PM&R RESIDENCY HANDBOOK
2014-2015

Department of Physical Medicine and Rehabilitation
Michigan State University
College of Osteopathic Medicine
PM&R Mission Statement
The Department of Physical Medicine and Rehabilitation strives to enhance the quality of life and functional independence of persons with injuries and disabling illness through excellence in rehabilitative care and management, the training and education of persons in the discipline of rehabilitation medicine and through the advancement of knowledge through research.

PM&R Overall Goals and Objectives
The goal of the Residency Training Program in Physical Medicine and Rehabilitation at Michigan State University-College of Osteopathic Medicine is to provide a comprehensive, well-rounded experience for the physician interested in becoming a board certified rehabilitation specialist (Physiatrist). This training will encompass a wide variety of clinical, educational, and research opportunities in all areas of physical medicine and rehabilitation. Upon completion of the residency training program, the individual physician should feel comfortable in pursuing a career in any of the broad areas of opportunity that the field of physiatry represents.

The residency training program is structured to include a full three year training experience (after a prerequisite PGY1 Internship year) through the resources of Michigan State University- College of Osteopathic Medicine, Edward W. Sparrow Hospital, Ingham Regional Medical Center, McLaren Medical Center, Mary Free Bed Hospital, and several affiliated training sites.

The general areas of physiatric practice covered in the residency program include: electrodiagnostic medicine, rehabilitation of spinal cord injury, traumatic brain injury rehabilitation, pediatric rehabilitation, cardiac rehabilitation, pulmonary rehabilitation, rehabilitation of nerve and muscle diseases, rehabilitation of joint and connective tissue disease, ambulatory orthopaedics, non-surgical urology, manual medicine (including osteopathic manipulative medicine), comprehensive inpatient rehabilitation, physiatric consultation, sports rehabilitation medicine, physiatric continuity care, industrial rehabilitation/occupational medicine, prosthetics, orthotics and assistive devices, cancer rehabilitation, physiatric therapeutics, podiatry, pain rehabilitation, and other topics.

Educational Purpose/goals:
Residents must be able to assess and critically evaluate their patient care practice, evaluate and assimilate scientific evidence, and improve their practices pertinent to patient care. PM&R residents must also develop and maintain a willingness to learn from their mistakes and to use those to improve systems and processes of medical care. Curriculum on Practice Based Learning and Improvement is focused toward residents being able to find, critically analyze and evaluate, and assimilate evidence from scientific studies and apply this to their own practice, thereby optimizing patient care. It is the goal of this curriculum to assist the resident’s ability to analyze their own practice and perform Practice Based Learning and Improvement as well as to utilize information technology to access available data. It is also anticipated that acquisition of these skills will help facilitate learning by the resident’s colleagues. The rationale for this curriculum is to expand knowledge, accurately determine best practice, and incorporate learning into that practice.
Program Overview

The Michigan State University Residency Program is primarily funded by two major hospital systems (Sparrow Hospital in Lansing MI and McLaren Health Care Corporation in Flint, MI) and is administered by Graduate Medical Education Incorporated (GMEI).

The inpatient experience, with an emphasis on neuro-rehabilitation, is located on the rehab floor at EWSH), a 24- bed unit where we work closely with neurology, trauma team, neurosurgery, and internal medicine. Outpatient clinics are primarily conducted in the Sparrow Professional Building (SPB) and at McLaren Lansing. SPB clinics include Electrodiagnostics, Pediatric Rehabilitation, Botox, TBI and Senior Resident Continuity Clinic. McLaren clinical experience includes outpatient EMG, general physiatry with Dr Prokop and inpatient consults. The McLaren Hospital System is accessed for inpatient and outpatient educational rotations at McLaren Hospital in Flint. Pediatric inpatient rehabilitation and spinal cord injury training is done at Mary Free Bed Hospital in Grand Rapids.

All PM&R Residents are required to obtain the competence expected of a new practitioner in the six areas (core-competencies) listed below:

1. **Patient Care**: Residents are mentored to provide compassionate, appropriate, and effective patient care. The treatment of health problems and promotion of patient health is achieved through a combination of teaching, observation, practice and experience. Through clinical rotations and relationships with attending physicians, the training program provides opportunities for residents to develop the attitudes and skills required to conduct a skillful medical history interview and physical examination: acquisition and interpretation of data critical to the recognition of functional abilities; identification of physical and psychosocial impairments which may cause functional disabilities; performance of a general physiatric examination; performance of specific physiatric tests and procedures (electromyography, nerve conduction studies, Botulinum Toxin (Botox, Myobloc, Dysport) injections and other procedures common to the PM&R practice); arriving at sound clinical judgments; and designing and monitoring rehabilitation treatment programs to maximize functional ability while minimizing physical and cognitive impairment.

2. **Medical Knowledge**: Physiatrists must demonstrate knowledge of established and evolving clinical, cognitive, and biomedical sciences. Through didactic sessions and clinical observation, residents develop an understanding of procedures used to evaluate and diagnose a variety of disorders affecting the neuromuscular and musculoskeletal systems. In addition to medical evaluations and careful assessment of the neuromuscular skeletal system, residents learn appropriate rehabilitative evaluation procedures, including disability assessments, orthotic and prosthetic device assessment and prescription, and vocational/recreational rehabilitation.

Residents learn how to take an appropriate physiatric history with emphasis on the neuromuscular and musculoskeletal systems. Residents learn how to perform electrodiagnostic studies as well as other invasive and non-invasive methods used to evaluate and treat neuromuscular and musculoskeletal disorders.
Throughout their clinical rotations residents develop logical medical diagnostic ability by synthesizing clinical information. This process includes consideration of the patients’ clinical signs and symptoms as well as laboratory and radiological data. Once able to appropriately diagnose disease and to recognize any resulting impairment or disability, residents will learn to design a treatment plan consisting of appropriate medical, surgical, and/or physical treatment prescriptions. Conventional physical and occupational treatment modalities as well as the appropriate psychological, social, vocational, and recreational strategies will be addressed. In establishing a treatment plan residents will learn to include neuropsychological and speech/language development programs. On various rotations, residents become familiar with, and fluent in the prescription of, specialized rehabilitative equipment such as prostheses, orthoses, ambulation aides and other assistive devices.

3. Practice-based Learning and Improvement: Practice-based learning and improvement begins early in the residency program and continues throughout the physiatrist’s career. By learning to assess and critically evaluate patient care practices and to evaluate and assimilate scientific evidence into the practice of medicine, residents can improve patient care. The curriculum on Practice Based Learning and Improvement is focused teaches residents to research evidence based practices and to critically analyze, evaluate and assimilate scientific studies, thereby optimizing patient care. PM&R residents develop and sustain a desire to learn from mistakes and to improve the systems and processes of medical care in order to avoid repeated mistakes. The acquisition of these skills will help senior residents facilitate their junior colleagues’ learning. This curriculum is designed to expand knowledge, accurately determine best practices, and to incorporate learning into practice.

4. Communication and Interpersonal Skills: Residents develop the necessary written and verbal communication skills essential to the efficient practice of physiatry. Residents are expected to demonstrate effective communication among team members, health professionals, patients, and families alike. Effective communication and interpersonal skills are integral to physiatric practice and to the establishment of a professional identity for all physicians. The successful physiatrist will be able to establish a therapeutic physician-patient relationship and work, as a member and leader, with both large and small multidisciplinary teams and in a variety of settings. PM&R residents are expected to act as mentors for other residents and medical students.

5. Professionalism: Competency in professionalism is the result of a commitment to professional responsibilities, adherence to ethical principles, and sensitivity to human diversity. Our program stresses physician accountability. We offer mentors, role-model clinicians, and an environment in which the values of professionalism are a high priority: placing the needs of the patient first, maintaining a commitment to scholarship, helping colleagues meet their responsibilities, maintaining a commitment to continued improvement, and being responsive to society’s healthcare needs. Residents may participate in community service, professional organizations, and institutional committee activities. Our program also stresses humanistic qualities. Attending physicians and residents are expected to have the welfare of their patients as their primary concern. Residents acquire competency in demonstrating humanistic qualities when fostering the formation of appropriate patient/physician relationships; qualities such as integrity, respect, compassion, professional responsibility, courtesy, sensitivity to patient needs
for comfort or encouragement, and appropriate professional attitude and behavior toward
colleagues. Professionalism, another primary focus of this program, is a dynamic on-going
process throughout the career of the PM&R physician.

6. Systems-based Practice: Residents obtain competence in systems-based practice is achieved
by working in the healthcare system and with community resources throughout the program.
Residents learn to demonstrate an awareness of and responsiveness to the larger context and
system of health care, as well as the ability to call effectively on other resources in the system
to provide optimal health care for their patients. Residents receive instruction in the social and
economic impact medical decisions can have on patients and society. Residents learn how to
become the primary advocate for their patients’ needs. Instruction is provided regarding the
principles, objectives and process of performance improvement and program evaluation, risk
management and cost effectiveness in medicine. The development of management and
leadership skills is achieved through didactic lectures, and through clinical experiences with
attending physicians. This program provides the opportunity for the resident to effectively and
efficiently coordinate an interdisciplinary team of allied rehabilitation professionals. Residents
learn how to provide for the maximum benefit of the patient through an understanding of each
allied health professional’s role. They gain the ability to write adequately detailed prescriptions
for physiatric patient management based on functional goals. The practice of physical medicine
and rehabilitation involves a large amount of administrative responsibilities. Residents will be
exposed administrative tasks such as program development, quality assurance, staff
evaluations, and the coordination of educational in-services and lectures. Lectures on the
administrative aspects of a PM&R practice are part of the didactic series. Topics include
insurance requirements, medical/legal and regulatory requirements, and financial and cost
effective practices.

The outpatient settings at both the Sparrow Professional Building (SBP), Suite 520 and Dr.
Prokop’s office at McLaren, expose residents to electronic medical record technology.
Residents become proficient in both direct electronic charting and data retrieval. Electronic
flow sheets, problem lists, and medication lists organize patient management and facilitate
office communications. Electronic prescription renewals and drug-drug interaction assessments
improve safety and efficiency of care. Residents can trend and plot data in both tabular and
graphic formats, facilitating both decision-making and patient education. Wireless technology
makes the process convenient for bedside interactions and allows access to approved users
over a secure Internet connection.

CORE CURRICULUM MODULES

The organization of the core curriculum is primarily through the 13 core modules. These
modules have learning objectives, questions, and references for the residents to review. These
core modules are done with one to three residents discussing face to face with faculty each of
the questions and answers. There is usually between one and six hours of time spent on the
modules, depending on resident knowledge and ability to get through them. The topics for this
core curriculum and modules include:
1. REHABILITATION OF SPINAL CORD INJURY

Description: This experience will provide the resident with exposure to a hospital and outpatient clinic-based milieu that features the acute and chronic medical and physiatric management of adults and children with spinal cord injury.

Learning Objectives: Upon successful completion of this rotation experience, the resident will be able to, at a minimum 80% proficiency level, orally or in writing, perform the following:

1) Discuss the epidemiology of spinal cord injury.
2) Outline and describe the neurologic classifications of spinal cord injury.
3) List and describe the ASIA Scale of Spinal Cord Injury Level.
4) Design an appropriate, functionally oriented rehabilitation program (with emphasis on projection of functional outcome) for any level of spinal cord injury including tetraplegia and paraplegia.
5) Demonstrate the ability to write an accurate, appropriate wheelchair prescription, with emphasis on seating.
6) Describe the pathophysiology, presentation, physical examination findings, and appropriate management of common spinal cord injury syndromes, including anterior spinal artery syndrome and Brown Sequard Syndrome.
7) Discuss the impact of motor and sensory recovery on the design and modification of a rehabilitation program.
8) Explain the cause, pathophysiology, epidemiology, physical examination findings and discuss the appropriate medical and physiatric management of the following medical complications of spinal cord injury:
   a) Autonomic dysreflexia
   b) Osteoporosis
   c) Hypocalcemia of immobilization
   d) Pressure ulcers
   e) Heterotopic ossification
   f) Deep vein thrombosis
   g) Pulmonary embolism
h) Cardiac arrhythmia
i) Hemodynamic compromise
j) Orthostatic hypotension
k) Spasticity
l) Syringomyelia
m) Neurogenic bowel
n) Neurogenic bladder
o) Impaired speech
p) Dysphagia
q) Altered inspiratory and expiratory function

9) Given a real or hypothetical spinal cord injury patient, design an appropriate, long-term follow-up care program with at least five each specific considerations for adults, children, and the aged.

10) List and discuss at least five medical and physiatric considerations in the geriatric spinal cord injury patient.

11) Comment upon the scope of vocational rehabilitation and its role in comprehensive physiatric management of the spinal cord injury patient.

12) Comment upon driving rehabilitation and its role in comprehensive spinal cord injury rehabilitation.

13) Discuss electrical stimulation and its role in spinal cord injury rehabilitation limited to the following:

   a) Rationale
   b) Physiologic effects of electrical stimulation
   c) Clinical applications in cardiovascular deconditioning and osteoporosis pertaining the spinal injury patient.
   d) Therapeutic functional electrical stimulation (pertaining to spasticity and urinary incontinence).
   e) Functional neuromuscular stimulation and its role in ambulation.
   f) Role of electrical stimulation in wound healing.
   g) Transient electrical nerve stimulation.
14) List and discuss at least five sexuality issues in acute or chronic spinal cord rehabilitation including pertinent anatomy and physiology and possible physiatric intervention including, but not limited to: body image, sexual intercourse, and fertility (with explanation of at least three fertility options for spinal cord injured males).

15) Discuss the functional significance of level of spinal cord injury with specific enumeration of most common physical findings and their functional ramifications at the following levels of injury:C-4, C-5, C-6, C-7, C-8, T-6, T-10, and L-3.

16) Perform and document an appropriate, thorough, accurate, history and physical examination of a spinal cord injury patient.

Resources:

References:

   l) Journal articles, textbooks, and other references as suggested by attending physicians.
m) Tan, J.C. *Practical Manual of Physical Medicine and Rehabilitation*. Mosby, St. Louis, MO, 1998,


**Method of Completion**

1) Attend and actively participate in all scheduled didactic and clinical activities for the rotation experience.

2) Complete all assigned readings promptly.

3) Evaluation by attending staff via oral, written and/or psychomotor skill performance mechanisms.

4) Rotation evaluation will be provided on designated forms by the appropriate attending physician when evaluating the resident and by the resident (when evaluating the rotation).

Revision Date: 5/08

Reviewed: 6/10, 5/11, 5/12, 3/13, 6/14
2. REHABILITATION OF TRAUMATIC BRAIN INJURY

Description: This is an office and hospital based experience providing the resident exposure to the medical and physiatric management of a wide variety of adults and children with traumatic brain injury, experiencing the full spectrum of continuity of care from acute injury through long term follow-up.

Learning Objectives: Upon successful completion of this rotation experience, the resident will be able to, at a minimum 80% proficiency level to, orally or in writing, perform the following:

1) Discuss the epidemiology and pathophysiology of brain injury.
2) Explain methods of assessment and outcome prediction of traumatic and anoxic brain injury including classification of severity of injury and pertinent imaging studies.
3) List and describe the stages of neurobehavioral recovery from brain injury.
4) Discuss the basic principles of coma rehabilitation.
5) Demonstrate basic ability to evaluate and manage agitation and post traumatic amnesia.
6) Demonstrate basic ability to diagnose and manage the most common medical complications of brain injury including, but not limited to, the following:

   a) Post traumatic epilepsy
   b) Post traumatic hydrocephalus
   c) Cranial nerve dysfunction
   d) Heterotopic ossification
   e) Respiratory failure
   f) Thyroid dysfunction
   g) Impaired nutrition
   h) Gastrointestinal hemorrhage
   i) Dysphagia
   j) Bowel and bladder incontinence
   k) Syndrome of inappropriate anti-diuretic hormone
   l) Diabetes insipidus
   m) Anterior hypopituitarianism
   n) Sexual dysfunction
   o) Autonomic dysfunction
   p) Spasticity
   q) Deep vein thrombosis

Discuss the principles of rehabilitation of mild traumatic brain injury.
7) Comment on the role of vocational rehabilitation in traumatic brain injury rehabilitation and discuss the responsibilities of the physiatrist in this pursuit.
8) Demonstrate the ability to perform a pertinent physiatric history and physical examination and design (and update as needed) an individualized rehabilitation program for a patient with traumatic brain injury.
9) Describe a functionally oriented approach to measuring severity of traumatic brain injury with specific attention to and discussion of the Glasgow Coma Scale, Glasgow Outcome Scale, the Galveston Orientation and Amnesia Test, Post-Traumatic Amnesia, Rancho Los Amigos Scale of Cognitive Function, and the Disability Rating Scale of Rappaport. Discuss the fundamental concepts of pathophysiology of head injury with emphasis on primary and secondary injury.

11) Demonstrate a fundamental understanding of the appropriate use of residential, long term and other brain injury rehab settings.

Resources:


2) References:

   k) Journal articles, textbooks, and other references as suggested by attending physicians.
Method of Completion and Evaluation:

1) Attend and actively participate in all scheduled didactic and clinical activities for the rotation experience.
2) Complete all assigned readings promptly.
3) Evaluation by attending staff via oral, written and/or psychomotor skill performance mechanisms.
4) Rotation evaluation will be provided on designated forms by the appropriate attending physician (when evaluating the resident) and by the resident (when evaluating the rotation).

Revision Date: 7/08

Reviewed: 6/10, 5/11, 5/12, 3/13, 6/14
3. SPORTS REHABILITATION MEDICINE

Description: This is an office-based experience featuring the comprehensive evaluation of elementary, secondary, and college level athletes as well as adults, including industrial and occupational injuries; this experience provides the resident with the opportunity to develop and enhance skills in acute and chronic management of sport-related injuries. An optional, as appropriate, on the field coverage experience may also be available.

Learning Objectives: Upon successful completion of this rotation experience, the resident will be able to, at a minimum 80% proficiency level, orally or in writing, perform the following:

1) Explain basic principles of injury prevention with emphasis upon flexibility.
2) Explain basic principles of strength and aerobic training.
3) Discuss the function of the kinetic chain in therapeutic exercise.
4) Discuss, in depth, the pathophysiology of closed and open kinetic chains and their application to sports rehabilitation.
5) List and describe the extrinsic and intrinsic factors contributing to sports injury and impaired performance, with emphasis upon conditioning, specific sport kinesiology, and equipment.
6) Discuss and describe the general principles of musculoskeletal rehabilitation including injury evaluation, basic principles of initial and follow-up treatment (including pain control, treatment of inflammation, management of overuse injuries, evaluation and treatment of range of motion and flexibility).
7) Comment on the special considerations for managing the disabled athlete including acute injury management and prevention (with emphasis upon equipment and environmental considerations).
8) Perform a focused history and physical examination and, given this data, formulate and implement an evaluation and treatment plan including acute injury management, design of an individualized rehabilitation program with emphasis on functional restoration, and long-term management; conduct an efficient, thorough pre-participation physical examination.
9) Describe and discuss the acute evaluation and management of the unconscious athlete.
10) Articulate the content of an appropriate, sports specific, pre-participation physical examination.

Resources:

2) Sports Medicine Fellows and Orthopaedic Surgery Residents.
3) Athletic Training Staff
References:


o) Journal articles and textbooks, and other references as suggested by attending physicians.


r) Sullivan A, Anderson SJ. Care of The Young Athlete. AAOS, 2002.


t) Reid, D. Sports Injury Assessment and Rehabilitation. 1998


x) Frontera and Silver, Essential of Physical Medicine and Rehabilitation. Henely and Belfus, 2002
Methods of Completion and Evaluation:

1) Attend and actively participate in all scheduled didactic and clinical activities for the rotation experience.
2) Complete all assigned readings promptly.
3) Evaluation by attending staff via oral, written, and/or psychomotor skill performance mechanisms.
4) Rotation evaluation will be provided on designated forms by the appropriate attending physician (when evaluating the resident) and by the resident (when evaluating the rotation).

Revision Date: 7/08

Reviewed: 6/10, 5/11, 5/12, 3/13, 6/14
4. PULMONARY REHABILITATION

Description: This is a predominantly office-based experience (with hospital consultation component) emphasizing the basic principles of diagnosis, treatment and rehabilitation management of patients with pulmonary disease.

Learning Objectives: Upon successful completion of this rotation experience, the resident will be able to, at a minimum 80% proficiency level, orally or in writing, perform the following:

1) Demonstrate an understanding of the basic principles of pulmonary rehabilitation with emphasis upon exercise conditioning in patients with Asthma, Chronic Obstructive Pulmonary Disease, Rheumatic Disease and Cystic Fibrosis.
2) Explain nutritional considerations (and their functional ramifications) in patients with pulmonary disorders.
3) List and describe at least four types of respiratory assistance devices for mechanical ventilation.
4) Explain the fundamental pulmonary considerations and the physiatric management of the above commonly encountered disease states.
5) Explain the rationale for oxygen therapy in patients with the above referenced disease states and comment upon relative indications, contraindications, and precautions pertinent to each.
6) Design, prescribe, and implement an individualized program for patients with at least two of the above referenced diagnoses.

Resources

2) Respiratory Therapist: Patty D Valentine, RRT
3) Internal Medicine Residents and Pulmonology Fellows
4) References:
g) Journal articles, textbooks, and other references as suggested by attending physicians
h) Tan, J.C. *Practical Manual of Physical Medicine and Rehabilitation.* Mosby, St. Louis, MO, 1998,
k) Frontera and Silver, *Essentials of Physical Medicine and Rehabilitation.* Henley and Belfus, 2002

**Method of Completion and Evaluation**

1) Attend and actively participate in all scheduled didactic and clinical activities for the rotation experiences.

2) Complete all assigned readings promptly

3) Evaluation by attending staff via oral, written and or psychomotor skill performance mechanisms.

5) Rotation evaluation will be provided on designated forms by the appropriate attending physician (when evaluating the resident) and by the resident (when evaluating the rotation).

Revision Date: 7/08

Review Dates: 6/10, 5/11, 5/12, 3/13, 6/14
5. REHABILITATION OF RHEUMATOLOGIC DISORDERS

Description: This is an office-based experience addressing the diagnosis, management, and functional evaluation of commonly encountered rheumatologic and soft tissue disease processes.

Learning Objectives: Upon successful completion of this rotation experience, the resident will be able to, at a minimum 80% proficiency level, orally or in writing, perform the following:

1) Demonstrate fundamental knowledge of the pertinent presentation, history, physical examination, diagnosis, and management of the following disease processes: Osteoarthritis, Rheumatoid Arthritis, Systemic Lupus Erythematosus, Scleroderma, Connective Tissue Disease, Ankylosing Spondylitis, Fibromyalgia, Myofascial and Mechanical Back Pain, Crystal Arthropathies, Dermatomyositis and Polymyositis.

2) Discuss the effect of depression upon patients with the above referenced disease entities.

3) Describe the appropriate use of therapeutic modalities of heat, cold and TENS in the treatment of the above disease processes.

4) Demonstrate the ability to review referral documents and formulate an appropriate data base for patients with rheumatologic disease.

5) Demonstrate the ability to perform a problem oriented history and physical examination.

6) Demonstrate the ability to conduct a succinct case presentation, providing a provisional diagnosis.

7) List the appropriate steps in the work-up, initial treatment and physiatric management of the above common rheumatologic disorders.

8) Discuss the importance of therapeutic exercise in the above referenced rheumatologic disorders and demonstrate the ability to formulate a specific, individualized exercise therapy prescription.

9) Demonstrate basic familiarity with anti-depressant, anti-inflammatory, and anti-rheumatic medications used in the treatment of the above referenced rheumatologic disorders.

10) Demonstrate the ability to perform an efficient, accurate assessment of range of motion and joint status for the shoulder, elbow, wrist, hip, knee, ankle, and thoracolumbar spine.
11) Demonstrate an understanding of the basic principles of prevention and correction of deformities caused by the above referenced rheumatologic disorders.

12) Demonstrate a fundamental understanding of osteoporosis, including classification, epidemiology, pathogenesis, risk factors, patient presentation, pertinent history, physical examination, diagnosis, treatment and prevention.

13) Demonstrate (or describe) proficiency with therapeutic joint injections.

Resources


2) Internal Medicine Residents and Rheumatologic Fellows

References:


j) Journal articles, textbooks, and other references as suggested by attending physicians.


**Method of Completion and Evaluation**

1) Attend and actively participate in all scheduled didactic and clinical activities for the rotation experience.

2) Complete all assigned readings promptly.

3) Evaluation by attending staff via oral, written, and/or psychomotor skill performance mechanisms.

4) Rotation evaluation will be provided on designated forms by the appropriate physician (when evaluating the resident) and by the resident (when evaluating the rotation)

Revision Date: 7/08

Review Dates: 6/10, 5/11, 5/12, 3/13, 6/14
6. REHABILITATION OF UROLOGIC DISORDERS

Description:

This is a predominantly office-based experience (with hospital consultation component) emphasizing evaluation and treatment of common urologic dysfunction pertaining to physiatric practice.

Learning Objectives: Upon successful completion of this rotation experience, the resident will be able to, at a minimum 80% proficiency level, orally or in writing, perform the following:

1) Describe the fundamental neuro-anatomy of the bladder and urethral sphincters.

2) List and describe the classifications of neurogenic bladder.

4) Perform a pertinent history and physical examination of a patient with bladder dysfunction.

5) List and describe at least five pertinent diagnostic tests to evaluate upper and lower urinary tract dysfunction including indications, contraindications, and special considerations.

6) Explain the basic principles of urodynamic evaluation including indications and pertinent precautions.

7) Demonstrate the ability to correctly and safely perform a cystometrogram-electromyogram of the bladder and interpret the results.

8) Discuss the indications and rationale for bladder management techniques including, but not limited to, timed voiding and bladder stimulation.

9) List at least five urine collection devices including the rationale for their use, indications and contraindications, and methods for choosing each.

10) Demonstrate a fundamental knowledge of the indications, contraindications, precautions, pharmacokinetics, dosing and side-effects of the following major types of bladder medications cholinergic, anti-cholinergic, calcium channel blockers, adrenergic agonists, adrenergic antagonists, and hormones.

11) List the indications and contraindications for performing sphincterotomy.

12) Describe the fundamental methods of management of bladder dysfunction related to cerebrovascular accident, Parkinson’s Disease, Multiple Sclerosis, central nervous system neoplasm, spinal cord injury and traumatic brain injury.
13) Describe the efficient, cost-effective, appropriate management of bacteremia, bacteriuria, and urinary tract infection in patients with the above referenced diagnoses.

14) Describe the pathophysiology, diagnosis, treatment, and functional ramifications of detrusor sphincter dyssynergia in spinal cord injury patients.

Resources


2) Urology Fellows, Surgical Residents, and Physician Assistants

References:


g) Journal articles, textbooks, and other references as suggested by attending physicians.


k) Frontera and Silver, Essentials of Physical Medicine and Rehabilitation. Henley and Belfus, 2002

Method of Completion and Evaluation

1) Attend and actively participate in all scheduled didactic and clinical activities for the rotation experience.

2) Complete all assigned readings promptly.
3) Evaluation by attending staff via oral, written and/or psychomotor skill performance mechanisms.

4) Rotation evaluation will be provided on designated forms by the appropriate attending physician (when evaluating the resident) and by the resident (when evaluating the rotation).

Revision Date: 7/08

Review Dates: 6/10, 5/11, 5/12, 3/13, 6/14
Description: This is an out-patient based experience introducing and integrating fundamental knowledge and skills needed to function in an acute industrial/occupational rehabilitation setting. The bulk of the rotation experience will occur at the Center for Occupational Health Services in Lansing, Michigan; however, additional experience will be provided through the Rehabilitation Medicine Clinic at the MSU Clinical Center and other sites as available and appropriate.

Learning Objectives: Upon successful completion of this rotation experience, the resident will be able to, at an 80% or better proficiency level, perform the following:

1) Discuss and describe the theoretical and philosophical approach to acute occupational injury and illness care including:
   a) Overview of general and State specific (Michigan) workers compensation system
   b) Determination of work related vs non-work related injury/illness and or disability
   c) The value of keeping the patient at, or returning the patient to work
   d) Writing and prescription of specific work/activity restrictions
   e) Appropriate use of ancillary services including, but not limited to:
      i) Physical Therapy
      ii) Occupational Therapy
      iii) Job-site evaluations
      iv) Functional capacity evaluations (FCE)
      v) Work hardening
      vi) Job coaching
   f) Cost efficient medically appropriate utilization of diagnostic testing (including, but not limited to, imaging studies, electrodiagnosis, and others) and specialist physician referrals
      a) Psychosocial factors influencing recovery from work related injuries/illness and conflicts of interest
      b) Communication with pertinent occupational medicine team members, including, but not limited to: employer, case manager, case coordinator, therapists, consultants, claims adjusters, third party payors, government officials, and the patient (and their family)
c) Determination of disability

2) Diagnose and treat common work related injuries and illnesses, including but not limited to: lacerations, burns, fractures, foreign body removal (especially from eyes), sprains, strains, asthma, chemical and bloodborne exposures

3) Discuss, evaluate, and utilize, appropriate OSHA and MIOSHA regulations regarding respirator use, asbestos exposure, and needle sticks.

4) Describe and demonstrate, as warranted, how and when to obtain second medical and other expert opinions pertinent to patient evaluation and care

5) Discuss and demonstrate, as warranted, how to perform and report return to work/fitness for duty evaluations

6) Describe appropriate procedures for effective drug and alcohol testing, including rationale, actual testing procedures, maintaining “chain of evidence” and issuance of reports

7) Participate, as time allows, in observational visits including: work site tour; work improvement rehabilitation center (i.e. job site evaluation, FCE’s, job coaching, work hardening, and post-job offer functional screens)

8) Describe and utilize, as appropriate NIOSH lifting guidelines

9) Discuss the Americans for Disability Act (especially Title I and employment provisions) as it pertains to pre and post job offer screening, drug testing, ergonomic evaluations, return to work, and work restrictions

10) Discuss and demonstrate the ability to appropriately document patient care related data that conforms with workers compensation standards

11) Describe the essential components of an Independent Medical Evaluation and discuss the use of medical impairment ratings; as time permits, conduct or assist in the conduct of anIME and its documentation

12) Discuss pertinent ethical and legal issues in worker treatment, rating, and termination issues
13) Describe (or demonstrate as appropriate) the use of prophylatic services such as pre-placement examinations including manual materials handling screens, ancillary testing interpretation (audiograms, PFT’s, etc.) and regulated pre-placement and surveillance examinations (e.g. DOT, OSHA, MiOSHA) etc.

Resources:

2. Occupational Medicine Associates: P.C., and Center for Occupational Services Staff, MSU Rehabilitation Medicine Staff
3. References:
   h. Journal articles, texts, and other references as suggested by attending physicians

Methods of Completion and Evaluation:

1. Attend and actively participate in all didactic and clinical activities for the rotation experience.
2. Complete all assigned readings promptly.
3. Evaluation by attending staff, via written, oral, and/or psychomotor skill performance mechanisms.
4. Rotation evaluation will be provided on designated forms by the appropriate attending physician(s) (when evaluating the resident) and by the resident (when evaluation the rotation and attending physician).

Revision Date: 7/08

Review Dates: 6/10, 5/11, 5/12, 3/13, 6/14
1. Define prosthesis and orthosis. Describe general principles of prescription of static and dynamic prostheses and orthoses.
2. Discuss/explain/demonstrate knowledge of the biomechanical principles of the prescription, materials selection, fit, and fabrication of orthoses and prostheses.
3. Demonstrate knowledge of the indication for lower and upper limb orthotic prescriptions.
4. Demonstrate the ability to prescribe lower and upper limb static and dynamic orthotics and prosthetics for a given problem.
5. Discuss the clinical indications for orthotic management of fractures.
6. Demonstrate the ability to apply the principles of motor sensory and skeletal anatomy of the upper and lower limb to the design of appropriate orthotic and prosthetic devices.
7. Prescribe a pre-amputation and post-amputation plan of physiatric care.
8. Implement a comprehensive prosthetic treatment program which involves at least the following:
   a. Prosthetic training for various levels of amputation
   b. Treatment program (after evaluation and diagnosis) for common amputee and prosthetic problems.
   c. Plan for prosthetic repair/replacement.
   d. Provision of instructions in care of residual limb and prosthetic device.
9. List and describe the most commonly prescribed upper and lower limb prosthetic and orthotic components.
10. Outline common problems of maintenance of upper and lower limb prosthetics and orthotics and expectations for replacement.
11. Describe the considerations specific to orthotic and prosthetic management of the pediatric patient.
12. Compare the advantage and disadvantages of external powered vs. body powered upper limb prosthesis.
13. Describe the indications, advantages, and disadvantages of common current fabrication techniques, materials, and designs for upper and lower limb prosthetics and orthotics.


Methods of Completion and Evaluation:

1. Attend and actively participate in all didactic and clinical activities for the rotation experience.
2. Complete all assigned readings promptly.
3. Evaluation by attending staff, via written, oral, and/or psychomotor skill performance mechanisms.
4. Rotation evaluation will be provided on designated forms by the appropriate attending physician(s) (when evaluating the resident) and by the resident (when evaluation the rotation and attending physician).

Revision Date: 7/08
Review Dates: 6/10, 5/11, 5/12, 3/13, 6/14
9. Podiatry

1. Demonstrate the ability to evaluate and manage common foot and ankle pathologies including:
   a. Pes planus
   b. Charcot deformities
   c. Plantar fasciitis
   d. Pressure ulcers
   e. Neuroma
   f. Toe deformities
   g. Peripheral vascular disease
   h. Focal trauma

2. Prescribe appropriate orthotic treatment regimen with shoe modification for the insensate, dysvasibular, arthritic or painful foot.

3. Prescribe appropriate orthotic and shoe modifications for common ankle/foot overrun syndrome.

4. Discuss indications (and procedure for performing) common therapeutic injections and nerve blocks of the foot and ankle.

1. Describe and apply basic principles of functional biomechanics related to evaluation and treatment of common foot and ankle disorders.

Resources:

MSU PM&R Faculty Matthew Thomson, M J. Throckmorton, D.P.M.

References:


f. Journal articles assigned, texts and readings, and other materials as assigned/suggested by attending physicians.

Methods of Completion:

1. Attend and actively participate in all didactic and clinical activities for the rotation experience.
2. Complete all assigned readings promptly.
3. Evaluation by attending staff, via written, oral, and/or psychomotor skill performance mechanisms.
4. Rotation evaluation will be provided on designated forms by the appropriate attending physician(s) (when evaluating the resident) and by the resident (when evaluating the rotation and attending physician).

Revision Date: 7/08
Review Dates: 6/10, 5/11, 5/12, 3/13, 6/14

10. ELECTRODIAGNOSTIC MEDICINE

Description: This is a primarily out-patient based experience (with occasional hospital consultation) introducing basic, and then advanced concepts of neuro-anatomy, neuro-physiology, and electrodiagnostic medicine with gradually increased complexity of skill performance.

Learning Objectives: Upon successful completion of this rotation experience, the resident will be able to, at a minimum 80% proficiency level, orally, or in writing, perform the following:

1) Explain the basic concepts of clinical electrophysiology pertaining to electrodiagnostic medicine including but not limited to the following: action potential initiation and propagation, generation of wave form morphology, characteristics of nerve, muscle, and end-plate potentials, motor unit analysis, characteristics and analysis of abnormal spontaneous potentials, and classification of peripheral nerve injuries.

2) Explain the basic concepts of electrodiagnostic instrumentation.

3) Perform an efficient, pertinent clinical evaluation of a patient (by history and directed physical examination) with development of differential diagnosis pertaining to electrodiagnostic evaluation.

4) Explain the following concerning nerve conduction studies: methods of measuring compound and sensory nerve action potentials, list and explain at least three types of late
responses, and describe the rationale, indications, and general procedures for conducting repetitive stimulation studies.

5) Explain the following concerning needle electromyography: patient preparation, choice of electrode, approach to analysis of insertional and spontaneous activity as well as analysis of motor units.

