

University of Michigan Health System
Internal Medicine Residency
Sleep Medicine Rotation Curriculum

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Rotation Goals and Educational Purpose

There is increasing knowledge that sleep is a vitally important component of good health, and that normal, healthy sleep, may help prevent many chronic medical conditions including obesity, diabetes, hypertension, myocardial infarction and stroke. With our increased knowledge of the importance of sleep, we are realizing that sleep disorders are at epidemic proportions. Despite the high prevalence of sleep disorders, physicians need to be vigilant for the possibility of sleep disorders because many patients presenting to their physician, for any cause, may not volunteer sleep concerns or daytime sleepiness. Without a high index of concern for sleep issues, physicians may not address sleep issues, even if they may be the underlying cause for the patient's issues. This hands-on elective will provide a unique opportunity to gain familiarity with presentations of several common sleep disorders, their evaluation in a sleep clinic and sleep laboratory, and approaches to effective treatment.

Residents will become familiar with cardinal features of sleep-disordered breathing including obstructive sleep apnea, upper airway resistance, and possible central sleep apnea. Residents will understand the appropriate use of diagnostic tests in the diagnosis and management of sleep-disordered breathing, including polysomnograms, positive air pressure titrations, split-night polysomnograms, and multiple sleep latency tests. Residents will be exposed to adjunct and alternate treatment options for obstructive sleep apnea and when it may be appropriate to refer patients to the sleep clinic and other medical specialties.

Insomnia is a common and often frustrating disorder that is frequently seen by Internal Medicine physicians. Residents will gain experience diagnosing insomnia patients and the frequent comorbid disorders that may be associated with insomnia, including mood disorders and other chronic medical conditions. Treatment options including both pharmacologic and cognitive behavioral therapy, sleep hygiene and other interventions appropriate to the primary care physician will be taught.

This rotation is elective for residents at the HO2/3 levels.

Rotation Competency Objectives

I. Patient Care and Medical Knowledge

a. Core Knowledge: By completion of the elective rotation, HO2 and/or HO3 residents will:

1. Demonstrate an understanding of the pathophysiology and clinical presentations of sleep apnea in its several different forms (obstructive sleep apnea, upper airway resistance syndrome, and central sleep apnea).
2. Understand treatment modalities, including positive air pressure (CPAP and Bi-level PAP), oral appliances, and surgical options.
3. Diagnose and classify insomnia, including the primary insomnias and comorbid insomnia (i.e. comorbid insomnia due to mood disorder, chronic pain etc).
4. Become familiar with the pharmacologic options and behavioral techniques used in the treatment of insomnia.
5. Understand the diagnosis and treatment algorithm of restless legs syndrome, including evaluation of iron stores and treatment with dopamine agonists and other agents.
6. Demonstrate awareness of other common sleep disorders, including circadian rhythm disorders, parasomnias, and hypersomnias.

b. History & Physical Examination: Residents will elicit historical clues and physical exam findings suggestive for obstructive sleep apnea, insomnia, and other sleep disorders.

c. Medical decision making and patient management: By completion of the rotation, residents will be able to formulate a systematic approach and differential diagnosis for the evaluation of snoring, daytime sleepiness, and insomnia. Residents will choose and interpret the appropriate diagnostic study for the diagnosis of obstructive sleep apnea.

d. Studies/Procedures: Residents will become familiar with the available standard sleep studies including diagnostic polysomnograms, titration studies, and occasional alternatives, such as split-night polysomnograms. Residents will learn the classification of respiratory events including apneas, hypopneas, and respiratory-effort-related arousals (RERAs), as well as the significance of the apnea-hypopnea index and how it helps classify the severity of obstructive sleep apnea.

II. Interpersonal and communication skills: Residents will:

1. Demonstrate interpersonal and communication skills that result in effective information exchange and collaboration with patients, families, and health professionals.
2. Employ techniques to help facilitate CPAP/BiPAP adherence.
3. Demonstrate communication skills (including listening) that support respectful, culturally-competent, and patient-centered care.
4. Recognize the importance of patient education in the treatment of sleep disorders.
5. Generate appropriate written documentation of patient visits and complete dictations in a timely manner, using standard documentation.

III. Professionalism: Throughout the rotation, residents will demonstrate a commitment to professionalism, ethical behavior, and culturally-competent behavior.

IV. Practice-Based Learning and Improvement: Residents will utilize information technology to enhance their own knowledge, as well as patient education. They will demonstrate a willingness to learn from error, using scientific evidence for self-education and to improve patient care.

V. Systems-Based Practice: Residents will:

1. Practice quality health care that is cost-effective.
2. Be advocates for patients within the health system.
3. Understand when referrals are necessary to other medical specialties and how to effectively communicate recommendations back to primary care practices.
4. Constructively work with medical assistants, nurses, and staff.

