulmonary</td>
<td>6</td>
<td>Hand Therapy</td>
<td>2</td>
</tr>
<tr>
<td>Clinical Electrophysiology</td>
<td>1</td>
<td>Higher Education Leadership</td>
<td>1</td>
</tr>
<tr>
<td>Faculty</td>
<td>1</td>
<td>Movement System</td>
<td>2</td>
</tr>
<tr>
<td>Geriatrics</td>
<td>16</td>
<td>Neonatology</td>
<td>3</td>
</tr>
<tr>
<td>Neurology</td>
<td>45</td>
<td>Orthopaedic Manual Physical Therapy</td>
<td>31</td>
</tr>
<tr>
<td>Orthopaedics</td>
<td>102</td>
<td>Spine</td>
<td>3</td>
</tr>
<tr>
<td>Pediatrics</td>
<td>22</td>
<td>Sports Division 1</td>
<td>2</td>
</tr>
<tr>
<td>Sports</td>
<td>40</td>
<td>Upper Extremity Athlete</td>
<td>3</td>
</tr>
<tr>
<td>Women’s Health</td>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wound Management</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Projected Growth of Programs

- Total Residencies:
  - 1999: 2
  - 2000: 5
  - 2001: 9
  - 2002: 9
  - 2003: 11
  - 2004: 19
  - 2005: 22
  - 2006: 24
  - 2007: 31
  - 2008: 41
  - 2009: 57
  - 2010: 81
  - 2011: 97
  - 2012: 125
  - 2013: 162
  - 2014: 178
  - 2015: 206
  - 2016: 224
  - 2017: 246

- Total Fellowships:
  - 1999: 1
  - 2000: 4
  - 2001: 5
  - 2002: 8
  - 2003: 9
  - 2004: 13
  - 2005: 15
  - 2006: 18
  - 2007: 19
  - 2008: 22
  - 2009: 24
  - 2010: 23
  - 2011: 25
  - 2012: 28
  - 2013: 32
  - 2014: 35
  - 2015: 43
  - 2016: 43
  - 2017: 50

- Total Programs:
  - 1999: 3
  - 2000: 9
  - 2001: 14
  - 2002: 17
  - 2003: 20
  - 2004: 32
  - 2005: 37
  - 2006: 42
  - 2007: 50
  - 2008: 63
  - 2009: 81
  - 2010: 104
  - 2011: 122
  - 2012: 153
  - 2013: 194
  - 2014: 213
  - 2015: 249
  - 2016: 267
  - 2017: 296
Considerations

- Other potential job or educational opportunities
  - Is residency or fellowship the right option for you at this time in your life/career?

- Costs

- Program model

- Location and ability to relocate

- Mentorship and Curriculum

- Other considerations
Costs

- 2 Basic Models of Cost
  - **Reduced Salary** – residents will typically earn around 75% of non-resident
    - Productivity standards are also 75% as part of your job is learning and mentoring
  - **Tuition** – residents earn a ‘typical’ salary and then pay for the didactic portion
    - E.g. EIM Orthopaedic Residency Program - $12,650
- Deferred loans while in residency/fellowship training
  - Consider carefully if this is the best option
    - Public service loan forgiveness program
    - Income-based repayment
- Post-professional student membership discounts
  - 50% off APTA dues and conference attendance
- **Questions to ask the program**
  - Benefits – some programs limit your benefits
  - Professional Dues – some programs cover your dues
  - Additional continuing education requirements – some of these are covered some are not
  - Travel costs
Hybrid online programs available for Orthopaedics, Sports, Neurology, Geriatrics, OMPT
# Program Models

<table>
<thead>
<tr>
<th>TYPE</th>
<th>PROS</th>
<th>CONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic</td>
<td>• Gold Standard- Led by Experts&lt;br&gt;• In-house curriculum- Greater resources&lt;br&gt;• Teaching/Research Opportunities&lt;br&gt;• Loan deferment easier</td>
<td>• Location constraints&lt;br&gt;• Highly competitive</td>
</tr>
<tr>
<td>Clinic/Hospital</td>
<td>• Can be of very high quality&lt;br&gt;• Can have many resources&lt;br&gt;• Can have research opportunities&lt;br&gt;• May pay for their employees to undergo training</td>
<td>• Location constraints&lt;br&gt;• Curriculum&lt;br&gt;• Can be very competitive&lt;br&gt;• Highly variable in quality</td>
</tr>
<tr>
<td>Hybrid Online</td>
<td>• No need to relocate!&lt;br&gt;• Well developed curriculum&lt;br&gt;• Large cohort&lt;br&gt;• Employer may pay for your costs</td>
<td>• Large cohort&lt;br&gt;• Need to find your mentors</td>
</tr>
</tbody>
</table>
Mentorship and Curriculum

