Orthopaedic Physical Therapy Residency Program

Curriculum

Effective: January 2017

ORTHOPAEDIC PHYSICAL THERAPY RESIDENCY PROGRAM

Program Director: Dr. Brett Beuning

The EIM Orthopaedic Residency is committed to developing evidence-based physical therapist practitioners and clinician scientists around the world. We seek to produce highly skilled autonomous practitioners who are critical thinkers, reflective, empathetic, and lifelong learners. Residency graduates will be practitioners grounded in the principles of an evidence-based practice model and experts at rapidly integrating that practice into orthopaedic physical therapy practice.

Orthopaedic Residency Program Objectives:

1. Provide an innovative and cutting edge educational environment consistently across all clinical settings and for all residents through integration of state of the art learning tools with advanced professional clinical practice.
2. Admit and develop physical therapists that value the principles of evidence-based practice and behave accordingly in their daily practice.
3. Develop practitioners skilled in the integration of eclectic orthopaedic manual physical therapy techniques and evidence-based practice principles into an advanced clinical decision-making framework for the management of patients with musculoskeletal conditions.
4. Develop practitioners who are prepared to confidently and professionally interact with other members of the healthcare team (general physicians, surgeons, nurse practitioners, physician assistants, etc.) and provide leadership in the area of evidence-based care for musculoskeletal conditions.
5. Develop interest in and promote life-long learning by PTs leading to Fellowship training and advance sub-specialty certifications.
6. Provide an efficient route for new graduates to become an ABPTS certified specialist in Orthopaedics.

Admission Requirements

1. All applicants must have successfully completed a CAPTE accredited professional physical therapy curriculum, or have had a state physical therapy board approve the applicant's first-professional physical therapy program as "equivalent" to a US CAPTE accredited professional physical therapy program.
2. All applicants must have a current license to practice physical therapy in a particular state(s) in the United States or eligible and in the process of applying to sit for licensure. This license must not be under suspension, revocation, probationary status, or subject to disciplinary proceedings or inquiry. Applicants must pass the licensure exam before officially beginning studies.
3. All applicants must be active members of the APTA in good standing.
4. All applicants must have current CPR certification and professional liability insurance coverage that applies to all clinical settings in which they work.
5. Applicants must submit a completed application in a timely manner in order to be considered for the program.
6. Per APTA requirements, residents cannot conduct their clinical mentorship hours (1:1 or non-1:1 mentorship hours) in a physician owned physical therapy service (POPTS) or referral for profit (RFP) clinical situation.

Curriculum

The EIM Orthopaedic Physical Therapy Residency Program consists of 38 credit hours of blended online and onsite learning. The student has 3 years (36 months) of active enrollment to complete the program. The curriculum consists of the following outlined academic courses:

APPT 6110	Essentials of Pharmacology & Clinical Lab Tests*	*1
APPT 6210	Essentials of Musculoskeletal Imaging	2
APPT 6220	Essentials of Medical Screening	2
EBP 6100	Evidence-based Practice I	1
ORPT 6210	Post-Surgical Management and Rehabilitation	2

ORPT 6510	Management of Lumbopelvic Disorders	5
ORPT 6520	Management of Lower Extremity Disorders	5
ORPT 6530	Management of Cervical and Thoracic Disorders	5
ORPT 6540	Management of Upper Extremity Disorders	5
ORPT 7270	Orthopaedic Residency Virtual Rounds	2
ORPT 7280	OCS Exam Preparatory Course	2
ORPT 7690	Orthopaedic Residency Mentored Clinical Practice	6
		38 credits

*APPT 6110 Required for Bachelors and Masters prepared residents

ADVANCED PRACTICE PHYSICAL THERAPY (APPT)

APPT 6110 Essentials of Pharmacology & Clinical Lab Tests 1 credit

This course complements entry-level education on pharmacology and clinical lab testing. Course material focuses on the clinical application of key pharmacology principles in an outpatient musculoskeletal physical therapy setting. Basic concepts of pharmacokinetics and pharmacotherapeutics are covered, followed by a specific focus on medications commonly prescribed for cardiovascular disorders, diabetes, pain control, and pulmonary disorders. Discussion of these broad categories of drugs will cover clinical application, intended therapeutic effects, and potential adverse affects. This course also provides an overview of a core set of clinical lab tests that physical therapists should understand and should be confident suggesting to medical providers or ordering themselves (based on the physical therapist's practice act or credentials). The clinical lab tests discussed include basic biochemistry, immunology, hematology, & microbiology tests. Note for Orthopaedic and Sports Residents Only: This course is waived for those who are DPT prepared upon entry into the residency program.

