

Curricular Thread Report: Substance Use Disorder

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Reviewed content standards: USMLE testable content, American Board of Addiction Medicine Compendium of Educational Objectives, ACGME Program Requirements for Graduate Medical Education in Addiction Medicine, the American Society of Addiction Medicine Fundamentals of Addiction Medicine Recognition Program: Competencies and Curriculum Learning Objectives, Geisinger Commonwealth Addiction Medicine fellowship curriculum

Goals of the Curricular Thread

All physicians involved in clinical patient care will encounter patients suffering from substance use disorders (SUD). As a result, all physicians need to have a basic set of competencies that will allow them to address SUD in their patients. Therefore, undergraduate medical education should achieve these five goals:

1. Screen for and diagnose SUD
2. Accept SUD as treatable medical condition (stigma)
3. Deliver brief interventions for unhealthy substance use
4. Refer to appropriate specialty treatment
5. Support and manage patients in recovery from SUD

Thread Objectives

Mapped to corresponding Institutional Educational Objectives (IE) - <https://www.etsu.edu/com/msec/institutionaleducationalobjectives>

*Substance Use Disorder (SUD) Objectives correlation with Pain Management Objectives are identified with an *. This same correlation is made in the Pain Management (PM) Thread report tying back to this SUD Thread report.*

Knowledge

1. Describe important aspects of the neurobiology of addiction (IE - 2.2)
2. Describe the mechanism of action of common drugs of abuse and medications used to treat various substance use disorders (SUD) (IE - 2.2, 2.3)***
3. Recognize the clinical criteria for diagnosis of a SUD and determine appropriate course of treatment (IE - 2.3, 2.4, 2.5)
4. Describe common methods for screening, diagnosis, and management of SUD (IE - 2.3)**
5. Recognize the role of genetics in the development of SUD (IE- 2.2)
6. Describe the risks and prognosis for patients with SUD, including, but not limited to, the medical, legal, and social complications of these diseases (IE - 2.4, 2.5)

Skills

7. Screen patients for SUD and make appropriate referrals for treatment (IE - 1.2, 1.3, 1.5, 1.7, 1.8)

8. Deliver support and appropriate medical management for patients in recovery from SUD (IE - 1.5, 1.6, 1.7, 1.9, 1.10)*

Attitudes

9. Analyze one's own biases related to substance use disorders and examine ways to confront, work with, and/or overcome these biases (IE - 4.7, 5.2, 5.5)***

Recommendations

Short Term Recommendations

- Create a SUD curriculum working group, within the Curriculum Inventory Subcommittee (CIS), responsible for monitoring SUD content in the medical school curriculum. The committee will consist of interested faculty members as well as medical student representatives (with an interest in addiction medicine) from each class. This committee will compare current content with the SUD curriculum topics list (attached). The CIS working group will make recommendations to teaching faculty to modify the teaching of SUD topics and/or include additional SUD topics.
- Update current SUD related content in all courses to remove stigmatizing language.

Considerations for Courses and Clerkships:

- Doctoring I:
 - Expand fetal alcohol syndrome case from Case Based Learning (CBL) to include topics related to the assessment and management of alcohol use.³
 - Include SUD content on recognizing and addressing stigma in the Communication Skills curriculum.³
- Lifespan and Development: Discuss adverse childhood experiences and its association with a variety of adult health problems including SUD.⁶
- Pathology: Emphasize connection between various diseases and SUD.⁶
- Doctoring II: Make more explicit connections to SUD content in the Practice of Medicine (POM) cases related to intimate partner violence, hepatitis, and pancreatitis.⁶
- Intro to Clinical Psychiatry:
 - Introduce clinical assessment tools (CIWA, COWS/SOWS, SBIRT, etc...)⁴
 - Include SUD content regarding the genetic contribution to susceptibility for SUD.⁵
- Pharmacology:
 - Include content on SUD anabolic steroids.²
 - Include information on SUD drug screening. Specimens, methods, accuracy, false positives and negatives.⁴
- OB/GYN Clerkship: SUD during pregnancy.^{3,8}
- Family Medicine Clerkship: Discuss medical complications of SUD⁶
- Pediatric Clerkship: Introduce SUD prevention strategies.^{3,4,5,7}
- Internal Medicine Clerkship: Discuss medical complications of SUD.⁵
- Surgery Clerkship: Screening for SUD and high risk for SUD prior to prescribing pain medications.⁷
- Keystone: Introduce controlled substance prescription monitoring programs.^{7,8}

