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Stookey Rotations OLM

Students are required to complete a minimum of one “James R. Stookey” OMT rotation in each of their 3rd and 4th years. This requirement will be met using six OPP modules from the A.T. Still University series and two presentations that you can access on eMedley. The modules and presentations represent an osteopathic approach for common diagnoses that you may encounter in Family Medicine or Internal Medicine. Step by Step instructions to access the modules and presentations on eMedley are below:

1. Go to Applications
2. Go to Educate
3. Go to Sections
4. Type/Select 005-1: Statewide Campus Information CO 2020 & CO 2021
5. Select OLM—Stookey Rotation (each presentation and module are listed)

In the 4th year, the Stookey requirement must be completed and submitted for grading no later than the end of April.

Electronic Health Record (EHR) Stookey OMT SOAP Note:

As a mandatory requirement for successful completion of your OMT Stookey Rotations you will be required to submit 1 SOAP note during your Year 3 Stookey rotation and 1 SOAP note during your Year 4 Stookey rotation on a patient encounter included on eMedley (see below for accessing). The Stookey note must be documented in the WVSOM Greenway PrimeSuites' EHR.

Step by Step instructions for completion of the assignment can be found on eMedley:

1. Go to educate
2. Go to Sections
3. Type/Select 005-1: Statewide Campus Information CO 2020 & CO 2021
4. Select OLM—Stookey Rotation
5. Open the first pdf file in the post (EHR_StookeyCase_Instructions_2020)
In response to a widespread emergency affecting multiple hospitals and other clinical learning sites, this represents an alternate syllabus to the course.

This syllabus is only to be used when the student is notified of such by the Associate Dean of Predoctoral Clinical Education or his/her designees in response to a severe disruption or other dire circumstances that preclude access to clinical learning by direct or indirect patient care.

This syllabus will describe remote learning, including but not limited to delivery methods such as readings, online modules, video presentations, or other.

A. Introduction

This is an extension of the internal medicine rotations taught during the student’s third year. It is expected that the student has grasped the basics of the earlier medicine experience and is now adequately prepared to devote time to improving these skills and becoming more involved with the diagnosis and treatment of conditions commonly seen by the general internist and subspecialist.

B. Course (Rotation) Objectives and Core Competencies

1. Medical Knowledge

   a. The student will demonstrate the ability to evaluate and develop a differential diagnosis for common presenting symptoms in the adult population including, but not limited to, syncope, edema, Anemia Fatigue Headache Cough Shortness of Breath Fever Abdominal Pain GI bleed Constipation Diarrhea Dizziness Back Pain Joint Pain Rash Chest Pain

   b. The student will demonstrate an understanding of the basic principles and current recommendation for adult Immunizations based on ACIP or CDC guidelines.
c. The student will improve their understanding of the age appropriate cancer screenings ex: Breast, Colon, Cervical, Prostate Screenings and their utilization of the USPSTF Database.
d. Use appropriate terminology/language with patient and family.

2. **System-Based Practice**
   a. Recognize how patient care and professional practice affect other health care professionals, health care organizations, and the larger society.
   b. Be aware of medication and treatment costs (direct patient costs/insurance coverage) and the impact of these factors on the physician’s treatment plan.
   c. Demonstrate understanding of HIPAA regulations and its impact on the communication of patient care information for patients.
   d. Recognize the need to improve your knowledge base, develop and deliver case presentations and demonstrate these skills by utilizing the local electronic medical record, online resources and local patient instruction protocols to provide patient instructions.
   e. Understand the training and certification pathways of sub specialties.
   f. Demonstrate an understanding of when it is appropriate to refer to specialists.

3. **Osteopathic Philosophy and Osteopathic Manipulative Medicine**
   a. Use appropriate information resources to determine diagnostic evaluations for patients with common and uncommon medical problems.
   b. Describe how critical pathways or practice guidelines can be useful in sequencing diagnostic evaluations for the patient.
   c. Prioritize diagnostic tests and treatment (including OMT) based on sensitivity, specificity, and cost-effectiveness.
   d. Apply the 4 tenets of osteopathic medicine to patient care.

**C. Study Plan**

There are 55 interactive cases on the CASEX area of Online Med Ed.

You are responsible for all 55 for a one month rotation and 30 for a 2 week rotation.

[https://onlinemeded.org/spa/case-x](https://onlinemeded.org/spa/case-x)

Log on using your WVSOM credentials.