Course Objectives: At the end of the course the student will be able to or will have completed.

1. Understand the basics of pharmacokinetic and pharmacotherapeutic principles and how they impact our patients.
2. Identify indications for common classes of drugs, as well as their intended therapeutic actions, potential side effects, and potential implications for physical therapy practice.
3. Use information on therapeutic actions, potential side effects, and implications for PT practice in planning and modifying patient plans of care.
4. Use selected web-based resources on pharmacology
5. Understand key indications for requesting selected clinical lab tests, as well as the ranges for normal test results.
6. Understand potential reasons for abnormal clinical lab tests, and identify a plan of action once an abnormal clinical lab test is identified.

APPT 6210 Essentials of Musculoskeletal Imaging 2 credits

This course encompasses the essentials of musculoskeletal radiology and other common imaging modalities such as MRI, CT, musculoskeletal ultrasound, Bone Scans, and DEXA Scans. This course helps participants' confidence grow in the areas of common radiographic views, radiographic presentation of common musculoskeletal conditions, and communicating with patients how their diagnostic imaging results relate to their current problem. Learning activities present a regional approach to the use and role of diagnostic imaging in physical therapy clinical practice.

Course Objectives: At the end of the course the student will be able to or will have completed.

1. Engage in the diagnostic process using musculoskeletal imaging procedures when appropriate to establish differential diagnoses across systems and across the lifespan.
2. Determine the most appropriate musculoskeletal imaging procedure according to the patient/client presentation and the current best evidence for diagnosis.
3. Determine the most appropriate radiographic views according to patient/client presentation, current best evidence for diagnosis, and current best evidence for reducing ionizing radiation exposure.
4. Describe a systematic approach to the analysis of plain film radiography, magnetic resonance imaging, bone scans, and computed tomography and determine the relevance of visualized pathology to clinical decision-making.
5. Use evidence-based diagnostic imaging procedures as appropriate to help determine the patient/client who would benefit from physical therapy interventions and the patient/client who requires referral for medical services.
6. Review diagnostic test studies on musculoskeletal imaging according to evidence-based criteria for validity, including an explanation of radiographic clinical decision rules for orthopedic pathology related to the spine and extremities.
7. Understand basic concepts of musculoskeletal image acquisition and interpretation.

8. Recognize the appearance of normal anatomy and common pathology on musculoskeletal images to facilitate diagnostic accuracy and appropriate intervention strategies and forces.
9. Effectively educate patients and clients regarding their diagnostic imaging results. Formulate an enhanced working vocabulary of diagnostic and musculoskeletal imaging terminology and appropriately communicate with other medical professionals using the language of diagnostic imaging.

APPT 6220 Essentials of Medical Screening 2 credits

APTA Vision 2020 envisions physical therapists as autonomous providers of musculoskeletal care. Screening for conditions not amenable to treatment by a physical therapist or that requires consultation/referral to other providers is a key skill. This course complements entry-level education on medical screening by presenting a pragmatic approach to a review of symptoms and incorporating the latest evidence on yellow and red flags. Current evidence is presented where available. In addition to red flags, participants will learn how to use evidence-based questionnaires to aid screening for depression and fear-avoidance behaviors, and they will work on creating or updating a general health screening form for use in their own clinical environments.

Course Objectives: At the end of the course the student will be able to or will have completed.

1. Utilize a medical screening form to guide a review of systems across the life span.
2. Recognize red flags for potentially serious conditions not amenable to treatment by a physical therapist or that require referral to other providers.
3. Recognize potentially serious conditions that can mimic musculoskeletal conditions.
4. Recognize yellow flags: such as depression or fear avoidance and incorporate these findings into clinical decision-making.
5. Communicate effectively with referring providers regarding signs/symptoms suggestive of non-musculoskeletal disorders or conditions potentially needing referral or consultation with medical providers.
6. Demonstrate clinical decision making skills, including clinical reasoning, clinical judgment, and reflective practice.