6) Given data obtained in a real or simulated electrodiagnostic evaluation, demonstrate the ability to localize lesions of the peripheral nervous system as directed, and estimate their prognosis.

7) Explain the following concerning evoked potential studies: pertinent neuro-anatomy and physiology, indications, contraindications, precautions and specific technique considerations.

8) Demonstrate basic familiarity and proficiency with electrodiagnostic evaluation of the following disease states/diagnoses, including history, pertinent physical examination, and the setting up, planning, and carrying out of a complete electrodiagnostic study as well as generation of a succinct, complete report according to AAEM standards:

   a) carpal tunnel syndrome
   b) radiculopathy
   c) plexopathy
   d) peripheral neuropathy
   e) myopathic disease
   f) nerve entrapment/compression
   g) neuromuscular diseases: Amyotrophic Lateral Sclerosis, Myasthenia Gravis, Myasthenic Syndrome, Inflammatory Diseases (Polymyositis, Dermatomyositis, Inclusion Body Myositis), Acute Inflammatory Demyelinating Polyneuropathy (Guillain-Barré Syndrome), and cranial-facial disorders.

9) Successfully complete a practical electrodiagnostic medicine skills proficiency examination concerning pertinent EMG-related anatomy, needle placement, muscle recruitment, and equipment usage.

10) Successfully complete a practical exam covering nerve conduction studies that includes waveform recognition and analysis, latency and amplitude determination, calculation of
conduction velocities, with emphasis upon the median, ulnar, sural, radial, tibial, and peroneal nerves.

11) Demonstrate the ability to correctly perform and interpret a CMG-EMG examination.

12) Discuss the use and pharmacology of botulinum toxin and demonstrate: a) the ability to evaluate patients for its use and, b) fundamental proficiency in the reconstitution and dosage of botulinum toxin to treat Spasticity and movement disorders.

Resources:


2) References:


f) American Association of Electrodiagnostic Medicine Mini-monographs - as specified or directed.


p) Journal articles, textbooks and other resources as suggested by attending physicians.


Method of Completion and Evaluation:
1) Attend and actively participate in all scheduled didactic and clinical activities for the rotation experience.
2) Complete all assigned readings promptly.
3) Evaluation by director of electrodiagnostic medicine lab and attending staff via oral, written and/or psychomotor skill performance mechanisms.
4) Rotation evaluation will be provided on designated forms by the appropriate attending physician (when evaluating the resident) and by the resident (when evaluating the rotation).

5) Performance on AAEM Self-Assessment Examination.

Revision Date: 7/08
11. MANUAL MEDICINE

**Description:** This is a primarily office-based experience (with an optional hospital consultation component) that will provide an introduction to fundamental manual medicine techniques and insight into effective integration of manual medicine therapy into physiatric practice.

**Learning Objectives:** Upon successful completion of this rotation experience, the resident will be able to, at a minimum 80% proficiency level, orally, or in writing, perform the following:

1) Demonstrate understanding of the neurophysiology, rationale, indications, contraindications, and specific considerations involved in the use of each of the following manual medicine techniques in physiatric patient management: muscle energy, myofascial release, cranial sacral, strain-counterstrain, high velocity-low amplitude, soft tissue, and articulatory techniques.

2) Discuss the role of the Musculoskeletal system in health and disease, particularly as it pertains to functional status.

3) List the basic principles of structural diagnosis.

4) Perform an accurate, pertinent palpatory structural examination.

5) Demonstrate the ability to effectively, concisely, and accurately prescribe manual medicine treatment.

6) Explain the barrier concept and its importance to the neuromusculoskeletal system and manual medicine treatment thereof.

7) Explain the process of normal vertebral motion and comment upon the most common dysfunctions of vertebral motion encountered in physiatric practice.
8) Demonstrate a high degree of skill in manual medicine treatment of the cervical spine, thoracic spine and ribcage, lumbosacral spine, sacrum and pelvis, and upper and lower extremities using at least four of the above referenced manual medicine approaches.

9) Comment on the effective integration of manual medicine into physiatric practice, including methods for effectively making a manual medicine referral.

Resources

2) Osteopathic Manipulative Medicine Residents and Fellows.
3) References:


j) Soderberg GL. *Kinesiology: Application to Pathologic Motion.* Williams & Wilkins, Baltimore, 1986.


m) Journals, articles, textbooks, and other references as suggested by attending physicians.


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**Method of Completion and Evaluation:**
1) Attend and actively participate in all scheduled didactic and clinical activities for the rotation experience.

2) Complete all assigned readings promptly.

3) Evaluation by attending staff via oral, written, and/or psychomotor skill performance mechanisms.

4) Rotation evaluation will be provided on designated forms by the appropriate attending physician (when evaluating the resident) and by the resident (when evaluating the rotation).

Revision Date: 7/08
12. CARDIAC REHABILITATION

Description: This is a primarily office based experience providing exposure to a wide variety of patients with cardiac disease in various stages of rehabilitation.

Learning objectives: Upon successful completion of this rotation experience, the resident will be able to, at a minimum 80% proficiency level, orally or in writing, perform the following:

1) Discuss the epidemiology of cardiac disease.

2) Describe the pathophysiology of arterial, venous, and lymphatic disease, demonstrating an understanding of the medical complications, and basic principles of evaluating these entities as well as elucidate pertinent patient education priorities, as appropriate.

3) Discuss the basic principles of exercise physiology with emphasis upon normal and pathologic cardiac response to exercise and aerobic training.

4) Design and prescribe an individualized, appropriate, safe, effective cardiac rehabilitation program for the patient who is status post myocardial infarction, with angina, status post coronary bypass graft, status post cardiac transplant, with cardiomyopathy, or with valvular heart disease.

5) Demonstrate the ability to accurately assess the status of cardiac function, via history and physical examination, and classify the patient according to New York Heart Association criteria.

6) Demonstrate understanding of the fundamental rationale, indications, contraindications and method of conduct of exercise tolerance testing as well as describe at least two protocols for approaching exercise tolerance/stress testing.
7) Demonstrate the ability to interpret basic electrocardiograms, as evidenced by evaluation of performance on real or simulated patients.

8) Discuss and identify at least four factors that contribute to or affect exercise and work performance.

Resources:

2) Physical Therapy and Occupational Therapy Staff: Cardiac Rehabilitation Team
3) References:
   ix) Journal articles, textbooks, and other references as suggested by attending physicians.
Method of Completion and Evaluation:

1) Attend and actively participate in all scheduled didactic and clinical activities for the rotation experience.
2) Complete all assigned readings promptly.
3) Evaluation by attending staff via oral, written, and/or psychomotor skill performance mechanisms.
4) Rotation evaluation will be provided on designated forms by the appropriate attending physician (when evaluating the resident) and by the resident (when evaluating the rotation).

Revision Date: 6/06
Description: This is an inpatient, hospital-based experience on comprehensive, acute medical rehabilitation units that provides exposure to the sub-acute/transitional rehabilitation milieu. The experience features medical and physiatric patient management addressing a wide variety of diagnoses with emphasis upon geriatric rehabilitation.

Learning Objectives: Upon successful completion of this rotation experience, the resident will be able to, at minimum 80% proficiency level, orally or in writing, perform the following:

1) Demonstrate the ability to perform and accurately record a physiatric patient evaluation with emphasis upon functionally oriented history, (including chief complaint, history of present problem, review of systems, family history, social history, functional history, psycho-social history, pertinent vocational data, medications, allergies, and past medical and surgical history) and physical examination with emphasis upon function and mobility, concentrating on the neuromusculoskeletal exam (including manual muscle testing, joint testing and stability assessment, range of motion, coordination, cranial nerves, sensation, station and gait, cognition, and muscle stretch reflexes).

2) Demonstrate the ability to evaluate disorders of communication in adult patients, with emphasis upon speech, hearing, language, apraxia, aphasia and common disorders associated with neuromuscular and neurologic disease, especially cerebrovascular accident.

3) Demonstrate a fundamental understanding of the psychological approaches to rehabilitation with emphasis upon adjustment to disability, depression, cognitive evaluation and retraining, and neuropsychological assessment.

4) Discuss the kinetics and kinematics of normal and pathologic gait with emphasis upon hemiplegia, footdrop, and amputation.

5) Discuss the factors to consider in planning an individualized amputation rehabilitation program with emphasis upon medical and functional status (pre-morbid and post-amputation), pre-amputation rehabilitation concerns, post-amputation pain management, pre-prosthetic rehabilitation, prosthetic evaluation fitting and training, prosthetic prescription (preparatory and definitive), and wound healing concerns; discuss the approach to management of phantom limb pain and phantom sensation.
6) List the considerations in evaluating and prescribing special upper and lower extremity orthotics and ambulatory aides.

7) Discuss the principles of wheelchair, scooter, and other mobility device prescription, as well as seating evaluations, including cushions and other seating systems.

8) Demonstrate the ability to write an accurate, personalized prescription for wheelchair and other seating systems as directed.

9) Demonstrate knowledge of the appropriate use of therapeutic heat (including ultrasound, ultraviolet, diathermy, radiant and conductive heat sources) and cold with emphasis on physiologic effects, & general uses, precautions, indications, contraindications and specific considerations in prescription. Additionally, demonstrate the ability to write an accurate, specific, appropriate prescription for therapeutic heat and cold.

10) List at least ten factors involved in achieving functional independence and demonstrate sensitivity to what constitutes meaningful independence in the context of the individual patient's life experiences, including, but not limited to, achievement of prioritized goals, family support, mobility and personal self-maintenance skills, communication, community mobility, vocational and avocational pursuits.

11) Discuss the basic principles of clinical evaluation and rehabilitation considerations of swallow dysfunction and of the strategies for managing their medical complications.

12) Discuss the pathophysiology and mechanisms for designing a treatment program for bowel and bladder dysfunction.

13) Demonstrate the ability to effectively manage bowel and bladder dysfunction.

14) Discuss the pathophysiology of spasticity as well as list at least five risk factors for developing spasticity;
comment upon at least five medical complications of spasticity.

15) Design an appropriate, individualized, prioritized treatment scheme for managing spasticity in a given real or simulated patient.

16) Comment upon the incidence and prevalence of pressure ulcers among hospitalized persons, listing at least five common sites of pressure ulcers.

17) Discuss the role of pressure, shear, and temperature on the development of pressure ulcers as well as additional multi-factorial causes.

18) Comment on frequent physical and psychosocial conditions that are risk factors for developing pressure ulcers.

19) Discuss the pathophysiology of the development of pressure ulcers and list and describe at least four medical complications of pressure ulcers.

20) Comment on the role of natural wound healing, nutrition, fluid intake, and levels of protein, zinc and vitamin C in the medical management of pressure ulcers.

21) Discuss the general principles of pressure ulcer treatment including, but not limited to, pressure relief, debridement, topical agents, infection control, dressings, and surgical repair.

22) Discuss at least five principles/mechanisms of pressure ulcer prevention.

23) Comment upon the medical, social, educational, and societal impact of pressure ulcers.

24) Demonstrate the ability to write specific, effective and appropriate prescriptions for rehabilitation therapies.
25) Discuss how the energy cost of pathologic gait changes, with specific reference to hemiplegia, amputation, and use of assisted devices such as crutches and canes, with attention to rehabilitation and functional implications.

26) Describe the normal physiologic changes, by body system, that occur with aging and their functional implications.

27) List at least ten causes of bed rest/immobility and discuss potential complications and results of prolonged immobilization as they pertain to function of the integument, musculoskeletal, cardiovascular, respiratory, and nervous systems.

28) Articulate the basic principles of cancer rehabilitation with attention to types of cancer rehabilitation (including functional ramifications of cancer, associated medical concerns, and management of cancer-related pain); discuss the rehabilitation issues associated with common types of cancer including breast, prostate, bone, spinal cord, and central nervous system.

29) Comment upon the elements of comprehensive discharge planning of the geriatric rehabilitation with attention to medical, legal, and ethical issues.

30) Discuss the physiatric approach to stroke rehabilitation including the following: demonstrate a knowledge of the basic epidemiology of stroke, risk factors of stroke, common motor and sensory recovery patterns, post-stroke depression, medical complications of stroke, and discharge planning issues.

31) Demonstrate the ability to properly use various therapeutic heating and cooling modalities.

32) Demonstrate the correct use of manual and power wheelchairs, axillary and Lofstand crutches, walkers, quad canes, and other assistive devices.

33) Demonstrate fundamental skills in interpretation of plain radiographs, CT scans, and MRI images.
Demonstrate fundamental knowledge of the use of the subacute rehab setting, home health care services, and sheltered workshops.

Resources:


2. Sports Medicine Fellow


u) Journal articles and textbooks, and other references as suggested by attending physicians.


3) Neuropsychology Staff: J. Dutes, Ph.D., D. Pelon, Ph.D.

Completion and Evaluation:

1) Attend and actively participate in all scheduled didactic and clinical activities for the rotation experience.

2) Complete all assigned readings promptly.

3) Evaluation by attending staff via oral, written and/or psychomotor skill performance mechanisms.

4) Rotation evaluation will be provided on designated forms by the appropriate attending physician (when evaluating the resident) and by the resident (when evaluating the rotation).

Revision Date: 7/08
**Description:** This is an office-based ambulatory orthopedic experience (with opportunity for surgical participation) emphasizing out-patient diagnosis and management of common orthopedic/musculoskeletal disease processes as well as performance of orthopedic history and physical examination and orthopedic procedures such as joint and/or soft tissue injections.

**Learning Objectives:** Upon successful completion of this rotation experience, the resident will be able to, at a minimum 80% proficiency level, orally or in writing, perform the following:

1) Demonstrate the ability to perform an accurate, efficient and appropriate orthopedic/musculoskeletal history and physical examination.

2) Demonstrate basic ability to perform initial evaluation and treatment of the following:
   a) Shoulder pain and trauma
   b) Elbow pain and trauma
   c) Wrist and hand injuries
   d) Hip pain and trauma
   e) Thigh pain and trauma
   f) Knee pain and trauma
   g) Pain, trauma and other disorders of the ankle and foot

3) Demonstrate fundamental understanding of the principles of analysis, via pertinent anatomy and biomechanics, of injuries to the appendicular skeleton.
4) Demonstrate understanding of the most common causes and appropriate interventions for repetitive use trauma.

5) Demonstrate basic ability to evaluate and treat myofascial and mechanical pain syndromes.

6) Demonstrate basic ability to evaluate and treat sprains and strains of the hip, knee, and ankle.

7) Demonstrate understanding of the basic principles of evaluation and management of stress and traumatic fractures.

8) Comment on the most important fundamental considerations in outpatient follow-up of post-operative orthopedic disease processes.

9) Perform an efficient, appropriate, problem-oriented history-directed orthopedic physical examination, as well as appropriate case presentation, and demonstrate the ability to formulate an appropriate, concise treatment plan for each of the above disease processes.

10) Demonstrate the ability to perform safe and appropriate joint and soft tissue injections, and discuss the rationale, indications, contraindications, precautions, and basic principle/technique of joint and/or soft tissue injections of the shoulder, knee, ankle, and hip.

Resources:


2) Orthopaedic Residents and Fellows.
3) References:


q. Journal articles, textbooks, and other references as suggested by attending physicians.

Method of Completion and Evaluation:

1) Attend and actively participate in all scheduled didactic and clinical activities for the rotation experience.

2) Complete all assigned readings promptly.

3) Evaluation by attending staff via oral, written, and/or psychomotor skill performance mechanisms.

4) Rotation evaluation will be provided on designated forms by the appropriate attending physician (when evaluating the resident) and by the resident (when evaluating the rotation).

Revision Date: 7/08

14. NEUROLOGY AND NEURO-REHABILITATION
Description: This is a predominantly hospital-based experience emphasizing consultation, bedside teaching, and case presentations covering the evaluation and management of patients with common neurologic diagnoses with consideration to functional components of disease processes addressed.

Learning Objectives: Upon successful completion of this rotation experience, the resident will be able to, at a minimum 80% proficiency level, orally, or in writing, perform the following:

1) Demonstrate basic knowledge of the initial evaluation/work-up and medical management and comprehensive physiatric management of patients with the following diagnoses:
   a) Encephalitis/Encephalopathy
   b) Meningitis
   c) Polymyalgia Rheumatica
   d) Hydrocephalus
   e) Parkinsonism and Parkinson’s Disease.
   f) Dementia
   g) Delirium
   h) Coma
   i) Spinal Cord Injury
   j) Traumatic Brain Injury
   k) Seizure Disorder
   l) Central Nervous System Neoplasm
   m) Peripheral Neuropathies
   n) Motor Neuron Disease
   o) Myopathic Diseases
   p) Muscular Dystrophies

2) Demonstrate the ability to perform a detailed history and physical examination with systemic review pertinent to a focused neurologic examination.
3) Formulate a functionally oriented rehabilitation management plan for each of the above diagnoses, with emphasis upon common complications.

**Resources:**


2) Neurology Residents and Fellows

3) Neurology Nurse Clinicians

4) Neurology Rotation Guideline (from Dr. Kaufman)

5) Attendings at Muscular Dystrophy Association Clinic

6) References:


m) Journal articles, textbooks, and other references as suggested by attending physicians.


Method of Completion and Evaluation:

1) Attend and actively participate in all scheduled didactic and clinical activities for the rotation experience.

2) Complete all assigned readings promptly.

3) Evaluation by attending staff via oral, written, and/or psychomotor skill performance mechanisms.

4) Rotation evaluation will be provided on designated forms by the appropriate physician (when evaluating the resident) and by the resident (when evaluating the rotation).

Revision Date: 7/08
Description: This is a hospital and outpatient clinic based experience covering the fundamental physiatric evaluation, examination, diagnosis, and comprehensive treatment/management of pediatric patients with disabilities.

Learning Objectives: Upon successful completion of this rotation experience, the resident will be able to, at a minimum 80% proficiency level, to, orally or in writing, perform the following:

Explain the general considerations in evaluation and treatment of the pediatric patient including but not limited to the following:

   d) Physiology
   e) Proprioception
   f) Vestibular patterns
   g) Kinesthetic patterns
   h) Psychosocial development
   i) Growth and development

2) Describe the pathophysiology, list at least 3 causes, and discuss methods for evaluation and management of the following conditions or disease states:

   a) Gastroesophageal reflex
   b) Skin surveillance
   c) Spasticity (non-pharmacologic, medication, nerve blockade, surgical intervention)
   d) Contracture
   e) Scoliosis
   f) Upper and lower extremity deficiency.
3) Comment upon the importance of, and the role of the physiatrist in addressing each of the following pediatric rehabilitation issues:
   a) Communication
   b) Mobility
   c) Seating and positioning
   d) Activities of daily living
   e) Play
   f) Social skill development
   g) Sexuality
   h) Educational planning (including pertinent Federal legislation and Individualized Educational Programs)

4) Describe the role of the physiatrist in advising and participating in the special education system to maximally integrate medical rehabilitation concerns with educational needs of the pediatric patient.

5) Demonstrate the ability to accurately and thoroughly gather a pediatric medical and psychiatric history, and conduct a pediatric examination emphasizing developmental diagnosis consideration.

6) Given a real or simulated pediatric patient, demonstrate the ability to determine psychiatric priorities based upon history and physical examination as well as write appropriate prescriptions for psychiatric intervention (including implementation of an individualized therapy program).

7) Demonstrate the ability to efficiently and accurately evaluate childhood disability with emphasis upon gross physical and functional assessment, the impact of disability on growth and development, and outcome prediction.

8) Describe the etiology, epidemiology, diagnosis, and psychiatric management of the following conditions or disease states:
a) Cerebral Palsy (including a brief description of classifying the CP patient, clinical effects of CP,

developmental considerations, medical complications, functional prognosis, effects of aging).

b) Spinal dysraphism (including epidemiology, evaluation and physiatric management,
as well as, early

and on-going medical complications and pertinent functional considerations).

c) Muscular Dystrophy (Duchenne) include genetic considerations, natural progression,
common complications, physiatric interventions, advanced directives.

9) Describe at least 3 types of pediatric limb deficiency (including epidemiology, pertinent physiatric history and physical examination, and short and long term physiatric intervention).

10) List and describe at least 5 levels of pediatric amputation including:

   a) Most common causes

   b) Complications

   c) Indications

   d) Specific physiatric intervention considerations for each level

11) Describe appropriate principles in determining wheelchair seating and positioning needs of the pediatric patient.

12) Demonstrate the ability to write an accurate, appropriate, wheelchair or seating system prescription for the pediatric patient.

13) List at least 5 considerations in physiatric intervention for follow-up care of the pediatric patient.

14) List at least 5 congenital myopathies, describing at least 2 considerations in physiatric intervention for each.
15) Describe and discuss the epidemiology, pathophysiology, and at least 5 considerations in physiatric intervention for each of the following conditions or disease states:

a) Muscular dystrophy

b) CNS neoplasm

c) Musculoskeletal neoplasm

d) Traumatic brain injury

e) Spinal cord injury

f) Cerebrovascular accident

Resources:

1) Attending physicians: M. J. Fankhauser, D.O., A. Kuldanek, M.D.

References:


m) Journal articles and texts and other references as suggested by attending staff.


Revision Date: 7/08

16. PHYSIATRIC CONSULTATION

Description: This is a primarily hospital-based experience involving physiatric consultations and evaluation of hospitalized adult and pediatric patients, including determination of rehabilitation potential and the formulation of recommendations to referring physicians.
Learning Objectives: Upon successful completion of this rotation experience, the resident will be able to, at a minimum 80% proficiency level, to, orally or in writing, perform the following:

1) Discuss the fundamental elements of a complete physiatric consultation of the hospitalized adult or pediatric patient.

2) Demonstrate the ability to conduct an appropriate, specific, accurate, succinct and informative physiatric consultation of a hospitalized adult or pediatric patient including at least the following elements:
   a) Chart review
   b) Gathering of pertinent physiatric and medical historical data
   c) Physiatric physical examination
   d) Element of functional and medical diagnostic impressions
   e) Formulation of recommendations to the referring physician, including addressing their specific questions, functional and medical concerns in acute care, recommendations based upon consultation findings, determination of most appropriate physiatric intervention (including but not limited to inpatient rehabilitation, subacute rehabilitation, outpatient rehabilitation therapies, in-home rehabilitation therapies, or therapies in the acute hospital) and consultation report writing (that includes an expression of appreciation for consultation to the referring physician).

3) Demonstrate the ability to consistently provide timely response to all consultation requests.

4) Demonstrate the ability to formulate and prioritize recommended physiatric interventions.

Resources:


References:


l) articles, textbooks and other resources as assigned/recommended by attending physician staff.


Method of Completion and Evaluation:

1) Attend and actively participate in all scheduled didactic and clinical activities for the rotation experience.
2) Complete all assigned readings promptly.
3) Evaluation by attending staff via oral, written and/or psychomotor skill performance and mechanisms.
4) Rotation evaluation will be provided on designated forms by the appropriate attending physician (when evaluating the resident) and by the resident (when evaluating the rotation).

Revision Date: 7/08
17. PHYSIATRIC OUTPATIENT SENIOR CONTINUITY CLINIC

**Description:** This is an outpatient based experience involving general and specific physiatric outpatient clinics with attending physicians; this experience provides the resident with exposure to a wide variety of patient populations and diagnoses and follow-up of patients from initial outpatient follow-up to and through long term care. The goal is for the resident to learn to manage a patient from initial evaluation through follow-up.

**Learning Objectives:** Upon successful completion of this rotation experience, the resident will be able to, at a minimum 80% proficiency level, orally or in writing, perform the following:

1) Discuss the basic principles of impairment rating and disability determination, including considerations specific to the Worker's Compensation System and Social Security Disability Income, the Americans for Disabilities Act, the American Medical Association Impairment Rating Guides, and legal and ethical considerations pertaining to impairment rating.

2) Demonstrate the ability to write succinct, clear, accurate impairment and disability reports.

3) Demonstrate fundamental knowledge of the basic principles and practices of plain radiograph, CT and MRI imaging of the spine and extremities including, but not limited to, how to determine what imaging studies to order, basic interpretation skills, and to discuss how imaging studies facilitate the design of a personalized rehabilitation program.

4) Demonstrate fundamental skills of basic radiograph/imaging study interpretation (as above).

5) Discuss the general principles of therapeutic exercise, including the fundamental concepts and principles of strength training, endurance, fatigue, and specific considerations of aging upon therapeutic exercise prescription.

6) Demonstrate the ability to write an individualized therapeutic exercise prescription based upon history and physical examination and appropriate resulting diagnosis.
7) Demonstrate the ability to accomplish an organized approach to the evaluation and treatment of disorders of the cervical spine, with considerations to pertinent anatomy, history gathering, physical examination, diagnostic studies, and treatment approaches including common cervical conditions such as sprain, strain, disc disorders and spondylosis.

8) Discuss the pathophysiology, presentation, diagnosis and appropriate treatment of acute upper and lower extremity musculoskeletal pain.

9) Articulate the most common causes, prevention, principles, epidemiology, diagnosis, and comprehensive evaluation and treatment of low back pain and lumbosacral spine dysfunction.

10) Discuss key considerations in the comprehensive management of chronic pain, including etiology, epidemiology, appropriate and cost effective diagnostic testing, and multidisciplinary management and treatment.

11) Demonstrate the ability to effectively evaluate and manage muscle pain including myofascial pain and fibromyalgia.

12) Articulate a fundamental understanding of the principles of physiatric evaluation and management of occupationally related disorders including evaluation of the worker, workplace, assessment of functional capacity, and return to work issues.

13) Outline a scheme for evaluation and physiatric management of the following disorders:
   a) Amyotrophic Lateral Sclerosis
   b) Parkinson's Disease
   c) Motor Neuron Disease
   d) Polio and Post-Polio Syndrome
   e) Multiple Sclerosis
   f) Amputations at all levels
14) Discuss the evaluation and physiatric management of acute or chronic peripheral neuropathy and, given a real or simulated patient, design an appropriate, individualized physiatric treatment/management plan.

15) Demonstrate the ability to articulate the principles of and demonstrate the ability to implement rehabilitation evaluation/management of myopathic disease including muscular dystrophies and congenital, infectious and inflammatory myopathies.

16) Discuss the basic principles of bum rehabilitation with emphasis upon the following: a fundamental understanding of the skin and its properties, the role of the physiatrist in the acute and chronic management of bums as well as their related medical complications, rehabilitation issues with emphasis upon positioning, splinting, therapeutic exercise, mobility, scar management, bum-related amputations, specific age considerations, psychologic adjustment, and educational, vocational, avocational concerns.

17) Discuss and demonstrate utilization of the basic principles of vocational/scholastic rehabilitation in outpatient adults and children.

Resources:


References:


Method of Completion and Evaluation:

1) Attend and actively participate in all scheduled didactic and clinical activities for the rotation experience.

2) Complete all assigned readings promptly
3) Evaluation by attending staff via oral, written and/or psychomotor skill performances and mechanisms.

4) Rotation evaluation will be provided on designated forms by the appropriate attending physician (when evaluating the resident) and by the resident (when evaluating the rotation).

**Resident Rotations**

<table>
<thead>
<tr>
<th>Inpatient Rehab/Ward:</th>
<th>EWSH, Lansing, MI. McLaren Hospital, Flint, MI.</th>
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<tbody>
<tr>
<td>Electrodiagnostic Medicine:</td>
<td>McLaren Lansing-Neurodiagnostic Lab, EWSH, and</td>
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<tr>
<td></td>
<td>SPB, Musculoskeletal Rehabilitation McLaren</td>
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<td>Lansing, Lansing, MI; MFB, Grand Rapids, MI;</td>
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<td>McLaren Hospital Flint.</td>
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<td>Physiatriic Consultation:</td>
<td>McLaren Lansing; EWSH; MFB; McLaren Hospital</td>
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<td>Research</td>
<td>Lansing</td>
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<td>Neurology</td>
<td>Lansing</td>
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<td>Ambulatory Orthopaedics</td>
<td>Lansing</td>
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<td>Rheumatology</td>
<td>Lansing</td>
</tr>
<tr>
<td>Sports Medicine</td>
<td>MSU Sports Medicine, East Lansing</td>
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<tr>
<td>Urology</td>
<td>MSU Urology, East Lansing</td>
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<tr>
<td>Osteopathic Manipulative</td>
<td>MSU OMM, East Lansing</td>
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<tr>
<td>Medicine</td>
<td>Lansing</td>
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<tr>
<td>Spinal Cord Injury</td>
<td>MFB</td>
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<tr>
<td>Traumatic Brain Injury</td>
<td>MFB; SPB</td>
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<td>Origami, Mason, MI; EWSH,</td>
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<tr>
<td>Pediatric Rehabilitation</td>
<td>MFB; SPB</td>
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<tr>
<td>Cardiac and Pulmonary</td>
<td>Lansing</td>
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<tr>
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<td>Lansing</td>
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<td>Occupational Medicine</td>
<td>Lansing and Jackson, MI</td>
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<td>Pain Medicine</td>
<td>Lansing, Flint, MI</td>
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<td>Outpatient PM&amp;R</td>
<td>McLaren Lansing, SPB, McLaren Flint</td>
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<td>MFB</td>
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<td>Podiatry</td>
<td>Lansing</td>
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<tr>
<td>Prosthetics &amp; Orthotics</td>
<td>Lansing/Northwestern University/McLaren/MFB</td>
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<tr>
<td>Residency Continuity Clinic</td>
<td>SPB</td>
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<tr>
<td>Sparrow Hospital</td>
<td>General inpatient/outpatient PM&amp;R, EMG’s</td>
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<tr>
<td></td>
<td>Some rotations feature combined experiences (i.e. EMG/Consults, EMG/SPB, etc.)</td>
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**Residency Didactics**

The PM&R Didactic Program at Michigan State University College of Osteopathic Medicine, Department of Physical Medicine and Rehabilitation is outlined below.
Unless otherwise specified, all residents are expected to attend and actively participate in all didactic sessions.

**Resident Meetings**

Monday mornings, 7:00 a.m. (preceding the scheduled didactic lecture). Business issues will be addressed and/or Board and Self-Assessment Exam (SAE) review will take place. You will be notified by the Chief Residents of Board and SAE review sessions.

**Regularly Scheduled PM&R didactic lectures**

Monday mornings (except as announced in advance), usually 8:00 a.m. – 11:30 a.m. in the Sparrow Professional Building (SBP) with specific room assignments announced in advance by the Chief Residents. The PM&R didactic program follows a pre-determined three year rotating cycle designed to meet residents’ general education needs. Presenters include staff, guest faculty, medical students, interns and residents. Lectures include resident case presentations, Grand Rounds and EMG practice sessions as scheduled by the Chief Residents (with input from the Inpatient Service residents).

**EMG lectures and case presentations**

Monday mornings (except as announced in advance): Generally include one or more case studies followed by “hands on” sessions regarding a specific EMG technique. Presenters include PM&R Faculty, guest lecturers, Residents and Fellows.

**PM&R Grand Rounds**

Designated Monday mornings, 7:30-8:30 am on the 6th floor Rehabilitation Unit in Sparrow Hospital. A schedule of topics and locations will be provided by the Chief Residents. Patient cases will be presented in an interdisciplinary manner to include therapies and psychosocial issues. Patient examinations will be conducted bedside or in the therapy gym to demonstrate pertinent physical exam findings or to evaluate therapeutic interventions. Residents learn how to improve patient care by reviewing difficult cases with the Faculty.

**PM&R Board Review**

Resident-directed, Faculty-assisted board review scheduled on designated Monday mornings, 7:00 a.m. to 8:00 a.m. Chief Residents will assign content areas for review; location and time will be announced in advance.

**Neuro-Rehabilitation Conference**
Multi-disciplinary conference at Sparrow Hospital Cardiac Conference Room, 4th Floor, Wednesday mornings, September through May, 8:00 a.m. - 9:00 a.m. Attendees include neurologists, neurosurgeons, physiatrists, neuropathologists, neuroradiologists, neuropsychologists and psychiatrists from the Lansing/East Lansing area. Lectures are assigned on a rotation basis and include sponsored speakers with nationally recognized expertise. Presentation style varies and can include PowerPoint presentations, case presentations, literature reviews or neuroimaging/neuropathology presentations. This conference offers the rare opportunity for inter-specialty collaboration on a variety of topics and rehabilitation related issues.

**OMM Conference**

(This conference is currently being redesigned)

Primarily “hands-on” didactic is generally conducted by the OMM Faculty in the OMM Lab at West Fee Hall on the MSU Campus on designated Monday mornings.

**Grand Rounds at Mary Free Bed Hospital**

Weekly lectures are attended by PM&R Residents assigned to the Spinal Cord Service at Mary Free Bed Hospital in Grand Rapids, MI. Lectures are scheduled on a rotating basis and include presentations by the PM&R Residents. Past topics have included pediatric rehabilitation, traumatic brain injury rehabilitation, and spinal cord injury rehabilitation.

**Functional Neuroanatomy Course**

Senior residents, with faculty participation, will conduct a neuro-musculoskeletal anatomy review, including cadaver pro-sections, on Tuesday and Thursday mornings throughout July and August. A schedule will be distributed.

**Course Goals:**

1. To gain a working knowledge of functional neuro-musculoskeletal anatomy.
2. To functionally correlate basic principles of muscle and joint function.
3. To improve the residents’ neuro-musculoskeletal system physical exam

**Course Participants:**

All PGY2 PM&R residents at MSU College of Osteopathic Medicine

**Course Description:**

A lecture-discussion-demonstration format will include the following:
a. A detailed examination of the functional anatomy of muscles and joints of the human body with emphasis upon upper extremity and brachial plexus, lower extremity and lumbosacral plexus, the neck, trunk, and cranial nerves.
b. Acquisition of the skill and knowledge necessary to accomplish efficient, accurate manual muscle testing of the non-impaired as well as disabled infant, child and adult via increased awareness of muscle topography.
c. Assessment of muscle strength and function as components integral to movement, based on joint motion caused by primary and secondary movers, including pertinent interactions.
d. A detailed examination of the key muscles by body region, including nerve and vascular supply, nerve root level, origins, insertions, and actions.
e. Exposure to the fundamentals of kinesiology and function of normal muscle with electromyographic correlations.
f. Application of anatomy and muscle function to clinical experience, including correlation of structure and function with clinical pathology.
g. Review of common peripheral nerve entrapment.
h. Cadaver anatomy lab sessions to reinforce concepts and information discussed in class.

Course Coordinators:

Chief Residents; Department of Physical medicine and Rehabilitation (with assistance from Residency Program Directors and other Faculty).

Resource Persons:

1. Physical Medicine and Rehabilitation attending physicians
2. Sports Medicine Fellow – Department of Physical Medicine & Rehabilitation
3. Other Michigan State University, College of Osteopathic Medicine faculty from the Division of Anatomy, Department of Neurology and the Department of Osteopathic Manipulative Medicine

Course Schedule:

The course will meet 1-2 hours per week, for 6-8 weeks, with outside preparation and study by the participant. The exact schedule of the course will be determined by the Residency Program Directors and the Course Coordinators in conjunction with residents’ clinical rotation schedule.

Course Completion and Participant Evaluation:

Successful completion of the course by the participant will require the following:

1. Prompt attendance and active participation at all course meetings unless excused.
3. Evidence of appropriate pre-class preparation.
4. Completion of written examinations, with a minimum score of 70% (re-testing will be at the discretion of the Residency Program Directors).

Note: All residents must pass all elements of this course; failure to meet minimum requirements for course completion will initiate a Residency Committee meeting to discuss remediation strategies.

Required Texts:


Recommended Texts:

2. Medical school level gross anatomy text.
3. Medical school level anatomy atlas.
8. Moore KL. Clinically Oriented Anatomy. (5th Ed.) Lippincott, Williams, & Wilkins, May 2005

Research

Original research is supported by the Program. However, due to small faculty size and limited number of research mentors, Residents are required to develop a virtual research project. This is done by: a) completing a series of on-line Research Modules (http://scs.msu.edu/media/jcs/), b) generating a research proposal and c) working with a PhD, MD or DO mentor to complete the virtual project, including IRB number, statistical analysis, an abstract and finished research article.