These will be monitored for completion.
D. COMAT Blueprint

Not applicable

E. Required Textbooks

Goldman: Goldman’s Cecil Medicine, 25th edition, 2016. Saunders*
Andreoli and Carpenter’s Cecil Essentials of Medicine, 9th edition, 2016. Saunders*
Ham’s Primary Care Geriatrics, Sixth Edition, 2014. Saunders*

F. Other Resources:

Pocket Medicine: the Massachusetts General Hospital Handbook of Internal Medicine, Sabatine. 2017
Ferri’s Clinical Advisor 2018. Elsevier*
*available for free on ClinicalKey through the WVSOM library

The American Academy of Dermatology (AAD) has excellent free resources available for study
1. The comprehensive skin exam:
   https://www.aad.org/member/education/residents/bdc/skin-exam
2. Other common dermatological conditions frequently encountered in Internal Medicine:
   https://www.aad.org/member/education/residents/bdc/

G. Didactics and Reading Assignments

There are 55 interactive cases on the CASEX area of Online Med Ed.

You are responsible for all 55 for a one month rotation and 30 for a 2 week rotation.

https://onlinemeded.org/spa/case-x

Log on using your WVSOM credentials
These will be monitored for completion.

Additionally, the student is expected to set time aside each day for expanded reading about commonly encountered conditions.

H. **Additional Recommendations:**
   - The required texts are excellent resources.
   - *Cecil’s Essentials of Medicine* is a foundational textbook and should be in the personal library and heavily referred to by every medical student.

I. **Grading - Calculations**

   Completion of Online MedED CASEX modules 100 %
Surgery II and Surgery III (Selectives) OLM
Course Numbers: 920, 921, 922, 925, 926, 927 OLM

In response to a widespread emergency affecting multiple hospitals and other clinical learning sites, this represents an alternate syllabus to the course.

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This syllabus will describe remote learning, including but not limited to delivery methods such as readings, online modules, video presentations, or other.

A. Introduction

Surgery II and Surgery III (Selective) are designed to expand the student’s knowledge in the pathophysiology of commonly encountered surgical conditions.

B. Course (Rotation) Objectives and Core Competencies

1. **Medical Knowledge**
   a. Understand the role of pre-operative risk assessment and post-operative patient management.
   b. Understand the presentations, pathophysiology, etiology, differential diagnosis and surgical management of the following complaints or diagnosis: acute abdominal pain, appendicitis, cholecystitis, hernias, colon cancer, breast cancer, diverticulitis, thyroid nodules, thyroid cancer, pancreatitis, small bowel obstruction, dyspepsia/peptic ulcer disease, inflammatory bowel disease, upper and lower gastrointestinal bleeding, burn management, and trauma management.
   c. Understand the role of appropriate surgical consultation.
   d. Understand and recognize the principles of evidence-based utilization of resources as applied to general surgery (system based).

2. **Patient Care**
a. Understand the components of a thorough physical exam of the abdomen, breast, thyroid, anorectal and genital areas.
b. Understand the components of a preoperative assessment and management plan.
c. Recognize common post-operative complications.

3. System Based Practice
   a. Recognize how patient care and professional practice affect other health care professionals, health care organizations, and the larger society.
   b. Recognize how delivery systems differ with controlling health care costs and allocating resources.
   c. Be aware of medication and treatment costs (direct patient costs) and the impact of these factors on the physician’s treatment plan.
   d. Demonstrate understanding of HIPAA regulations and its impact on the communication of patient care information for surgical patients.
   e. Recognize the need to improve your knowledge base, develop and deliver case presentations and demonstrate these skills by utilizing the local Electronic Medical Record (EMR), on-line resources, and local patient instruction protocols to provide patient instructions.

4. Osteopathic Philosophy and Osteopathic Manipulative Medicine
   a. Recognize and apply osteopathic treatment modalities appropriate to the pre- and post-surgical environment for somatic dysfunction, including the need for early ambulation and fluid mobilization techniques.
   b. Develop an appreciation for the need to treat the entire patient including emotional, spiritual, physical, and family needs.

C. Study Plan
   There are 22 cases and 16 skills modules in WISEMD. You should have already accessed this through your WVSOM credentials in Year 3.

   https://aquifer.org/courses/wise-md/

   Additionally, there are 14 Surgery Cases in “CaseX” that will need to be completed.

   https://onlinemeded.org/spa/case-x

   Log on using your WVSOM credentials.

   These will be monitored for completion.
Supplemental required readings on the topics covered in Mann’s Surgery, A Competency-Based Companion.