EVIDENCE BASED PRACTICE (EBP)

EBP 6100 Evidence-based Practice I 1 credit

This course is designed to improve the participant's understanding and use of evidence-based practice; it's history and impact on physical therapy practice. Using case scenarios, guided tutorials, and journal references, participants will learn how to ask clinically relevant questions, find and interpret the evidence, and apply this evidence to clinical practice. The goal of this course is to develop consumers and users of clinical research that will improve the quality and impact of the participant's clinical practice on the patients they serve.

Course Objectives: At the end of the course the student will be able to or will have completed.

1. Define EBP and discuss its philosophy and fundamental principles.
2. Construct a well-built clinical question.
3. Search the literature using available search portals, engines and databases effectively and efficiently.
4. Critically appraise articles dealing with Intervention or Therapy for validity.
5. Discuss the application of current best evidence into clinical practice.
6. Discuss evaluation of your performance.
7. Identify key EBP resources and aides.

ORTHOPAEDIC PHYSICAL THERAPY (ORPT)

ORPT 6210 Post-Surgical Management and Rehabilitation 2 credits

Physical Therapists (PT) play a prominent role in the post-operative care of patients who have undergone surgical intervention. In some practice settings, postoperative patients may comprise the majority of a PTs caseload. This course presents the current best-evidence for frequently performed surgical procedures and the rehabilitative management of patients who have undergone surgical intervention. Associated rehabilitative protocols are provided to supplement learning and enhance the post-surgical management of patients.

Course Objectives: At the end of the course the student will be able to or will have completed.

1. Demonstrate content area knowledge related to indications and considerations related to common surgical interventions.
2. Demonstrate content area knowledge related to indications and considerations related to post-operative rehabilitation considerations and protocols for common surgical interventions.
3. Identify and synthesize data from the examination in order to make clinical judgments regarding patient/client management.
4. Identify factors that influence the course of rehabilitation and patient/client prognosis.
5. Discuss current best evidence for various post-operative rehabilitation interventions as well as common surgical interventions.
6. Determine relevant factors and considerations that guide patient/client management for a given condition.
7. Discuss considerations in establishing a plan of care and relevant physical therapy interventions to achieve patient/client goals and outcomes.
8. Use knowledge in the foundational and clinical sciences related to structure, movement dysfunction, response to injury and disease and promotion of health and wellness to enhance post-operative physical therapy outcomes for patients with have received surgical interventions.

ORPT 6510 Management of Lumbopelvic Disorders 5 credits

Patients with low back and pelvic/hip pain make up nearly 50% of all patients receiving outpatient physical therapy. This course is designed to enhance the student's knowledge and skill level in the evidence-based management of individuals with lumbopelvic spine and hip disorders and dysfunction. Classification systems, diagnosis, and outcomes assessment tools are discussed as components of the diagnostic process within the framework of evidence-based practice. The use of diagnostic imaging and medical screening for red flags is discussed to effectively screen for systemic and vascular disorders. Evidence-based treatment approaches, with special emphasis on manual therapy (mobilization/manipulation) and exercise, are reviewed to improve the student's management of individuals with lumbopelvic musculoskeletal disorders. An intensive laboratory weekend is included to provide hands-on demonstration and practice of examination skills and selected manual therapy and exercise interventions for the lumbopelvic spine and hip regions.

Course Objectives: At the end of the course the student will be able to or will have completed.

1. Use knowledge in the foundational and clinical sciences related to structure, movement dysfunction, response to injury and disease and promotion of health and wellness to enhance physical therapy outcomes for patients with lower extremity disorders
2. Participate in peer-assessment activities.
3. Demonstrate clinical decision making skills, including clinical reasoning, clinical judgment, and reflective practice.
4. Understand and apply the disablement and patient/client management models in physical therapist practice.
5. Examine patients/clients by obtaining a history, by performing systems reviews, and by selecting and administering valid and reliable age-related tests and measures.
6. Synthesize data from the examination and analyze data to make clinical judgments regarding patient/client management.
7. Determine a diagnosis that guides patient/client management.

8. Develop a diagnosis based on the disablement model
9. Engage in the diagnostic process to establish differential diagnoses across systems & across the life span.
10. Determine patient/client prognosis.
11. Establish and manage a plan of care.
12. Provide physical therapy interventions to achieve patient/client goals and outcomes.
13. Select patient/client variables that allow research evidence to be collected and applied.
14. Incorporate evidence/consensus-based practice in the management of patients/clients.