Journal Club

The PM&R JOURNAL (or other designated medical journals, announced in advance) will be reviewed monthly. Each resident will be assigned one article to present. All residents are expected to be familiar with all articles in the designated journal. Assigned articles should be presented in 5-10 minutes: be prepared to explain and answer questions about your article.
Article assignments will be made by the Chief Residents with the approval of the Program Directors. Each presentation will be evaluated as follows:

**JOURNAL CLUB CHECKLIST**

<table>
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<th>Y</th>
<th>N</th>
<th>Did the presenter:</th>
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<tr>
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<td>State the problem(s) being addressed in the study?</td>
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<td>State the research question(s) or hypotheses?</td>
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<td>Describe the primary variables being measured?</td>
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<td>Present information on the subjects used in the study and assess their appropriateness?</td>
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<td>Describe the research design and assess its appropriateness?</td>
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<td>Evaluate the appropriateness of the data analyses?</td>
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<td>Evaluate the appropriateness of the conclusions presented in the paper and their general applications? (Were they supported by the data presented?)</td>
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**DIDACTIC PRESENTATION GUIDELINES**

**Grand Rounds**

1. Grand Rounds allow attending physicians, residents, fellows, students on rotation, and rehabilitation staff the opportunity to hear case presentations, examine patients, and discuss diagnostic and/or management concerns as a group. Grand Rounds are generally the presentation of a difficult diagnostic/treatment case to discuss further options emphasize key rehab concepts or to review common clinical diagnoses.

2. Chief Residents will arrange the Grand Rounds schedules and should be notified of the proposed presentation title one week in advance. A brief, one page summary of the case for distribution is desirable. Residents will be required to do Grand Rounds presentations periodically throughout each academic year.

3. Suggested format – (55-60 minutes):
   
a. Presentation of case (5-10 minutes). This should include a comprehensive presentation of all pertinent aspects of the patient’s history,
physical exam, laboratory data and hospital reports. Questions may be asked by or of the audience to enhance understanding of a given topic.

b. Image presentation as appropriate (5 minutes). Pertinent radiographs should be presented with findings described as they pertain to the case.

c. Patient presentation (5-15 minutes). When possible and appropriate, physical examination of the patient is encouraged. When this is not feasible, slides, videotapes or other media may be used. Significant physical exam findings should be demonstrated in addition to standard reflex and manual muscle testing.

d. Discussion of patient management issues (10-20 minutes). Some areas of the presentation may be explored in-depth. Background information and pertinent literature may be discussed. Discussion is “free form” can be directed by the resident, attending staff physicians, or other attendees.

4. Residents are encouraged to involve attending physicians or other resource persons approximately in advance of their presentation. This will allow the resident to present a much higher quality Grand Rounds and to avoid common pitfalls. Presenters will receive feedback after their presentations from attending staff and/or the resident

**Formal Academic Presentations**

1. Formal academic presentations allow the resident to gain experience in presenting a focused topic pertinent to physical medicine and rehabilitation and suitable for presentation in a formal academic environment. Topics include exploration of areas discussed during patient rounds, grand rounds or other settings. An in-depth knowledge of applicable literature is required.

2. The Chief Residents should be notified of a proposed presentation title one month in advance. A brief summary of the topic to be discussed including a bibliography is standard and will be placed in each resident’s permanent file for reference. A formal academic presentation is required of each resident annually. The Chief Residents will schedule these presentations with input from the residency program directors.

3. Formal presentations should be 40-50 minute long with time allowed for discussion and questions. A copy of each PowerPoint presentation will be filed in the resident’s permanent file.

4. Residents are strongly encouraged to meet with staff physicians or other resource persons at least 4-5 weeks in advance of a formal academic presentation. Their input will improve presentation quality and provide additional feedback and
references. Resident presentations will be evaluated by the attending staff and residents with a goal of preparing the resident for academic presentations in his/her post-residency academic career.

5. At least ONE formal academic presentation is required of each first year resident. At least TWO formal academic presentations are required of 2nd and 3rd year residents.

**Electrodiagnostic Medicine Outline**

**NOTE:** This outline is a general one to assist you in this process and is likely to change depending upon individual circumstances or needs.

This brief outline summarizes the general Electrodiagnostic Medicine learning objectives. This complicated process is not something that is "see one, do one, teach one". Your first experience in the electrodiagnostic lab can be very confusing, but do not let this intimidate you. Two practical exams are required of MSU PM&R Residents. The following outline is to assist you in the learning process. Attending physicians and senior residents will help you.

1) Be able to perform and record a brief, pertinent history and conduct a focused physical exam. This is not the complete history and physical used for inpatients. It should be focused to the problem at hand and, in most cases take approximately 10 minutes to obtain.

*Steps 2-4 can be accomplished in 20-24 EMGs.*

2) Begin to generate a list of EMG differential diagnoses.
3) Accurately record distal latencies, amplitudes and nerve conduction velocities on the Nerve Conduction Worksheet.
4) Accurately record EMG findings on EMG Worksheet.

*Steps 5-8 can be accomplished in 25-40 EMGs.*

5) Learn the innervations (root level and peripheral nerve name) for each muscle on the EMG sheet.
6) Be able to mark amplitudes and distal latencies on nerve conduction study waveforms
7) Become familiar with the EMG machine and its settings.
8) Be able to observe and identify some positive sharp waves and fibrillations during the EMG exam.

*Steps 9-10 can be accomplished in 50-75 EMGs.*
9) Practice and perform routine Nerve Conduction Studies on a fellow resident (or non-patient volunteer: your family will LOVE this!). This will require extra effort and time (e.g. coming to the lab at night or on weekends). You should pay close attention to:

a) Machine settings
b) Anatomic location of nerve to be studied
c) Proper technique for each nerve per the DeLisa Handbook.
d) Normal amplitudes and latencies of frequently tested nerves at standard distances.

10) Pass the first practical test:
   a. Each nerve listed in the Nerve Conduction Study Worksheet must be correctly studied and waveforms submitted for review.
   b. The distal latency, nerve conduction velocity, amplitude and temperature must be correctly recorded.
   c. A labeled copy of each waveform must accompany the Worksheet.
   d. The resident must demonstrate efficiency on each machine.
   e. At the discretion of the Lab Director some nerve conductions may have to be repeated under direct observation.

HAVING PASSED THE FIRST PRACTICAL EXAM, YOU ARE NOW READY TO DO UNSUPERVISED NERVE CONDUCTION STUDIES. AFTER COMPLETING 20-40 INDEPENDENT NERVE CONDUCTION STUDIES YOU SHOULD BEGIN PREPARATION FOR THE EMG PRACTICAL EXAM.

11) Pass the second Practical Exam:
   a. Demonstrate, for each muscle on the EMG Worksheet:
      i. Anatomic location of needle placement
      ii. Muscle name and innervation (nerve root, plexus and nerve)
      iii. Correct muscle activation for recruitment
      iv. Correct patient position for each muscle studied.

AT THIS STAGE YOU CAN PERFORM NEEDLE EMGs WITH AN ATTENDING IN THE ROOM FOR THE NEXT 40-100 PATIENTS.

12) Do not perform a completely independent EMG unless the attending specifically tells you to do portions of the examination alone. DO NOT ASSUME!

13) The attending physician must be present for the “key portion” of all EMGs.

14) The interpretation of the electrodiagnostic evaluation must be written according to the Guidelines for Interpretation and approved by the attending physician BEFORE they are filed in the medical record.
15) It is always the attending physician’s responsibility to determine the final interpretation. The attending physician must always review and sign. The patient should never be dismissed until the attending physician specifically allows them to leave. NEVER PRESUME! ALWAYS ASK!

The written interpretation of even the same data can vary among attending and resident physicians: there is no standard response. Cases are extremely varied and interpretation of data can be affected by physical exam findings, clinical experience and other variables. Do not be frustrated when your interpretation of the collected data is different from that of your attending physician; or if interpretation of the same date varies in some degree among attending physicians. It is not unusual for a resident to be asked to entirely rewrite an interpretation. We recognize that this can be a hassle and be time-consuming; however, it is can often be necessary to: a) optimize patient care, b) increase your level of responsibility, c) satisfy referring physicians and d) assist in training. In the event the attending needs to write up the interpretation quickly and the resident wishes to have additional training and direct feedback, the attending will review a “mock interpretation” from the resident. The attending (for training purposes) will review the resident’s “mock interpretation” and give specific feedback, e.g. about different ways to say the same thing; pointing out subtle inaccuracies.

Interpretations can be surprisingly difficult and it generally takes at least 200-300 EMG’s for a person to feel comfortable with this skill. In complicated cases, even experienced electromyographers can struggle with the interpretation.

**Resident Goals and Responsibilities for Electrodiagnostic Medicine**

**Resident Competencies:**

1) Knowledge of peripheral neuromuscular anatomy including innervation of muscles commonly studied in the electrodiagnostic medicine laboratory.  
2) Knowledge of basic neurophysiology including physiology of nerve conduction, neuromuscular junction and muscular contraction.  
3) Recognition of normal and abnormal wave forms.  
4) Knowledge of instrumentation and use of the machines for the performance of basic electrodiagnostic studies including filters, amplifiers, gain and time-weep controls, stimulators, and parts of electrodes.  
5) Basic design of electrodiagnostic studies based on history and physical exam.  
6) Interpretation of findings, including appropriate knowledge of use of electrodiagnostic terminology.  
7) Accurate documentation of data and preparation of the electrodiagnostic report.  
8) Knowledge of common sources of error in performance of electrodiagnostic studies.
9) Basic understanding of somatosensory evoked potentials (SSEP’s), Visually Evoked Responses (VER), Brainstem Auditory Evoked Responses (BAEP) and single fiber EMG (SFEMG).

10) Knowledge of basic electrodiagnostic criteria for the diagnosis of common nerve entrapment syndromes, polyneuropathies, radiculopathies, myopathies, motor neuron disease and neuromuscular junction disorders.

**Resident Responsibilities:**

1) Be prepared for all electrodiagnostic studies during your rotation time.
2) Review the record, perform a pertinent history and physical examination. When necessary, for inpatients, transport the EMG machine to the bedside.
3) Learn how to use all EMG machines in the laboratory.
4) Explain to the patient, in lay terms, what the electrodiagnostic study involves. Obtain their verbal consent. Inform the patient that they can stop the study at any time.
5) Respect the patient’s wishes and ensure their comfort at all times.
6) Perform all or part of the study under supervision, as directed.
7) Review each step with the attending physician.
8) Stop when you are unsure of yourself. Consider exactly what you are doing and finding, and, if necessary, obtain help from a senior resident or attending.
9) Promptly dictate a pertinent and accurate history and physical.
10) Fill out the Nerve Conduction Study Worksheets.
11) Fill out billing and diagnosis sheets.
12) Fill out EMG Worksheets.
13) Keep a log of all studies you perform or observe.
14) Read and learn independently and proactively. The attending will teach practical issues that are difficult to learn from basic reading and will clarify and reinforce issues covered in the reading.

It is the resident’s responsibility to make sure that all paperwork is done. If the resident does not know how to do the paperwork, it is their responsibility to ask the attending or senior resident to assist them with it. The attending should not be sitting around doing nothing. If things are backed up, the resident should feel free to ask attending for help.

It is the attending’s responsibility to ensure the interpretation is complete. The attending must sign the interpretation.

The dictated report should be done the day of the EMG study. This paperwork should usually be done before starting the next patient; the only exception should be in the case of emergencies.

**EMG/NCV FORMS**
Basic Skills Checklist for Electrodiagnostic Medicine

This review process is implemented to insure that residents demonstrate the following basic knowledge and skills prior to being scheduled independently with patients. These will be reviewed with the EMG attending physician.

Electromyography (EMG)

The resident will be able to: a) Identify the location of b) nerve and root innervations of c) methods to activate each of the following muscles:

Cervical paraspinals
Deltoid
Biceps
Extensor carpi radialis
Pronator teres
Abductor digit minimi
Triceps
Flexor carpi-radialis
First dorsal interosseus
Abductor pollicis brevis
Medial hamstrings
Medial gastrocnemius

Lumbar paraspinals
Vastus medialis
Anterior tibialis
Peroneus longus
Medial hamstrings
Medial gastrocnemius
Rectus femoris
Adductor longus
Tensor fascia lata
Biceps femoris, short head
Lateral gastrocnemius

Nerve Conduction Studies (NCS)

Resident will turn in waveform tracings for the following NCS:

1. Median sensory – antidromic from wrist to index finger, and antidromic mid-palmar
2. Ulnar – antidromic between wrist and little finger
3. Median – sensory to the thumb
4. Radial – sensory to the thumb
5. Median – motor to APB at elbow and wrist with nerve conduction velocity
6. Ulnar – motor at elbow, below elbow, above elbow and axilla to the ADM
7. Peroneal motor to EDB at ankle, below fibular head and above fibular head
8. Tibial motor to abductor hallucis at ankle and knee
9. Sural sensory antidromic from calf to ankle
10. Tibial H reflexes

Techniques can be found in the DeLisa Handbook of Manual Nerve Conductions or in AAEM Handout Sensitive Techniques for the Diagnosis of Carpal Tunnel Syndrome.

Reviewed by: MTA, Director, Electrodiagnostic Laboratory

Revision date: 06-28-2010

ELECTRODIAGNOSTIC QUALITY ASSURANCE SHEET

Patient: ______________________________________________

Electromyographer(s): __________________________________

Date of Test: ____________________________

1. Is there a history and physical? Y _________ N _______ N/A _______
   a. Does the history and physical support the testing done?

2. Are the nerve conductions, distal latencies and distal latencies recorded?
   Y _________ N _______ N/A _______

3. Is the temperature recorded? Y _________ N _______ N/A _______

4. Are the EMG findings recorded? Y _________ N _______ N/A _______
   a. Should there be more tests? (Explain Yes Answer)

   _____________________________________________________________________
   _____________________________________________________________________
   _____________________________________________________________________

   b. Should there be fewer tests? (Explain No Answer)

   _____________________________________________________________________
   _____________________________________________________________________
   _____________________________________________________________________

5. Impressions
   b. Is it clearly stated where this test is normal,
borderline or abnormal?  Y _________  N _______ N/A________

b. Does the impression list the major finding?  Y ___________  N _______ N/A __________

c. Does the impression list any major ruleouts (if any)?  Y ___________  N _______ N/A __________

d. Does the Impression give a clinical correlation?  Y ___________  N _______ N/A __________

6. Any other suggestions to improve the quality of this test?  Y ___  N ___ N/A

__________________________________________________________________
__________________________________________________________________

7. Explain any NO answers:

_____________________________________________
____________________________________________
____________________________________________

Inpatient Physical Medicine and Rehabilitation Outline

Pediatric Service

Inpatient pediatric rehabilitation will be done primarily at Mary Free Bed Hospital (MFB) under the supervision of Andrea Kuldanek, MD. Dr. Kuldanek is Board Certified in pediatrics and physiatry and has extensive experience in training pediatric residents, interns, and rotating physiatry residents. MFB has approximately 108 pediatric inpatient admissions per year and extensive outpatient clinics. Residents will be following between 5-10 inpatients at a time during their month of pediatric rehabilitation.

There is exposure to a wide variety of diagnoses: spinal cord injury, traumatic brain injury, congenital developmental delay, inborn errors of metabolism, myelomeningocoele, etc. MFB is the primary pediatric rehabilitation referral center for northern and western Michigan.

Inpatient pediatric rehabilitation experience is also available on an intermittent basis on consults at EWSH. During clinic rotations, residents will be exposed to outpatient pediatric rehabilitation including treatment spasticity with oral and injectable medication, under the supervision of Peggy Fankhauser, DO. Dr. Fankhauser is Board Certified in pediatrics and physiatry.
**Self Assessment Examinations (SAEs)**

The Department of Physical Medicine and Rehabilitation will pay the fee for each resident to participate in two annual Self-Directed Medical Knowledge Program SAEs: PM&R (AAPMR sponsored) and EMG/NCV (AANEM sponsored).

Residents are required to participate in the PM&R SAE (scheduled on a Saturday in January each year) and in the EMG/NCV SAE (scheduled on a Saturday in June each year). Residents are expected to adjust their schedules to allow time to take these exams at the appointed times. Residents will be notified well in advance of each of these examinations.

SAE results allow individual residents to assess their relative areas of strength and weakness and to guide further study and reading. The Department of PM&R uses these results to evaluate the effectiveness of our training program’s educational objectives. Your performance on these examinations will not affect your good standing in the residency program.

SAE results are shared only with the resident and attending physicians. Questions regarding SAEs and how the results are disseminated should be referred to residency program directors.

**Required Textbooks**

Five textbooks are provided for each resident. Attending physicians and residency program directors expect you to proactively use these resources on an ongoing basis. Reading these textbooks in preparation for clinical examinations, patient care rounds, inpatient and outpatient contact, formal and informal presentations and other settings is expected.

**Department Library**

Other textbooks are available in the department library. The library can be very helpful during your training. Texts in the library include (but are not limited to):


Geiringer, SR. *Anatomic Localization for Needle Electromyography*. Hanley & Belfus, 1994


Brooker. Neuromusculor Disease


**Audio/Visual/CD’s/Websites:**

“The Sounds of EMG”. Jasper Daube and Devon Rubin.”


**Essentials of Musculoskeletal Imaging**

**Essentials of Musculoskeletal Care**

EMG on CD/DVD, Series: 4 Volumes; Sanjeev Nandedkar, PhD, Paul Barkhaus, M.D., CASA Engineering, 2005

Myoanatomic Atlas for EMG

Electronic Atlas of Electromyographic Waveforms

Sensory Nerve Conduction: Clinical Studies and Signals

Motor Conduction Studies and Late Responses
Personnel Matters

Additional information can be found on the GMEI website:  http://gmei.msu.edu/

Educational License

GMEI will pay for a Limited Educational License and a Controlled Substance License for each resident each year. These licenses are issued by the State of Michigan, Department of Commerce. The scope of Limited Educational License is restricted to those duties and responsibilities directly associated with the residency training program or as otherwise approved by the residency program directors. Residents are responsible to complete appropriate applications promptly.

Residents may obtain a full license to practice medicine from the State of Michigan, Department of Commerce at their own expense. Any “moonlighting” requires an unrestricted Medical License as well as a Controlled Substance License from the State of Michigan, Department of Commerce. Most moonlighting facilities also require Federal Narcotics Registration with the Drug Enforcement Administration. The Department of Physical Medicine and Rehabilitation will not pay for any portion of a full Medical License, Controlled Substance License, or a Federal Narcotics Registration/DEA number. Sparrow Hospital Policy requires that if you obtain your full license that you must also get a permanent State of Michigan pharmacy

Verification of Employment

The Department of Physical Medicine and Rehabilitation will, upon request, verify a resident’s employment. Other details will not be released without the resident’s expressed, written permission.

Medical Records Completion

Residents are expected to promptly and accurately complete all medical records throughout their residency program. Questions concerning the completion of medical records should be directed to the appropriate attending physician or to a residency program director.
Please Note: To successfully complete any rotation, medical records must be fully and accurately completed prior to the end of the rotation.

Organizational Membership and Dues

The Department of Physical Medicine and Rehabilitation will pay membership dues for each resident in the following organizations:

1) American Academy of Physical Medicine and Rehabilitation (AAPMR)
2) American Osteopathic College of Physical Medicine & Rehabilitation (AOCPMR, for Osteopathic Residents)
3) American Osteopathic Association (AOA, for Osteopathic Residents)

Residents are individually responsible to promptly submit membership dues statements to GMEI to allow for timely payment.

Standing Departmental Committees

Executive Committee
*Research Committee
*Residency Committee
Faculty Search Committee
*Interview Committee
Personnel Committee
Promotion and Tenure Committee
Clinical Competency Committee CCC
Program Evaluation Committee PEC

*Residents are represented by Chief Residents or their designees on the Residency and Research Committees and are typically asked to serve on the Interview Committee in the search for potential new residents.

Secretarial Support

Secretarial support is available to residents on a limited basis at the Physical Medicine & Rehabilitation Department Academic Office (West Fee Hall). Support is available for completion of forms and preparation of PowerPoint presentations, etc. For the secretarial/support staff to more efficiently meet your needs, you will be requested to a) fill out a Work Assignment Sheet describing what you want done; b) place the Work Assignment Sheet in the appropriate work box; c) give the secretary as much advance notice as possible. Short term, “emergency” requests for secretarial support will be honored on an “as able” basis. Please do not leave work or other requests on the secretary’s desk – put it in the work box.
Questions concerning secretarial support should be directed to the Department Secretary, or to the Residency Coordinator.

**Residency Interviews**

From time to time, residents will be asked to participate in interviewing prospective PM&R Resident Applicants. The Department routinely interviews prospective residency program applicants in the Fall and Winter months, generally on weekdays (but occasionally on Saturdays) in half-day blocks. Typically, residents will be part of a four or five person interview team. Interviews are “focused” with assigned areas of emphasis. Resident input is very important in evaluating prospective residency applicants. Residents will also be asked to participate in more informal contact with applicants (i.e. lunch, tours, etc.) and to serve as tour guides or sources of information for these applicants.

Questions concerning residency interviews should be directed to either Chief Residents or to a Residency Program Director.

**Vacation/Sick/ Educational Leave Coverage**

By ACGME policy, you are allowed a total of 20 days off per academic year (this includes interview time, vacation time, and sick time exceeding 4 days); unused time-off can not be carried over to the following year (i.e. you must use your annual allotment of 20 days). Anytime beyond 20 days must be made up (i.e. training time must be extended which means that your residency end date will be after June 30th of your final year; extending your training means that your fellowship or employment start date will be delayed beyond July 1st) There are no exceptions to this rule.

Residents are expected to schedule planned absences, vacations, or elective rotations during their rotations that do not require significant coverage from other residents. This will help to minimize the impact of resident absences on other residents’ education

Coverage for resident assignments must be arranged prior to making plans for vacation or other leave. Requests for coverage arrangements must be submitted on the Vacation/Leave Form with schedule changes and appropriate signatures initials. The person covering for the resident during their absence is to initial the form indicating their willingness to provide coverage for each day of absence. The requesting resident must also obtain the signature of the immediate supervising attending of the covering resident. Next, the requesting resident must notify the Chief Residents of their anticipated dates of absence to verify that there
are no conflicts with other resident schedules. After acquiring a signature of approval from the Chief Resident, you must obtain the signature of your immediate supervising attending physician for each day of the requested absence. Finally, after ALL approval signatures have been obtained the vacation request must be approved by a Residency Program Director. It is the requesting resident’s responsibility to ensure that those staff members affected by the absence are aware of coverage arrangements. This includes the Residency Program Directors, affected faculty, affected clinics, Chief Residents and coverage residents. It is the resident’s responsibility to notify clinics of their planned absence and/or to arrange coverage so that clinics can be appropriately scheduled. Scheduled patients will not be cancelled except in extremely unusual circumstances. Leave requests may be denied if adequate coverage cannot be arranged due to multiple residents planning leave at the same time.

The completed Vacation/Leave Form should be submitted to the Residency Coordinator to be placed on file at least 30 days prior to any expected leave.

Failure to make appropriate coverage arrangements for planned absences or failure to submit a completed Vacation/Leave Form on time may prevent you from obtaining approval for the request. Repeated failure to adhere to this policy will prompt further disciplinary action, which may include dismissal, as determined by the Residency Program Directors, Residency Committee and Department Chairperson.

If you are sick, it is your responsibility to notify your immediate supervising attending, the Department of Physical Medicine and Rehabilitation Residency Office at SBP, and any faculty, resident, or other personnel who may be affected by your absence. You may request the Residency Coordinator help you with this. Absences greater than 5 consecutive days may require a physician’s statement regarding your ability to return to work.

Residents may not be absent from training for more than six (6) weeks for any reason without increasing/lengthening residency training time. This includes vacation, illness, maternity leave, other duties, clinical trips, and work in non-affiliated institutions or other settings. Leave may not be accumulated to reduce overall training time.

Short absences of one (1) to five (5) days will not need to be “made up;” HOWEVER, absences of more than five (5) days on any rotation becomes an educational issue and needs to be reviewed by the Program Directors. Except for extenuating circumstances, it is likely that this time will need to be “made up” to satisfactorily complete rotation requirements. This may subsequently increase the length of your residency.
Education Leave

Residents are entitled to use a portion of their leave time to attend conferences. Approval for Graduate Medical Education (GME) leave must be obtained from the Residency Program Directors and Department Chairperson with coverage arranged by the resident as outlined above in “Vacation/Sick/ Educational Leave Coverage”.

Expenses for travel, registration fees, and for personal expenses are the responsibility of the resident. However, the Department Chairperson may fund part or all of the expenses upon request, after counsel with the Department Executive Committee, if you are presenting, and you can use your educational stipend.

All requests for GME funding must be submitted and approved at least 60 to 90 days in advance of program participation. Include the following information:

1. A written request with dates, dollar amounts.
2. Location and content of the meeting.
3. Brief outline of your resident presentations.

Priority will be given to:

1. Original research presented at national meetings.
2. National meeting presentations.
3. Meetings that will directly benefit the Department of PM&R or promote research projects within the Department.

THERE IS NO GUARANTEE THERE WILL BE ANY FUNDING AVAILABLE FOR RESIDENT TRAVEL.

Library Facilities

Michigan State University Medical Online Library

Residents have full access to the Michigan State University libraries, including their extensive electronic resources. The MSU electronic library allows online medical literature searches and full-text access to an extensive collection of electronic medical journals. Residents are encouraged to use these vast resources to study medical literature and to support their research. There are approximately 170 online medical textbooks available through the University system.

Health Sciences Digital Library

This Digital Library website pulls together MSU Library materials and services related to health sciences for all faculty, staff, and students in MSU’s health colleges and other clinical or biomedical related colleges. For the past several years, the MSU Libraries has focused on acquiring electronic health sciences materials, particularly journals for access to our affiliated health sciences faculty and students who can be found all over the state of Michigan. Through this site, MSU affiliated
faculty, staff, and students can access over 2000 biomedical and clinical electronic journals, databases for searching the research literature and evidence based medicine resources.

**Where is the Health Sciences Digital Library located?**

Because there is no actual "brick and mortar" health sciences library at MSU, some books and journals can be found at the MSU Main Library (clinical medicine, nursing, allied health, and biological sciences) and the Veterinary Medicine Branch Library. All of the Health Sciences Librarians have offices in the Main Library; five are health sciences librarians who are available to provide help and services to faculty, staff, and students in the health and biomedical subject areas. They provide instruction and consultation in using our resources and can provide help you find research, teaching, study or assignment materials.

**Who are the Health Sciences Librarians?**

The Health Sciences Group at the MSU Libraries consists of 5 librarians:

- The Health Sciences Coordinator and the Liaison to the Basic Biomedical Sciences and Biomedical Laboratory Diagnostics.
- The Liaison to the College of Veterinary Medicine and Department of Kinesiology.
- The Liaison to the College of Human Medicine.
- The Liaison to the College of Nursing.
- The Liaison to the College of Osteopathic Medicine, the Public Health Program and the Department of Communicative Sciences and Disorders.

**How do I contact a Health Sciences Librarian?**

- Use the Ask a Health Sciences Librarian form found on this Web site.
- Call or e-mail your Health Sciences Library Liaison. Contact information can be found in the Liaison list, which can be found under Contact.

**How do I request material that the MSU Libraries does not own or from the MSU Libraries if I am off campus?**

Comprehensive information for MSU patrons about requesting material from other libraries or from the MSU Libraries is on the Requesting Materials page.
What are the MSU Libraries' hours?

During the Fall and Spring semesters, when MSU classes are in session, the Main Library is open 24 hours a day from Sunday at 10 a.m. to Friday at 12 a.m. Saturdays we are open from 10 a.m. to 12 a.m.

A comprehensive list of all MSU Libraries branch and unit hours are listed on the Hours page.

The Sparrow Health Sciences Library

This full-service medical/nursing library provides quality medical information to the physicians, nurses, other healthcare professionals and the Mid-Michigan Health System. The Library supports the information needs and Mission of the Sparrow Health System. Hours of operation are Monday-Friday, 7am-5pm, closed on most national holidays. The Library is open to physicians 24/7/365.

The Sparrow Health Sciences Library provides access to world-class information resources in support of the decision-making needs of clientele, incorporating both traditional print and electronic resources. This presents both opportunities and challenges to the seeker of medical information. It is strongly encouraged that the assistance of a medical librarian be sought to take full advantage of the benefits and to avoid the common oversights in this environment. Sparrow Health Sciences Library Associates provide training sessions to help familiarize clients with proficient use of all available research tools. Group and/or individual instruction is available by appointment. As well, many other services are offered to assist clients in obtaining the best evidence.

The Sparrow Health Sciences Library offers a welcoming environment where health care providers may conduct research, study or simply relax. Ten computer workstations provide access to the thousands of electronic books and journals and too many other specialized health sciences resources. The Library is open to the public and supports the educational needs of the Mid-Michigan Community.

Chi Library, McLaren Lansing Greenlawn Campus

This is McLaren’s main library. Phone: 334-2270. The library is fully staffed from 8:00 A.M. - 5:00 P.M. Monday through Friday. Services include:

a) Medical texts
b) Medical journals
c) Video tapes
d) Audio tapes
e) Computers - including CD-ROM, Internet, Word Processing
f) PowerPoint presentations

g) Literature searches

h) MED-LINE.

The McLaren Library facilities may be used after normal hours by notifying Security. You must have a staff ID card for after-hours sign-in and sign-out.

**Medical Rehabilitation Program, McLaren Orthopedic Hospital, Lansing Pennsylvania Campus**

This small collection of basic science and clinical texts is maintained at the Neuro Diagnostic Center at the McLaren Pennsylvania campus and is available to residents at any time.

**Library Computer Facilities**

Computers for resident use are located at all library facilities, in our residents’ office at SPB (Rm. 520) and in Sparrow Hospital 6th floor PM&R Resident office. The Koblijak Center (1st Floor West Fee Hall) has computers loaded with medical education programs. Access to the Koblijak Center is on “as available” basis. Most computer facilities have Internet, MED-LINE, CD-ROM, Word Processing, Graphics and e-mail capability. Computers with Internet access are also available in the Neurodiagnostic Lab at McLaren Lansing Pennsylvania Campus.

**Graduate Medical Education Inc. (GEMI)**

**Wages**

2010- 2011 House Staff Wages

<table>
<thead>
<tr>
<th>PGY</th>
<th>(Year Resident)</th>
<th>Annual</th>
</tr>
</thead>
<tbody>
<tr>
<td>II</td>
<td>2nd Year Resident</td>
<td></td>
</tr>
<tr>
<td>III</td>
<td>3rd Year Resident</td>
<td></td>
</tr>
<tr>
<td>IV</td>
<td>3rd Year Resident Chief’s</td>
<td></td>
</tr>
</tbody>
</table>

**Educational Policy Stipends for Residency**

<table>
<thead>
<tr>
<th>Stipend Amount</th>
<th>First Year Residents (PGY2)</th>
<th>$1,000</th>
</tr>
</thead>
</table>
Second Year Residents (PGY3) $1,000
Third Year Residents (PGY4) $1,000

1. Basic required texts will be purchased by the Department for First year residents. These texts will be used for didactic purposes throughout the residency.

2. It is strongly recommended that residents use the above funds to attend one conference annually. Osteopathic residents must attend at least one AOCPMR meeting during their residency. Information on the following conferences can be found on-line:
   - AOCPMR Mid-year or Annual Meeting
   - AAPMR Annual Assembly
   - AANEM Annual Meeting
   - AAP Annual Meeting

**PM&R Board Review Course**

As incentive for research and presentations, residents can receive (if funding is available) additional travel money and time to present at scientific meetings approved by the Residency Committee and Residency Program Directors.

Residents may attend other meetings at their own expense and with their allowed CME and/or vacation time. Residents will be provided 5 CME days per year. Attendance at all meetings, regardless of funding source and type of leave taken, must be requested and approved (preferably 60 to 90 days in advance) by the Residency Program Directors, Chief Residents, Residency Committee and applicable attending physicians. Final approval must be obtained from the Department Chairperson.

**Insurance/Benefits**

Open enrollment for all benefits is in July of each year. If you decide not to enroll as a new hire or during the active enrollment period, future enrollment in the benefit programs is allowed only if you have a new dependent, suffer loss of other coverage, or experience a change in marital status. Please note that it is imperative that you notify GEMI of any life changes that change your beneficiaries, alter the type of coverage needed, or change where information can be sent. Please do not hesitate to call if you have any information changes, questions, or concerns.
Health Care Insurance
GMEI provides health insurance through Physician Health Plan of Mid-Michigan. Our plan is called PHP Plus. GMEI pays 100% of the premium (Click here for a brief summary of the benefits). For more information and to review the provider network please refer to the PHP of Mid-Michigan website. Please note that our program does not limit care to specialists or in network providers.

To enroll you and your family, you must complete sections A-G on the enrollment form.

Dental Insurance
GMEI provides dental insurance through Delta Dental of Michigan. GMEI pays 100% of the premium (Click here for a brief summary of the benefits). For more information on Delta Dental and to review the network of participating dentists please refer to the Delta Dental website.

In order to enroll you and your family in the benefit, you must complete the enrollment form.

Life Insurance
GMEI provides life insurance through Symetra Financial. GMEI pays 100% of the premium (Click here for a brief summary of the benefits). In order to enroll you and your family in the benefit, you must complete the enrollment form.

Long-Term Disability Coverage
GMEI provides long-term disability insurance through Provident Life and Accident Insurance. GMEI pays 100% of the premium (Click here for a brief summary of the benefits). In order to enroll you and your family in the benefit, you must complete the enrollment form.

Worker’s Compensation Coverage
All trainees are protected by workers’ compensation insurance through MHA Service Corps. GMEI pays 100% of the premium. This policy covers injury or illness resulting from legitimate training activities (such as needle sticks). By law, GMEI is required to report injuries covered under workers’ compensation within twenty-four (24) hours. Please report any work-related injury or illness immediately to your supervisor and/or Executive Director. Notice of Injury forms are available here and should be faxed to GMEI at (517) 432-5694.

- Front Injury Request Form
- Back Injury Request Form

Family Medical Leave Act
GMEI has a policy in place for the Family Medical Leave Act. Please select the form that best applies to your situation:

- Family Medical Leave--intermittent leave
- Family Medical Leave--leave
- Family medical Leave--reduced schedule

**Additional Benefits**

As a trainee in an accredited graduate medical education program, certain additional benefits are provided to support the educational process. Please consult your program’s training manual for the specific list of benefits and any associated limitations.

**Parking**

Michigan State University parking permits are available from the MSU Department of Public Safety (Phone: 355-8440; Address: 87 Red Cedar Road, MSU Campus, East Lansing, MI 48824). The cost depends on the term of the permit. MSU DPS personnel will tell you where you are allowed to park.

A gate card is available through the Medical Education Office (Greenlawn Campus) for McLaren Lansing Greenlawn, which will allow access into the Greenlawn Campus Physicians Parking Lot. Parking at the Pennsylvania Campus is available at the rear of the hospital - no permit is required. The hospital will ask you to register your vehicle with the Engineering/Security Office. Residents are expected to do this as soon as possible.

A Sparrow Hospital ID badge is available through the Medical Education office for all visiting residents. This badge will allow access into the new parking ramp on the corner of Pennsylvania/Michigan Avenue and Jerome Street. Parking is permitted for residents on the 4th floor and above. Residents are expected to obtain the ID badge the just prior to, or on the first day of, their rotation at Sparrow Hospital. **NO PARKING IS ALLOWED IN SBP PARKING LOT FOR RESIDENTS.**

**Meals**

Meals are available at both campuses of McLaren Lansing (breakfast and lunch only at Pennsylvania Campus), and Sparrow Hospital. Residents will be asked by the cashiers for their physician number (given to you during orientation) or they may ask you to initial the receipt. Meals continue to be a part of your residency benefit.