D. COMAT Resources
Not applicable

E. Required Textbooks

Surgery: A Competency-Based Companion, Mann

F. Other Resources

Surgery on Call, 4th edition, Lange
Zollinger’s Atlas of Surgical Operations
Sabiston Textbook of Surgery, 20th edition
Core Topics in General and Emergency Surgery, 5th edition

G. Didactics and Reading Assignments

There are 22 cases and 16 skills modules in WISEMD. You should have already accessed this through your WVSOM credentials in Year 3.
https://aquifer.org/courses/wise-md/

Additionally, there are 14 Surgery Cases in “CaseX” that will need to be completed.
https://onlinemeded.org/spa/case-x

Log on using your WVSOM credentials

These will be monitored for completion.

Supplemental required readings on the topics covered in Mann’s Surgery, A Competency-Based Companion.

H. Grading – Calculations

Completion of the WISEMD and OnlineMedED modules 100%
In response to a widespread emergency affecting multiple hospitals and other clinical learning sites, this represents an alternate syllabus to the course.

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A. Introduction

Family Medicine II is an advanced rotation where the student demonstrates a progressive and significant level of maturation and responsibility in the application of physician skills toward the diagnosis and treatment of those conditions commonly seen by the family practitioner.

B. Course (Rotation) Objectives and Core Competencies

1. Medical Knowledge
   a. By the end of this rotation the student is expected to possess the knowledge, attitudes and skills to:
      • Assess and manage acute illnesses commonly seen in the office setting.
      • Determine the health risks of patients/populations and make recommendations for screening and health promotion (wellness visits).
      • Be able to develop an appropriate assessment and treatment based on the information gathered.
      • Incorporate appropriate preventive medicine as per guidelines for each age group.
      • Understand and implement focused evaluations of geriatric patients who present for evaluation and care.
   b. By the end of the rotation the student should be able to:
      • Differentiate between common etiologies that present with that symptom.
• Recognize dangerous/emergency conditions that may present with that symptom and know when emergent referral is needed.
• Formulate recommendations as to labs/imaging/tests to obtain to narrow the differential.
• Appreciate the importance of a cost-effective approach to the diagnostic work-up.
• Describe the initial management of common and dangerous diagnoses that present with that symptom.

c. For each core chronic disease, the student should be able to:
• Propose diagnostic criteria and surveillance strategies for that problem.
• Locate and evaluate clinical practice guidelines associated with each of the core chronic diseases.
• Describe major treatment modalities for those problems.


d. Adult Health Maintenance:
• Define primary, secondary, and tertiary prevention.
• Identify risks for specific illnesses that affect screening and management strategies.
• Find and apply current guidelines for immunizations.

e. Well child and adolescent visits:
• Describe the core components of child preventive care—health history, physical examination, immunizations, screenings/diagnostic tests, and anticipatory guidance.
• Find and apply the current guidelines for immunizations and be able to order them as indicated, including protocols for “catch-up” if immunizations are delayed/incomplete.
• Identify and be able to perform recommended age-appropriate screenings.

2. **System Based Practice**

a. Be able to apply quality improvement concepts, including problem identification, barriers to optimal patient care and design improvement interventions.

b. Be able to describe the nature and scope of family practice and how it interacts with other health professionals.
• Discuss the value of family physicians within any health care system.
• Discuss the principles of osteopathic family medicine care.

c. Be able to identify community resources available to enhance patient care.

d. Appreciate the importance of a cost-effective approach to the diagnostic work-up.
e. Have a basic understanding of Medicare, Medicaid, Third Party, and HMO services.

3. **Osteopathic Philosophy and Osteopathic Manipulative Medicine**
   a. Understand and integrate Osteopathic Practices and Principles into all clinical and patient care activities.
   b. Develop an appreciation for the need to treat the entire patient including mind, body and spirit across all ages; including interactions with their family and surrounding environment.
   c. Integrate osteopathic concepts into the medical care provided to patients as is appropriate.
   d. Demonstrate competency in the understanding and application of OMT appropriate to family medicine across all age groups.

C. **Study Guide**

   The CASEX portion of Online Med ED has interactive cases in medicine and pediatrics.

   You can choose any 30 interactive cases to complete.

   [https://onlinemeded.org/spa/case-x](https://onlinemeded.org/spa/case-x)

   The comprehensive Universal Notes as written in the syllabus, including readings and assessments.

   1. Log in/create an account to Universal Notes ([www.myuniversalnotes.com](http://www.myuniversalnotes.com))
   2. Click on Chapter 2 "Study Plans"
   3. Find Family Medicine and click on it

   This can be supplemented by Rakel, the core reference text.