VI. Teaching Methods

1. Supervised patient care in general sleep clinics and multidisciplinary clinics
 - a. The rotation focuses on experiential learning through consultative management of ambulatory patients. Residents are under the full supervision of a faculty physician. Residents will independently evaluate a patient then present to a supervising faculty physician. Patient-centered, case-based faculty discussions review each patient. The supervising faculty physician works with the resident to develop a diagnostic and therapeutic plan. Residents also work cooperatively with fellows. Residents should consider all supervised patient care interactions as opportunities for education.
 - b. Patients present from a broad range of age and socioeconomic backgrounds.
 - c. Residents will demonstrate progressive independence in interpreting polysomnograms with direct one-on-one teaching by the attending.
2. Didactic conference occurs weekly on Thursdays at 9 am.
3. Independent reading and self-directed learning.
 - a. Provided materials will include the following (please contact Karen Gowen (kbradish@umich.edu, phone 647-9064), and return books to her at the end of the rotation):
 - i. American Academy of Neurology – Sleep Disorders – *Continuum*, June 2007, Volume 13, Issue 3
 - ii. *Sleep Medicine Pearls 2nd* Edition by Richard B. Berry
 - b. Additional online resources for independent study:
 - i. American Academy of Sleep Medicine Clinical Guidelines: <http://www.aasmnet.org/ClinicalGuidelines.aspx>
 - ii. American Academy of Sleep Medicine Practice Standards: <http://www.aasmnet.org/PracticeParameters.aspx>
 - iii. American Academy of Sleep Medicine MedSleep Resources: <http://www.aasmnet.org/MedSleep.aspx>
 - iv. National Sleep Foundation: <http://www.sleepfoundation.org>
 - v. Residents are encouraged to access the Johns Hopkins Internet Learning Center modules: <http://www.hopkinsilc.org>
4. **Optional:** A brief trial of CPAP, BiPAP, C-flex and Bi-flex. This can be arranged during the afternoon where one of the technicians will introduce the equipment and allow the resident to experience positive air pressure. We will arrange during the rotation unless the resident declines.
5. **Optional:** A visit to the sleep lab in the evening where the hook-up and equipment can be demonstrated and explained. The typical time would be 8-9pm. Please contact Dr.

Hershner at 936-6295 if shershnr@umich.edu if interested.

VII. Evaluation Methods: Formative face-to-face feedback to residents by the attending occurs at the end of the rotation. Informal feedback will also occur during review of polysomnograms and during patient clinic evaluations. Attendings will complete online competency-based evaluations of each resident. The evaluation is shared with the resident, available for on-line review by the resident, and sent to the residency office for internal review. The evaluation is part of the resident file and is incorporated into semi-annual performance reviews for directed resident feedback. Residents also complete a service evaluation of the rotation and rotation faculty at the end of the rotation.

Rotation Schedule

	Monday	Tuesday	Wednesday	Thursday	Friday
AM	<p>First Week 9 am - Observing, interpreting, and staffing polysomnograms (PSGs)</p> <p>Second week Reading and staffing PSGs</p>	<p>9 am - PSG interpretation (either independently or in conjunction with sleep medicine fellow)</p> <p>Behavioral Insomnia Clinic may be on Tues AM of the 2nd week of rotation.</p>	<p>8 am - Behavioral Insomnia Clinic at East Ann Arbor with Dr. Arnedt or Dr. Convoy</p> <p>If Behavioral Insomnia Clinic occurred on Tues AM, then Wed AM will be for PSG interpretation.</p>	<p>9 am - Didactic conference</p> <p>10 am - PSG interpretation</p>	<p>9 am - PSG interpretation</p>
PM	12-1 pm - Noon Conference		12-1 pm - Noon Conference		12-1 pm – Grand Rounds
	1 pm - Alternative to CPAP clinic	1 pm - Clinic or PSGs	1 pm - Clinic or PSGs	12:45-3pm - Insomnia Clinic/ General Sleep Clinic (typically one patient)	1 pm - Self-directed learning

Clinic starts at 1 pm, except as noted (Insomnia Clinic on Thursday starts at 12:45 pm. Reading polysomnograms begins at 9 am).

General Sleep Clinic and polysomnogram interpretation will all occur in the 7th floor on the Med Inn, at the Michael Aldrich Sleep Disorders Center.

Alternative to CPAP clinic is located on the first floor of Taubman in the Neurology Clinic. In the clinic you will be following the attending and joining the multidisciplinary conference following the clinic. Contact is John Palmissano - pager 9830, phone 936-9158.

Behavioral Insomnia Clinic is located at the Rachael Upjohn Building at East Ann Arbor (4250 Plymouth Road). Clinic starts at 8 am. Contacts are Dr. Todd Arnedt (pager 15222) and Dr. Deidre Conroy (pager 15987).

This rotation does not include overnight call. Residents have weekends free of duty. Continuity clinic continues for the residents throughout the rotation.