**Sparrow Meal Allowance Rules**
The AOA and ACGME requires food be provided to residents only during on-call periods. There is no requirement to make food available during any other time. The Sparrow Medical Education Administration has made a decision to provide food at all times to simplify resident’s lives; but with rules. A meal allowance will be electronically added to ID badges and is for personal use only. Food may not be bought for others, e.g. nurses, your family, etc.

The food allowance for the year 2014-2015 is $1,000. To avoid abuses of the system and to facilitate monitoring of expenses, this money will be loaded onto meal cards in $500 increments in July and January of each year.

NEW residents/fellows who have not yet had their cards "swiped" and entered into the system will need to see Mr. Bradshaw in Court 1200 (2d floor, SPB) to receive their initial allowance. Residents who have previously had meal allowances on their badges do not need to do anything; balances will be remotely adjusted.

Resident who haven't had funds added for the current academic year will receive $500; residents who have had money added since July 1 will have a balance of $500 MINUS whatever has been expended since July 1.

This is a semi-annual allowance and a second allotment will be provided in January to bring balances to $500 for the next 6 month period.

This policy has been put in place by Sparrow Medical Education and complaints/comments, if any, should be directed to Diane Sanders at 364-2767 or via e-mail to Diane.Sanders@sparrow.org

Cafeterias at the McLaren Lansing, Pennsylvania Campus, McLaren Lansing, Greenlawn Campus and Sparrow Hospital are all located on the lower/basement levels. A cafeteria is located at the MSU Clinical Center but you must pay for this service. Meals at Mary Free Bed Hospital are provided at no cost to you. You will be given an account number for meal access when you arrive for rotations at MFB.

Mailboxes

Residents have mailboxes in numerous locations; each MUST be checked weekly:

1) MSU: Mailboxes are located at the PM&R Dept. Office, B-401 West Fee Hall, East Lansing, MI 48824-1316. This mailbox is used primarily as a business address and for departmental communications. **You must check your mailbox weekly.**
2) McLaren: a) EMG Lab mailboxes are strictly for EMG reports that need to be reviewed and signed. You will be expected to check these regularly once you start rotations/experiences in the EMG Lab

b) SBP Suite 520 mailboxes are to receive interdepartmental mail and messages that mainly pertain to the inpatient rehabilitation unit. The mailing address for Sparrow is 1200 Michigan Avenue Suite 520 Lansing, MI 48912.

University Holidays

GMEI grants (7) paid holidays to graduate medical education trainees. Holiday calendars for graduate medical education trainees will be coordinated by their Program Directors who have the authority to grant up to two (2) additional paid holidays to be in alignment with the Michigan State University (MSU) holiday calendar. Graduate medical education trainees are eligible for holiday pay on the date of hire. The benefit is not payable to graduate medical education trainees who are on an official leave of absence without pay, worker’s compensation, layoff, or disciplinary suspension. Graduate medical education trainees with an unexcused absence on either the day before or the day after the holiday are not eligible for holiday pay.

Graduate medical education trainees preferring alternative religious holidays should notify their supervisor at the start of the fiscal year (July 1st). Since religious holidays fall at various times throughout the year, requesting religious holidays other than those listed above requires supervisor approval. For graduate medical education trainees, please consult your program’s training manual for the specific process and any limitations.

Graduate medical education trainee vacation days are provided at the beginning of the fiscal year (July 1st). Vacation days are not carried over from year to year. Trainees who leave the program before the end of the fiscal year are not entitled to payment for unused vacation time. Each accredited program’s training manual will describe the process required for absences and vacations. Post graduate year one (PGY1) trainees will receive 10 working days (excluding weekends) of paid vacation. Post graduate years two and three (PGY2 and PGY3) will receive 15 working days (excluding weekends) of paid vacation. Trainees may not forego vacation time to make up a deficit in training time. All vacation time must be approved in advance by a Residency Program Director.

Graduate medical education trainees may also be provided paid educational leave days depending on the requirements of the accredited graduate medical education program. Please refer to your program’s instructional manual for more detail.

If a graduate medical education trainee needs time off once all of their paid time off has been exhausted, the supervisor has the authority to allow unpaid time off. Graduate medical education trainees must realize this will impact their ability to
complete their training on time and must have the request approved by their Program Director. Michigan State University has the following routine scheduled holidays.

<table>
<thead>
<tr>
<th>Holiday</th>
<th>Days Allowed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fourth of July</td>
<td>1 day allowed</td>
</tr>
<tr>
<td>Labor Day</td>
<td>1 day allowed</td>
</tr>
<tr>
<td>Thanksgiving</td>
<td>2 days (Thursday &amp; Friday) allowed</td>
</tr>
<tr>
<td>Christmas</td>
<td>2 days allowed</td>
</tr>
<tr>
<td>New Years</td>
<td>2 days allowed</td>
</tr>
<tr>
<td>Memorial Day</td>
<td>1 day allowed</td>
</tr>
</tbody>
</table>

Coverage of inpatient facilities and consultations must be arranged in advance, and agreed upon by residents, with Chief Resident approval, before anyone schedules time off on these holidays.

**Keys**

1) Michigan State University: You will need an MSU Faculty Photo ID to access the main doors to the building. Keys will be provided for the hallway door (4th Floor), and general PM&R Departmental offices at West Fee Hall at the time of orientation. You are responsible for these keys and will be charged a fine (in addition to replacement costs) if they are lost.

2) Sparrow Professional Building – Access with SparrowID badge

3) Ingham Regional Medical Center - Pennsylvania Campus: keys to the outside (North Entrance) and stairwells will be issued at the time of orientation at the hospital. You will be required to sign a statement of acknowledgment at the Dept. of Maintenance/Engineering. Loss of these keys will result in a $30-$50 charge per lost key that will be leveled by the hospital.

Keys at other facilities/locations will be provided on an as needed basis. Please see appropriate personnel at each location.

**New Innovations Evaluation System**

The Department of PM&R uses an electronic evaluation system called “New Innovations”. The program is set up and maintained by the Chief Residents and the MSU Department of PM&R Residency Coordinator with input from the Residency Program Directors.

At the end of each rotation, the following 3 evaluation forms are required to be completed:
1. The attending physician(s) for the rotation evaluate the resident
2. The resident evaluates the rotation
3. The resident evaluates the attending physician(s)

New Innovations will automatically send an e-mail to the appropriate evaluators to remind them to log on and complete evaluations. The website address is www.NewInnov.com. You will be requested to enter the institution’s login: LANSING. New Innovations login is case sensitive so remember to use CAPS for the institution login and a lower case for your name and password. Your login name is the first letter of your first name and your last name. The first time you sign on, your login and password are the same. The system will prompt you to change your password.

**Resident Evaluations**
Attending physicians may discuss the evaluation of a resident prior to, or at the time of, the evaluation. Residents are free to add their own commentary.

Annual evaluations of the residency program are expected to be completed by the resident. You will be notified by the New Innovations system. The Residency Directors will complete quarterly as well as annual evaluations on each resident, as required by the accrediting organizations.

New Innovations will automatically send an e-mail to the appropriate evaluators to remind them to log on and complete the evaluation. The website address is www.NewInnov.com.
NEW INNOVATIONS
residency management suite

Institution Login

Username

Password

Login information is case-sensitive

Login | Cancel

Forgot Your Password?

User accepts sole and complete responsibility for information entered and appearing herein. Verify the accuracy of this information before use.

🌟 Add to Favorites

Rehabilitation Medicine Checklists for Advancement
The physical medicine rehabilitation resident must demonstrate sufficient achievement in the following to permit advancement:

### Advancing from Residency Year 1 to Residency Year 2

**Yes**  **No**

__ __  Obtains an adequate medical history ________________________________

__ __  Performs an adequate musculoskeletal exam ____________________________

__ __  Has passed the practical NCS test ____________________________

__ __  Can adequately interpret a limited differential diagnosis __________________

__ __  Produce an adequate history and physical report ____________________

__ __  Develops advanced Rehabilitation Plans and Writes Prescriptions ____________________________

__ __  Produce an adequate progress note and consultation __________________

__ __  Write (dictate) appropriate orders ____________________

__ __  Write (dictate) an adequate discharge summary ____________________

__ __  Develops appropriate inpatient treatment plans __________________

__ __  Able to read research study and evaluate study __________________

### Demonstrates basic proficiency in the following:

__ __  Medical Knowledge __________________

__ __  Patient Care __________________
Rehabilitation Medicine Checklist for Advancement

The physical medicine resident must demonstrate sufficient achievement in the following to permit advancement:

Advancing from Residency Year 2 to Residency Year 3

Yes  No  Remarks (for "No" answer)

___ ___ Obtains an expanded PM&R medical history

___ ___ Performs an expanded physical examination

___ ___ Has passed the EMG needle practical test

___ ___ Develops an expanded differential diagnosis

___ ___ Can adequately interpret laboratory studies

___ ___ Develops moderate complexity Rehabilitation Plans
and writes prescriptions

___ ___ Produce a well organized history and physical report
____________________________

___ ___ Produce an adequate progress note and consultation
____________________________

___ ___ Write (dictate) appropriate rehabilitation orders
____________________________

___ ___ Write (dictate) a well organized discharge summary
____________________________

___ ___ Assume leadership roles in residency
____________________________

___ ___ Able to do literature search for specific questions
____________________________

___ ___ Able to complete an IRB application
____________________________

Demonstrates expanded proficiency in the following:

___ ___ Medical Knowledge
____________________________

___ ___ Patient Care
____________________________

___ ___ Systems-based Practice (SBP)
____________________________

___ ___ Professionalism
____________________________

___ ___ Interpersonal and Communication Skills
____________________________

___ ___ Problem-based Learning and Improvement (PBLI)
____________________________

___ ___ Osteopathic Principles
____________________________
Resident should advance: Y / N
Program Director
Signature: __________________ Date: ______

Rehabilitation Medicine Checklist for Advancement

The physical medicine rehabilitation resident must demonstrate sufficient achievement in the following to permit advancement:

Advancing from Residency Year 3 to Graduation

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
<th>Remarks (for “No” answer)</th>
</tr>
</thead>
<tbody>
<tr>
<td>___</td>
<td>___</td>
<td>Demonstrates competency in EMG/NCS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>_________________________</td>
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<tr>
<td>___</td>
<td>___</td>
<td>Understands the principles of office management</td>
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<tr>
<td>___</td>
<td>___</td>
<td>Accurately interprets diagnostic tests</td>
</tr>
<tr>
<td></td>
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<td>_________________________</td>
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<tr>
<td>___</td>
<td>___</td>
<td>Develops an expanded differential diagnosis</td>
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<tr>
<td></td>
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<td>_________________________</td>
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<tr>
<td>___</td>
<td>___</td>
<td>Can determine laboratory studies to assist with patient management</td>
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<td></td>
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<td>_________________________</td>
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<tr>
<td>___</td>
<td>___</td>
<td>Develops advanced Rehabilitation Plans and Writes Prescriptions</td>
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<tr>
<td>___</td>
<td>___</td>
<td>Can perform complex office procedures; i.e. injections</td>
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<td>_________________________</td>
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<tr>
<td>___</td>
<td>___</td>
<td>Shows competency in managing PM&amp;R medical conditions at level to become attending</td>
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<td>_________________________</td>
</tr>
</tbody>
</table>
Performs advanced consultations

Write (dictate) appropriate orders

Write (dictate) an advanced discharge summary

Assumes leadership roles in residency

Determine research design and analysis for hypothesis

Demonstrates advanced proficiency in the following:

Medical Knowledge

Patient Care

Systems-based Practice (SBP)

Professionalism

Interpersonal and Communication Skills

Problem-based Learning and Improvement (PBLI)

Osteopathic Principles

Should resident graduate: Y / N  Program Director
Signature:____________________  Date:_____

BLS (CPR) and ACLS Certification

Current certification in BLS (CPR) and ACLS is mandatory for all residents. Please contact the Medical Education Offices at McLaren Lansing, Sparrow Hospital or
Lansing Community College for re-certification information (BLS and ACLS). GEMI will provide funding to ensure that residents’ BLS Certification remains current. Additionally, funding for one re-certification in ACLS will also be provided by GEMI during the residents’ training time.

**Residency Supervision Guidelines**

Residents are assigned to attending physicians for each rotation. Attending physicians are expected to supervise and provide education for residents.

1) For inpatient services, residents and attending physicians will review/discuss and/or examine patients on a daily basis.

2) Attending physicians will read, sign, and supplement each resident’s progress/clinic notes and orders. Residents are required to read the notes of the attending physician.

3) Consultations performed by the resident should be reviewed with the attending physician. Generally, attending physicians will complete key components of examination during or after the resident’s examination and evaluation. The attending physician will complete the plan or write a short synopsis of the patient’s history, key components of physical assessment and plan.

4) Outpatient clinic contacts, procedures and electrodiagnostic evaluations will be supervised and reviewed, with the resident, by an attending physician.

5) The ultimate responsibility for resident supervision lies with attending physician. Residents are expected to proactively discuss specific supervision parameters for each rotation experience with attending physicians.

6) Residents are expected to be available for the full duration of their rotation experience each day. Residents are expected to be prompt when attending to all residency rotation responsibilities. Residents take call from home and must always be available by pager or phone during call hours. Faculty (attending physician) backup is available for each resident during call hours. When dealing with medical emergencies on inpatient services (i.e. cardiac arrest, pulmonary embolism, etc.) residents are free to interact with available consultants in order to medically manage the case. However, physiatric attending physicians must always be notified. Residents are expected to be physically available within 15 minutes.

7) Residents are instructed not to initiate major changes in therapy, or medical interventions, on any patient, at any time, without expressed consent of attending physicians. Please discuss specific, pertinent policies with each attending physician.
Residents are scheduled “on-call” on a periodic basis. As previously noted, the “call” schedule will be determined by the Chief Residents with the approval of the Residency Program Directors. Resident call is from home. Residents, when on call, are expected to be available to inpatients within 15 minutes’ time. On call weekend residents will cover consults from Friday at 15:00 through Sunday at 12:00; round with the on-call Attending on either Saturday or Sunday (coordinated by the physicians involved) and be available by phone from Friday 17:00 through Monday 08:00. Residents will be required to see each patient and to provide an appropriate progress note. Residents are also expected to respond to phone calls from nursing staff in a prompt and professional matter. If necessary, due to a change in medical condition, residents are expected to provide additional evaluation and medical management of patients whenever necessary. An attending physician is always available to residents who are on-call. Additionally, in an emergency situation, residents are expected to avail themselves of services of “in-house” emergency physicians or other appropriate personnel. Significant changes in the patient’s medical conditions must be reported to the appropriate on-call attending physicians. Questions concerning on-call policy should be directed to the appropriate attending physician, Chief Resident or Residency Program Director. Residents transferring care to another resident are expected to provide a detailed face-to-face, phone, or written report on all pertinent information needed to assume care.

**Code Pager**

PM&R residents carry the McLaren Pennsylvania Campus code pager on a predetermined schedule coordinated by the Department of Medical Education. Residents are expected to adhere to the agreed upon schedule; in case of emergency requiring a schedule change, the Chief Residents should be contacted immediately and the Department of Medical Education should be notified. Under NO circumstances is the code pager to be “un-manned” during a PM&R scheduled time.

2014-15 Code Coverage at McLaren Lansing/ Penn Campus

**Physical Medicine and Rehabilitation Residency Program:**

**Week 3 of each month:** Physical Medicine and Rehabilitation (PM&R) Residency Program will cover Monday thru Friday, 7p-7a as paid shifts. PM&R Residency Program will also cover Saturday and Sunday of Week 3 as paid shifts. The weekends have been broken up into 3 shifts: 7a-3p, 3p-11p and 11p-7a. **Note:** There are occasions when residents are to be excused from duties to attend protected educational time (i.e., SCS days). During such events, the resident will need to make arrangements with another residency program to carry the code pager.
Notes of Importance:

All weekend and Holiday shifts have converted from 12-hour shifts to 8-hour shifts:
7a-3p, 3p-11p and 11p-7a.
All paid shifts must be recorded on the time sheet located in the Code Coverage Call Room.
The code pager MUST be handed off to the next Resident on the Schedule. It MUST NEVER be left unattended.
If you need to find coverage for your shift, a contact list for all Residents participating in Code Coverage is located in the Code Coverage Call Room.
In 60-90 days, the committee will review how the new schedule is working.
I have attached a calendar to show the changes.

Duty Hours

Residents are expected to promptly attend to all clinical rotation responsibilities and to be present for didactic sessions. Residents are expected to be on time even if the attending physician has a conflicting schedule (unless prior arrangements have been made). Generally, residents’ duty hours begin no earlier than at 7:00 a.m. (with the exception of required meetings, didactics, etc.) or as otherwise announced. The length of the duty day will vary from time to time; however, it is realized that the resident may be required to work more than 9 hours per day. It is expected that residents’ responsibilities will be completely discharged before leaving the work site. The program will maintain compliance with duty hour policies of the AOA and the ACGME.

Questions concerning expected duty hours and other pertinent policies, should be directed to the appropriate attending physician, to a Residency Program Director, or to a Chief Resident.

Lab Coats

Lab coats will be provided by GMEI and will be ordered during orientation. You will be provided 1 coat per year. You can order them all at one time but no more than 3 labs costs will be provided during the residency. Questions regarding lab coats should be directed to the Residency Coordinator or to GMEI.

Copying Facilities

Copying facilities are available to residents at various locations. It is expected that residents will use departmental copying facilities for departmental or residency business only. Copier locations are:
A) Michigan State University, Department of Physical Medicine and Rehabilitation Academic Office, 4th floor, West Fee Hall.
B) McLaren Pennsylvania Campus in the administrative office. This copy machine, available at all times, is intended for business pertaining to McLaren only.

C) Dept. of Neuro diagnostics (EMG Lab) at the McLaren Pennsylvania Campus. It is intended that this machine be used only for copies pertinent to EMG studies.

D) Mary Free Bed Hospital and McLaren Medical Center: please contact personnel there for specific details.

E) 520 SPB and F) 6 Foster, inpatient rehabilitation unit at Sparrow hospital

All copying by the resident should be related directly to their residency duties and responsibilities; copying for personal use is not permitted in any facility.

Work Environment

GMEI shall provide the following work environment for each resident:

1. Adequate and appropriate food service and sleeping quarters while on duty in the hospital.

2. Patient support services, such as intravenous services, phlebotomy services, and laboratory services, as well as messenger and transporter services, in a manner consistent with educational objectives and patient care.

3. An effective laboratory and radiology information retrieval system necessary for the conduct of the educational programs and to provide quality and timely patient care.

4. A medical records system that documents the course of each patient’s illness and care and that is adequate to support the education of the resident and quality assurance activities as well as provide a resource for scholarly activity.

5. Appropriate security and personal safety measures in all locations associated with Resident’s employment.

RESIDENT’S DUTIES AND RESPONSIBILITIES

Revision Date: 6/27/10

Resident Time Commitment

1. **FULL TIME**: Resident shall devote full time work to the performance of Resident’s educational and service responsibilities. Full Time Work is defined as regularly working at least forty (40) hours per week during which time Resident shall be in contact with patients, available on-site to be in contact with patients, completing medical records, or performing other educational or clinical duties determined by the Residency Program Director.

2. **WORK HOURS**: Resident agrees to limit duty hours to 80 hours per week, averaged over a 4 week period, inclusive of in-house call. Residents will be
provided with 1 day in 7 free from all educational and clinical responsibilities, averaged over a 4 week period, inclusive of call. Resident further agrees that his/her continuous on-site duty, including in house call, will not exceed 30 consecutive hours.

3. **OUTSIDE PRACTICE (Moonlighting):**
   a. Any extra-curricular work activities, which are defined as work outside of residency duties (e.g., “moonlighting” or “outside practice”) shall require the written consent of the Residency Program Director and/or the Employer's Director of Medical Education (DME).
   b. Resident understands and agrees that he or she shall not engage in such outside practice if such activities interfere with the Resident’s ability to achieve the educational requirements of the Residency Program and that such work shall not replace any educational objective or goal of the Residency Program.
   c. Resident acknowledges that while engaging in any outside activities, Resident is not acting as an employee or agent of the Employer.
   d. An “outside practice” requires that Resident obtain and maintain an unrestricted license to practice medicine in the State of Michigan. MSU Sponsored Residency Programs do not carry or accept responsibility for liability insurance for Resident while engaged in outside practice. Resident agrees to obtain professional liability insurance coverage for all outside activities at Resident’s own cost.
   e. Resident further agrees that Resident’s total work hours both within the scope of this Agreement and or any outside activity shall not exceed the duty hour policy as described in the Graduate Medical Education Manual-MSU/CHM.

1. **LICENSES.** At all times during the term of this Agreement, Resident shall obtain and maintain licenses to practice medicine in the State of Michigan and shall maintain federal and state licensure to dispense controlled substances.

2. **RESIDENT DUTIES.** Resident hereby agrees to perform the duties of a PG (year in program) Resident in the Physical Medicine and Rehabilitation Residency Program in accordance with the terms and conditions of this Agreement. Resident shall be responsible to the Residency Program Director for the Physical Medicine and Rehabilitation Residency Program for educational and service responsibilities which shall include that he or she shall:
   a. Perform to the best of his or her ability the duties customarily assigned to all Residents in this Program.
   b. Be bound by the rules and regulations of Employer and any hospital in which Resident works.
   c. Conduct him/herself at all times in a professional manner consistent with the behavior customarily expected of physicians.
d. Complete all medical records of patients in accordance with the rules and regulations adopted from time to time by Employer or any hospital to which Resident may be assigned.

e. Provide quality education to medical students and other health professions students while he or she is participating in the graduate medical education program. Resident is eligible for an MSU faculty appointment in the College of Human Medicine at the Instructor/Resident rank.

Resident Grievance Procedures

A. A Resident in an MSU/CHM sponsored program initiating a grievance is required to use the MSU/CHM grievance process.

B. Good faith shall be made to resolve problems through informal means between the parties. The Program Director should be included as part of this informal process.

C. In the event that the matter cannot be resolved at the level of the Program Director, the Resident may file a written grievance and seek relief with the Chairperson of the affected academic department and request a review of the issue. A grievance must be initiated within 90 days of the action that is being grieved.

   1. The Chairperson shall attempt to mediate a resolution to the complaint.
   2. The Chairperson will put his/her proposed resolution in writing to the Resident with copies to the Program Director and the Associate Dean for GME.
   3. It shall be assumed that the Resident accepts the Chairperson’s resolution of the complaint if the Chairperson is not informed to the contrary within fifteen (15) calendar days of communicating a resolution to the concerned parties.

D. In the event that the resolution instituted by the Chairperson of the affected academic department is not acceptable to the Resident, s/he may request, in writing, a formal hearing of the grievance. The Resident must state the basis for the grievance and the request must be received by the Chairperson no later than fifteen (15) calendar days after the date the Resident is informed by the Chairperson of his/her suggested resolution.

E. The Chairperson and the Associate Dean for GME shall impanel a grievance hearing committee within fifteen (15) calendar days of the receipt of the grievance letter.

F. The members of the hearing panel shall consist of five (5) members including: two (2) physician faculty members from the involved clinical department, one (1) faculty member from the GMEC from a clinical department not involved in the action, one (1) senior Resident from the involved program and one (1) senior Resident from another MSU/CHM Sponsored residency program.
G. The hearing panel shall select a panel chair that will chair the meeting(s) and draft the report of findings and the recommendation of the panel.

H. The panel shall first meet to hear the Resident’s complaint within fifteen (15) calendar days of being impaneled.

I. The Resident and the individual grieved against (respondent) will have the right to challenge any member of the hearing panel for bias. The challenge must be in writing. The panel shall confer and decide the validity of a challenge. The panel’s finding shall be final.

J. The hearing panel shall endeavor to establish a collegial atmosphere in the present during the hearing. Either the Resident or the respondent may choose to have an attorney as an advisor. However, during the course of the hearing only members of the hearing panel, the Resident and the respondent have the right to address the panel members, the respondent, the Resident or other persons brought before the panel. An advisor shall not present the Resident’s nor the respondent’s case.

K. The report and recommendation of the grievance hearing panel shall be submitted to the Dean of the College of Human Medicine.

L. The Dean will inform the Resident, the respondent and the Chairperson of the academic department of his/her disposition on the hearing panel’s recommendation within fifteen (15) calendar days of the last hearing.

POLICIES & GUIDELINES

Resident Selection

Program Directors will review all new applications and give relative ranking to each application. All factors required for a complete application will be considered in this ranking. Of paramount importance is the medical school training, and the requirements of the American Osteopathic Association and the Accreditation Council on Graduate Medical Education for residency positions.

Upon relative ranking (grouping) of applications by the Program Director(s) the determination of the number of candidates eligible for interview will be discussed by the Residency Committee. Candidates will be given a relative ranking and be invited for a formal interview at MSU-COM.

Any member of the Residency Committee has access and input to any application during this time. Additionally, Residency Committee members may allow residents, faculty or other department members to review and comment on any application received.

Decisions to offer positions outside of the D.O. match v. participating in a match program are dependent upon the various circumstances surrounding the residency at each particular time. In general, it is desirable to participate in the NRMP match or, when applicable, in the AOA match.

Resident Interview
After initial application screening, potential residents will be interviewed. Any person having contact with the resident during the interview is requested to fill out a formal evaluation form.

After interview sessions, the Resident Ranking Committee will decide when to start the ranking process.

The Resident Ranking Committee shall consist of all interested members and residents of the Department. All current residents are invited as full voting members on the Resident Ranking Committee. All attending physicians are also invited. Representatives from Ingham Regional Medical Center, Sparrow Hospital, and McLaren are also invited to the Resident Ranking Committee.

Initial ranking of residents shall include a determination as to whether or not the applicant is acceptable in the MSU-COM program; if deemed unacceptable, further ranking and discussion of the applicant is terminated.

A ranking of each acceptable resident candidate will then occur with each member of the Committee allowed one vote (by show of hands) for each rank. Applicants will be ranked in the order agreed to by Committee vote.

**Contract Renewal and Advancement**

Resident evaluation will be reviewed by the Residency Committee and Program Director(s) quarterly. Criteria for advancement will be reviewed with each resident during the year end evaluation to verify that a resident demonstrates sufficient achievement to advance to the next residency level. A checklist will be completed and residents, who meet the criteria and that are satisfactorily completing the residency (based on all written, formal evaluations), will be recommended for advancement. Contract renewal will then be offered based on advancement. Residents, who are not performing satisfactorily, may be offered a contract to remediate previous work without definitive advancement. Non-satisfactory performance will follow policies and procedures explained in the Resident Handbook.

**Guidelines for Junior Resident Supervision by Senior Residents**

Senior residents are expected to assist and supervise junior residents in all aspects of the residency, inclusive of administrative and clinical issues. Senior residents may delegate work to junior residents if approved by attending physicians, and as part of scheduling. At no time should senior residents “dump” on junior residents. Additionally, senior residents are responsible to assist junior residents who are having trouble keeping up with clinical work or covering for vacations.

Senior or junior residents should request assistance from the attending physician if there are any questions regarding responsibilities or supervision level.
CHIEF RESIDENT JOB DESCRIPTION

Appointment Time: One year

Selection: Two persons per year will serve as Co-Chief Residents. Co-Chief residents must be at a PGY-2 or PGY-3 position in good standing at the time of selection in March of the preceding academic year. Candidates will be nominated by residents, via secret ballot; a list of all nominees’ names from the selection will be submitted for faculty for approval of two names. If two selections cannot be made from names submitted, residents will be asked to hold another election. Once two names are approved by faculty, the Co-Chief Residents are appointed effective April 1st until March 31st of the next calendar year.

Duties and Responsibilities:

1. Serve as resident representative to administration and staff of the Department.
   - Attend at least 50% of Department staff meetings as directed.
   - Attend all relevant meetings concerning the residency, including meetings involving resident supervision, discipline, and personal matters. (It is understood that at least one Co-Chief Resident is expected to attend these meetings.)

2. Each Co-Chief Resident will serve for the entire appointment year, with responsibilities divided among the Chief Residents by their mutual agreement and approval by faculty.

3. Co-Chief Residents will assist Residency Program Director(s) in organization of didactic activities.
   - Co-Chief Residents will assist with determination of didactic schedule.
   - Co-Chief Residents will assist with recruitment of speakers.
   - Co-Chief Residents will keep records of all didactic sessions (speaker names, presentation titles, dates and location) and submit this list to the residency program coordinator on a monthly basis for program documentation.
   - Co-Chief Residents will send speakers "Thank-you" notes.
   - Co-Chief Residents will work with faculty and the host facility to ensure adequate presentation facilities, ancillary equipment and supplies for lectures.
   - Co-Chief Residents will ensure that all Department faculty and residents, as well as students on service and rotators, are informed of location times and topics of didactics, rounds, schedule changes, cancellations, etc.
4. Co-Chief Residents will conduct/attend monthly resident business meetings and other residency related meetings as needed and will, as appropriate, report their results to Residency Program Directors and/or other faculty.

5. Co-Chief Residents will serve on the departmental Education Committee.

6. Co-Chief Residents, with the assistance of the outgoing Co-Chief Residents, will develop and maintain resident annual vacation schedules and educational leave schedules. A tentative vacation schedule will be developed to avoid excess vacation/travel on any single rotation and to ensure appropriate coverage is arranged. The annual vacation scheduled should be completed (with exception of new incoming residents) by June 15th. Additionally, the tentative educational leave schedule will be developed by August 15th of the current training year and distributed to all residents and other faculty personnel (including faculty and support staff) at that time. It is understood that an absolutely complete list of educational leave will not be possible by August 15th of the training year; however, dates of national meetings in the fall and winter (especially AAPM&R Assembly, and AAP and AOCPRM meetings) are known years in advance. All travel, educational leave, annual vacation, and other leave are subject to approval by Residency Program Directors and Department Chairperson.

7. Co-Chief Residents will develop, with the assistance of the outgoing Co-Chief Residents, the annual resident rotation schedule, with a preliminary schedule to be completed by May 15th of the preceding training year. Changes during the year are also done by Co-Chief Residents as necessary in concert with faculty.

8. Co-Chief Residents will represent MSU/COM PM&R residents at the Annual Assembly of the American Academy of PM&R and/or at appropriate meetings of the American Osteopathic College of Rehabilitation Medicine; they will also report the content of these meetings to residents and faculty at a mutually agreed upon time. Approval for travel funds will be obtained from Residency Program Directors and Department Chairperson. Meetings attended will be funded as outlined below.

9. Co-Chief Residents will represent the MSU/COM PM&R Residency Program at local and state physiatric functions as directed and approved by Residency Program Directors.

10. Co-Chief Residents are responsible for reviewing pertinent University, Department, Hospital and other appropriate policies and procedures (personnel and otherwise) with incoming residents within 2 weeks of the beginning of their residency; other policies and procedures will be reviewed with current (not new) residents on an as-needed basis or as directed by the faculty.
**Chief Resident Compensation:**

1. Co-Chief Resident certificate.

2. Attendance at the Annual AAPMR conference, or the National AAP meeting, or a suitable meeting of the AOCPMR, or the Northwestern University P&O course (or other acceptable alternative). Full room rate and departmental per diem allowance (maximum $1,200 per year) will be covered for each Co-Chief Resident. Preferably, one Chief Resident will attend different meetings to avoid both being gone at the same time. EACH Co-Chief Resident will attend ONE of these national meetings. Unspent funds may be used for other CME activities or books. Should both Co-Chief Residents elect to attend the same meeting they will, unless opposite sexes, be expected to share a room.

3. Each Co-Chief Resident will have protected, authorized (by attending staff) office time while on each rotation, as appropriate, to spend on Chief Resident duties. This would not preclude absence from the rotation site, but would involve protection from patient care responsibilities for a time (i.e. approximately 2-3 hours per week) to be negotiated with attending physician. It is expected that many of the responsibilities of the Chief Resident will be done in addition to a normal clinical/teaching load.

4. Chief Stipend (in travel, books, or other acceptable form) of $1,200 for the academic year to be divided equally if more than one Chief Resident.

**Cancelled Clinics Policy**

This policy outlines what residents should do when the Clinic for their rotation is canceled, gets out early, or when a regularly scheduled patient activity is over early. This policy encompasses at least three of the core competencies: Professionalism, Patient Care and Systems Based Practice. Lack of compliance with this policy will be reflected in evaluations and may be cause for remediation.

Part of your training will be to learn what it means to be professional in regard to a group practice and “team-oriented” in your relationship with co-workers. In part, this means that you should not overlook other team members’ interests. For example, if your clinic is done early and you hear that the consult service still has work to do, you should offer to help out. This implies that the resident whose primary responsibility is inpatient consults, as an example, should do their best to complete their work by working efficiently to complete as many consults as possible before attempting to ask for help. The idea is to help others when you have spare
moments and in turn others will help you when you are in need. This translates into delivery of optimal patient. This should not be an opportunity for one resident to dump work on another.

When you are assigned to EMG’s, other outpatient clinics, or other outside rotations there will be times (especially at Thanksgiving, Christmas and New Year’s Holidays) when your attending physician is on vacation and their clinics have been cancelled. During these times, **IT IS YOUR RESPONSIBILITY** to contact the attending physician or resident on the inpatient rehabilitation service and/or consult service to ask if there are any consults, clinics, inpatient admissions, inpatient EMG’s or other work to do. Just because the EMG/outpatient clinic has been cancelled, does not mean you have a “day off”. The only time you are allowed to take time for studying or reading during regular duty hours is if your attending physician directly tells you to go to the library and read. You are a paid employee and you are expected to work. Again, you should contact the attending physician or resident responsible for the consult service that day to ask if there are consults you can help with. You should also contact the attending physician or resident responsible for inpatient rehabilitation to ask if there are any admissions, consults or other work to do.

It is **YOUR RESPONSIBILITY** to find work that needs to be done and to do it independently without prodding and nagging from the attending staff. Another example: If you have an EMG/clinic cancelled in the morning, and you do not contact the attending until 11:00am and there is a consult that you could have done from earlier that morning, you should plan on doing that consult after 5:00pm the same day when you are done with your afternoon responsibilities. Lack of planning and/or initiation on your part will not be rewarded with going home early or transferring work to other people.

**Continuity Clinic Policy**

This document serves as the MSU/COM Department of PM&R Resident Continuity Clinic Policies and Procedures. The goal of this clinic and the goals and objectives of all rotating clinics are described below. The primary goal of the Resident Continuity Clinic is to provide continuity of care to patients and continuity of education to PGY 4 residents.

1. Attending physicians will be assigned on a rotating basis.

2. Residents will have their own panel of patients to follow during their year at the continuity clinic.

3. Residents will be responsible for follow up care of new patients; they will “take ownership” of their patients and be expected to deliver excellent medical care.
4. Residents will return telephone calls and respond to messages from their Resident Clinic patients. This requires them to check their electronic medical record at least one time per week, unless they are on vacation. If they are on an out of town rotation, they are expected to log into the EMR and sign their notes and respond to telephone calls on a weekly basis.

5. At the end of each clinic, residents are expected to “clean off” their desk top, i.e. sign off on all notes and respond to all telephone calls. Attending physicians and Clinic Coordinator are usually present at that time and can help the resident accomplish this in an educational and appropriate manner.

6. The situation may arise where a resident will have to leave their rotation to attend continuity clinic. The continuity clinic should take precedent over most rotations. Residents need to look at their schedule and plan ahead to do this. At this stage of training residents will pull out of the following rotations to attend continuity clinic every week: All outpatient rotations including McLaren and Sparrow. Inpatient rotations at Mary Free Bed, Sparrow inpatient rehabilitation, and McLaren consults. Residents will be expected to schedule one or two resident continuity clinics per month. For in-town rotations, residents should finish their work (consults or inpatient rounds or admissions) before or after the continuity clinic when possible. For out of town rotations, this will not be possible and attending physicians will need to cover this. For example, if the resident is on Sparrow inpatient, they will be expected to help out with rounds and admissions prior to the resident clinic, and after resident clinic. They should call the McLaren consults, and Sparrow inpatient attending physicians to discuss with them what work remains to be done after the Resident Continuity Clinic.

7. Senior residents will notify clinic staff by e-mail (with copies to the Program Directors) who will be present at the Resident Continuity Clinic approximately 6 to 12 weeks prior to each rotation.