Long Term Recommendations

- Consider a stand-alone preclinical addiction medicine course for COM students
- Consider creation of a clinical addiction medicine elective that is interdisciplinary (MS4 and pharmacy, nursing and allied health students) either hosted in the medical school or ensure College of Medicine (COM) students have access to the elective.
- Consider creation of an M4 elective in partnership with the new Addiction Medicine fellowship hosted within the Department of Family Medicine.
- Consider epidemiology of SUD in the Clinical Epidemiology and Biostatistics course.⁶
- Consider Substance Use Disorder content as applicable in the short and long-term recommendations identified in the Pain Management Thread report.*

Introduction

Substance use disorders (SUD) have been a cause of morbidity and mortality for millennia. Residues in clay pots show the fermentation of beer dates back to 13,000 years ago. Recently overdose deaths have increased dramatically from 64,000 in 2016 to 72,000 in 2017. Two thirds of these deaths involve opioids (49,000 in 2017)¹. Substance use disorders have become a significant public health problem. In 2017 overdose deaths (72,000) exceed deaths from motor vehicle collisions (40,000) and handguns (16,000) combined. Opioid-related overdose is now the number one cause of death for individuals under the age of 50. It also exceeds the 58,000 US deaths during the Vietnam War.

Physician training in SUD has long been recognized as inadequate and accompanied by calls for expansion of the medical school curriculum covering SUD. A 2012 report on Addiction Medicine from Columbia University states “Physicians, therefore, lack the basic education and training in addiction medicine that is needed to understand the science of addiction, translate research evidence into practice, screen for risky use, diagnose and provide treatment for addiction and the broad range of co-occurring health problems, or refer patients to other specialists as needed.”²

Physicians are well positioned to detect SUD. Saitz found that 17% of hospital admissions have risky alcohol use and 77% of those (13% of hospital patients) meet criteria for alcohol dependence.³ These percentages are even higher in trauma surgery admissions.

There is increasing interest among medical students in addiction medicine. The Columbia report also states, “...separate courses in addiction medicine rarely are taught in medical school.”² Last Spring 7 medical students attended an elective in addiction medicine offered by the College of Pharmacy. There is no equivalent training offered by the College of Medicine. At Stanford University “Lectures on addiction will no longer be folded into the psychiatry series as a side note, but instead will be presented as a separate unit” described in a 2016 NPR report.⁴

Background Information

¹ National Institute on Drug Abuse (NIDA): Overdose Death Rates. Retrieved 12/16/18 from <https://www.drugabuse.gov/related-topics/trends-statistics/overdose-death-rates>

² Addiction Medicine: Closing the Gap Between Science and Practice; The National Center on Addiction and Substance Use at Columbia University, 2012

³ Saitz R., et.al., J Gen Intern Med; 21:381-385, 2006.

⁴ “As Opioid Epidemic Surges, Medical Schools Try to Keep Pace;” National Public Radio, July 27, 2016 <https://www.npr.org/sections/health-shots/2016/07/27/487394411/as-opioid-epidemic-surges-medical-schools-must-change-to-keep-pace>