- Key Curriculum Questions
  - Out-sourced vs in-house?
    - E.g. Medbridge
  - How is it maintained?
  - Learning style
    - Online, journal articles, presentations, etc
  - Additional Resources
    - Grand rounds, other residency fellowship programs, cadaver lab
  - Outside educational opportunities?
    - Mandatory or Optional?

- Key Mentoring Questions
  - Who will be your mentors?
    - Qualifications
    - Years of mentoring experience
    - Stability in mentors
    - Training of mentors
  - How many mentors will you have throughout the curriculum?
  - Matching of mentor to resident?
  - Evaluation of mentoring process
Other Considerations

- Application cycle
- Size of the program
  - Vary from 1 to over 100 residents
- Reputation and outcomes of the program
- Patient population
  - Very important for some areas e.g. sports
- Time and travel requirements
  - Typically 50 hours per week or more
- Current stage of accreditation
  - Candidate status carries a risk
  - When is the program up for reaccreditation?
## Competition

<table>
<thead>
<tr>
<th></th>
<th>Total Positions Available</th>
<th>Total Unique Applicants</th>
<th>Total Applications Filed</th>
<th>Total Programs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Care</td>
<td>5</td>
<td>14</td>
<td>15</td>
<td>4</td>
</tr>
<tr>
<td>Cardiovascular &amp; Pulmonary</td>
<td>11</td>
<td>17</td>
<td>19</td>
<td>7</td>
</tr>
<tr>
<td>Clinical Electrophysiology</td>
<td>8</td>
<td>3</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Faculty</td>
<td>1</td>
<td>5</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Geriatrics</td>
<td>44</td>
<td>34</td>
<td>52</td>
<td>19</td>
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<tr>
<td>Neurology</td>
<td>169</td>
<td>204</td>
<td>538</td>
<td>50</td>
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<tr>
<td>Oncology</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>1</td>
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<tr>
<td>Orthopaedics</td>
<td>795</td>
<td>741</td>
<td>1052</td>
<td>111</td>
</tr>
<tr>
<td>Pediatrics</td>
<td>29</td>
<td>86</td>
<td>252</td>
<td>23</td>
</tr>
<tr>
<td>Sports</td>
<td>120</td>
<td>223</td>
<td>652</td>
<td>46</td>
</tr>
<tr>
<td>Women’s Health</td>
<td>21</td>
<td>28</td>
<td>45</td>
<td>12</td>
</tr>
<tr>
<td>Wound Management</td>
<td>2</td>
<td>6</td>
<td>6</td>
<td>1</td>
</tr>
</tbody>
</table>
Competition

Figure 5. Additional Residency Positions Required to Fulfill Applicant Needs

- Acute Care
- Cardiovascular & Pulmonary
- Clinical Electrophysiology
- Faculty
- Geriatrics
- Neurology
- Orthopaedics
- Pediatrics
- Sports
- Women’s Health
- Wound Management

Furze 2016
Increasing Your Competitive Edge

- Do your homework
  - Do not ask for information easily found via the website
  - **Talk to past graduates of the program**
  - Mission, vision, and values
  - Specifics on mentoring and didactic components
- **Have solid recommendations in the specialty/sub-specialty area**
- **Meet the Director of the Program**
  - National Student Conclave
  - Travel and visit the program once you have done your homework
- **Excel in your education**
  - Excellent GPA especially in relevant course work
  - Research and service
  - Additional opportunities outside of school
- **Show that you are ready for the program**
  - Master the basics
  - Accept feedback well and seek out criticism
  - Have good clinical reasoning and clinical skills
- **Work for the organization**