This document serves as the MSU/COM Department of PM&R Resident Continuity Clinic Policies and Procedures. MTA/JRS

Departmental Policy for Clinical Work Outside the Scope of Residency Responsibilities (“Moonlighting”)

The practice of “moonlighting” by residents is neither specifically prohibited nor encouraged. “Moonlighting” is not a part of the PM&R Resident’s post-graduate training the MSU COM program.

Accordingly, there is absolutely no malpractice liability insurance coverage provided for PM&R Residents if and when they engage in this type of activity.
It is our strong suggestion to you that you not “moonlight” if at all possible. In order to avoid problems which may have negative consequences on your post-graduate medical training and education, we advise that, prior to engaging in “moonlighting” residents should: a) determine whether you will be considered as an independent contractor or an employee (this may have ramifications upon whether or not you need to provide your own malpractice insurance); b) obtain written evidence securing the nature and extent of professional liability insurance coverage and the identity of the insurance carrier providing this protection; c) at their own expense, obtain an unrestricted license to practice medicine from the State of Michigan, Department of Commerce and, potentially, a State Controlled Substance License and Federal DEA Registration.

Again, it is the resident’s responsibility to ensure they are covered by malpractice insurance other than the insurance provided for their residency training.

Please note: any and all “moonlighting” activity must be approved in advance by a Residency Program Director. Failure to obtain this approval could result in disciplinary action. Any “moonlighting” activity that is approved must not in any way interfere with the resident’s completion of their residency-related clinical or academic responsibilities. Residents whose “moonlighting” activities interfere with residency clinical or academic responsibilities will be required to cease this activity.

Questions regarding “moonlighting” should be directed to a Residency Program Director.

**Inpatient Rehabilitation Admit Note**

A copy of the current admission and consult notes can be found on the Department shared drive: “Rehab Residents”. These forms were revised in January, 2010 to comply with the new CMS guidelines for inpatient rehabilitation admissions.

Daily resident notes on the inpatient floor at ESWH are computer based; until the EMR at ESWH is fully implemented (target date 2012) a hard copy of each note must be printed and place in the patient charts daily.

**GUIDELINES FOR RESIDENT AND ATTENDING COMMUNICATION**

It is important for attending and resident physicians to communicate appropriately regarding patient care. This communication is a two-way street that requires cooperation from both parties.

The following issues should be communicated whenever they occur:

1. Patients who have coded
2. Patients who have been transferred off the service
3. Patients who have died
4. Patients who are being transferred to acute care

Guidelines for transfer to acute care:

2. If the inpatient resident is contacted by the rehab ward and decides, with agreement from the internal medicine attending physician/resident, that the medical situation warrants transfer from the rehab floor to the acute care setting, the senior resident (or the junior resident with input from the senior resident) may make a decision to agree with the transfer the patient to acute care. In general, the following should always occur when transferring patients from the rehab floor:
   a. Personally discuss this with the attending or resident internal medicine physician
   b. Notify the PM&R Medical Director (or inpatient PM&R attending physician) of the medical situation and what has happened
   c. Write a note on the patient’s chart to explain why the transfer occurred. This note, at a minimum, should include:
      • Date and time
      • Focused, specific account of pertinent medical issues and the basis for the decision to transfer the patient to the acute care.
      • Documentation that the case was discussed with the internal medicine and PM&R attending physicians (and/or other pertinent physicians such as primary care/medical management, consultants, etc.)
      • Documentation that patient’s family was notified and by whom
      • Documentation that issues were discussed with the patient (unless cognitively impaired, in which case communication with the patient’s family to ensure their concurrence with and understanding of the plan is all the more important). DPOA status should be documented.

3. If the resident is on the floor at the time of the transfer, they need to:
   a. Write a note in the patient’s chart to accompany the patient to the acute care
   b. Inform the appropriate attending physician of the transfer
   c. Follow-up on the patient in the acute care setting to keep patient and family informed on their rehabilitation status.

Although the following issues should cause serious consideration, the decision to notify the attending physician for these reasons is a judgment call on the residents’ part. These are not “emergencies” and can often could be discussed with the internal medicine attending physician after the decision was made. This allows the internal medicine attending physician to resume patient care with a reasonable knowledge of what went on with the patient.

1. The decision to start or withhold an IV
2. Significant medication changes
3. The decision to order imaging techniques
4. Significant lab abnormalities
5. The decision to consult other services
6. Significant psychosocial issues/family interactions
7. Falls

If the resident is at all unsure of what to do, obtaining another opinion and/or more information or contacting the PM&R Medical Director or appropriate PM&R attending physician is encouraged. This communication should in no way be construed as an “insult” or as “second guessing” the decision making process; rather it is an opportunity to improve communication with physicians, patients and their families in an effort to make the best decision. Please also review the McLaren, EWHS, McLaren and MFB institution policies regarding transfer of patients to or from acute care.

GUIDELINES FOR SCHEDULING RESIDENT ROTATIONS

Rotations will be scheduled by Chief Residents and Residency Program Directors. Call schedules will also be arranged by Chief Residents with approval of Residency Program Directors. Elective/Research Rotation scheduling must be approved in advance by Program Directors and Chief Residents.

Specific details concerning the appropriate schedule for each rotation should be directed to specific attending physicians; other questions or concerns should be directed to a Residency Program Directors.

GUIDELINES FOR RESIDENTS ON OUTSIDE ROTATIONS

These guidelines are to assist resident and attending physicians in determining appropriate behaviors while on outside rotations; and in deciding what should be done when there the inevitable schedule problem occurs.

PM&R residents are extensions of our PM&R Department in relation to the community and to other physicians. Resident behavior is reflective of all the people within our Department and within MSUCOM. Needless to say, this behavior should always reflect the highest standards.

1. Residents will be given a schedule at the beginning of each rotation. If you do not get a schedule, or you see potential conflicts and problems within this schedule IT IS YOUR RESPONSIBILITY to point this out to the Residency Directors or responsible attending physicians for appropriate changes.

2. When assigned for outside responsibilities, you are expected to show up at these rotations on time and prepared to work.
3. Work on outside rotations will not always be perfect and some people will be easier to work with than others. If you have constructive comments to improve the rotation, we will be happy to discuss them with you. On the other hand, some rotations will require you to work harder and to work overtime; unfortunately this can be the risk of having an out rotation.

POLICY ON SEXUAL HARASSMENT

This policy was issued by the Office of the President on 09-01-92.

Sexual harassment is reprehensible and will not be tolerated at Michigan State University. Such behavior subverts the mission of the University and threatens the careers, educational experience and well-being of students, faculty and staff.

The University prohibits sexually harassing behavior, including that made unlawful by Title VII of the Civil Rights Act of 1964, Title IX of the Educational Amendments of 1972 and the Elliott-Larsen Civil Rights Act. University policy and the law also prohibit retaliation against persons who report sexual harassment.

Confidentiality
To the extent permitted by law, the confidentiality of each party involved in a sexual harassment investigation, complain or charge will be observed, provided it does not interfere with the University’s ability to investigate the allegations or take corrective action.

Prohibited Acts
No member of the University community shall engage in sexual harassment. Persons who engage in sexual harassment are subject to disciplinary action, including dismissal for employees and/or suspension for students.

Sexual harassment is defined as unwelcome advances, requests for sexual favors or other behavior of a sexual nature when:

1. Submission to such conduct is made explicitly or implicitly a term or condition of an individual’s employment or status in a course, program or activity;
2. Submission to or rejection of such conduct is used as a basis for a decision affecting an individual’s employment or participation in a course, program or activity; or
3. Such conduct has the purpose or effect of unreasonably interfering with an individual’s work or performance in a course, program or activity, or creating
an intimidating, hostile or offensive environment in which one engages in employment, a course, a program or an activity.

Examples of Sexual Harassment
Sexual harassment encompasses any unwanted sexual attention. Examples of behavior encompassed by the above definition include, but are not limited to:

1. Physical assault;
2. Threats or insinuations which cause the victim to believe that sexual submission or rejection will affect his/her reputation, education, employment, advancement or any conditions which concern the victim’s standing at the University;
3. Direct propositions of a sexual nature;
4. Subtle pressure for sexual activity, an element of which may be conduct such as unwelcome sexual leering;
5. Conduct (not legitimately related to the subject matter of the work, course, program or activity in which one is involved) intending to or having the effect of discomforting and/or humiliating a reasonable person at whom the conduct is directed. This may include, but is not limited to, comments of a sexual nature or sexually explicit statements, questions, jokes or anecdotes, and unnecessary touching, patting, hugging or brushing against a person’s body.

Depending upon the circumstances, any of the above types of conduct may be sexual harassment and subject to disciplinary action, even if that conduct only occurs once.

Seeking Assistance or Filing a Complaint
Students, faculty and staff who believe they are the victims of sexual harassment may seek information and assistance from the following areas:

- The chairperson, director or dean of the relevant unit
- Supervisory support personnel
- The Women’s Resource Center
- The Ombudsman
- Student Life or Residence Halls staff
- The MSU Counseling Center
- The Sexual Assault Crisis & Safety Education Program at the MSU Counseling Center
- Faculty and staff academic advisors
- The Faculty Grievance Official
- The Anti-Discrimination Judicial Board Coordinator
- The Office of Student Employment

If the student, faculty member or staff member wishes to file a complaint, s/he may take the following action(s):
If the alleged harasser is a faculty or staff member, the affected individual(s) may make a written complaint to that employee’s unit administrator. If the alleged harasser is the unit administrator, the affected individual(s) may make a written complaint to the unit administrator’s superior or another unit administrator within the department. If the alleged harasser is a student, the affected individual may file a complaint with the Office of Judicial Programs.

A student, faculty or staff member also may elect to file a written complaint with the Anti-Discrimination Judicial Board, for non-disciplinary relief, or with another appropriate dispute resolution body. The filing of such a complaint does not prevent the University administration from taking independent disciplinary action.

Awareness

Members of the university community are responsible for knowing and understanding the University’s policy prohibiting sexual harassment. Suggested information sources for faculty, staff and students follow: Students who do not understand the policy should contact the Office of the Vice President for Student Affairs. Faculty and staff who do not understand the policy should contact their unit administrators. Unit administrators who need assistance in understanding, interpreting or applying the policy should contact Human Resources or the Assistant Provost for Academic Human Resources, whichever is appropriate.

ACADEMIC FREEDOM

Michigan State University adheres to the principles of academic freedom with correlative responsibilities as stated by the American Association of University Professors, the Association of American Colleges and other organizations:

1. The teacher is entitled to full freedom in research and in the publication of the results, subject to the adequate performance of other academic duties; but research of pecuniary return should be based upon an understanding with the authorities of the institution.

2. The teacher is entitled to freedom in the classroom in discussing his or her subject, but should be careful not to introduce into teaching controversial matter which has no relation to the subject. Limitations of academic freedom because of religious or other aims of the institution should be clearly stated in writing at the time of the appointment.

3. The college or university teacher is a citizen, a member of a learned profession, and an officer of an educational institution. When speaking or writing as a citizen, the teacher should be free from institutional censorship or discipline, but this special position in the community imposes special obligations. As a person of learning and an educational officer, the teacher should remember that the public may judge one’s profession and institution by one’s utterances. Hence, the teacher should at all times be accurate, should exercise appropriate restraint, should show respect for the opinions of others, and should make every effort to indicate that he or she is not an institutional spokesperson.
The word “teacher” as used in this document is understood to include the investigator who is attached to an academic institution without teaching duties.


CONFLICT OF INTEREST IN EDUCATIONAL RESPONSIBILITIES RESULTING FROM CONSENSUAL AMOROUS OR SEXUAL RELATIONSHIPS\(^1,2\)

This policy was approved by the Board of Trustees on 11-08-96.

An amorous or sexual relationship between a student and a faculty member, a graduate teaching assistant or another University employee who has educational responsibilities for that student may impair or undermine the ongoing trust needed for effective teaching, learning and professional development. Because of the faculty member, graduate assistant or other employee’s authority or power over the student, inherently conflicting interests and perceptions of unfair advantage arise when a faculty member, graduate teaching assistant or other employee assumes or maintains educational responsibility for a student with whom the faculty member, graduate teaching assistant or other employee has engaged in amorous or sexual relations.

It is, therefore, the policy of Michigan State University that each faculty member, graduate teaching assistant and other University employee who has educational responsibilities for students shall not assume or maintain educational responsibility for a student with whom the faculty member, graduate teaching assistant or other employee has engaged in amorous or sexual relations, even if such relations were consensual. Whether such amorous or sexual relationships predate the assumption of educational responsibility for the student, or arise out of the educational relationship, the faculty member, graduate teaching assistant or other employee shall immediately disclose the amorous or sexual relationship to the relevant unit administrator, who shall promptly arrange other oversight for the student.

In unusual circumstances, the achievement of the affected student’s academic requirements may necessitate continued oversight of the affected student by the faculty member, graduate teaching assistant or other University employee who has engaged in amorous or sexual relations with that student. In such circumstances the unit administrator shall, therefore, have authority, after consulting the affected student, to permit the continued oversight of the affected student by the faculty member, graduate teaching assistant or other University employee shall not grade or otherwise evaluate, or participate in the grading or other evaluation of, the work of the affected student, and that the alternative arrangements for grading or evaluating the affected student’s work treat the student comparable to other students.

1 The Board of Trustees approved this policy statement on November 8, 1996. The Board of Trustees adopted a subsequent motion which emphasized the view of the Board that consensual amorous or sexual relations between faculty and students are discouraged.
Other relevant policies include “Supervision of Academic Work by Relatives” and “Conflict of Interest in Employment”. 
MSU PM&R Study Modules

*Revision Date: 6/27/11*

Please use whatever all available resources to research these modules in order to be able to discuss them intelligently. Emphasis should be placed on standard PM&R texts such as Braddom and Delisa, current PM&R literature, lecture materials and online sources available through the MSU library. The attending physician assigned to review each module may have alternate or additional assignments, current literature reviewer and readings to complete at his/her discretion. When completed, each module should be initialed by the appropriate attending physician.

**Table of Contents**

- **Module 1 - Introduction to PM&R.**
- **Module 2 - Patient Assessment, Functional Emphasis.**
- **Module 3 - Stroke Rehabilitation**
- **Module 4 - Rehabilitation of Traumatic Brain Injury**
- **Module 5 - Rehabilitation of Spinal Cord Injury**
- **Module 6 - Geriatric and Cardiopulmonary Rehabilitation**
- **Module 7 - Bladder Function**
- **Module 8 - Electrodiagnosis**
- **Module 9 - Gait**
- **Module 10 - Physiatric Prescription Writing**
- **Module 11 - Physiatric Therapeutics**
- **Module 12 - Psychologic Issues in Rehabilitation**
- **Module 13 - Rehabilitation of Pressure Ulcers**
Module 1 - Introduction to PM&R.

Please use whatever all available resources to research these modules in order to be able to discuss them intelligently. Emphasis should be placed on standard PM&R texts such as Braddom and Delisa, current PM&R literature, lecture materials and online sources available through the MSU library. The attending physician assigned to review each module may have alternate or additional assignments, current literature reviewer and readings to complete at his/her discretion. When completed, each module should be initialed by the appropriate attending physician.

State a working definition of the specialty of Physical Medicine and Rehabilitation.

Define: disability, impairment, handicap

List at least 3 functions unique to the disciplines of:
  Rehabilitation Nursing
  Physical Therapy
  Occupational Therapy
  Speech Language Pathology
  Rehabilitation Psychology/Neuropsychology
  Rehabilitation Social Work

State a rationale for interdisciplinary team approach to rehabilitation care.

Summarize early history of physiatry, with emphasis on World Wars I and II, contributions of Drs Frank Husen, Howard Rusk, Frederic Kottke.
Distinguish the purposes, functions, and membership of the American Academy of Physical Medicine and Rehabilitation and the American Congress of Rehabilitation Medicine.

For MD and DO residents: What is a DO and what does Osteopathic training Osteopathic Manual Medicine bring to the field of PM&R?

Attending Physician:
Resident has completed objectives:__________________________________________
Module 2 - Patient Assessment, Functional Emphasis.

Please use whatever all available resources to research these modules in order to be able to discuss them intelligently. Emphasis should be placed on standard PM&R texts such as Braddom and Delisa, current PM&R literature, lecture materials and online sources available through the MSU library. The attending physician assigned to review each module may have alternate or additional assignments, current literature reviewer and readings to complete at his/her discretion. When completed, each module should be initialed by the appropriate attending physician.

Elicit and accurately record a functionally oriented patient history. In addition to the usual items, include ambulation, transfers, dressing, feeding, personal care, communication, lost function, residual impairments, employment status, home environment, housing (2 story, 3STE, ramp, right side stair rails, grab bars in shower, etc.) family supports, community services and supports, vocational goals, etc.

Describe, Demonstrate, Quantify:
- Manual muscle strength testing,
- Reflex testing
- Babinski’s
- Hoffman’s
- Clonus
- Frontal release signs
- Dual simultaneous stimulation
- Visual field testing
- Cranial nerves
- Proprioception, sensation
- Mini Mental Status
- Coordination, judgement
- Gait
- Dysarthria vs aphasia

Describe, Demonstrate and Quantify other elements of physical exam including: Heart, lungs, abdomen, skin, range of motion, joint stability, affect, HEENT, lymphatics, GU, GI, Osteopathic exam.

Attending Physician:
Resident has completed objectives:______________________________
Module 3 - Stroke Rehabilitation

Please use whatever all available resources to research these modules in order to be able to discuss them intelligently. Emphasis should be placed on standard PM&R texts such as Braddom and Delisa, current PM&R literature, lecture materials and online sources available through the MSU library. The attending physician assigned to review each module may have alternate or additional assignments, current literature review or readings to complete at his/her discretion. When completed, each module should be initialed by the appropriate attending physician.

Give a working definition of stroke.
List 5 conditions in the differential diagnosis of stroke, with emphasis on stroke mimics.
List and discuss at least 5 risk factors for stroke and how to control them.
Compare lesions of the anterior and posterior circulation with emphasis on functional implications. List the typical deficits found in the anterior cerebral artery, posterior cerebral artery, middle cerebral artery.
Comment on basic epidemiology of stroke. Include frequency, incidence, mortality rate, and place of stroke in overall disability.
Describe the forms of vascular disease in the brain and discuss functional ramifications of each.
State at least 3 criteria for assessing stroke for inpatient rehabilitation with attention to cognitive function. Define dyspraxia and describe at least 3 types, discussing the functional ramification of each.
Discuss motor and sensory recovery patterns with attention to synergy patterns and factors affecting sensory and motor return.
Compare elements of conventional, neurophysiologic, biofeedback, FES and other techniques used in stroke rehabilitation.
Define spasticity pathophysiology and discuss management.
Discuss post stroke depression etiology, diagnosis, incidence and treatment.
Discuss incidence, cause, diagnosis, management, functional implications of:
  - DVT
  - RSD
  - Shoulder subluxation, Adhesive capsulitis
  - Contracture
  - Dysphagia
  - Brachial plexus injury
  - Bowel/bladder incontinence
Discuss at least 5 things to consider in discharge planning for stroke patients with emphasis on community re-entry, home access, on-going therapy in-home vs. outpatient, transportation.
Outline a plan for physiatric follow-up after discharge for stroke patients.

Attending Physician:
Resident has completed objectives:____________________________
Module 4 - Rehabilitation of Traumatic Brain Injury

Please use whatever all available resources to research these modules in order to be able to discuss them intelligently. Emphasis should be placed on standard PM&R texts such as Braddom and Delisa, current PM&R literature, lecture materials and online sources available through the MSU library. The attending physician assigned to review each module may have alternate or additional assignments, current literature review or readings to complete at his/her discretion. When completed, each module should be initialed by the appropriate attending physician.

Discuss epidemiology of TBI with attention to frequency, incidence, age, sex, most common causes and risk factors.
Discuss TBI recovery including criteria, prognosis, incidence, definitions of minor, moderate, severe head injury.
Discuss functional approaches to measuring TBI severity using Glasgow Coma Score, Galveston Orientation and Amnesia Test, post-traumatic amnesia, Rancho Los Amigos Scale of Cognitive Function, Disability Rating Scale of Rappaport.
Discuss pathophysiology of head injury with emphasis on primary injury (diffuse axonal injury, cerebral contusion) and secondary injury (intracranial pressure). Desribe the rationale for use of CT, MRI, PET scan, EEG, Evoked potentials in evaluating the TBI patient’s medical status.
Describe 4 possible mechanisms of functional recovery from TBI
Discuss at least 10 factors to consider for a comprehensive TBI rehabilitation program. Emphasize primary medical management, acute rehabilitation, discharge planning, patient age/developmental status, premorbid medical and psychological status.
Discuss diagnosis, treatment, functional implications and rehabilitation considerations for at least 5 of the following:
  - Seizure
  - Hydroencephalitis
  - Hypertension
  - Cranial nerve dysfunction
  - Heterotopic ossification
  - Spasticity
  - Contracture
  - Behavioral dysfunction
  - Cognitive deficit
Discuss/perform history and physical exam and ongoing evaluations of TBI patients.

Attending Physician:
Resident has completed objectives:
Module 5 - Rehabilitation of Spinal Cord Injury

Please use whatever all available resources to research these modules in order to be able to discuss them intelligently. Emphasis should be placed on standard PM&R texts such as Braddom and Delisa, current PM&R literature, lecture materials and online sources available through the MSU library. The attending physician assigned to review each module may have alternate or additional assignments, current literature reviewer and readings to complete at his/her discretion. When completed, each module should be initialed by the appropriate attending physician.

Attending Physician: 
Resident has completed objectives:________________________________________
Module 6 – Geriatric and Cardiopulmonary Rehabilitation

Please use whatever all available resources to research these modules in order to be able to discuss them intelligently. Emphasis should be placed on standard PM&R texts such as Braddom and Delisa, current PM&R literature, lecture materials and online sources available through the MSU library. The attending physician assigned to review each module may have alternate or additional assignments, current literature reviewer and readings to complete at his/her discretion. When completed, each module should be initialed by the appropriate attending physician.

Attending Physician:
Resident has completed objectives:__________________________________________
Module 7 - Bladder Function

Please use whatever all available resources to research these modules in order to be able to discuss them intelligently. Emphasis should be placed on standard PM&R texts such as Braddom and Delisa, current PM&R literature, lecture materials and online sources available through the MSU library. The attending physician assigned to review each module may have alternate or additional assignments, current literature reviewer and readings to complete at his/her discretion. When completed, each module should be initialed by the appropriate attending physician.

Attending Physician:
Resident has completed objectives:________________________________________________________
Module 8 - Electrodiagnosis

Please use whatever all available resources to research these modules in order to be able to discuss them intelligently. Emphasis should be placed on standard PM&R texts such as Braddom and Delisa, current PM&R literature, lecture materials and online sources available through the MSU library. The attending physician assigned to review each module may have alternate or additional assignments, current literature reviewer and readings to complete at his/her discretion. When completed, each module should be initialed by the appropriate attending physician.

Attending Physician:
Resident has completed objectives:____________________________________
Module 9 - Gait

Please use whatever all available resources to research these modules in order to be able to discuss them intelligently. Emphasis should be placed on standard PM&R texts such as Braddom and Delisa, current PM&R literature, lecture materials and online sources available through the MSU library. The attending physician assigned to review each module may have alternate or additional assignments, current literature reviewer and readings to complete at his/her discretion. When completed, each module should be initialed by the appropriate attending physician.

Attending Physician:
Resident has completed objectives:______________________________
Module 10 - Physiatric Prescription Writing

Please use whatever all available resources to research these modules in order to be able to discuss them intelligently. Emphasis should be placed on standard PM&R texts such as Braddom and Delisa, current PM&R literature, lecture materials and online sources available through the MSU library. The attending physician assigned to review each module may have alternate or additional assignments, current literature reviewer and readings to complete at his/her discretion. When completed, each module should be initialed by the appropriate attending physician.

Attending Physician:
Resident has completed objectives: ____________________________
Module 11 - Physiatric Therapeutics

Please use whatever all available resources to research these modules in order to be able to discuss them intelligently. Emphasis should be placed on standard PM&R texts such as Braddom and Delisa, current PM&R literature, lecture materials and online sources available through the MSU library. The attending physician assigned to review each module may have alternate or additional assignments, current literature review and readings to complete at his/her discretion. When completed, each module should be initialed by the appropriate attending physician.

Attending Physician:
Resident has completed objectives: ________________________________
Module 12 - Psychologic Issues in Rehabilitation

Please use whatever all available resources to research these modules in order to be able to discuss them intelligently. Emphasis should be placed on standard PM&R texts such as Braddom and Delisa, current PM&R literature, lecture materials and online sources available through the MSU library. The attending physician assigned to review each module may have alternate or additional assignments, current literature review or readings to complete at his/her discretion. When completed, each module should be initialed by the appropriate attending physician.

1. Compare the fields of psychology psychiatry, neuropsychology, neuropsychiatry and their roles in rehabilitation. Discuss reasons for referral to these specialties.
2. Discuss functional considerations/responses to disability for the following:
   a. Denial of illness v. anisognosia
   b. Determining supervision needs
   c. Driving
   d. Decision making capacity
   e. Co-morbid psychopathology
   f. Support systems
   g. Depression
   h. Societal attitudes
   i. Emotional state
   j. Intellectual ability
   k. Personality/behavior changes
   l. Roles/role reversals
3. Discuss coping models, positive and negative adaptation
4. Discuss prevalence and functional considerations of mood disorders, cognitive impairments and substance abuse in rehabilitation populations.
5. Discuss factors affecting sexual function associated with physical disability: impaired mobility, sensory deficit, age of disability onset, progression of impairments, body image.

Attending Physician:
Resident has completed objectives:______________________________
Module 13 - Rehabilitation of Pressure Ulcers

Please use whatever all available resources to research these modules in order to be able to discuss them intelligently. Emphasis should be placed on standard PM&R texts such as Braddom and Delisa, current PM&R literature, lecture materials and online sources available through the MSU library. The attending physician assigned to review each module may have alternate or additional assignments, current literature reviewor and readings to complete at his/her discretion. When completed, each module should be initialed by the appropriate attending physician.

Attending Physician:
Resident has completed objectives:____________________________________

CORE CURRICULUM MODULES

The organization of the core curriculum is primarily through the 13 core modules. These modules have learning objectives, questions, and references for the residents to review. These core modules are done with one to three residents discussing face to face with faculty each of the questions and answers. There is usually between one and six hours of time spent on the modules, depending on resident knowledge and ability to get through them. The topics for this core curriculum and modules include:

1. REHABILITATION OF SPINAL CORD INJURY

Description: This experience will provide the resident with exposure to a hospital and out-patient clinic-based milieu that features the acute and chronic medical and physiatric management of adults and children with spinal cord injury.

Learning Objectives: Upon successful completion of this rotation experience, the resident will be able to, at a
minimum 80% proficiency level, orally or in writing, perform the following:
1) Discuss the epidemiology of spinal cord injury.

2) Outline and describe the neurologic classifications of spinal cord injury.

3) List and describe the ASIA Scale of Spinal Cord Injury Level.

4) Design an appropriate, functionally oriented rehabilitation program (with emphasis on projection of functional outcome) for any level of spinal cord injury including tetraplegia and paraplegia.

5) Demonstrate the ability to write an accurate, appropriate wheelchair prescription. with emphasis on seating and positioning.

7) Describe the pathophysiology, presentation, physical examination findings, and appropriate management of common spinal cord injury syndromes, including anterior spinal artery syndrome and Brown Sequard Syndrome.

8) Discuss the impact of motor and sensory recovery on the design and modification of a rehabilitation program.

9) Explain the cause, pathophysiology, epidemiology, physical examination findings and discuss the appropriate medical and physiatric management of the following medical complications of spinal cord injury:

   a) Autonomic dysreflexia
   b) Osteoporosis
   c) Hypocalcemia of immobilization
   d) Pressure ulcers
   e) Heterotopic ossification
   f) Deep vein thrombosis
g) Pulmonary embolism  

h) Cardiac arrhythmia  

i) Hemodynamic compromise  

j) Orthostatic hypotension  

k) Spasticity  

l) Syringomyelia  

m) Neurogenic bowel  

n) Neurogenic bladder  

o) Impaired speech  

p) Dysphagia  

q) Altered inspiratory and expiratory function  

10) List and discuss at least five medical and physiatric considerations in the  
    geriatric spinal cord injury patient.  

11) Given a real or hypothetical spinal cord injury patient, design an appropriate,  
    long-term follow-up care program with at least five each specific considerations  
    for adults, children, and the aged.  

11) Comment upon the scope of vocational rehabilitation and its role in  
    comprehensive physiatric management of the spinal cord injury patient.  

12) Comment upon driving rehabilitation and its role in comprehensive spinal  
    cord injury rehabilitation.  

12) Discuss electrical stimulation and its role in spinal cord injury rehabilitation  
    including, but not limited to the following:  
    a) Rationale  
    b) Physiologic effects of electrical stimulation  
    c) Clinical applications in cardiovascular deconditioning and osteoporosis  
       pertaining to the spinal cord injury patient.  
    d) Therapeutic functional electrical stimulation (pertaining to spasticity and  
       urinary incontinence).

e) Functional neuromuscular stimulation and its role in ambulation.
f) Role of electrical stimulation in wound healing.
g) Transient electrical nerve stimulation.

15) List and discuss at least five sexuality issues in acute or chronic spinal cord rehabilitation including pertinent anatomy and physiology and possible physiatric intervention including, but not limited to: body image, sexual intercourse, and fertility (with explanation of at least three fertility options for spinal cord injured males).

15) Discuss the functional significance of level of spinal cord injury with specific enumeration of most common physical findings and their functional ramifications at the following levels of injury: C-4, C-5, C-6, C-7, C-8, T-6, T-10, and L-3.

17) Perform and document an appropriate, thorough, accurate, history and physical examination of a spinal cord injury patient.

Resources:


2) References:
Method of Completion

2) Attend and actively participate in all scheduled didactic and clinical activities for the rotation experience.

3) Complete all assigned readings promptly.

3) Evaluation by attending staff via oral, written and/or psychomotor skill performance mechanisms.
5) Rotation evaluation will be provided on designated forms by the appropriate attending physician (when evaluating the resident and by the resident (when evaluating the rotation).

Revision Date: 7/08
2. REHABILITATION OF TRAUMATIC BRAIN INJURY

Description: This is an office and hospital based experience providing the resident exposure to the medical and physiatric management of a wide variety of adults and children with traumatic brain injury, experiencing the full spectrum of continuity of care from acute injury through long term follow-up.

Learning Objectives: Upon successful completion of this rotation experience, the resident will be able to, at a minimum 80% proficiency level to, orally or in writing, perform the following:

7) Discuss the epidemiology and pathophysiology of brain injury.

8) Explain methods of assessment and outcome prediction of traumatic and anoxic brain injury including classification of severity of injury and pertinent imaging studies.

9) List and describe the stages of neurobehavioral recovery from brain injury.

10) Discuss the basic principles of coma rehabilitation.

11) Demonstrate basic ability to evaluate and manage agitation and post traumatic amnesia.

12) Demonstrate basic ability to diagnose and manage the most common medical complications of brain injury including, but not limited to, the following:

   r) Post traumatic epilepsy
   s) Post traumatic hydrocephalus
   t) Cranial nerve dysfunction
   u) Heterotopic ossification
   v) Respiratory failure
   w) Thyroid dysfunction
   x) Impaired nutrition
y) Gastrointestinal hemorrhage
z) Dysphagia
aa) Bowel and bladder incontinence
bb) Syndrome of inappropriate anti-diuretic hormone
cc) Diabetes insipidus
dd) Anterior hypopituitarism
ee) Sexual dysfunction
ff) Autonomic dysfunction
gg) Spasticity
hh) Deep vein thrombosis

9) Discuss the principles of rehabilitation of mild traumatic brain injury.

10) Comment on the role of vocational rehabilitation in traumatic brain injury rehabilitation and discuss the responsibilities of the physiatrist in this pursuit.

11) Demonstrate the ability to perform a pertinent physiatric history and physical examination and design (and update as needed) an individualized rehabilitation program for a patient with traumatic brain injury.

10) Describe a functionally oriented approach to measuring severity of traumatic brain injury with specific attention to and discussion of the Glasgow Coma Scale, Glasgow Outcome Scale, the Galveston Orientation and Amnesia Test, Post-Traumatic Amnesia, Rancho Los Amigos Scale of Cognitive Function, and the Disability Rating Scale of Rappaport.

11) Discuss the fundamental concepts of pathophysiology of head injury with emphasis on primary and secondary injury.

12) Demonstrate a fundamental understanding of the appropriate use of residential, long term and other brain injury rehab settings.

Resources:

2) References:

z) Journal articles, textbooks, and other references as suggested by attending physicians.
dd) Frontera and Silver, Essentials of Physical Medicine and Rehabilitation. Henley and Belfus, 2002

Method of Completion and Evaluation:

5) Attend and actively participate in all scheduled didactic and clinical activities for the rotation experience.

6) Complete all assigned readings promptly.

7) Evaluation by attending staff via oral, written and/or psychomotor skill performance mechanisms.
8) Rotation evaluation will be provided on designated forms by the appropriate attending physician (when evaluating the resident) and by the resident (when evaluating the rotation).

Revision Date: 7/08
3. SPORTS REHABILITATION MEDICINE

**Description**: This is an office-based experience featuring the comprehensive evaluation of elementary, secondary, and college level athletes as well as adults, including industrial and occupational injuries; this experience provides the resident with the opportunity to develop and enhance skills in acute and chronic management of sport-related injuries. An optional, as appropriate, on the field coverage experience may also be available.

**Learning Objectives**: Upon successful completion of this rotation experience, the resident will be able to, at a minimum 80% proficiency level, orally or in writing, perform the following:

5) Explain basic principles of injury prevention with emphasis upon flexibility.

6) Explain basic principles of strength and aerobic training.

7) Discuss the function of the kinetic chain in therapeutic exercise.

8) Discuss, in depth, the pathophysiology of closed and open kinetic chains and their application to sports rehabilitation.

11) List and describe the extrinsic and intrinsic factors contributing to sports injury and impaired performance, with emphasis upon conditioning, specific sport kinesiology, and equipment.

12) Discuss and describe the general principles of musculoskeletal rehabilitation including injury evaluation, basic principles of initial and follow-up treatment (including pain control, treatment of inflammation, management of overuse injuries, evaluation and treatment of range of motion and flexibility).

13) Comment on the special considerations for managing the disabled athlete including acute injury management and prevention (with emphasis upon equipment and environmental considerations).
14) Perform a focused history and physical examination and, given this data, formulate and implement an evaluation and treatment plan including acute injury management, design of an individualized rehabilitation program with emphasis on functional restoration, and long-term management; conduct an efficient, thorough pre-participation physical examination.

15) Describe and discuss the acute evaluation and management of the unconscious athlete.

16) Articulate the content of an appropriate, sports specific, pre-participation physical examination.

Resources:


6) Athletic Training Staff

7) References:

Methods of Completion and Evaluation:

6) Attend and actively participate in all scheduled didactic and clinical activities for the rotation experience.

7) Complete all assigned readings promptly.

8) Evaluation by attending staff via oral, written, and/or psychomotor skill performance mechanisms.
9) Rotation evaluation will be provided on designated forms by the appropriate attending physician (when evaluating the resident) and by the resident (when evaluating the rotation).

Revision Date: 7/08
4. PULMONARY REHABILITATION

Description: This is a predominantly office-based experience (with hospital consultation component) emphasizing the basic principles of diagnosis, treatment and rehabilitation management of patients with pulmonary disease.

Learning Objectives: Upon successful completion of this rotation experience, the resident will be able to, at a minimum 80% proficiency level, orally or in writing, perform the following:

1) Demonstrate an understanding of the basic principles of pulmonary rehabilitation with emphasis upon exercise conditioning in patients with Asthma, Chronic Obstructive Pulmonary Disease, Rheumatic Disease and Cystic Fibrosis.