ORPT 6520 Management of Lower Extremity Disorders 5 credits

This course is designed to enhance the student's knowledge and skill level in the evidence-based management of individuals with lower extremity disorders and dysfunction. Classification systems, outcomes assessment tools, and the application of diagnostic imaging rules for acute lower extremity injuries are discussed as components of the diagnostic process within the framework of evidence-based practice. Diagnostic information for the medical screening of systemic and vascular disorders is also discussed. Evidence-based treatment approaches, with special emphasis on manual therapy and exercise, are reviewed to improve the student's management of individuals with lower extremity musculoskeletal disorders. An intensive laboratory weekend is included to provide hands-on demonstration and practice of examination skills and selected manual therapy and exercise interventions for the hip, knee and ankle regions.

Course Objectives: At the end of the course the student will be able to or will have completed.

1. Use knowledge in the foundational and clinical sciences related to structure, movement dysfunction, response to injury and disease and promotion of health and wellness to enhance physical therapy outcomes for patients with lower extremity disorders
2. Participate in peer-assessment activities.
3. Demonstrate clinical decision making skills, including clinical reasoning, clinical judgment, and reflective practice.
4. Understand and apply the disablement and patient/client management models in physical therapist practice.
5. Examine patients/clients by obtaining a history, by performing systems reviews, and by selecting and administering valid and reliable age-related tests and measures.
6. Synthesize data from the examination and analyze data to make clinical judgments regarding patient/client management.
7. Determine a diagnosis that guides patient/client management.
8. Develop a diagnosis based on the disablement model
9. Engage in the diagnostic process to establish differential diagnoses across systems & across the life span.
10. Determine patient/client prognosis.
11. Establish and manage a plan of care.
12. Provide physical therapy interventions to achieve patient/client goals and outcomes.
13. Select patient/client variables that allow research evidence to be collected and applied.
14. Incorporate evidence/consensus-based practice in the management of patients/clients.

ORPT 6530 Management of Cervical and Thoracic Disorders 5 credits

This course is designed to enhance the student's knowledge and skill level in the evidence-based management of individuals with cervical-thoracic spine and ribcage disorders and dysfunction. Classification systems, diagnosis, and outcomes assessment tools are discussed as components of the diagnostic process within the framework of evidence-based practice. The use of diagnostic imaging and medical screening for red flags is discussed to effectively screen for systemic and vascular disorders. Evidence-based treatment approaches, with special emphasis on manual therapy (mobilization/manipulation) and exercise, are reviewed to improve the student's management of individuals with cervical and thoracic spine musculoskeletal disorders. An intensive laboratory weekend is included to provide hands-on demonstration and practice of examination skills and selected manual therapy and exercise interventions for the cervical and thoracic spine regions.

Course Objectives: At the end of the course the student will be able to or will have completed.

1. Use knowledge in the foundational and clinical sciences related to structure, movement dysfunction, response to injury and disease and promotion of health and wellness to enhance physical therapy outcomes for patients with lower extremity disorders
2. Participate in peer-assessment activities.
3. Demonstrate clinical decision making skills, including clinical reasoning, clinical judgment, and reflective practice.
4. Understand and apply the disablement and patient/client management models in physical therapist practice.
5. Examine patients/clients by obtaining a history, by performing systems reviews, and by selecting and administering valid and reliable age-related tests and measures.
6. Synthesize data from the examination and analyze data to make clinical judgments regarding patient/client management.
7. Determine a diagnosis that guides patient/client management.
8. Develop a diagnosis based on the disablement model
9. Engage in the diagnostic process to establish differential diagnoses across systems & across the life span.
10. Determine patient/client prognosis.
11. Establish and manage a plan of care.
12. Provide physical therapy interventions to achieve patient/client goals and outcomes.
13. Select patient/client variables that allow research evidence to be collected and applied.
14. Incorporate evidence/consensus-based practice in the management of patients/clients.

ORPT 6540 Management of Upper Extremity Disorders 5 credits

This course is designed to enhance the student's knowledge and skill level in the evidence-based management of individuals with upper extremity disorders and dysfunction. Classification systems, diagnostic clusters, and outcomes assessment tools are discussed as components of the diagnostic process within the framework of evidence-based practice. Diagnostic information for the medical screening of systemic and vascular disorders is also discussed. Evidence-based treatment approaches, with special emphasis on manual therapy and exercise, are reviewed to improve the student's management of individuals with upper extremity musculoskeletal disorders. An intensive laboratory weekend is included to provide hands-on demonstration and practice of examination skills and selected manual therapy and exercise interventions for the shoulder, elbow, wrist and hand regions.