D. **COMAT Blueprint**

   Not applicable.

E. **Required Textbooks**

F. Other resources

**Recommended Texts:** These are additional textbooks that you may find helpful and have additional information on the topics for the COMAT blueprint. You will see some of these textbooks listed in the other disciplines as you progress.

- *Ham’s Primary Care Geriatrics*; Elsevier, 6th ed.
- *Conn’s Current Therapy 2018*; Elsevier

G. Didactic and Reading Assignments

The CASEX portion of Online Med ED has interactive cases in medicine and pediatrics.

You can choose any 30 interactive cases to complete.

[https://onlinemeded.org/spa/case-x](https://onlinemeded.org/spa/case-x)

The comprehensive Universal Notes as written in the syllabus, including readings and assessments.

4. Log in/create an account to Universal Notes ([www.myuniversalnotes.com](http://www.myuniversalnotes.com))
5. Click on Chapter 2 "Study Plans"
6. Find Family Medicine and click on it

This can be supplemented by Rakel, the core reference text.

H. Electronic Health Record (EHR) Family Medicine Note

* Third year students on FM I and fourth year students on FM II are required to submit a complete History and Physical on a case study utilizing osteopathic
diagnosis and treatment to be completed during their Family Medicine rotation (refer to The Medical Write-Up section below for specific instructions).

This must be submitted electronically by the fifth Friday of the rotation of the FM I or II rotation.

You will review a patient encounter by video to write-up your case study. This case is also to be used to document and demonstrate the utilization of osteopathic philosophy and, if appropriate, osteopathic diagnosis and osteopathic manipulative treatment in assessment and care of the patient.

The case must be completed and submitted in the Electronic Health Records (Greenway Primesuites’ EHR). It will be graded by WVSOM full time faculty, and the graded case study will be returned to the student electronically with the grader’s comments. No paper submissions will be accepted.

If the case is unsatisfactory, it will be rejected with comments to improve the H&P. The student will resubmit the case within 10 working days for final review and grade of Pass (>= 70) or Reject (<70). It is strongly recommended that you work with your Regional Assistant Dean if your case is rejected and you are not sure how to improve.

**If the Family Medicine Case is not successfully completed, the student will receive an Incomplete “I” for the rotation. If the “I” is not successfully resolved by six weeks following the completion date of the rotation, the rotation grade will be changed to a Failure.**

Step by Step instructions for completion of the assignment and viewing the video are available on eMedley:

- Go to educate
- Select 005-1: Statewide Campus Information – CO2020 & CO2021 in the Search box
- Search for Family Medicine Case Study Instructions
- Choose EHR FM Case Instructions March 2020--OLM

**The Medical Write-Up**

One of the goals of the Family Medicine rotation is that the student becomes adept at the art of the H&P—gathering, synthesizing and documenting the information important to the care of their patients. There are many good resources available regarding the elements of a complete H&P.
The Chief Complaint is the statement of why the patient is being seen. It is generally given in the patient’s own words.

Regarding the History of Present Illness, this should be a chronological history of the chief complaint. Remember OLDCAARTS. For the Past Medical History and Social history, remember MMAISHIFT and HORSES.

For allergies remember to list the reaction the patient had to the allergen or any intolerance.

For medications, be sure to list the name of the medication, the dosage, frequency and how it is being taken. Remember to include OTC’s and herbals and how they are taking these.

For the family history list the age, health/death of immediate family—parents, siblings, grandparents and children. If the patient does not know his/her family history or was adopted, make note of that.

Your Review of systems (ROS) should include at a minimum 11 organ systems: General, Skin, Head, EENT (eyes, ears, nose, throat and mouth), Neck, Cardiovascular, Respiratory, Breasts, Lymphatics, Gastrointestinal, Genitourinary, Musculoskeletal, Neurologic, Hematological, Endocrine, Allergy/Immunology, and Psychiatric. You need at least 3 pertinent positive or negative complaints/symptoms listed in each of the organ systems.

**Do not state “noncontributory” or “none” in the history.** If the patient tells you they have not had a particular problem it is better to word it as “the patient denies…” Under the physical, do not leave a section blank or state “noncontributory” or “normal” or “WNL”. Tell us what you saw/observed. The Physical Exam should be free texted containing 13 systems with 2 findings for each system.

Please do not simply leave the genitourinary/rectal exams blank or state “deferred”. State why it was not done. Did the patient refuse the exam? If so state, “deferred due to patient request”, or something to that effect. Maybe they had a genital/rectal exam done less than one year ago—then state that.