2) Explain nutritional considerations (and their functional ramifications) in patients with pulmonary disorders.

3) List and describe at least four types of respiratory assistance devices for mechanical ventilation.

4) Explain the fundamental pulmonary considerations and the physiatric management of the above commonly encountered disease states.

5) Explain the rationale for oxygen therapy in patients with the above referenced disease states and comment upon relative indications, contraindications, and precautions pertinent to each.
6) Design, prescribe, and implement an individualized program for patients with at least two of the above referenced diagnoses.

Resources


2) Respiratory Therapist: Patty D Valentine, RRT

3) Internal Medicine Residents and Pulmonology Fellows

4) References:
   g) Journal articles, textbooks, and other references as suggested by attending physicians.
Method of Completion and Evaluation

1) Attend and actively participate in all scheduled didactic and clinical activities for the rotation experiences.

2) Complete all assigned readings promptly

3) Evaluation by attending staff via oral, written and or psychomotor skill performance mechanisms.

10) Rotation evaluation will be provided on designated forms by the appropriate attending physician (when evaluating the resident) and by the resident (when evaluating the rotation).

Revision Date: 7/08
5. REHABILITATION OF RHEUMATOLOGIC DISORDERS

Description: This is an office-based experience addressing the diagnosis, management, and functional evaluation of commonly encountered rheumatologic and soft tissue disease processes.

Learning Objectives: Upon successful completion of this rotation experience, the resident will be able to, at a minimum 80% proficiency level, orally or in writing, perform the following:

1) Demonstrate fundamental knowledge of the pertinent presentation, history, physical examination, diagnosis, and management of the following disease processes: Osteoarthritis, Rheumatoid Arthritis, Systemic Lupus Erythematosus, Scleroderma, Connective Tissue Disease, Ankylosing Spondylitis, Fibromyalgia, Myofascial and Mechanical Back Pain, Crystal Arthropathies, Dermatomyositis and Polymyositis.

2) Discuss the effect of depression upon patients with the above referenced disease entities.

3) Describe the appropriate use of therapeutic modalities of heat, cold and TENS in the treatment of the above disease processes.

4) Demonstrate the ability to review referral documents and formulate an appropriate data base for patients with rheumatologic disease.

5) Demonstrate the ability to perform a problem oriented history and physical examination.
6) Demonstrate the ability to conduct a succinct case presentation, providing a provisional diagnosis.

7) List the appropriate steps in the work-up, initial treatment and physiatric management of the above common rheumatologic disorders.

8) Discuss the importance of therapeutic exercise in the above referenced rheumatologic disorders and demonstrate the ability to formulate a specific, individualized exercise therapy prescription.

9) Demonstrate basic familiarity with anti-depressant, anti-inflammatory, and anti-rheumatic medications used in the treatment of the above referenced rheumatologic disorders.

10) Demonstrate the ability to perform an efficient, accurate assessment of range of motion and joint status for the shoulder, elbow, wrist, hip, knee, ankle, and thoracolumbar spine.

11) Demonstrate an understanding of the basic principles of prevention and correction of deformities caused by the above referenced rheumatologic disorders.

12) Demonstrate a fundamental understanding of osteoporosis, including classification, epidemiology, pathogenesis, risk factors, patient presentation, pertinent history, physical examination, diagnosis, treatment and prevention.

13) Demonstrate (or describe) proficiency with therapeutic joint injections.

Resources

2) Internal Medicine Residents and Rheumatologic Fellows

3) References:
Method of Completion and Evaluation

1) Attend and actively participate in all scheduled didactic and clinical activities for the rotation experience.

2) Complete all assigned readings promptly.

3) Evaluation by attending staff via oral, written, and/or psychomotor skill performance mechanisms.

4) Rotation evaluation will be provided on designated forms by the appropriate physician (when evaluating the resident) and by the resident (when evaluating the rotation)
Revision Date: 7/08
6. REHABILITATION OF UROLOGIC DISORDERS

Description:
This is a predominantly office-based experience (with hospital consultation component) emphasizing evaluation and treatment of common urologic dysfunction pertaining to physiatric practice.

Learning Objectives: Upon successful completion of this rotation experience, the resident will be able to, at a minimum 80% proficiency level, orally or in writing, perform the following:

1) Describe the fundamental neuro-anatomy of the bladder and urethral sphincters.

2) List and describe the classifications of neurogenic bladder.

4) Perform a pertinent history and physical examination of a patient with bladder dysfunction.

5) List and describe at least five pertinent diagnostic tests to evaluate upper and lower urinary tract dysfunction including indications, contraindications, and special considerations.

6) Explain the basic principles of urodynamic evaluation including indications and pertinent precautions.

7) Demonstrate the ability to correctly and safely perform a cystometrogram-electromyogram of the bladder and interpret the results.
8) Discuss the indications and rationale for bladder management techniques including, but not limited to, timed voiding and bladder stimulation.

9) List at least five urine collection devices including the rationale for their use, indications and contraindications, and methods for choosing each.

10) Demonstrate a fundamental knowledge of the indications, contraindications, precautions, pharmacokinetics, dosing and side-effects of the following major types of bladder medications cholinergic, anti-cholinergic, calcium channel blockers, adrenergic agonists, adrenergic antagonists, and hormones.

11) List the indications and contraindications for performing sphincterotomy.

12) Describe the fundamental methods of management of bladder dysfunction related to cerebrovascular accident, Parkinson’s Disease, Multiple Sclerosis, central nervous system neoplasm, spinal cord injury and traumatic brain injury.

13) Describe the efficient, cost-effective, appropriate management of bacteremia, bacteriuria, and urinary tract infection in patients with the above referenced diagnoses.

14) Describe the pathophysiology, diagnosis, treatment, and functional ramifications of detrusor sphincter dyssynergia in spinal cord injury patients.

Resources


2) Urology Fellows, Surgical Residents, and Physician Assistants
3) References:


   h) Journal articles, textbooks, and other references as suggested by attending physicians.


Method of Completion and Evaluation

1) Attend and actively participate in all scheduled didactic and clinical activities for the rotation experience.

2) Complete all assigned readings promptly.

3) Evaluation by attending staff via oral, written and/or psychomotor skill performance mechanisms.

9) Rotation evaluation will be provided on designated forms by the appropriate attending physician (when evaluating the resident) and by the resident (when evaluating the rotation).

Revision Date: 7/08
7. INDUSTRIAL/OCCUPATIONAL REHABILITATION

Description: This is an out-patient based experience introducing and integrating fundamental knowledge and skills needed to function in an acute industrial/occupational rehabilitation setting. The bulk of the rotation experience will occur at the Center for Occupational Health Services in Lansing, Michigan; however, additional experience will be provided through the Rehabilitation Medicine Clinic at the MSU Clinical Center and other sites as available and appropriate.

Learning Objectives: Upon successful completion of this rotation experience, the resident will be able to, at an 80% or better proficiency level, perform the following:

14) Discuss and describe the theoretical and philosophical approach to acute occupational injury and illness care including:
   a) Overview of general and State specific (Michigan) workers compensation system
   b) Determination of work related vs non-work related injury/illness and or disability
   c) The value of keeping the patient at, or returning the patient to work
   d) Writing and prescription of specific work/activity restrictions
   e) Appropriate use of ancillary services including, but not limited to:
      i) Physical Therapy
      ii) Occupational Therapy
      iii) Job-site evaluations
      iv) Functional capacity evaluations (FCE)
      v) Work hardening
      vii) Job coaching
   f) Cost efficient medically appropriate utilization of diagnostic testing (including, but not limited to, imaging studies, electrodiagnosis, and others) and specialist physician referrals
j) Psychosocial factors influencing recovery from work related injuries/illness and conflicts of interest

k) Communication with pertinent occupational medicine team members, including, but not limited to: employer, case manager, case coordinator, therapists, consultants, claims adjusters, third party payers, government officials, and the patient (and their family)

l) Determination of disability

15) Diagnose and treat common work related injuries and illnesses, including but not limited to: lacerations, burns, fractures, foreign body removal (especially from eyes), sprains, strains, asthma, chemical and bloodborne exposures

16) Discuss, evaluate, and utilize, appropriate OSHA and MIOSHA regulations regarding respirator use, asbestos exposure, and needle sticks.

17) Describe and demonstrate, as warranted, how and when to obtain second medical and other expert opinions pertinent to patient evaluation and care

18) Discuss and demonstrate, as warranted, how to perform and report return to work/fitness for duty evaluations

19) Describe appropriate procedures for effective drug and alcohol testing, including rationale, actual testing procedures, maintaining “chain of evidence” and issuance of reports

20) Participate, as time allows, in observational visits including: work site tour; work improvement rehabilitation center (i.e. job site evaluation, FCE’s, job coaching, work hardening, and post-job offer functional screens)

21) Describe and utilize, as appropriate NIOSH lifting guidelines

22) Discuss the Americans for Disability Act (especially Title I and employment provisions) as it pertains to pre and post job offer screening, drug testing, ergonomic evaluations, return to work, and work restrictions

23) Discuss and demonstrate the ability to appropriately document patient care related data that conforms with workers compensation standards
24) Describe the essential components of an Independent Medical Evaluation and discuss the use of medical impairment ratings; as time permits, conduct or assist in the conduct of an IME and its documentation

25) Discuss pertinent ethical and legal issues in worker treatment, rating, and termination issues

26) Describe (or demonstrate as appropriate) the use of prophylactic services such as pre-placement examinations including manual materials handling screens, ancillary testing interpretation (audiograms, PFT’s, etc.) and regulated pre-placement and surveillance examinations (e.g. DOT, OSHA, MiOSHA) etc.

Resources:


5. Occupational Medicine Associates: P.C., and Center for Occupational Services Staff, MSU Rehabilitation Medicine Staff

6. References:
   u. Journal articles, texts, and other references as suggested by attending physicians
Methods of Completion and Evaluation:

5. Attend and actively participate in all didactic and clinical activities for the rotation experience.
6. Complete all assigned readings promptly.
7. Evaluation by attending staff, via written, oral, and/or psychomotor skill performance mechanisms.
8. Rotation evaluation will be provided on designated forms by the appropriate attending physician(s) (when evaluating the resident) and by the resident (when evaluation the rotation and attending physician).

Revision Date: 7/08
8. PROSTHETICS AND ORTHOTICS

15. Discuss/explain/demonstrate knowledge of the biomechanical principles of the prescription, materials selection, fit, and fabrication of orthoses and prostheses.
16. Demonstrate knowledge of the indication for lower and upper limb orthotic prescriptions.
17. Demonstrate the ability to prescribe lower and upper limb static and dynamic orthotics and prosthetics for a given problem.
18. Discuss the clinical indications for orthotic management of fractures.
19. Demonstrate the ability to apply the principles of motor sensory, and skeletal anatomy of the upper and lower limb to the design of appropriate orthotic and prosthetic devices.
20. Prescribe a pre-amputation and post-amputation plan of physiatric care.
21. Implement a comprehensive prosthetic treatment program which involves at least the following:
   a. Prosthetic training for various levels of amputation
   b. Treatment program (after evaluation and diagnosis) for common amputee and prosthetic problems.
   c. Plan for prosthetic repair/replacement.
   d. Provision of instructions in care of residual limb and prosthetic device.
22. List and describe the most commonly prescribed upper and lower limb prosthetic and orthotic components.
23. Outline common problems of maintenance of upper and lower limb prosthetics and orthotics and expectations for replacement.
24. Describe the considerations specific to orthotic and prosthetic management of the pediatric patient.
25. Compare the advantage and disadvantages of external powered vs. body powered upper limb prosthesis.
26. Describe the indications, advantages, and disadvantages of common current fabrication techniques, materials, and designs for upper and lower limb prosthetics and orthotics.

Resources:

References:

i. Journal articles, assigned readings, texts, and other materials as assigned/suggested by attending physicians.

**Methods of Completion and Evaluation:**

1. Attend and actively participate in all didactic and clinical activities for the rotation experience.
2. Complete all assigned readings promptly.
3. Evaluation by attending staff, via written, oral, and/or psychomotor skill performance mechanisms.
4. Rotation evaluation will be provided on designated forms by the appropriate attending physician(s) (when evaluating the resident) and by the resident (when evaluating the rotation and attending physician).
Revision Date: 7/08

9. PODIATRY

1. Demonstrate the ability to evaluate and manage common foot and ankle pathologies including:
   i. Pes planus
   j. Charcot deformities
   k. Plantar fasciitis
   l. Pressure ulcers
   m. Neuroma
   n. Toe deformities
   o. Peripheral vascular disease
   p. Focal trauma

2. Prescribe appropriate orthotic treatment regimen with shoe modification for the insensate, dysvasibular, arthritic or painful foot.

3. Prescribe appropriate orthotic and shoe modifications for common ankle/foot overun syndrome.

4. Discuss indications (and procedure for performing) common therapeutic injections and nerve blocks of the foot and ankle.

4. Describe and apply basic principles of functional biomechanics related to evaluation and treatment of common foot and ankle disorders.

Resources:

MSU PM&R Faculty, J. Throckmorton, D.P.M.

References:


f. Journal articles assigned, texts and readings, and other materials as assigned/suggested by attending physicians.


Methods of Completion:

1. Attend and actively participate in all didactic and clinical activities for the rotation experience.
2. Complete all assigned readings promptly.
3. Evaluation by attending staff, via written, oral, and/or psychomotor skill performance mechanisms.
4. Rotation evaluation will be provided on designated forms by the appropriate attending physician(s) (when evaluating the resident) and by the resident (when evaluation the rotation and attending physician).

PM&R Residency Curriculum: Practice Based Learning and Improvement

Revision Date: 7/08
10. ELECTRODIAGNOSTIC MEDICINE

Description: This is a primarily out-patient based experience (with occasional hospital consultation) introducing basic, and then advanced concepts of neuro-anatomy, neuro-physiology, and electrodiagnostic medicine with gradually increased complexity of skill performance.

Learning Objectives: Upon successful completion of this rotation experience, the resident will be able to, at a minimum 80% proficiency level, orally, or in writing, perform the following:

2) Explain the basic concepts of clinical electrophysiology pertaining to electrodiagnostic medicine including but not limited to the following: action potential initiation and propagation, generation of wave form morphology, characteristics of nerve, muscle, and end-plate potentials, motor unit analysis, characteristics and analysis of abnormal spontaneous potentials, and classification of peripheral nerve injuries.

3) Explain the basic concepts of electrodiagnostic instrumentation.

4) Perform an efficient, pertinent clinical evaluation of a patient (by history and directed physical examination) with development of differential diagnosis pertaining to electrodiagnostic evaluation.

5) Explain the following concerning nerve conduction studies: methods of measuring compound and sensory nerve action potentials, list and explain at least three types of late responses, and describe the rationale, indications, and general procedures for conducting repetitive stimulation studies.

6) Explain the following concerning needle electromyography: patient preparation, choice of electrode, approach to analysis of insertional and spontaneous activity as well as analysis of motor units.
7) Given data obtained in a real or simulated electrodiagnostic evaluation, demonstrate the ability to localize lesions of the peripheral nervous system as directed, and estimate their prognosis.

8) Explain the following concerning evoked potential studies: pertinent neuroanatomy and physiology, indications, contraindications, precautions and specific technique considerations.

9) Demonstrate basic familiarity and proficiency with electrodiagnostic evaluation of the following disease states/diagnoses, including history, pertinent physical examination, and the setting up, planning, and carrying out of a complete electrodiagnostic study as well as generation of a succinct, complete report according to AAEM standards:

   a) carpal tunnel syndrome
   b) radiculopathy
   c) plexopathy
   d) peripheral neuropathy
   e) myopathic disease
   f) nerve entrapment/compression
   g) neuromuscular diseases: Amyotrophic Lateral Sclerosis, Myasthenia Gravis, Myasthenic Syndrome,

   Inflammatory Diseases (Polymyositis, Dermatomyositis, Inclusion Body Myositis), Acute Inflammatory Demyelinating Polyneuropathy (Guillain-Barré Syndrome), and cranial-facial disorders.

10) Successfully complete a practical electrodiagnostic medicine skills proficiency examination concerning pertinent EMG-related anatomy, needle placement, muscle recruitment, and equipment usage.

11) Successfully complete a practical exam covering nerve conduction studies that includes wave form recognition and analysis, latency and amplitude determination, calculation of conduction velocities, with emphasis upon the median, ulnar, sural, radial, tibial, and peroneal nerves.
11) Demonstrate the ability to correctly perform and interpret a CMG-EMG examination.

13) Discuss the use and pharmacology of botulinum toxin and demonstrate: a) the ability to evaluate patients for its use and, b) fundamental proficiency in the reconstitution and dosage of botulinum toxin to treat Spasticity and movement disorders.

Resources:


2) References:


American Association of Electrodiagnostic Medicine Mini-monographs - as specified or directed.


Journal articles, textbooks and other resources as suggested by attending physicians.


Method of Completion and Evaluation:
2) Attend and actively participate in all scheduled didactic and clinical activities for the rotation experience.
3) Complete all assigned readings promptly.
4) Evaluation by director of electrodiagnostic medicine lab and attending staff via oral, written and/or psychomotor skill performance mechanisms.
6) Rotation evaluation will be provided on designated forms by the appropriate attending physician (when evaluating the resident) and by the resident (when evaluating the rotation).
7) Performance on AAEM Self-Assessment Examination.

Revision Date: 7/08
11. MANUAL MEDICINE

**Description:** This is a primarily office-based experience (with an optional hospital consultation component) that will provide an introduction to fundamental manual medicine techniques and insight into effective integration of manual medicine therapy into physiatric practice.

**Learning Objectives:** Upon successful completion of this rotation experience, the resident will be able to, at a minimum 80% proficiency level, orally, or in writing, perform the following:

2) Demonstrate understanding of the neurophysiology, rationale, indications, contraindications, and specific considerations involved in the use of each of the following manual medicine techniques in physiatric patient management: muscle energy, myofascial release, cranial sacral, strain-counterstrain, high velocity-low amplitude, soft tissue, and articulatory techniques.

3) Discuss the role of the Musculoskeletal system in health and disease, particularly as it pertains to functional status.

4) List the basic principles of structural diagnosis.

5) Perform an accurate, pertinent palpatory structural examination.

6) Demonstrate the ability to effectively, concisely, and accurately prescribe manual medicine treatment.

7) Explain the barrier concept and its importance to the neuromusculoskeletal system and manual medicine treatment thereof.

8) Explain the process of normal vertebral motion and comment upon the most common dysfunctions of vertebral motion encountered in physiatric practice.
9) Demonstrate a high degree of skill in manual medicine treatment of the cervical spine, thoracic spine and ribcage, lumbosacral spine, sacrum and pelvis, and upper and lower extremities using at least four of the above referenced manual medicine approaches.

10) Comment on the effective integration of manual medicine into physiatric practice, including methods for effectively making a manual medicine referral.

Resources

5) Osteopathic Manipulative Medicine Residents and Fellows.
6) References:


m) Soderberg GL. Kinesiology: Application to Pathologic Motion. Williams & Wilkins, Baltimore, 1986.


v) Journals, articles, textbooks, and other references as suggested by attending physicians.


Method of Completion and Evaluation:
1) Attend and actively participate in all scheduled didactic and clinical activities for the rotation experience.

2) Complete all assigned readings promptly.

3) Evaluation by attending staff via oral, written, and/or psychomotor skill performance mechanisms.

4) Rotation evaluation will be provided on designated forms by the appropriate attending physician (when evaluating the resident) and by the resident (when evaluating the rotation).

Revision Date: 7/08
12. CARDIAC REHABILITATION

Description: This is a primarily office based experience providing exposure to a wide variety of patients with cardiac disease in various stages of rehabilitation.

Learning objectives: Upon successful completion of this rotation experience, the resident will be able to, at a minimum 80% proficiency level, orally or in writing, perform the following:

1) Discuss the epidemiology of cardiac disease.

3) Describe the pathophysiology of arterial, venous, and lymphatic disease, demonstrating an understanding of the medical complications, and basic principles of evaluating these entities as well as elucidate pertinent patient education priorities, as appropriate.

4) Discuss the basic principles of exercise physiology with emphasis upon normal and pathologic cardiac response to exercise and aerobic training.

5) Design and prescribe an individualized, appropriate, safe, effective cardiac rehabilitation program for the patient who is status post myocardial infarction, with angina, status post coronary bypass graft, status post cardiac transplant, with cardiomyopathy, or with valvular heart disease.

6) Demonstrate the ability to accurately assess the status of cardiac function, via history and physical examination, and classify the patient according to New York Heart Association criteria.

7) Demonstrate understanding of the fundamental rationale, indications, contraindications and method of conduct of exercise tolerance testing as well as describe at least two protocols for approaching exercise tolerance/stress testing.
8) Demonstrate the ability to interpret basic electrocardiograms, as evidenced by evaluation of performance on real or simulated patients.

9) Discuss and identify at least four factors that contribute to or affect exercise and work performance.

Resources:


5) Physical Therapy and Occupational Therapy Staff: Cardiac Rehabilitation Team

6) References:
   
   
   
   
   
   
   
   
   xiii) Journal articles, textbooks, and other references as suggested by attending physicians.
Method of Completion and Evaluation:

2) Attend and actively participate in all scheduled didactic and clinical activities for the rotation experience.
3) Complete all assigned readings promptly.
4) Evaluation by attending staff via oral, written, and/or psychomotor skill performance mechanisms.
4) Rotation evaluation will be provided on designated forms by the appropriate attending physician (when evaluating the resident) and by the resident (when evaluating the rotation).

Revision Date: 6/06
13. COMPREHENSIVE INPATIENT REHABILITATION

**Description**: This is an inpatient, hospital-based experience on comprehensive, acute medical rehabilitation units that provides exposure to the sub-acute/transitional rehabilitation milieu. The experience features medical and physiatric patient management addressing a wide variety of diagnoses with emphasis upon geriatric rehabilitation.

**Learning Objectives**: Upon successful completion of this rotation experience, the resident will be able to, at a minimum 80% proficiency level, orally or in writing, perform the following:

3) Demonstrate the ability to perform and accurately record a physiatric patient evaluation with emphasis upon functionally oriented history, (including chief complaint, history of present problem, review of systems, family history, social history, functional history, psycho-social history, pertinent vocational data, medications, allergies, and past medical and surgical history) and physical examination with emphasis upon function and mobility, concentrating on the neuromusculoskeletal exam (including manual muscle testing, joint testing and stability assessment, range of motion, coordination, cranial nerves, sensation, station and gait, cognition, and muscle stretch reflexes).

4) Demonstrate the ability to evaluate disorders of communication in adult patients, with emphasis upon speech, hearing, language, apraxia, aphasia and common disorders associated with neuromuscular and neurologic disease, especially cerebrovascular accident.

4) Demonstrate a fundamental understanding of the psychological approaches to rehabilitation with emphasis upon adjustment to disability, depression, cognitive evaluation and retraining, and neuropsychological assessment.

5) Discuss the kinetics and kinematics of normal and pathologic gait with emphasis upon hemiplegia, footdrop, and amputation.

6) Discuss the factors to consider in planning an individualized amputation rehabilitation program with emphasis upon medical and functional status (pre-morbid and post-amputation), pre-amputation rehabilitation concerns, post-amputation pain management, pre-prosthetic rehabilitation, prosthetic
evaluation fitting and training, prosthetic prescription (preparatory and definitive), and wound healing concerns; discuss the approach to management of phantom limb pain and phantom sensation.

7) List the considerations in evaluating and prescribing special upper and lower extremity orthotics and ambulatory aides.

7) Discuss the principles of wheelchair, scooter, and other mobility device prescription, as well as seating evaluations, including cushions and other seating systems.

9) Demonstrate the ability to write an accurate, personalized prescription for wheelchair and other seating systems as directed.

10) Demonstrate knowledge of the appropriate use of therapeutic heat (including ultrasound, ultraviolet, diathermy, radiant and conductive heat sources) and cold with emphasis on physiologic effects, & general uses, precautions, indications, contraindications and specific considerations in prescription. Additionally, demonstrate the ability to write an accurate, specific, appropriate prescription for therapeutic heat and cold.

11) List at least ten factors involved in achieving functional independence and demonstrate sensitivity to what constitutes meaningful independence in the context of the individual patient's life experiences, including, but not limited to, achievement of prioritized goals, family support, mobility and personal self-maintenance skills, communication, community mobility, vocational and avocational pursuits.

12) Discuss the basic principles of clinical evaluation and rehabilitation considerations of swallow dysfunction and of the strategies for managing their medical complications.

12) Discuss the pathophysiology and mechanisms for designing a treatment program for bowel and bladder dysfunction.

14) Demonstrate the ability to effectively manage bowel and bladder dysfunction.
14) Discuss the pathophysiology of spasticity as well as list at least five risk factors for developing spasticity;
   comment upon at least five medical complications of spasticity.

16) Design an appropriate, individualized, prioritized treatment scheme for managing spasticity in a given real or simulated patient.

17) Comment upon the incidence and prevalence of pressure ulcers among hospitalized persons, listing at least five common sites of pressure ulcers.

18) Discuss the role of pressure, shear, and temperature on the development of pressure ulcers as well as additional multi-factorial causes.

19) Comment on frequent physical and psychosocial conditions that are risk factors for developing pressure ulcers.

19) Discuss the pathophysiology of the development of pressure ulcers and list and describe at least four medical complications of pressure ulcers.

21) Comment on the role of natural wound healing, nutrition, fluid intake, and levels of protein, zinc and vitamin C in the medical management of pressure ulcers.

21) Discuss the general principles of pressure ulcer treatment including, but not limited to, pressure relief, debridement, topical agents, infection control, dressings, and surgical repair.

23) Discuss at least five principles/mechanisms of pressure ulcer prevention.

24) Comment upon the medical, social, educational, and societal impact of pressure ulcers.
25) Demonstrate the ability to write specific, effective and appropriate prescriptions for rehabilitation therapies.

26) Discuss how the energy cost of pathologic gait changes, with specific reference to hemiplegia, amputation, and use of assisted devices such as crutches and canes, with attention to rehabilitation and functional implications.

26) Describe the normal physiologic changes, by body system, that occur with aging and their functional implications.

29) List at least ten causes of bed rest/immobility and discuss potential complications and results of prolonged immobilization as they pertain to function of the integument, musculoskeletal, cardiovascular, respiratory, and nervous systems.

30) Articulate the basic principles of cancer rehabilitation with attention to types of cancer rehabilitation (including functional ramifications of cancer, associated medical concerns, and management of cancer-related pain); discuss the rehabilitation issues associated with common types of cancer including breast, prostate, bone, spinal cord, and central nervous system.

30) Comment upon the elements of comprehensive discharge planning of the geriatric rehabilitation with attention to medical, legal, and ethical issues.

30) Discuss the physiatric approach to stroke rehabilitation including the following: demonstrate a knowledge of the basic epidemiology of stroke, risk factors of stroke, common motor and sensory recovery patterns, post-stroke depression, medical complications of stroke, and discharge planning issues.

32) Demonstrate the ability to properly use various therapeutic heating and cooling modalities.

35) Demonstrate the correct use of manual and power wheelchairs, axillary and Lofstand crutches, walkers, quad canes, and other assistive devices.
36) Demonstrate fundamental skills in interpretation of plain radiographs, CT scans, and MRI images.

37) Demonstrate fundamental knowledge of the use of the subacute rehab setting, home health care services, and sheltered workshops.

Resources:


4. Sports Medicine Fellow
3) Neuropsychology Staff: J. Dutes, Ph.D., D. Pelon, Ph.D.

Completion and Evaluation:

1) Attend and actively participate in all scheduled didactic and clinical activities for the rotation experience.

2) Complete all assigned readings promptly.

4) Evaluation by attending staff via oral, written and/or psychomotor skill performance mechanisms.

4) Rotation evaluation will be provided on designated forms by the appropriate attending physician (when evaluating the resident) and by the resident (when evaluating the rotation).
Revision Date: 7/08
14. GENERAL AMBULATORY ORTHOPAEDICS

**Description:** This is an office-based ambulatory orthopedic experience (with opportunity for surgical participation) emphasizing out-patient diagnosis and management of common orthopedic/musculoskeletal disease processes as well as performance of orthopedic history and physical examination and orthopedic procedures such as joint and/or soft tissue injections.

**Learning Objectives:** Upon successful completion of this rotation experience, the resident will be able to, at a minimum 80% proficiency level, orally or in writing, perform the following:

3) Demonstrate the ability to perform an accurate, efficient and appropriate orthopedic/musculoskeletal history and physical examination.

3) Demonstrate basic ability to perform initial evaluation and treatment of the following:
   a) Shoulder pain and trauma
   b) Elbow pain and trauma
   c) Wrist and hand injuries
   d) Hip pain and trauma
   e) Thigh pain and trauma
   f) Knee pain and trauma
   g) Pain, trauma and other disorders of the ankle and foot

4) Demonstrate fundamental understanding of the principles of analysis, via pertinent anatomy and biomechanics, of injuries to the appendicular skeleton.
5) Demonstrate understanding of the most common causes and appropriate interventions for repetitive use trauma.

5) Demonstrate basic ability to evaluate and treat myofascial and mechanical pain syndromes.

6) Demonstrate basic ability to evaluate and treat sprains and strains of the hip, knee, and ankle.

7) Demonstrate understanding of the basic principles of evaluation and management of stress and traumatic fractures.

8) Comment on the most important fundamental considerations in outpatient follow-up of post-operative orthopedic disease processes.

10) Perform an efficient, appropriate, problem-oriented history-directed orthopedic physical examination, as well as appropriate case presentation, and demonstrate the ability to formulate an appropriate, concise treatment plan for each of the above disease processes.

11) Demonstrate the ability to perform safe and appropriate joint and soft tissue injections, and discuss the rationale, indications, contraindications, precautions, and basic principle/technique of joint and/or soft tissue injections of the shoulder, knee, ankle, and hip.

Resources:

4) Orthopaedic Residents and Fellows.

3) References:


q) Journal articles, textbooks, and other references as suggested by attending physicians.
Method of Completion and Evaluation:

1) Attend and actively participate in all scheduled didactic and clinical activities for the rotation experience.

2) Complete all assigned readings promptly.

3) Evaluation by attending staff via oral, written, and/or psychomotor skill performance mechanisms.

4) Rotation evaluation will be provided on designated forms by the appropriate attending physician (when evaluating the resident) and by the resident (when evaluating the rotation).

Revision Date: 7/08

14. NEUROLOGY AND NEURO-REHABILITATION
**Description:** This is a predominantly hospital-based experience emphasizing consultation, bedside teaching, and case presentations covering the evaluation and management of patients with common neurologic diagnoses with consideration to functional components of disease processes addressed.

**Learning Objectives:** Upon successful completion of this rotation experience, the resident will be able to, at a minimum 80% proficiency level, orally, or in writing, perform the following:

2) Demonstrate basic knowledge of the initial evaluation/work-up and medical management and comprehensive physiatric management of patients with the following diagnoses:
   - g) Encephalitis/Encephalopathy
   - h) Meningitis
   - i) Polymyalgia Rheumatica
   - j) Hydrocephalus
   - k) Parkinsonism and Parkinson’s Disease.
   - l) Dementia
   - g) Delirium
   - h) Coma
   - i) Spinal Cord Injury
   - j) Traumatic Brain Injury
   - k) Seizure Disorder
   - l) Central Nervous System Neoplasm
   - m) Peripheral Neuropathies
   - n) Motor Neuron Disease
   - o) Myopathic Diseases
   - p) Muscular Dystrophies

3) Demonstrate the ability to perform a detailed history and physical examination with systemic review pertinent to a focused neurologic examination.
4) Formulate a functionally oriented rehabilitation management plan for each of the above diagnoses, with emphasis upon common complications.

Resources:


2) Neurology Residents and Fellows

3) Neurology Nurse Clinicians

4) Neurology Rotation Guideline (from Dr. Kaufman)

5) Attendings at Muscular Dystrophy Association Clinic

6) References:
   b) Kottke FJ and Lehmann JF. Krusen's Handbook of Physical Medicine and Rehabilitation (4th Ed.),
   j) Jenkins DB. Hollingshead's Functional Anatomy of the Limbs and Back (8th Ed.). WB Saunders,


4) Journal articles, textbooks, and other references as suggested by attending physicians.


Method of Completion and Evaluation:

1) Attend and actively participate in all scheduled didactic and clinical activities for the rotation experience.

2) Complete all assigned readings promptly.

3) Evaluation by attending staff via oral, written, and/or psychomotor skill performance mechanisms.

4) Rotation evaluation will be provided on designated forms by the appropriate physician (when evaluating the resident) and by the resident (when evaluating the rotation).

Revision Date: 7/08
**15. PEDIATRIC REHABILITATION**

**Description:** This is a hospital and outpatient clinic based experience covering the fundamental physiatric evaluation, examination, diagnosis, and comprehensive treatment/management of pediatric patients with disabilities.

**Learning Objectives:** Upon successful completion of this rotation experience, the resident will be able to, at a minimum 80% proficiency level, to, orally or in writing, perform the following:

1. Explain the general considerations in evaluation and treatment of the pediatric patient including but not limited to the following:
   - (m) Physiology
   - (n) Proprioception
   - (o) Vestibular patterns
   - (p) Kinesthetic patterns
   - (q) Psychosocial development
   - (r) Growth and development

2. Describe the pathophysiology, list at least 3 causes, and discuss methods for evaluation and management of the following conditions or disease states:
   - (a) Gastroesophageal reflex
   - (b) Skin surveillance
   - (c) Spasticity (non-pharmacologic, medication, nerve blockade, surgical intervention)
   - (d) Contracture
   - (e) Scoliosis
   - (f) Upper and lower extremity deficiency.
4) Comment upon the importance of, and the role of the physiatrist in addressing each of the following pediatric rehabilitation issues:
   a) Communication
   b) Mobility
   c) Seating and positioning
   d) Activities of daily living
   e) Play
   f) Social skill development
   g) Sexuality
   h) Educational planning (including pertinent Federal legislation and Individualized Educational Programs)

5) Describe the role of the physiatrist in advising and participating in the special education system to maximally integrate medical rehabilitation concerns with educational needs of the pediatric patient.

6) Demonstrate the ability to accurately and thoroughly gather a pediatric medical and physiatric history, and conduct a pediatric examination emphasizing developmental diagnosis consideration.

7) Given a real or simulated pediatric patient, demonstrate the ability to determine physiatric priorities based upon history and physical examination as well as write appropriate prescriptions for physiatric intervention (including implementation of an individualized therapy program).

8) Demonstrate the ability to efficiently and accurately evaluate childhood disability with emphasis upon gross physical and functional assessment, the impact of disability on growth and development, and outcome prediction.

8) Describe the etiology, epidemiology, diagnosis, and physiatric management of the following conditions or disease states:
a) Cerebral Palsy (including a brief description of classifying the CP patient, clinical effects of CP, developmental considerations, medical complications, functional prognosis, effects of aging).

b) Spinal dysraphism (including epidemiology, evaluation and physiatric management, as well as, early and on-going medical complications and pertinent functional considerations).

c) Muscular Dystrophy (Duchene) include genetic considerations, natural progression, common complications, physiatric interventions, advanced directives.

10) Describe at least 3 types of pediatric limb deficiency (including epidemiology, pertinent physiatric history and physical examination, and short and long term physiatric intervention).

11) List and describe at least 5 levels of pediatric amputation including:
   a) Most common causes
   b) Complications
   c) Indications
   d) Specific physiatric intervention considerations for each level

12) Describe appropriate principles in determining wheelchair seating and positioning needs of the pediatric patient.

13) Demonstrate the ability to write an accurate, appropriate, wheelchair or seating system prescription for the pediatric patient.

13) List at least 5 considerations in physiatric intervention for follow-up care of the pediatric patient.
14) List at least 5 congenital myopathies, describing at least 2 considerations in physiatric intervention for each.

16) Describe and discuss the epidemiology, pathophysiology, and at least 5 considerations in physiatric intervention for each of the following conditions or disease states:
   a) Muscular dystrophy
   b) CNS neoplasm
   c) Musculoskeletal neoplasm
   d) Traumatic brain injury
   e) Spinal cord injury
   f) Cerebrovascular accident

Resources:

2) Attending physicians: M. J. Fankhauser, D.O., A. Kuldanek, M.D.