**BE PASSIONATE!**
Application Process

- Many utilize RFPTCAS but not all
- Timing varies by program
- Graduation from an accredited physical therapy program
  - Considerations for foreign-trained PTs
- Licensure
- Application cost + supplemental costs (interviews)
- Letters of recommendation
- Essay questions
- Professional experience
- Continuing education/certifications
- Interview
  - Can be in-person or distance-based
  - Often involve an assessment of clinical skills
    - Technique demonstration
    - Oral examination
    - Case-based problem solving
Resources

- Information on Residency and Fellowship Programs including complete program directory:
  - https://www.abpptrfe.org

- Application (for most programs)
  - https://rfptcas.liaisoncas.com
References


<table>
<thead>
<tr>
<th>Category</th>
<th>Residency/Fellowship Training</th>
<th>PhD Rehabilitation Science</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intent</td>
<td>Clinical mastery</td>
<td>Life-long learning Answering clinical questions Sharing your passion with others (teaching)</td>
</tr>
<tr>
<td>Degree/Certification</td>
<td>Potential for specialist certification (must exist for specialist area)</td>
<td>PhD</td>
</tr>
<tr>
<td>Time Required</td>
<td>12 months focused on clinical area of expertise Range 10-60 months</td>
<td>2 years focused on research methods 2 years of research on selected project</td>
</tr>
<tr>
<td>Part-time or Full-time</td>
<td>Both are possible</td>
<td>Both are possible although full-time has more advantages</td>
</tr>
<tr>
<td>Mentorship</td>
<td>150 hours of clinical mentorship minimum</td>
<td>4 years of research and career mentoring (2 hrs per week equals greater than 400 hours)</td>
</tr>
<tr>
<td>Location</td>
<td>Campus-based or Online</td>
<td>Campus-based</td>
</tr>
<tr>
<td>Job Opportunities</td>
<td>Increased marketability for clinical positions Potential for instructor position and research collaboration</td>
<td>Academic Position (teaching-based or research-based institutions) Clinician/Researcher/Teacher/Servant</td>
</tr>
<tr>
<td>Loan Repayment</td>
<td>No – deferment is possible</td>
<td>Deferment and repayment possible</td>
</tr>
<tr>
<td>Salary Potential</td>
<td>Unknown if different from average clinical salary 10 year average clinical salary = $92,000</td>
<td>Associate Professor $98,000 Full Professor = $114,000-$185,000</td>
</tr>
<tr>
<td>Salary while in Training</td>
<td>Typically 75% FTE – $48,750 per year</td>
<td>$30,000 with potential for growth Average CU student = $36,000</td>
</tr>
<tr>
<td>Flexibility</td>
<td>Comparable to clinical positions</td>
<td>High</td>
</tr>
</tbody>
</table>
Key Questions for PhD Programs

Mentorship

- What core faculty are currently accepting students?
  - Not all faculty accept students every year
- How well does the mentor’s area of research align with your interests/long term goals?
  - Consider the overall methods you would be learning and applicability (doesn’t need to be specific to the exact patient population)
- What is the track record of each mentor in terms of:
  - Mentoring experience and mentorship style
    - Look for experienced mentors whose mentorship style aligns with your learning style
  - Productivity (publication record)
    - Look for mentors who have a strong record of recent publications and presentations
  - Grant funding
    - Look for mentors with a strong and consistent track record of high level funding sources (e.g. National Institutes of Health)
- Track record of PhD students being funded both while in school and after graduation
  - Look for a track record of Foundation for Physical Therapy Funding (e.g. PODS) as well as other training grants (e.g. NIH T32)
  - Look for graduates of the program who go onto being successful in obtaining their own funding
- History of graduates gaining employment in targeted area after graduation
- What is the training environment like?
  - Additional mentorship experiences
  - Interdisciplinary training opportunities
  - Overall campus resources and lab resources

Cost Questions

- What is the cost of tuition and fees?
  - Self-funded to fully-funded by program
- Are there funding opportunities available to offset the cost of tuition?
  - Grants
    - Is a stipend provided? (Range: $18,000 – $32,000 Average: $23,400)
    - What is your programs track record for graduate student funding (Foundation for Physical Therapy, NIH Training Grants)?
  - Teaching Assistantships
    - What courses will you teach?
    - How many hours per week are required?
    - What is covered by the TAship (e.g. tuition only or tuition and living expenses)?
  - Scholarships
    - What scholarships are offered by your program?
    - What is the competitiveness of available scholarships?
- Is health insurance provided and/or what is the cost?
- What is the cost of living?
Key Questions for PhD Programs