Course Objectives: At the end of the course the student will be able to or will have completed.

1. Use knowledge in the foundational and clinical sciences related to structure, movement dysfunction, response to injury and disease and promotion of health and wellness to enhance physical therapy outcomes for patients with lower extremity disorders
2. Participate in peer-assessment activities.
3. Demonstrate clinical decision making skills, including clinical reasoning, clinical judgment, and reflective practice.
4. Understand and apply the disablement and patient/client management models in physical therapist practice.
5. Examine patients/clients by obtaining a history, by performing systems reviews, and by selecting and administering valid and reliable age-related tests and measures.
6. Synthesize data from the examination and analyze data to make clinical judgments regarding patient/client management.
7. Determine a diagnosis that guides patient/client management.
8. Develop a diagnosis based on the disablement model
9. Engage in the diagnostic process to establish differential diagnoses across systems & across the life span.
10. Determine patient/client prognosis.

11. Establish and manage a plan of care.
12. Provide physical therapy interventions to achieve patient/client goals and outcomes.
13. Select patient/client variables that allow research evidence to be collected and applied.
14. Incorporate evidence/consensus-based practice in the management of patients/clients.

ORPT 7270 Orthopaedic Residency Virtual Rounds 2 credits

This course focuses on advanced decision-making regarding clinical care in a collaborative virtual environment. The focus of Virtual Rounds is to further develop each resident's clinical decision making skills and EBP skills providing high quality, evidence-focused feedback to the residents on presented cases. Enrollment in ORPT 7270 - Orthopaedic Residency Virtual Rounds is concurrent with enrollment in each of the Clinical Management Courses (ORPT 6510, ORPT 6520, ORPT 6530, and ORPT 6540) with VR activity taking place within the respective course sections during the last 4 weeks of each management course.

Course Objectives: At the end of the course the student will be able to or will have completed.

1. Clearly and concisely provide feedback on a patient case that includes key elements of the history, physical examination to include valid and reliable age-related tests and measures, diagnosis, prognosis and plan of care.
2. Participate in peer-assessment and provide feedback to physical therapy colleagues that encourage the application of current best evidence into practice.
3. Demonstrate clinical decision making skills, including clinical reasoning, clinical judgment, and reflective practice.
4. Demonstrate mastery of clinical decision making in musculoskeletal care, with appropriate incorporation of manual physical therapy interventions, throughout the entire course of care (initial examination through discharge)
5. Understand and apply the disablement, patient/client management, and ICF models in physical therapist practice.
6. Synthesize data from the examination and analyze data to make clinical judgments regarding patient/client management.
7. Select patient/client variables that allow research evidence to be collected and applied.
8. Incorporate evidence/consensus-based practice in the management of patients/clients.

ORPT 7280 OCS Exam Preparatory Course 2 credits

This course provides a structured, customized method of studying for the American Board of Physical Therapy Specialties (ABPTS) Orthopedic Certified Specialist (OCS) examination. The core content is over 200 questions similar in format and content to the questions asked on this challenging examination. Students start the course by taking a pre-test to establish areas of weakness. Areas of weakness are then improved with a combination of feedback on each question missed as well as short web based lectures and easily digestible content to allow focused and efficient improvement in those areas that need it most. The online learning platform allows each exam to become a learning experience as incorrect responses trigger answer level feedback to instruct the student on why the answer is wrong (or gives additional information about correct answers). The course is completed with the passing of each section of a separate test, although all of the course content remains available to the student until the OCS examination is passed.

ORPT 7690 Orthopaedic Residency Mentored Clinical Practice 6 credits

This Clinical Practicum is an advanced clinical practice experience in orthopaedic physical therapy in which residents are mentored in an intensive one-on-one clinical and supported by their designated mentor/s and EIM faculty and staff via ongoing on-line and face-to-face dialogue. Residents are enrolled in this course continuously during their entire course of study or until the required amount of clinical mentor hours are achieved. Emphasis is placed on advanced clinical decision making, outcomes evaluation and autonomous patient management. Residents will participate in maintenance of a personal outcomes database where patients are tracked and performance is analyzed and reported. The clinical mentor serves as the faculty of record and provides the pass/fail grade recommendation and on-going feedback for the practicum to the Program Director.