References:


m) Journal articles and texts and other references as suggested by attending staff.


Revision Date: 7/08

**16. PHYSIATRIC CONSULTATION**
Description: This is a primarily hospital-based experience involving physiatric consultations and evaluation of hospitalized adult and pediatric patients, including determination of rehabilitation potential and the formulation of recommendations to referring physicians.

Learning Objectives: Upon successful completion of this rotation experience, the resident will be able to, at a minimum 80% proficiency level, to, orally or in writing, perform the following:

3) Discuss the fundamental elements of a complete physiatric consultation of the hospitalized adult or pediatric patient.

4) Demonstrate the ability to conduct an appropriate, specific, accurate, succinct and informative physiatric consultation of a hospitalized adult or pediatric patient including at least the following elements:
   - Chart review
   - Gathering of pertinent physiatric and medical historical data
   - Physiatric physical examination
   - Element of functional and medical diagnostic impressions
   - Formulation of recommendations to the referring physician, including addressing their specific questions, functional and medical concerns in acute care, recommendations based upon consultation findings, determination of most appropriate physiatric intervention (including but not limited to inpatient rehabilitation, subacute rehabilitation, outpatient rehabilitation therapies, in home rehabilitation therapies, or therapies in the acute hospital) and consultation report writing (that includes an expression of appreciation for consultation to the referring physician).

5) Demonstrate the ability to consistently provide timely response to all consultation requests.

6) Demonstrate the ability to formulate and prioritize recommended physiatric interventions.

Resources:
S. Ho, M.D, S. Bloom, D.O., C. Vandenberg, M.D., A. Kuldanek, M.D., E. Atty, M.D., J. Stakathios, M.D., Ryan
O’Connor, D.O.

References:


l) articles, textbooks and other resources as assigned/recommended by attending physician staff.


**Method of Completion and Evaluation:**

3) Attend and actively participate in all scheduled didactic and clinical activities for the rotation experience.

4) Complete all assigned readings promptly.

4) Evaluation by attending staff via oral, written and/or psychomotor skill performance and mechanisms.

5) Rotation evaluation will be provided on designated forms by the appropriate attending physician (when evaluating the resident) and by the resident (when evaluating the rotation).

Revision Date: 7/08
17. PHYSIATRIC OUTPATIENT SENIOR CONTINUITY CLINIC

Description: This is an outpatient based experience involving general and specific physiatric outpatient clinics with attending physicians; this experience provides the resident with exposure to a wide variety of patient populations and diagnoses and follow-up of patients from initial outpatient follow-up to and through long term care. The goal is for the resident to learn to manage a patient from initial evaluation through follow-up.

Learning Objectives: Upon successful completion of this rotation experience, the resident will be able to, at a minimum 80% proficiency level, orally or in writing, perform the following:

2) Discuss the basic principles of impairment rating and disability determination, including considerations specific to the Worker's Compensation System and Social Security Disability Income, the Americans for Disabilities Act, the American Medical Association Impairment Rating Guides, and legal and ethical considerations pertaining to impairment rating.

3) Demonstrate the ability to write succinct, clear, accurate impairment and disability reports.

4) Demonstrate fundamental knowledge of the basic principles and practices of plain radiograph, CT and MRI imaging of the spine and extremities including, but not limited to, how to determine what imaging studies to order, basic interpretation skills, and to discuss how imaging studies facilitate the design of a personalized rehabilitation program.

5) Demonstrate fundamental skills of basic radiograph/imaging study interpretation (as above).

6) Discuss the general principles of therapeutic exercise, including the fundamental concepts and principles of strength training, endurance, fatigue, and specific considerations of aging upon therapeutic exercise prescription.
7) Demonstrate the ability to write an individualized therapeutic exercise prescription based upon history and physical examination and appropriate resulting diagnosis.

8) Demonstrate the ability to accomplish an organized approach to the evaluation and treatment of disorders of the cervical spine, with considerations to pertinent anatomy, history gathering, physical examination, diagnostic studies, and treatment approaches including common cervical conditions such as sprain, strain, disc disorders and spondylosis.

9) Discuss the pathophysiology, presentation, diagnosis and appropriate treatment of acute upper and lower extremity musculoskeletal pain.

10) Articulate the most common causes, prevention, principles, epidemiology, diagnosis, and comprehensive evaluation and treatment of low back pain and lumbosacral spine dysfunction.

11) Discuss key considerations in the comprehensive management of chronic pain, including etiology, epidemiology, appropriate and cost effective diagnostic testing, and multi-disciplinary management and treatment.

12) Demonstrate the ability to effectively evaluate and manage muscle pain including myofascial pain and fibromyalgia.

13) Articulate a fundamental understanding of the principles of physiatric evaluation and management of occupationally related disorders including evaluation of the worker, work place, assessment of functional capacity, and return to work issues.

14) Outline a scheme for evaluation and physiatric management of the following disorders:
   a) Amyotrophic Lateral Sclerosis
   b) Parkinson’s Disease
   c) Motor Neuron Disease
   d) Polio and Post-Polio Syndrome
   e) Multiple Sclerosis
f) Amputations at all levels

15) Discuss the evaluation and physiatric management of acute or chronic peripheral neuropathy and, given a real or simulated patient, design an appropriate, individualized physiatric treatment/management plan.

16) Demonstrate the ability to articulate the principles of and demonstrate the ability to implement rehabilitation evaluation/management of myopathic disease including muscular dystrophies and congenital, infectious and inflammatory myopathies.

17) Discuss the basic principles of bum rehabilitation with emphasis upon the following: a fundamental understanding of the skin and its properties, the role of the physiatrist in the acute and chronic management of bums as well as their related medical complications, rehabilitation issues with emphasis upon positioning, splinting, therapeutic exercise, mobility, scar management, bum-related amputations, specific age considerations, psychologic adjustment, and educational, vocational, avocational concerns.

18) Discuss and demonstrate utilization of the basic principles of vocational/scholastic rehabilitation in outpatient adults and children.

Resources:


References:


tt. Journal articles, textbooks, and other references as suggested by attending physicians.


**Method of Completion and Evaluation:**
1) Attend and actively participate in all scheduled didactic and clinical activities for the rotation experience.

2) Complete all assigned readings promptly

3) Evaluation by attending staff via oral, written and/or psychomotor skill performances and mechanisms.

5) Rotation evaluation will be provided on designated forms by the appropriate attending physician (when evaluating the resident) and by the resident (when evaluating the rotation).
CORE COMPETENCIES

PM&R Residency Curriculum Practice Based Learning and Improvement

Revision Date: 6/27/10

A. Educational purpose/goals:

Residents must be able to critically assess and evaluate their patient care practice, assess and assimilate scientific evidence, and improve their practices pertinent to patient care. This process will is required of all PM&R physicians as part of their Maintenance of Certification (MOC). PM&R residents must develop and maintain a willingness to learn from their mistakes in order to improve the systems and processes of medical care. The Curriculum on Practice Based Learning and Improvement is focused toward residents being able to find, critically analyze and evaluate, and assimilate evidence from scientific studies and then apply this knowledge to their own practice, thereby optimizing patient care. The goal of this curriculum is to enhance the resident’s ability to analyze their own practice by the process of Practice Based Learning and Improvement as well as to utilize information technology to access available data. We anticipate that acquisition of these skills will also help facilitate learning by the resident’s colleagues. The curriculum’s rationale is to expand knowledge, accurately determine best practice, and incorporate learning into that practice.

B. Curriculum Delivery Methods:

a. Supervise Direct Patient Care
   • Training in Practice Based Learning and Improvement is a continuous process throughout the residency program and occurs with attending physician and other faculty supervision throughout all inpatient and outpatient rotations.
   • Residents are taught how to appropriately request and provide consultation services to improve their own knowledge as well as to improve patient care.
   • Attending physicians, faculty, rehabilitation team members and the clinic staff will assist residents in the acquisition of Practice-Based Learning and Improvement skills during outpatient clinic rotations and in the PM&R continuity clinic.

b. Didactics
   • PM&R residents will participate in conferences sponsored by the residency and through MSU Statewide Campus System (SCS) on the appropriate use of internet and other information technology tools. They will learn to manage and access on-line information, including the use of hand-held electronic devices to enhance and
support their education. This process is also augmented by Research Committee attendance and Journal Club participation.

- Presentations on evidence-based medicine, quality improvement, and treatment guidelines are covered during core curriculum lectures, grand rounds presentations, and other scheduled sessions.

c. Resident education is augmented by small group discussions which include, but are not limited to:

- Monthly Journal Club where residents learn about research design and techniques, how to interpret evidence-based medicine, and how to apply population based findings to individual patients. This activity is supervised by attending physicians and a Ph.D. faculty member with significant research expertise.
- Residents participate in an on-line research course sponsored by COM Statewide Campus System.
- Residents are encouraged and expected to conduct independent research and present topics (assigned or self-selected) for grand rounds presentations, electrodiagnostic medicine conferences, neuro-rehabilitation conference, and in preparation for teaching during attending rounds and in outpatient clinics.

C. Educational content:

a. Disease/pathology mix and patient characteristics: Each patient seen by a PM&R resident contributes to their learning and improvement. The program’s longitudinal curriculum applies to the entire broad range of patients seen by PM&R residents. In both inpatient and outpatient settings, patients may be from under-insured and low income populations as well as more affluent backgrounds.

b. Learning venues:

- Residents spend approximately 66% of their educational program involved with direct outpatient care and 33% in an inpatient setting. Evidence-based medicine is stressed in Journal Club, grand rounds, assigned conferences, and in the core curriculum. The focus of the residency didactic program is to use the latest literature to improve patient care and to enhance the education of physicians-in-training.
- The electronic medical record (EMR) is used in both inpatient and outpatient settings. The use of EMR offers residents experience with information technology to manage patient information, arrive at patient care decisions and to support those decisions, and to enhance patient and physician education. Residents are encouraged, to access clinical data relevant to their patient populations including data on clinical management strategies. Residents are able to compare the care they deliver with clinical guidelines (when applicable) thereby evaluating and improving the quality of their care.
c. Structure of the curriculum is designed in a longitudinal process and occurs in all patient care experiences throughout the residency program. Residents are also taught to critically analyze study design and statistical methods during their research rotations and course work and by participating in the Journal Club participation.

D. Primary Educational Methods:

a. Inpatient information technology resources include electronic medical records and other supportive documents for patient education and clinical care.

b. Residents have 24 hour access to the regular and electronic library of MSU; additionally, certified medical librarians are available at all teaching hospitals and some outpatient facilities.

E. Evaluation Methods:

a. Resident performance is evaluated by faculty on a web-based electronic resident evaluation form provided by the PM&R residency office for each rotation. Evaluations are competency-based, are shared with residents, and are provided to the Residency Committee for internal review. Evaluations are part of the resident’s file and are incorporated into a semi-annual performance review.

b. Upon completion of each rotation, residents also complete an evaluation of the rotation experience as well as of faculty and facilities. These evaluations are provided to the Residency Program Directors for review; Program Directors use the feedback in those evaluations for improvement of rotations and learning experiences.

F. Institutional Resources:

Residents are exposed to a broad population of patients and pathology. Many outpatient and inpatient rotation sites and clinics have EMR. Some are in the process of converting to EMR; but not all rotation sites have fully implemented EMR.
G. Practice Based Learning and Improvement – Specific Competency Objectives:

PM&R residents are expected to use clinical practice and direct patient care as a method for practice, improvement and learning in a lifelong process. Expertise is expected in the following areas:

a. Evidence-based medicine: The ability to locate, evaluate, and assimilate evidence from scientific studies related to patients’ rehabilitation or health problems is an essential skill. The ability to analyze study designs and statistical methods in the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness is considered a foundation skill. In the initial year of training (PGY2), residents are expected to demonstrate a basic ability to be self-motivated, to acquire knowledge, and to locate scientific literature to support decision making. In the second year of residency training (PGY3), residents are expected to continue to demonstrate the ability to appraise and assimilate scientific literature, to demonstrate an understanding of and the ability to use an evidence-based approach in providing patient care and to quickly access appropriate reference materials. The resident is also expected to proactively discuss research literature to support decision making processes in patient care. In the third year of residency training (PGY4), residents should, in addition to the skills described in previous years, be able to effectively and efficiently utilize consultation services to improve patient care and their own knowledge, as well as integrate evidence-based medicine with expert opinion and professional judgment. Residents at this level of training are expected to acquire and use appropriate evidence-based information when acting as a consultant and to be able to research patient care issues outside the specialty of PM&R. Residents in the PGY4 year are expected to be able to apply the knowledge of study design and statistics to relevant literature. Finally, residents at the PGY4 level are expected to be able to respond to clinical problems in a manner reflecting data-driven independent practice which does not merely reflect memorization of facts and management via established protocol.

b. Continuous Quality Improvement and Quality Assurance: Analysis of practice experience and performance of practice-based improvement activities utilizing a systematic methodology is a foundation skill in the area of quality improvement/assurance. Residents should be able to obtain and use information about their patients which will allow them:
   - At the PGY2 level to demonstrate the ability to
     o Understand their own limitations of knowledge and skill
     o Ask for help when needed
     o Admit to mistakes and seek help in remediating them
     o Accept feedback and develop a self-improvement plan
     o Seek formative feedback on performance
     o Deliver care that reflects learning from previous experience
o Assess patient adherence to prescribed treatment regimens and modify prescribing practices as appropriate
o Participate actively in quality improvement practices pertaining to patient care
o Demonstrate improvement in clinical management through continual improvement on various scheduled rotations

- The PGY3 resident should, in addition to all above be able to:
o Use self assessment of knowledge, skills and attitudes to develop plans with insight and initiative for addressing areas for improvement
o Voluntarily plan their own learning experience in procedures and other areas not yet mastered
o Utilize cases seen in the inpatient/outpatient setting to assess their own performance

- The PGY4 resident should, in addition to all above be able to:
o Demonstrate the ability to, in a systematic way, analyze their personal practice patterns and seek to improve their own patient care
o Utilize practice data to actively improve their own practice and patient management
o Compare their personal practice patterns to larger populations and seek to improve disparities in their own patient care, as appropriate

H. Information Technology:

The resident should be able to use information technology to manage data, access on-line medical information and supplement their own education. At the PGY2 and PGY3 levels, residents should be able to use web-based curricular materials hand held electronic devices and web-based resources to access medical literature and data to support to enhance patient care. Additionally, they should be able to use EMR systems in locations where they have assigned rotations. At the PGY4 level, in addition to the above, residents should be able to independently use computerized connections/search engines (such as PUBMED, etc.) to enhance patient care.

I. Teaching:

Residents should be able to facilitate the learning of medical students, other residents, and other members of the rehabilitation team.

a. PGY2 level residents should be able to facilitate the learning of medical students, interns, and residents in other specialties; facilitate education of other team members; demonstrate an evidence-based independent research preparation approach when teaching peers, allied health professionals, or junior
colleagues and use interactions with nursing staff and other professionals as two-way educational opportunities

b. PGY3 and PGY4 level resident should additionally be able to act as a specialist consultant, identifying questions and the concerns of the requesting physician and responding to these in a succinct, organized manner. They should demonstrate the ability to present formal didactic presentations for residents, peers, and attending physicians which reflect significant independent reading of evidence-based literature. These didactic presentation would occur during regular core curriculum presentations, scheduled conferences, or other venues approved by the Program Directors.

J. Evaluation Mechanisms:

a. Residents should be able to conduct and complete computer and literature searches. Residents should also be able to describe changes in their practice based upon evidence. Residents should provide documentation of personal ability on this topic.

b. Evaluation mechanisms will include, but not be limited to, evaluations by attending physicians/faculty at a rotation level, global evaluations, and the use of portfolios.
PM&R Residency Curriculum: Professionalism

Revision Date: 6/27/10

A. Educational Purpose and Goals

The purpose of teaching competency in Professionalism is to: a) integrate and evaluate demonstrated respect, compassion and integrity; b) be able to evaluate residents’ responsiveness to patients and staff; c) develop their personal and professional accountability as well as commitment to on-going personal and professional development; d) augment their sensitivity and responsiveness to issues regarding gender, culture, age, disability, and other pertinent issues. It is noted that Professionalism is a dynamic on-going process throughout the career of the PM&R physician.

B. Curriculum Delivery Methods

a. Supervised teaching: Attending physician/faculty will directly observe residents’ professional competencies in a multiple of settings which will include, but not be limited to:
   - Outpatient clinics, to include senior continuity clinic
   - Rotation-based patient care settings
   - Inpatient settings
   - Didactic and other scheduled conferences

b. Semi-Annual Review – twice per year, residents meet with Program Directors to discuss numerous issues including, but not limited to, professional development and performance. During this meeting Program Directors provide feedback on the resident's professional development and performance.

c. Residency Committee – if the resident’s performance is of significant concern, Program Directors will refer the matter to the Residency Committee who will become involved in assessing and developing a plan to improve the resident’s Professionalism competency.

d. Orientation – During initial orientation, residents are provided with professional expectations for the program and given information about resources available at MSU, EWSH, and other sites. Professional expectations are also
covered at alternate sites to address specifications pertinent to each rotation experience

e. Didactic presentations — Residency program conducts specific didactic sessions during the rotating cyclic core curriculum which include topics of medical ethics, professional development, the business of medicine, and medical legal considerations, and other topics.

f. Portfolios — Residents are expected to keep portfolios of their activities as part of their professional development. The purpose of portfolios is to provide an informative evaluation and to allow the exhibition of “best work” on progress over time, diverse assignments, and other activities. Portfolios are designed to assist professionalism, personal growth, and scholarly achievement. Portfolios are a collection of documents taken from residents’ actual didactic and clinical experiences, chosen by the resident (with advice from attending physicians and other faculty) to demonstrate their competency and to document learning and achievement related to an established learning plan. It is expected that the portfolio will be characterized by self-assessment, reflection on what has been learned in a self-directed manner. Portfolios should be initiated and developed in a longitudinal manner to allow the tracking of progress. It is expected that portfolios will include, but not be limited to, the following contents:

- A record of clinical procedures
- Summary of literature reviews used to make treatment decisions
- Patient or family counseling (or of junior residents, medical students, etc.)
- Research conducted (tracking of increased knowledge of research methods)
- Journal clubs attended
- Research Committee participation
- Research on line
- course participation
- Participation in a research activity
- Community/volunteer activity
- Publications
- Examples of H&P’s, discharge summaries, and other medical records
- Curriculum vitae
- Presentations developed/given
- Lists of procedures completed
- Lists of specific disease processes treated.

Fraud and HIPAA Training

All residents must complete required fraud and HIPAA training at appropriate constituent institutions.
C. Educational Content

a. At the start of, and throughout, the program, residents will care for patients with very complicated psychosocial presentations. Residents may care for patients with socio-economic or psychosocial conditions that they themselves find unpleasant; however residents will be expected to treat all patients with respect and dignity and to provide the best possible best patient care regardless of their personal feelings. PM&R residents in particular will provide care for patients in inpatient and outpatient settings with very diverse cultural and ethnic backgrounds. Residents will come in contact with a patients from rural, suburban and urban communities as well as areas of wide variation in economic, educational, ethnic, religious, and other social characteristics. Throughout the program, residents will be expected to work with and care for people from various diverse backgrounds.

b. Learning venue:
   - Every resident activity is a learning venue for the professionalism competency.

D. Evaluation Methods

a. Resident performance will be evaluated through supervised activities in hospital rotations, clinics and other venues. Residents will be routinely evaluated on professional performance in all rotations. These evaluations are collected in the electronic data base.

   b. Residents will also be evaluated at the semi-annual review regarding professional development and performance. Specific attention will be paid to performance in stressful or complicated situations involving patients, rehabilitation team members, and other circumstances. Residents whose performance in the area of professionalism is of concern will initially be dealt with by the Program Directors; should there be serious or multifaceted concerns, the Residency Committee may then meet to formulate specific educational objectives for remediation of assessed deficits.

   c. Residents will routinely complete electronic faculty evaluations of for each rotation they complete. These evaluations will include assessments of faculty members’ commitment to teaching and patient care, humanism, accessibility, and professional abilities. Residents will also complete evaluations of the program and rotations completed to assess effectiveness of the Professionalism related curriculum and the quality of instruction in this competency area.
E. Institutional Resources

a. The residency program is affiliated with the College of Human Medicine at Michigan State University (CHM). The CHM Center for Bioethics and Medical Humanities is recognized nationally in the area of medical ethics. The Colleges of Human Medicine and Osteopathic Medicine have a rich tradition of dedication to encouraging strong, highly ethical professional behavior at all levels. It is acknowledged that the curriculum it is very difficult, in a totally objective fashion, to evaluate residents in the area of professionalism. Strategies will be pursued by program leadership to increase the objectivity of resident evaluations in these areas.

b. Following is a partial list of what is expected of residents throughout the curriculum in the area of professionalism:

- Administrative competence (the ability to be punctual, and complete tasks as assigned, following directions, and respond in a timely and courteous way to staff and patient care needs, including pages, abnormal test results, and patient care issues)
- Demonstrate understanding concerning moral and ethical concerns about receiving gifts from patients and pharmaceutical representatives in accordance with MSU policy
- Recognize that physicians have responsibilities for the safety and well being of patients, colleagues, and staff
- Demonstrate respect and compassion for all patients
- Understand and recognize errors and notify attending physicians and, when appropriate, others when errors are made
- Demonstrate the ability to be trustworthy and to always tell the truth
- Perform patient referral, as well as coding and billing activities in an honest, forthright manner
- Demonstrate the ability to maintain patient confidentiality and encourage others to do so
- Manifest an interest in helping provide compassionate, quality care to all patients
- Demonstrate an understanding that the physician’s prime concern is the patient’s interest in a physician-patient relationship
- Demonstrate the ability to understand and work with patients and their families regarding issues such as advanced directives, resuscitation status, community reintegration, and discharge planning
- Demonstrate the ability to address educational development, through proactive teaching, to medical students, interns, and other health care professionals
F. Specific Competency Objectives

a. The following objectives are those which we expect residents should be able to do in a routine fashion. These differ from the previous objectives which must be done regardless of circumstances and that, while expected, would not necessarily be appropriate regardless of circumstance:

- Understand the importance of and demonstrate the ability to discuss difficult issues such as poor prognosis, diagnosis of permanent disability, etc. with patients and their families
- Consistently demonstrate self-directed learning (spontaneously present literature and evidence related to patient care)
- Demonstrate the ability to discuss and defend their own ethical understanding of their relationship with pharmaceutical representatives
- Demonstrate the ability to provide coverage for colleagues who may be ill or need to be absent from regular responsibilities
- Consistently demonstrate intellectual curiosity
- Provide leadership in the residency program and in rehab team settings
- Volunteer for activities that are for the good of the program such as interviewing prospective candidates, provide teaching of medical students, participate in activities such as Residency Committee, etc.
- Participate in community organizations or other activities as a volunteer
A. Educational Purpose and Goals

Physiatrists must demonstrate knowledge about both established and evolving clinical, cognitive, and biomedical sciences and their application to optimal patient care. PM&R residents must develop breadth and depth of medical knowledge, as well as the analytical skills that will allow them to continue to refine that knowledge and apply it in clinical settings.

B. Curriculum Delivery Methods

a. Supervise Direct Patient Care

- Residents will encounter a very diverse population of patients in the inpatient and outpatient settings. Residents provide care for these patients under the supervision of an attending physician. They will encounter numerous examples of both biomedical and psychosocial/behavioral issues to improve their knowledge base in a progressive manner. Teaching attending rounds, outpatient clinical experiences, and other scheduled didactic presentations, as well as patient care contacts all contribute to an expanding knowledge base
  - Required inpatient clinical experiences include: general PM&R, geriatric rehabilitation, pediatric rehabilitation, rehabilitation of brain dysfunction, and rehabilitation of spinal cord injury
  - Required outpatient experiences include: weekly resident continuity clinic, follow-up clinics, ambulatory orthopedics, rehab follow-up clinic, interventional physiatry, interdisciplinary pain clinic, botulinum toxin clinic, prosthetics and orthotics instruction, outpatient rehab clinics and various rotations: neurology, sports medicine, osteopathic manipulative medicine, cardiac rehabilitation, pulmonary rehabilitation, rheumatology, urology, and electrodiagnostic medicine, among others

b. Small group discussion
• **Sign-out** from one resident to another includes medical knowledge as well as systems knowledge and psychosocial skills critical for the practice of PM&R.

• **Attending physician teaching rounds** are conducted daily. In addition to bedside teaching, this will also include discussion of pertinent case-based basic science, pathophysiology, and evidence-based principles of care. Residents demonstrate baseline knowledge during these discussions and gain additional knowledge through case based examination of pathophysiology, clinical examination skills, data analysis, and differential diagnosis.

• **Journal Club** is a mandatory monthly experience which includes presentation of critical reading skills and evidence-based medicine, as well as resident presentation of articles demonstrating the application of those principles to current medical literature. Articles contributing to recent advancements in physiatric knowledge are stressed. The sessions are led by attending physicians and Ph.D. basic scientists.

c. **Didactic sessions**

• **Core curriculum**: This weekly lecture series covers fundamental clinical and scientific topics pertinent to PM&R as well as special, time sensitive topics. Topics are drawn largely from the Self-Directed Physiatric Education Program Study Guide and Self Assessment Examination (SAE) for Practitioners as a part of the self-directed physiatric education program of the American Academy of PM&R.

• **Board Review**: Topics covered in the Self Directed Physiatric Education Program Study Guide as well as in key text and journal articles are covered during the series of resident driven modules (with faculty participation). Questions from previous SAEs are reviewed, including critique and group discussion of each item. As needed, brief presentations may focus on how to answer questions. Faculty members serve as facilitators, responding to resident questions, providing critique for correct answers, and addressing questions, and other issues.

• **Grand rounds**: Grand round sessions are held at least monthly and involve patient care situations in an inpatient setting. They are evidence-based and focus on pertinent issues pertaining to the patient being presented.

• **EMG Conferences**: Each month pertinent topics in electrodiagnostic medicine are covered in a format which ranges from formal didactic presentation to demonstration and practice of specific procedural
techniques. These presentations are evidence-based and discussion of pertinent literature is consistently included.

- **Brain Injury Conference**: This monthly conference, offered at the Origami Brain Injury Rehabilitation Facility, addresses issues specific to rehabilitation of persons with brain dysfunction which range from pathophysiology, assessment and examination techniques to vocational rehabilitation issues, community reintegration, psychosocial issues, team dynamics, and other topics. Physiatric therapeutic conference offered at the MSU Clinical Center Rehabilitation Clinic. Each discipline in this CORF accredited facility presents information on the type of treatment they provide.

- **PM&R Foundation Modules**: During their first year (PGY2) of training, residents complete a series of focused PM&R Foundation Modules in a seminar format. These modules, which are evidence-based include discussion of topics essential to the practice of inpatient and outpatient PM&R. Residents meet with attending physicians in a discussion format, over specific learning objectives and content from key texts and other general and specific resources.

- **Manual Medicine Conference**: This monthly conference pertains to the integration of manual medicine into physiatric practice. The conference, which is evidence-based, focuses on acquisition or refinement of practical skills in manual medicine, which is defined as a systematic approach to medical problems, using manipulative procedures in the context of total patient care along with other accepted modalities. Specific topics pertaining to musculoskeletal pathology of the back, pelvis, and neck where injury, pain or other factors contribute to loss of function are emphasized.

d. **Independent Study**

- Residents are expected to independently review the learning objectives for each rotation as well as for the entire residency program and to diligently pursue completing them
- Residents are able to access written and electronic medical reference materials 24/7 including the extensive web-based electronic journal resources of MSU.
- Residents are expected to read pertinent physiatric journals and review medical literature on a regular basis
- Residents are entitled to 5 days of leave per year to attend scientific meetings or other continuing medical education activities. Additionally, residents receive a yearly stipend toward texts, journals or attendance at approved scientific meetings
Residents are entitled to a total of 4 weeks of research rotation during their 3 years of training. During that time residents work with a mentor to complete a research project which can be their own, can be in participation with another project, or another research activity which may include case report, focused literature review, or other approved format.

C. Educational Content:

Medical knowledge: The following topics are addressed in didactic conferences, formal presentations, and other formats throughout the residency program.

a. Electrodiagnostic Medicine Topics:

- Instrumentation
- Spontaneous activity
- Recruitment
- Neurophysiology of nerve conduction studies
- Techniques of performing nerve conduction studies
- Clinical applications of peripheral evoked potentials
- Demyelinating disease
- Diseases of neuromuscular transmission
- Focal and generalized abnormalities of the peripheral nervous system
- Compression neuropathies
- Medication neurotoxicity
- Late responses (including H reflex, F wave, A wave, and blink reflex)
- Central evoked potentials (including general considerations, visual evoked potentials, auditory evoked potentials, somatosensory evoked potentials, multi-modality evoked potentials including interoperative monitoring, event related potentials, natural stimulation for evoked potentials, trigeminal and pudendal evoked potentials)

b. Rehabilitation in Diseases Affecting Nerve and Muscle Topics:

- Anatomy and physiology of the nerve
- Anatomy and physiology of muscle
- Clinical evaluation of diseases affecting nerve and muscle (including weakness, fatigue, atrophy, muscle hypertrophy, muscle weakness, sensory symptoms, pain, fasciculations, neuropathies, myopathies, peripheral neuropathies, motor neuron disease)
- Methods and techniques of evaluation of diseases of nerve and muscle (including routine and special tests, and nerve and muscle biopsy)
- Focal neuropathies (including anterior horn cell, spinal radiculopathies, mononeuropathies)
• Generalized neuropathies (including hereditary and infectious neuropathies, neuropathies of metabolic or an immune origin, chronic disease, neuropathy in critically ill patients, porphyria, alcohol neuropathy and toxic neuropathy)
• Myopathies (including genetic/heritable disorders of muscle, congenital myopathies, metabolic muscle disorders, myotonic muscular dystrophy, and other muscular dystrophies, and acquired myopathies)
• Diseases of the neuromuscular junction (including myasthenia gravis and Eaton-Lambert Syndrome)
• Drugs and toxins affecting neuromuscular transmission
• Treatment of diseases affecting nerve and muscle
• Rehabilitation management techniques for the treatment of diseases of nerve and muscle, including appropriate adaptive equipment and orthoses
• Counseling
• Sexuality
• Nursing care
• Education and vocational considerations
• Communication disorders
• Mobility
• Assistive devices
• Research needs

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c. Rehabilitation of Joint and Connective Tissue Disease Topics:

• Anatomy and physiology (including joint function, joint anatomy, histologic features, biomechanical considerations, and joint physiology)
• Approach to the diagnosis of rheumatic diseases
  o Inflammatory vs. non-inflammatory arthritis
  o Monarticular arthritis
  o Polyarticular arthritis
  o Serologic testing
  o Radiologic examination
  o Synovial fluid examination
  o Synovial biopsy
• Clinical disease courses with emphasis upon rheumatoid arthritis, osteoarthritis, spondyloarthropathies, juvenile rheumatoid arthritis, scleroderma, systemic lupus erythematosis, polymyositis, and dermatomyositis
• Specific rheumatic diseases (including treatment and rehabilitation of rheumatoid arthritis, spondyloarthropathies, chronic juvenile polyarthritis, intermittent arthritic syndromes, systemic rheumatic diseases, mixed connective tissue disease, systemic vasculitis, progressive systemic sclerosis, Sjogrens Syndrome, rheumatic fever, relapsing polychondritis, eosinophilic fasciitis, non-inflammatory arthropathies, metabolic diseases associated with...
arthritis, infectious arthritis, systemic diseases with arthritis, and periarticular diseases
• Comprehensive rehabilitation evaluation of joint and connective disease (including functional assessment and behavioral indices)
• Pharmacologic management (including appropriate drug programs and prescription, use of salicylates, nonsteroidal anti-inflammatory medications, adrenocorticosteroids, slow acting rheumatic drugs, gold compounds, penicillamine, cytotoxic drugs, antihyperuricemic drugs, analgesic agents, and patient compliance)
• Rehabilitation management of joint and connective disease (including use of heat and cold, nerve stimulation, acupuncture, exercise, rest, joint protection and energy conservation, joint immobilization and the overall team approach)
• Surgical management (including joint replacement, synovectomy, arthrodesis, and postoperative rehabilitation)

d. Rehabilitation of Musculoskeletal and Soft Tissue Disorders and Sports Rehabilitation Medicine Topics:

• Cervical spine: anatomy and biomechanics
• Cervical spine: clinical features
• Thoracic spine: anatomy and biomechanics
• Thoracic spine: clinical features
  o Work related sports injuries
  o Shoulder and upper extremity: anatomy and biomechanics, clinical features, major clinical syndromes (including shoulder impingement, rotator cuff disease, epicondylitis, adhesive capsulitis, etc.)
  o Sports injuries of the shoulder and upper extremity
  o Work related injuries of the shoulder and upper extremity (including analysis of the role of cumulative trauma disorders in upper extremity disability in the work place)
  o Wound healing after tendon injury
  o Phalangeal fracture
  o Lumbosacral pain
    ▪ Anatomy
    ▪ Clinical examination (including posture, range of motion, neurologic exam, provocative clinical tests, radiographic findings)
    ▪ Clinical syndromes (including muscle strain, disc herniation, degenerative disc disease, spondylolisthesis, facet syndrome, myofascial pain, traumatic annular tears, structural syndromes including scoliosis, lumbar stenosis, lumbarization/sacralization and leg length discrepancy)
  o Work and sports related lumbosacral pain
  o Referred pain syndromes
Evaluation of the patient with lumbosacral pain

Pelvis and lower extremity disorders
- Anatomy and biomechanics
- Clinical features (including major clinical syndromes such as sacroiliac dysfunction, bursitis, tendonitis, piriformis syndrome, internal derangement, chondromalacia, compartment syndromes, shin splint, coccygodynia, Morton’s neuroma, metarsalgia, plantar fasciitis, Baker’s cyst, ligamentous sprains, and foot and toe deformities)

Sports and work related injuries of the pelvis and lower extremity
- General disorders
- Common wound infections
- Rehabilitation aspects of wound management
- Osteomyelitis
- Pressure ulcers
- Intervertebral discitis
- Metabolic bone disease
- Bone tumors
- Burns
- Chronic pain
- Complex regional pain syndrome
- Myofascial pain syndrome
- Pre and post-partum pathology
- Myositis ossificans

Diagnostic tests and examination
- Special tests for thorough examination of major joints of the extremity and spine
- Radiographic analysis of the musculoskeletal system (including plain x-rays, CT scan, MRI, myelography, nuclear medicine scans)
- Rationale and use of thermography in the diagnosis of musculoskeletal disorders
- Relative diagnostic value of ultrasonography, discography, and other imaging techniques
- Indications for joint arthroscopy
- Methods of determining impairment in musculoskeletal pathology