Curricular Questions

• Most important question is “How well does the curriculum align with your overall career goals and educational needs?” Other considerations are as follows:
  ▪ Are full-time and part-time opportunities available? Distance-based? Online-hybrid options?
    ▪ Part-time, distance-based and online hybrid options are more flexible but typically contact with your mentors and the benefits of being in a rich training environment can be reduced. Part-time will most likely delay your overall graduation date and typically is self-funded/less competitive for grants and scholarships.
  ▪ What is the average amount of time it takes to graduate on a full-time basis?
    ▪ Look for programs that are able to graduate students consistently within 4-5 years
    ▪ Time to graduation is probably more important than credit hours
  ▪ How many total credits is your program?
    ▪ Range is from 48-116 credit hours
    ▪ This will affect time to completion as well as potentially overall cost
    ▪ Key question is how applicable are all credits/courses to your overall career goal. Look for programs with a reasonable balance of course work that is highly applied towards your goals.
  ▪ How many credit hours are dedicated to research?
    ▪ Range is from 3-32 credit hours
    ▪ It is important to consider not only the amount but also the proportion of the curriculum dedicated to research
  ▪ How many credit hours are dedicated/allowed for independent study or electives?
    ▪ Greater flexibility allows you to customize your education to your exact needs
  ▪ Does your PhD program include education on teaching methodology and theory?
    ▪ Some curricula focus only on research methodology so if you are interested in teaching look for a program that has coursework dedicated in this area
    ▪ Also, look for programs that have opportunities to gain teaching experience while in the program if you are interested in teaching as this can
  ▪ What does the work life balance look like within this program?

Prepared by the University of Colorado Anschutz Medical Campus Rehabilitation Science PhD Program.
For more information please contact: michael.bade@ucdenver.edu
# Residency/Fellowship or PhD Rehabilitation Science

## Top 11 Differences Between Career Paths

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>RESIDENCY/FELLOWSHIP TRAINING</th>
<th>PHD REHABILITATION SCIENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intent</td>
<td>Clinical mastery</td>
<td>Life-long learning</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Answering clinical questions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sharing your passion with</td>
</tr>
<tr>
<td></td>
<td></td>
<td>others (teaching)</td>
</tr>
<tr>
<td>Degree/Certification</td>
<td>Potential for specialist certification (must exist for specialist area)</td>
<td>PhD</td>
</tr>
<tr>
<td>Time Required</td>
<td>12 months focused on clinical area of expertise Range 10-60 months</td>
<td>2 years focused on research methods Range 2 years of research on selected project</td>
</tr>
<tr>
<td>Part-time or Full-time</td>
<td>Both are possible</td>
<td>Both are possible although full-time has more advantages</td>
</tr>
<tr>
<td>Mentorship</td>
<td>150 hours of clinical mentorship minimum</td>
<td>4 years of research and career mentoring (2 hrs per week equals greater than 400 hours)</td>
</tr>
<tr>
<td>Location</td>
<td>Campus-based or Online</td>
<td>Campus-based</td>
</tr>
<tr>
<td>Job Opportunities</td>
<td>Increased marketability for clinical positions Potential for instructor position and research collaboration</td>
<td>Academic Position (teaching-based or research-based institutions) Clinician/Researcher/Teacher/Servant</td>
</tr>
<tr>
<td>Loan Repayment</td>
<td>No – deferment is possible</td>
<td>Deferment and repayment possible</td>
</tr>
<tr>
<td>Salary Potential</td>
<td>Unknown if different from average clinical salary 10 year average clinical salary = $92,000</td>
<td>Associate Professor $98,000 Full Professor = $114,000-$185,000</td>
</tr>
<tr>
<td>Salary while in Training</td>
<td>Typically 75% FTE – $48,750 per year</td>
<td>$30,000 with potential for growth Average CU student = $38,000</td>
</tr>
<tr>
<td>Flexibility</td>
<td>Comparable to clinical positions</td>
<td>High</td>
</tr>
</tbody>
</table>

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