The first step in preparation of this report was the creation of a comprehensive list of topics relating to substance use disorders (see SUD curriculum topics). These topics were extracted from multiple sources including: 1) The ASAM Fundamentals of Addiction Medicine ...Competencies and Curriculum Learning Objectives , 2) ABAM educational objects for addiction medicine training, 3) ACGME Program Requirements for Graduate Medical Education in Addiction Medicine, 4) table of contents of the ASAM text Essentials of Addiction Medicine, 5) Arizona Dept of Health curriculum, 6) 12 core competencies from Tennessee Commission on Pain and Addiction Medicine Education, 7) Curriculum Content Report Substance Abuse/Addiction prepared 10/2017 by Ken Olive, M.D., 8) USMLE content outline, 9) Geisinger Marworth addiction medicine fellowship curriculum skills, and MSEC societal issues table. These topics were sorted into 1) those pertinent to all physicians and included in the College of Medicine curriculum for all students (purple text), 2) more detailed topics for a COM elective in SUD (blue text), 3) topics for graduate medical education in related specialties (red text), and 4) advanced topics included in addiction medicine fellowship training (green text).

Curricular Outline of Recommended Changes to Ensure Coverage of Content

*Numbers in red correspond to numbered thread objective each session addresses

Course	Current Content	Short Term Improvements (consider)	Long Term Improvements (consider)
M1			
Anatomy	None	None	None
Doctoring I	Interpret the role of [SUD] in medical practice	Expand fetal alcohol syndrome case from CBL to include topics related to the assessment and management of alcohol use disorder ³ Include content on recognizing and addressing stigma in Communication Skills curriculum ⁹	Create a new CBL case for opioid use disorder ³
Cellular & Molecular Medicine	Symptoms associated with nutritional deficiencies caused by drug abuse Alcohol metabolism biochemistry	None	None
Genetics	None	None	None
Lifespan & Development	SUD as a risk factor for child neglect and abuse	Discuss adverse childhood experiences and its association with a variety of adult health problems including SUD ⁶	None
Clinical Biostatistics & Epidemiology	Statistics related to alcohol usage	None	Consider epidemiology of SUD ⁶

Medical Physiology	None	None	None
M2			
Pathology	None	Emphasize connection between various diseases and SUD ⁶	None
Doctoring II	Substance abuse in LGBT populations (Human Sexuality II)	Make more explicit connections to SUD in POM cases related to intimate partner violence, hepatitis, and pancreatitis ⁶	Consider development of a stand-alone SUD case in POM
Intro to Clinical Psych	Diagnosis and treatment of AUD Diagnosis and treatment of other SUD	Introduce clinical assessment tools (CIWA, COWS/SOWS, SBIRT, etc...) ⁴ Include content regarding the genetic contribution to susceptibility for SUD ⁵	Transfer current SUD curriculum to stand-alone SUD course
Microbiology	None	None	None
Clinical Neuroscience	Neurobiology of addiction	None	None
Pharmacology	Pharmacology of drugs of abuse	Include content on anabolic steroids ² Include information on drug screening, methods, accuracy, false positive and negatives ⁴	Create a Sim Lab case covering overdose assessment and management ²
M3			
Transitions to Clinical Clerkships	None	None	None
FM Clerkship	Stages of change and motivational interviewing Required patient types: SUD - 4 patients	Discuss medical complications of SUD ⁶	None

OB/GYN Clerkship	None	Substance use during pregnancy ^{3,8}	None
Psych Clerkship	Inpatient and outpatient SUD clinical experiences Required patient types: AUD - 2 patients SUD - 2 patients	None	None
Community	Required patient types: SUD	None	None
Peds Clerkship	Exposure to NAS, prenatal tobacco exposure Sim Lab case - altered mental status	Introduce SUD prevention strategies ^{3,4,5,7}	None
IM Clerkship	Screening for SUD	Discuss medical complications of SUD ⁶	None
Surgery Clerkship	Prescribing opiates for postoperative pain	Screening for SUD and high risk for SUD prior to prescribing medications for pain	
M4			
Keystone	Prescribing guidelines	Introduce controlled substance prescription monitoring programs ^{7,8}	None

Outcomes

- USMLE Step 1 and Step 2-CK subset performance
- Regularly obtained student evaluations/feedback
- Instructor feedback
- Assessments on individual sessions in other courses could be obtained once a year from individual course directors, including student evaluations of individual sessions and possibly performance characteristics on individual questions related to content. Also, completion rates of required assignments.