Sports Rehabilitation Medicine
- Role of the sports medicine physician
- Exercise prescription
- Strengthening programs
- Factors predisposing to sports injuries
- Major components to a physical examination for sports related musculoskeletal injury
- Phases of rehabilitation
- Rehabilitation of the injured athlete
- Upper extremity sports injuries (to include subacromial impingement, rotator cuff injury, acromioclavicular joint injury, glenohumeral dislocation, lateral epicondylitis, medial elbow pain and other throwing injuries, wrist pain, sports related hand injuries)
- Sports medicine related lower extremity injuries (to include muscle strain, hip pain, stress fracture, patellofemoral pain, knee pain, shin splints, osteocondritis, anterior cruciate ligament injury, Achilles tendonitis, plantar fasciitis, ankle sprain)
- Sports related spine and head injuries (to include soft tissue cervical injury, cervical strain, cervical disc herniation, “stinger”, transient cervical myopathy, sport specific lumbar injuries, lumbar spine and rehabilitation program components, criteria for sports participation for children with congenital and acquired spinal deformities, management of concussion and considerations for return to play following sports related head injury, post concussion sequelae)
- Physiatrist as team physician (to include components of sports pre-participation examination, on field examination of the injured player with a head or spine injury, return to play criteria for athletes with head or spine injuries, on field examination of athletes with limb injury and return to play considerations, medical/legal responsibilities of the team physician, common adverse affects of anabolic steroid use, common injuries in wheelchair athletes, aerobic training response in wheelchair athletes, medical and psychosocial benefits of sports and recreation for physically challenged athletes)

e. Pediatric Rehabilitation Topics

- Growth and development
- Comprehensive rehabilitation program design
- Therapeutic exercise
- Use of modalities
- Chronic respiratory disorders, congenital heart disease and major malignancies of childhood
- Aerobic conditioning programs
- Ventilator dependency
- Factors affecting compliance in childhood
- School reentry for children with chronic illness
- Impact of stress on chronically ill children and their families
- Pediatric traumatic brain injury
- Cerebral palsy
- Spinal Cord injury
• Myelodysplasia
• Hydrocephalus
• Factors affecting achievement of ambulation
• Late onset progressive neurologic deficits
• Indications for physical therapy, orthotics, prosthetics, occupational therapy, speech language pathology, recreation therapy
• Factors operative in producing spinal deformities
• Plans for management of bowel and bladder dysfunction
• Assessment of impact of child disability on family and community
• Birth injuries (to include facial nerve palsy, brachial plexus palsy)
• Infantile botulism
• Evaluation and treatment of the floppy infant
• Spinal muscular atrophy
• Muscular dystrophies
• Congenital myopathies
• Juvenile arthritis
• Systemic lupus erythematosus
• Dermatomyositis and polymyositis
• Infectious arthritis
• Rheumatic fever
• Hemophilia
• Other forms of arthritis
• Skeletal disorders
• Gait abnormality
• Leg length discrepancy
• Rotational variations in foot disorders
• Congenital hip dislocation
• Arthrogryposis
• Limb deficiencies and amputations
• Scoliosis
• Torticollis
• Musculoskeletal pain (to include sports injuries and overuse syndromes, back pain, knee pain, anterior leg pain, ankle and foot pain)
• Treatment of upper and lower extremity injuries
• Wheelchair sports injuries
• Limb pain

f. Prosthetics, Orthotics and Assistive Devices Topics:

• Orthotics (including definition, mechanics, materials and terminology)
• Gait analysis
• Gait with orthotics
• Lower extremity orthotics
• Upper extremity orthotics
• Prosthetics (definition, functions, materials and design)
• Psychological and vocational aspects of limb loss
• Lower limb prosthetics
• Upper limb prosthetics
• Considerations in juvenile amputees
• Assistive devices (to include ambulation, aides)
• Specialized seating
• Augmented communication
• Adaptive equipment
• Innovative upper and lower limb prosthetic design
• Evaluation and treatment of abnormal and painful foot (to include problems associated with running, neurovascular foot disorders, arthritic foot disorders, overuse syndromes, shoe fit)
• Orthotics in arthritis (to include biomechanics and choices of material, custom made orthosis, orthotic fit, patient compliance, critical range of motion, formulating orthotic prescription, orthotic management for rheumatoid arthritis, osteoarthritis, juvenile rheumatoid arthritis, polymyositis and dermatomyositis, gout, sepsis, progressive systemic sclerosis, hemophilia, etc.)

g. Burn Rehabilitation Topics:
• Positioning
• Orthotic management
• Special considerations in children’s burns
• Pressure garments
• Spasticity
• Therapy

h. Cardiovascular, Pulmonary and Cancer Rehabilitation Topics:
• Cardiac anatomy and response to exercise
• Pathophysiology and clinical aspects of heart failure, hypertension, coronary artery disease, cardiomyopathy, congenital heart disease, athletes heart, and heart transplant
• Evaluation techniques
• Physical conditioning for disabled and non-disabled persons
• Rehabilitation of the cardiac patient (to include cardiac rehabilitation programs, cardiac exercise prescription, special considerations)
• Rehabilitation of disabled persons with co-existing cardiac dysfunction
• Peripheral circulatory dysfunction
• Anatomy and physiology of the pulmonary system
• Pathophysiology
• Therapeutic modalities for obstructive and restrictive pulmonary disease
• Rehabilitation concepts in cancer rehabilitation:
  o Principles of clinical oncology
  o Psychosocial and vocational aspects of cancer rehabilitation
Neurologic manifestations and complications of cancer
Specific cancer rehabilitation programs

i. Physiatric Therapeutics Topics:

• Physiatric evaluation (to include general considerations for history and physical examination, goniometry, manual muscle testing, problem oriented medical records, functional evaluation, and disability evaluation)
• Therapeutic heat and cold
• Electrotherapy
• Therapeutic exercise (including therapeutic heat and cold, iontophoresis, phonophoresis, electric therapy, ultraviolet radiation, nerve and muscle blocks, neuromuscular facilitation, biofeedback, range of motion in contractures, weight control, coordination)
• Traction, manipulation and massage (physiologic affects and application of traction as well as contraindication; manipulation; classification; indications, techniques, and massage: physiologic effects, indications, techniques, contraindications)
• Transfers and mobility/community re-entry
• Pain (including neuroanatomy and neurophysiology, gate theories, therapeutic measures, transcutaneous electrical nerve stimulation, acupuncture, behavioral methods, and other specialized treatments)
• Rehabilitation team (to include patient care team, physician as team leader, successful team management)
• Behavioral management (including behavior and change in behavior, behavioral medication applications)
• Geriatric rehabilitation
• Management of the immobilized patient

j. Spinal Cord Injury Rehabilitation Topics:

• Epidemiology prevention and system of care for spinal cord injuries
• Anatomy, pathogenesis and research for neurologic recovery from spinal cord injury
• Comprehensive management of spinal cord injury (including acute management, pulmonary and vascular considerations, management of gastrointestinal and urinary tract disorders, management of soft tissue disorders, metabolic/endocrine and thermal regulation, sexuality/fertility issues, psychosocial issues, co-existent brain injury, spasticity, pain, late neurologic deterioration, and determination of outcome)
• Long term care
• Outcomes and issues of aging after spinal cord injury
k. **Brain Injury Rehabilitation Topics:**

- Hierarchy and integration in the central nervous system
- Neuroanatomy and neurochemistry
- Brain plasticity and response to injury
- Cellular response to injury
- Secondary responses to cerebral damage
- Assessment of brain injury
- Medical complications of brain injury
- Neurobehavioral and communication aspects of brain injury rehabilitation
- Motor deficits related to brain injury
- Visual, spatial and sensory disturbances related to brain injury
- Intervention strategies for brain injury (including cognitive remediation, behavioral management, communication, social factors, community support, motor deficits, dysphagia, sensory dysfunction, substance abuse, and sexuality issues)
- Specific disorders (including traumatic brain injury, cerebral vascular disorders, multiple sclerosis, aging, degenerative diseases, and non-progressive disorders)

**D. Patient Characteristics**

Medical knowledge is acquired by residents performing supervised care of a diverse population of rehabilitation patients including patients with neurologic diagnoses. PM&R residents see patients in consultation on multiple services. There is extensive socioeconomic diversity of the referred population which supports a stimulating training experience with broad medical knowledge and challenges.

**E. Learning Venues**

- McLaren Lansing Inpatient and outpatient settings
- Edward W. Sparrow Hospital (EWSH). Inpatient and outpatient setting
- Michigan State University Clinical Center: Ambulatory clinical site with conference facilities
- Mary Free Bed Hospital (MFB): Inpatient and outpatient sites
- McLaren Medical Center: Inpatient and outpatient sites
- Other multiple outpatient settings
F. Ancillary Services:

Medical librarians are available at most training sites and at Michigan State University and are able to assist with scientific literature searches and acquisition of literature. Residents regularly have the opportunity to interact with prosthetists, orthotists, athletic trainers, physical therapists, occupational therapists, speech-language pathologists, recreation therapists, clinical and rehabilitation psychologists, neuropsychologists, vocational rehabilitation specialists, rehabilitation nurses, and multiple other disciplines.

G. Structure of the curriculum:

   a. Experiential medical knowledge

   b. Core conferences and rotations are fully documented in the residency manual. Individual rotation learning objectives and content are documented separately.

   c. Principle ancillary educational materials include:

      • Targeted readings and primary literature assigned by attending physicians throughout rotations
      • Foundation modules which serve as a component of inpatient and outpatient curriculum
      • Full service, 24 hour, libraries with electronic and web-based databases are present at all hospital facilities with onsite medical librarians. Standard text and medical journals are available in both print and electronic format
      • Multiple textbooks furnished to residents by the program.
      • 24 hour access to the extensive on-line Michigan State University electronic library

H. Methods of evaluation:

   a. Resident performance: All faculty complete web-based electronic resident evaluation forms provided by the residency office for each rotation.

   b. Evaluations are competency based and assess medical knowledge

   c. Evaluations are shared with the residents

   d. Evaluations are part of the resident’s file and are incorporated into semi-annual performance reviews

   e. Residents are required to maintain basic life support (CPR) and advanced cardiac life support certification
f. Residents perform procedures under supervision throughout their residency program. Supervising physicians assess an understanding of procedures, indications, contraindications, complications and interpretation. Residents are required to accurately log all procedures.

g. Residents annually are required to take the Self-Assessment Examinations of the American Academy of PM&R and the American Academy of Electrodiagnostic Medicine

h. Residents are required to pass a comprehensive functional neuroanatomy examination after completion of the functional neuroanatomy course

i. Residents are required to pass practical examinations in electrodiagnostic medicine (involving nerve conduction studies and needle electromyography)

I. Institutional Resources:

a. Faculty consistently receive high ratings for their teaching ability and dedication to teaching

b. 24 hour medical library and on-line medical literature is available at all major training sites

c. Medical research librarians are available at MSU and at each training hospital

d. Resident driven board review is organized with excellent ABPM&R and AOBPMR certification outcomes

J. Limitations:

a. Lack of experience in the area of burn rehabilitation limits experiential training in this area. There are no inpatient burn units in the Lansing area.

b. While there is no dedicated, full time, month long rotation in Prosthetics and Orthotics, this topic is covered in multiple settings at MFB, EWSH, McLaren Regional Medical Center; residents also attend the Prosthetics and Orthotics Course for Physicians at Northwestern University Medical Center
K. Specific competency objectives:

a. Residents must demonstrate knowledge about established and evolving biomedical, clinical and cognitive sciences as well as the ability to apply knowledge to patient care. Residents are expected to:

- Know and apply the basic and clinically supported sciences which are appropriate to their discipline
  - PGY2 residents will:
    - consistently demonstrate knowledge of common procedural indications, contraindications, necessary equipment and process necessary for handling specimens in patient care
    - Will demonstrate knowledge of pertinent basic and clinical sciences
    - Demonstrate satisfactory knowledge of common physiatric conditions sufficient to manage them with supervision
    - Exhibit sufficient content knowledge of common physiatric conditions to provide care with minimal supervision by the end of their first training year (PGY2)
  - PGY3 residents will, in addition to the above:
    - demonstrate a progression of content knowledge in critical thinking in order to develop well formulated differential diagnoses for more complex patients
    - Demonstrate understanding and responsiveness to psychosocial issues
    - Demonstrate understanding and appropriate use of statistical principles such as sensitivity, specificity, predictive values, etc.
  - PGY4 residents will, in addition to the above:
    - demonstrate a progressive enlargement of knowledge of PM&R
    - Will demonstrate knowledge regarding performance of procedures while minimizing risk and discomfort to the patient
    - Will exhibit knowledge of effective teaching and evaluation methods
- Residents will demonstrate an analytic approach to clinical situations as evidenced by utilization of University and hospital library resources
- Demonstrate self-motivation to learn
- Demonstrate analytic skills necessary to develop appropriate assessment and plan for common physiatric diagnoses
- Independently present up-to-date scientific evidence to support hypothesis (more frequently in the PGY3 year)
• In the PGY4 year, in addition to the above, regularly display self-initiative to stay current with the cutting edge of medical knowledge in the discipline of physical medicine and rehabilitation; regularly demonstrate knowledge of the impact of study design on validity or applicability to individual practice; and present well developed formal didactic presentations demonstrating in depth knowledge of the clinical topic as assigned or of their choice

b. Evaluation of competencies in this area will be accomplished through:

  • Cognitive examinations (self-assessment examinations, neuroanatomy examinations, practical examinations)
  • Formal rotation evaluations
  • Mini-CEX
PM&R Residency Curriculum: Systems Based Practice

Revision Date: 6/27/10

A. Educational purpose/goals

Physiatric residents should be able to demonstrate an awareness of and responsiveness to the larger context and systems of health care and the ability to effectively and appropriately call on system resources to provide optimal care.

B. Curriculum Delivery Methods

a. Weekly didactic lectures and periodic small group discussions
b. Supervised direct patient care activities are monitored by attending physicians and other faculty
c. Attending physicians have consistent and repeated contact with each resident and are able to supervise their longitudinal progress with System-Based Practice skills
d. Attending physicians directly observe residents during scheduled rotations, senior clinic opportunity, during case management teaching sessions, family meetings, team conferences, during bedside and other discharge management discussions and meetings, and during numerous system related communication interactions
e. Attending physicians/other faculty work directly with residents during development and implementation of discharge plans
f. Faculty monitor and assess residents’ System-Based Practice skills during both inpatient and outpatient rotations
h. Preceptor faculty monitor residents’ System-Based Practice skills during clinic rotations/continuity clinics
h. Didactic lectures on elements of System-Based Practice include:
   • Physician profiling
   • Business of medicine
   • Billing and coding
   • Corporate compliance
   • Quality assurance
i. Residency didactics are provided by the MSU Statewide Campus System (SCS) on systems related issues

j. Residents participate in the PM&R Department Residency Committee, where they interview and evaluate prospective residents. Residents are also involved in teaching medical students at various levels of training

C. Educational Content

a. All patients are affected by systems of care and the program’s longitudinal curriculum applies to all supervised patient interactions. Therefore the “disease mix” for this competency is a “topic mix” which includes, but is not limited to:

   • Working with multidisciplinary teams, case managers, and patient support services personnel
   • Health care quality and quality improvement methods
   • Health care delivery systems and alternative levels of care for patient needs
   • Resource allocation and utilization review
   • Inpatient/outpatient care coordination
   • Hospital transfer processes
   • Transfer processes for nursing home and adult foster care placement
   • Continuing care resources for post-hospital care
   • Billing, coding and appropriate reimbursement documentation
   • Medicare, Medicaid and other benefit programs
   • Durable medical equipment appropriation and management
   • Resources for geriatric, disabled, and chronically ill patients
   • Resources for persons with substance/chemical abuse problems

b. Planned expansion in the program includes, but is not limited to:

   • Health care costs/value decisions
   • Palliative care systems
   • Working with patient advocates for incapacitated persons
   • Physician performance measures

D. Patient Care Statistics:

a. Geriatric patients and patients who require continuing care services are highlighted in didactic and clinical settings (both inpatient and outpatient)

b. In all settings, patients range from under-insured and low-income to well-insured and affluent; a significant percentage require coordinated care from Social Services and allied health professionals
c. The longitudinal curriculum of the program applies to the entire broad range of patients seen by PM&R residents
d. Residents accomplish elements of this competency area by:
   • Direct patient care (roughly 33% inpatient and 66% outpatient) based on the total 3 year curriculum
   • Longitudinal weekly conferences
   • Interactions with ancillary services which include, but are not limited to: case management, rehabilitation nurses, physical therapy, occupational therapy, speech-language pathology, recreation therapy, vocational rehabilitation specialists, office administrative personnel, and numerous other clinical administrative and paraprofessional ancillary staff

E. Rotation Structure:
   a. Weekly didactics as well as special conferences (some sponsored by the Statewide Campus System of MSU) in Systems-Based Practice are scheduled periodically throughout each training year
   b. All direct patient care responsibilities and other patient care rotations throughout the program include Systems-Based Practice interactions
   c. Methods of resident evaluation include the following:
      • For each clinical rotation, faculty complete a web-based resident evaluation form which includes an assessment of “competency performance”.
      • All evaluations are shared with residents and sent to the Residency Office for review
      • Evaluations are part of the resident file and are incorporated into the semi-annual performance review
   d. Program and faculty performance:
      • Residents complete evaluations of faculty, facilities, and of specific rotations
      • These evaluations are sent to Program Directors for review, and are reviewed at least annually by the Residency Committee

F. Institutional Resources:
   a. There is a continuous longitudinal curriculum with graduated, more complex, Systems-Based Practice teaching sessions which allow residents to develop a positive team type relationship with multiple health professionals.
b. The Systems-Based Practice curriculum is organized in the outpatient venue, particularly in the Resident Continuity Clinic setting. Strategies are constantly being developed to address areas of weakness in the Systems-Based Practice curriculum.

G. Specific competency objectives:

a. Systems-Based Practice – residents must demonstrate an awareness of (and a responsiveness to) the larger context and system of health care. They must demonstrated the ability to effectively call on system resources to provide optimal and valuable care to patients

b. Residents are expected to reflect on how patient care and other professional practices affect not only other health care professionals, but also entire health care system society at large, and how these elements in-turn affect their own practice

c. In the first year (PGY2) of training residents are expected to demonstrate the ability to work well within their core clinical rehabilitation teams and to participate in medical and rehabilitation goal setting

d. In the second and third years (PGY3 and PGY4) of training, residents must also demonstrate the ability to work well with large multidisciplinary teams, coordinating multispecialty care and effectively working with case management, nursing and multiple disciplines in team settings

e. Residents must also demonstrate the ability to provide and document care in a timely and thorough manner and to integrate rehabilitation interventions within the goals of each professional discipline on the multidisciplinary team

f. In the PGY3 and PGY4 years, residents are expected to be able to effectively coordinate care with other health professionals and to provide a leadership role in the management of complex cases

g. Residents are expected to reflect understanding of external regulations and performance expectations and to appropriately acknowledge the effects of these elements in their own practice

h. Residents are expected to demonstrate knowledge of how types of medical practice and delivery systems differ from one another, including methods of controlling health care costs and allocating resources

i. Residents must, throughout the program, participate in educational sessions relating to various types of medical practice and delivery systems
j. In the PGY3 and PGY4 years, residents are expected to demonstrate a satisfactory level of understanding regarding medical practice and delivery systems including alternative care resources, ambulatory care resources, and rehabilitation resources, as well as other continuing care resources

k. Residents should also demonstrate a satisfactory understanding of methods of controlling health care costs and appropriate allocation of resources as well as regarding medical practice and delivery systems

l. By the conclusion of the PGY2 year, residents must demonstrate sensitivity to costs incurred in the practice of medicine and be able to incorporate fundamental cost analysis into care approaches, thereby minimizing redundant or unnecessary care

m. In the PGY3 and PGY4 years, residents demonstrate awareness that the practice of cost effective care and resource allocation does not necessarily compromise quality of care; they should strive to appropriately contain costs and conserve limited resources

n. Residents advocate for quality patient care and assist patients in dealing with system complexities by identifying, implementing, documenting and monitoring established local patient care plans and demonstration of commitment and dedication to high quality patient care throughout the residency program

o. By the completion of the PGY3 and PGY4 year, residents are expected to demonstrate the ability to effectively guide patients through complex healthcare environments and to act as team leader during interdisciplinary meetings (through observation, participation, coordination and direction of team conferences)

p. Residents are expected to demonstrate the ability to partner with healthcare managers and healthcare providers to assist, coordinate, and improve health care and to demonstrate knowledge of how these activities can affect system performance

q. By completion of the PGY2 year residents are required to demonstrate the ability to regularly and effectively work with case managers, social workers and other healthcare professionals to assess, coordinate and improve patient care

r. By completion of the PGY3 and PGY4 years residents are expected to demonstrate the ability to regularly and effectively work with utilization review personnel, healthcare professionals, ambulatory practice office managers, and other providers within the larger healthcare system. Residents are expected to be able to identify and act on improvement opportunities for healthcare systems
H. Evaluation Mechanisms

a. Residents’ evaluations in this competency area will be accomplished through:

• resident portfolios
• rotation evaluations
• mini-CEX evaluations
PM&R Residency Curriculum: Patient Care

Date of Revision: 06-27-2010

A. Educational purpose/goals
   a. Patient Care is the cornerstone of skills for all physicians, including physiatrists
   b. Residents are expected to provide compassionate, appropriate and effective treatment of health problems and to promote health with their patients

B. Curriculum Delivery Methods
   a. Multiple rotations covering both hospital and ambulatory settings allow for supervised direct patient care.
   b. Faculty from community and the University supervise residents on a one-to-one basis
   c. Occasionally senior level residents will assist with the supervision of junior level trainees
   d. Didactic lectures, small group discussions, assigned readings, learning modules and other required presentations contribute to teaching in this area of competency

C. Educational content:
   a. The mix of diseases and pathology the resident is exposed to is quite broad and includes common as well as rare conditions
   b. Patients seen by residents range from children to the geriatric population and are of different racial and socioeconomic backgrounds

D. Learning venues:
   a. University affiliated community hospitals
   b. Inpatient rehabilitation units
   c. Outpatient rehabilitation clinics
   d. Inpatient geropsychiatry units
   e. MSU Clinical Center ambulatory care setting
f. Muscular Dystrophy Association Clinic

g. Numerous ambulatory community faculty offices

h. Resident continuity clinic

i. There are multiple general and sub-specialized PM&R clinics

j. The approximate mix in the residency program is 1/3 inpatient and 2/3 outpatient, based on the total 3 year curriculum

E. Ancillary Educational Materials:

a. At the beginning of each rotation, residents are given educational goals and objectives and a suggested reading list

b. All teaching hospitals and Michigan State University have Library facilities

c. Residents are given access to, and expected to become familiar with, web-based data bases

d. Computers are available to residents

e. Key text books are provided to residents; others may be assigned on individual rotations

f. Residents are expected to take every opportunity to critically review articles from pertinent medical literature

g. Residents are provided with educational goals and objectives for the entire residency program at the outset of their training

F. Methods of Evaluation:

a. Residents’ performance will be evaluated with faculty completed web-based electronic evaluation forms provided by the residency office

b. This evaluation includes assessment of core competency performance

c. Evaluations are shared with residents following each rotation and a copy is sent to the residency office for review

d. Evaluations remain part of the resident’s file and are incorporated into semi-annual performance review
e. Residents are evaluated utilizing mini-CEX exam, and patient surveys (in the electrodiagnostic setting, inpatient rehabilitation settings and in outpatient clinics)

f. Upon completion of rotations, residents are asked to complete an evaluation of the rotation and faculty. These evaluations are sent to the Program Directors for review and are reviewed subsequently by the Residency Committee

G. Institution Resources and Limitations:

a. There is an excellent opportunity for residents to learn from generalists and sub-specialists in the discipline of PM&R and in multiple other specialties in community settings that foster excellent patient care skills.

b. The educational faculty are dedicated and motivated as clinical educators and strive to involve residents as decision makers, while encouraging acquisition of new patient care skills.

c. It is noted that various patient care settings for the residency program are geographically separated, and that burn rehabilitation is not readily available; however, discussions are in progress to improve experiences for residents.

H. Specific competency objectives:

a. Patient care

- Residents must demonstrate the importance of communication when caring for patients as they collect highly personal information
- Residents are expected to emphasize psychosocial aspects of patient care as well as to address family support and previous level of function
- Residents are expected to interact with rehabilitation professionals including nurse case managers, clinical psychologists, social workers, and discharge planners
- In the first year of training (PGY2) residents are expected to consistently demonstrate integrity, respect, compassion and empathy for patients and their families
- PGY2 residents are expected to perform a comprehensive physical examination with a consistent sequence, and with a physiatric emphasis. Residents at this level are expected to be able to identify normal from abnormal and to describe physiological and
anatomical basis for their findings. They are also expected to demonstrate the ability to augment physical exam steps to elicit data not obtained from standard techniques

- PGY2 residents are expected to consistently gather essential and accurate information and to organize it in a manner consistent with acceptable medical convention and to chart their findings in a timely and efficient manner. Residents’ gathered information is expected to be comprehensive and include data gathered by other providers as well as by laboratory and other investigations.

- More advanced residents (PGY3 and PGY4), in addition to the above, are expected to correctly detect subtle findings and understand their significance and be able to demonstrate the ability to teach appropriate physical examination skills to medical students and/or junior peers. They are expected to strive to perform a focused physical exam at a level similar to an independent specialty consultant and to understand the sensitivity and specificity of techniques used.

- Residents are expected to establish trust and recognize that the patient’s welfare is their primary concern. Residents are expected to respect personal preferences and understand patient rights and to engage in shared decision making with their patients.

- More advanced level (PGY3 and PGY4) residents are expected to demonstrate these competencies and to aide lower level trainees in effective communication with patients.

- More advanced residents (PGY3 and PGY4) are expected to, in addition to the above, be precise, logical and efficient in data collection.

- Residents are expected to demonstrate understanding and competency in medical interview/history and the ability to derive appropriate differential diagnoses.

- Histories should be completely hypothesis-driven by the end of the first training year.

- Residents are expected to demonstrate awareness of the importance of performing an appropriate and relevant physical examination in all settings.

b. Clinical judgment, medical decision making, and management plans

- Residents are expected to progressively become more skilled at assimilating information gathered from the history and physical exam and to identify all the patient’s medical and physiatric problems so that the differential diagnoses can be derived.

- Residents are expected to understand their limitation of knowledge and to seek advice of more advanced clinicians.

- PGY2 residents are expected to develop therapeutic plans that are evidence-based or consensus-based. They should be able to establish an orderly succession of testing based upon history and
exam findings, and demonstrate a wide use of diagnostic therapeutic procedures

• Entry level (PGY2) residents are expected to demonstrate knowledge of procedural indications/contraindications, necessary equipment, specific process and follow-up care. They are also expected to participate in informed consent discussions, assist patients with decision making, and attend to patient comfort.

• PGY2 level residents are expected to give patients accurate medication and follow-up care instructions and to document their counseling conversations as appropriate.

• More advanced (PGY3 and PGY4) residents are expected to regularly integrate medical facts and clinical data while weighing alternatives and keeping in mind patient preference. Residents are expected to regularly incorporate consideration of costs, risk and benefits when considering diagnostic testing and therapeutic interventions.

• Residents are expected to present up to date scientific evidence to support hypotheses and to use information technology to support patient care decisions and to consistently monitor and follow up patients appropriately.

• Residents at the more advanced levels (PGY3 and PGY4) are expected to demonstrate appropriate reasoning in ambiguous situations, while continuing to seek clarity.

• Residents are expected, in the final year of their training, to not overly rely on tests and procedures and to assist junior trainees and medical students to become efficient managers through the appropriate use of clinical judgment and effective decision making.

• Senior level residents are expected to consistently establish monitoring procedures to demonstrate the ability to change therapeutic programs as needed.

• Residents at all levels of training are expected to gradually increase their skills in oral presentation. These will be demonstrated by delivering, with increased frequency and complexity, case presentations organized in a fashion consistent with medical convention.

• Oral presentations are expected to include pertinent aspects of history, physical examination, and laboratory investigations.

• Presentations are expected to be well developed and include an in-depth differential diagnosis, literature review, and carefully executed diagnostic and therapeutic plan.

• Residents are expected to recognize the importance of clear and accurate instructions for patients and their families.

• More advanced level (PGY3 and PGY4) residents are expected to effectively counsel and educate patients about pertinent health issues, tests, and treatments and to be able to recommend appropriate screening examinations as applicable. Additionally, they are expected to consistently and thoroughly educate patients.
and their families using patient education as a form of intervention and partnering.

- Residents are expected, throughout the program, to demonstrate an increasing understanding of the role that technological advancements bring to inpatient and outpatient care.
- Residents are expected to demonstrate the use of computer assisted data bases for diagnosis and decision making and to utilize EMR.
- Residents are expected to utilize electronic data bases for patient education materials and the ability to perform literature search of available data bases as needed to facilitate patient care as well as their own learning.
- Residents are expected to understand the importance of competency in performing medical and other interventional procedures essential for the practice of PM&R.
- PGY3 and PGY4 residents, in addition to the above, are expected to be able to thoroughly document procedures and demonstrate an extensive knowledge of how to perform procedures which minimize risk and discomfort to patients. They are also expected to assist medical students and junior peers in acquiring skills.
- Residents at all levels of training are expected to demonstrate sensitivity and responsiveness to age, culture, gender, and disabilities.
- Residents are expected to work effectively with healthcare professionals to provide patient-focused care.
- To achieve this competency residents are expected to be altruistic, accountable, reliable and to demonstrate respect, compassion and integrity while displaying responsiveness to the needs of patients.
PM&R Residency Curriculum: Communication and Interpersonal Skills

Revision Date: 06-27-2010

A. Educational purpose/goals:

a. Residents are expected to demonstrate effective exchange of information among team members, other health professionals, patients, and families

b. Effective communication and interpersonal skills are integral to physiatric practice and to the establishment of a professional identity for all physicians.

c. The successful physiatrist must be able to establish a therapeutic physician-patient relationship and work with large and small multidisciplinary teams in a variety of settings – both as a member and a leader.

d. PM&R residents act as teachers of other residents and medical students

B. Curriculum Delivery Methods:

a. Supervised direct patient care activity:

• During clinical activities, residents observe attending physicians, fellow residents, and other personnel modeling effective communication and interpersonal skills and are observed in these interactions. Such modeling can occur during bedside teaching, rounds, clinic visits, family meetings, case conferences, documentation activity, or while performing care oriented tasks

b. Teaching rounds:

• Residents provide concise, oral presentations of patient history and physical exams and participate in academic discussions of medical issues; they perform problem-focused history and physical examinations during teaching rounds. Faculty will participate in these discussions and model effective communication skills.

c. Small group discussions:

• Residents participate in other small group discussions and conferences which provide a small group format in which to discuss patient management for the purpose of improving current or future patient care.
• Conferences may include participation by ancillary personnel.
• Residents are expected to be able to communicate key historical facts, exam findings, and result of diagnostic work ups, as well as management decisions in a precise, logical, and concise fashion.
• Examples of small group discussions in the PM&R residency program include, but are not limited to:

  Origami Brain Injury Conference
  Neurorehabilitation Conference
  Electrodiagnosis Conference
  Osteopathic Manipulative Medicine Seminar
  Team Conferences
  Family Conferences
  Acute Patient Care Conferences
  Grand Rounds

C. Orientation:

  a. Initial orientation to the program emphasizes communication within systems; hospital and clinic orientations include training in electronic medical record, and corporate compliance education

  b. Residents are required to complete a scholarly project during their training. This activity is communicated through oral presentations or posters at local, national, regional, or international conferences or through journal publications.

  c. Additionally, residents are required to deliver multiple presentations to their peers on assigned and self-selected topics

  d. Residents receive supervision from faculty mentors as well

D. Educational Content:

  a. Skill mix – effective information exchange encompasses both verbal and written interactions with behavioral, cognitive and timed dimensions. It is important that the successful physiatric practitioner can organize information succinctly and efficiently, utilizing appropriate language, appropriate non-verbal cues in face-to-face or other interactions, use appropriate technology for purposes of information exchange, possess legible handwriting, and assess and address barriers to information exchange in a timely manner. Residents are also expected to listen, elicit information, and educate patients and/or their families
in effective physician-patient relationships and to develop diagnostic and therapeutic plans utilizing informed decision making, all within the context of ethically sound relationships. This requires the resident to actively listen, interpret and use non-verbal cues, and develop explanatory questioning and writing skills and the ability to use shared decision making ability. Residents are also expected to work with personnel at various levels within the system both as a team member and as a leader, demonstrating essential tasks to include but not be limited to communication skills, coordination, prioritization and initiation of tasks and activities, and professionalism (see separate competency curriculum).

b. The PM&R residency program participates in a catchment area that features a diverse patient population with a mix of urban, suburban and rural areas. Residents will encounter individuals from a variety of socioeconomic, cultural, and demographic backgrounds. Residents will interact with a broad range of individuals as their fellow team members and patients, requiring them to utilize interpersonal communication skills for effective functioning.

E. Learning venues:
   a. Inpatient sites: Edward W. Sparrow Hospital (EWSH), McLaren Lansing Mary Free Bed Hospital (MFB), and McLaren Flint
   b. Outpatient settings: Multiple physician offices, clinics, and other venues
   c. 33% of the resident experience is inpatient and 66% is outpatient
   d. Senior residents conduct a ½ day per week longitudinal continuity clinic
   e. Residents attend a variety of longitudinal conferences which include: grand rounds, neurorehab conferences, electrodiagnostic conferences, sports medicine seminars, OMM didactics, brain injury didactics
   f. Residents interact with a variety of other physicians and medical professionals at all levels of training. These interactions may be as a junior member of a team, as a peer, or as a supervisor/leader.
   g. Residents will work with multiple other disciplines including, but not limited to: social workers, case managers, rehabilitation nurses, physical therapists, occupational therapists, speech therapists, vocational rehab counselors, prosthetists, orthotists, and other ancillary staff and certified rehabilitation nurses

F. Ancillary education materials:
a. Michigan State University library system (includes electronic, paper resources and multi-media productions)

G. Evaluation methods:

a. Evaluation of performance via web-based faculty driven electronic evaluation forms which include competency based assessment of communication and interpersonal skills.

b. Faculty complete mini-CEX forms for residents, allowing assessment of medical interviewing skills, counseling abilities, humanistic qualities and organizational/efficiency.

c. Anonymous patient satisfaction surveys are collected in multiple settings, including an annual anonymous resident-driven program evaluation.

d. Evaluations are shared with residents, are part of their file, and are incorporated into semi-annual performance review.

e. Upon completion of each rotation, residents are also asked to complete rotation evaluations commenting on faculty and the educational experience they have completed. Evaluations are sent to Program Directors for review and are reviewed, as needed, by the Residency Training Committee.

H. Institutional resources:

a. Michigan State University has a commitment to the biopsychosocial context of medicine. Many faculty members have expertise in interpersonal communication skills. This faculty includes: psychologists, neuropsychologists, counselors, and physicians in various disciplines. Residents receive training in medical interviewing, patient centered communication, and physician-patient relationships.

I. Specific competency objectives:

a. Residents are expected to provide thorough, yet succinct, oral presentations regarding patient care using appropriate medical terminology and to provide thorough and complete written or electronic documentation of patient care.

b. Residents are expected also to establish rapport with patients from a variety of backgrounds, perform medical interview that elicits both patient and physician-centered information as well as testing diagnostic hypotheses and to effectively communicate uncomplimented diagnostic and therapeutic plans to patients or their families.
c. First year residents (PGY2) should be able to work as team members with more senior residents and attending physicians using communication skills as previously noted. When PGY2 residents are supervising medical students, they should be able to observe the students, demonstrate skills, and give constructive feedback and assist the students to work effectively with ancillary staff for the betterment of patient care.

d. Advanced level residents (PGY3 and PGY4) are expected to meet all the previous criteria and, in addition, should be able to engage patients in shared decision making in ambiguous or controversial/complex scenarios. They should be able to conduct family meetings, able to negotiate most difficult patient encounters.

e. Residents should progressively assume leadership roles by facilitating interactions among junior residents, medical students, ancillary staff, attending physicians, and patients as well as patients’ family. They should be able to establish realistic expectations for all members of the team, oversee patient care and participate in academic discussions.

f. Senior residents are expected to successfully negotiate nearly all “difficult” patient encounters with minimal direction and to function as team leaders with decreasing reliance upon attending physicians.

g. Senior residents should also demonstrate the ability to act as a consultant.

h. Resident performance will be evaluated in this competency area by New Innovations rotation evaluations, mini-CEX, patient questionnaires, and resident portfolios.
Acknowledgment By Resident

I have received and read the Residency Orientation Manual and Handbook.

I agree that I am responsible for the information contained therein. If I have questions concerning these documents or other residency related policies, I will contact a Residency Program Director, appropriate Attending Physician or Chief Resident.

_____________________________________
Printed Name

______________________________________  __________________________
Signature                                      Date

Acknowledged and Received

______________________________________  __________________________
Residency Program Director                  Date
Residency Program Director (AOA)

Date