Under the musculoskeletal/osteopathic exam be sure to refer to your Clinical Skills I and OPP texts to be sure you have the necessary elements included here. Do not list your conclusions; tell us what you found on the physical examination. For example, gait, posture, seated and standing flexion tests, straight leg raising, areas of TART, etc.

There is a space available to list the results of labs, imaging studies, or other tests that may have been obtained previously related to the patient’s chief complaint or prior work-up.
The assessment (diagnosis(es)) is derived from the information obtained in the H&P. This is where you commit to diagnoses and provide insight into your reasoning. When you are unsure of an exact diagnosis you still commit to what you think is most likely and why. Your first diagnosis listed in the assessment should be a diagnosis linked to your chief complaint or the focus of your encounter with the patient. Please remember to include somatic dysfunctions, chronic medical illnesses, and any other pertinent diagnoses for that encounter as well.

The plan should logically follow from the assessment. Each assessment should have a corresponding plan. If stable, you can note the patient is stable and he/she will simply continue current medications, etc.

**The plan may include the following:**

- Additional diagnostic maneuvers needed, e.g. labs, X-rays, etc…
- Therapeutic procedures, referrals, or medications that you would consider for this patient, e.g. OMT, PT, etc…
- Patient education.
- Remember to include when the patient is to follow-up next and what your plan is if the patient does not respond to your treatment.

A discussion using the four tenets of Osteopathic Medicine and how they assisted you in developing your plan of care should be included at the end of the H&P and is **required for every H&P** even when OMT is not performed. You will be graded on your consideration for use of Osteopathic Manipulative therapy, although it will not be performed as this case is online.

**I. Grading - Calculations**

Completion of online modules and readings 100%
PEDIATRICS II OLM

Course Numbers: 950, 951, 952 OLM

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This syllabus will describe remote learning, including but not limited to delivery methods such as readings, online modules, video presentations, or other.

A. Introduction

The Pediatrics II rotation is designed to further refine the knowledge and skills required for the unique care of infants, children and adolescents. This rotation is a continuation of the Pediatrics I course and will focus on the subspecialty of Pediatric Emergency Medicine.

B. Course (Rotation) Objectives and Core Competencies

1. Medical Knowledge
   a. Acquire knowledge of the approaches to common presentations to the Emergency Department specific to the Pediatric population.
   b. Acquire knowledge needed for the evaluation and initial management of acute illnesses of infancy and childhood including common pediatric emergencies.
   c. Recognize conditions that can be potentially life and limb threatening in the Pediatric age group.
   d. Be able to formulate a list based on the presentation and on physical findings of differential diagnoses for common pediatric disorders and prioritize based on findings and probability.

2. Systems-Based Practice
   a. Demonstrate awareness of cost and risk-benefit analysis in patient and/or populations-based care in different delivery systems and settings.
b. Identify available resources providing specialty care required for specific preventative screening and social situations. For example:
   - Parental and child developmental assistance programs
   - Foster care and adoption
   - Abuse, neglect and domestic violence
   - Hospice
   - Programs for special medical needs

c. Describe reporting requirements for infectious diseases or psychosocial issues, such as child abuse or suicide.

3. **Osteopathic Philosophy and Osteopathic Manipulative Medicine**
   All preceptors (MD and DO) are expected to encourage and verify application of osteopathic principles. The Four Tenets of Osteopathic Medicine:
   1) The body is a unit;
   2) Structure and function are interdependent;
   3) The body has self-healing and self-regulatory capabilities;
   4) Rational osteopathic care relies on the integration of these tenets in patients care.

C. **Study Guide**

The course is centered around Pediatric EM: Complete the entire Pediatric EM online modules here:

https://www.saem.org/cdem/education/online-education/peds-em-curriculum

Additional readings in Pediatrics in Universal Notes

1. Log in/create an account to Universal Notes (www.myuniversalnotes.com)
2. Click on Chapter 2 "Study Plans"
3. Find Pediatrics and click on it

Also, in-depth readings can be accessed using the reference texts, especially Nelson’s Essentials.

D. **COMAT Exam**

Not applicable

E. **Curriculum Resources and Required Textbooks**

[Universal Notes (www.myuniversalnotes.com)]
The free online resource, **Universal Notes**, offers for each clerkship:

- Study plan
- Study material
- Question bank
  - [https://www.saem.org/cdem/education/online-education/peds-em-curriculum](https://www.saem.org/cdem/education/online-education/peds-em-curriculum)

Required Textbooks:

- *Nelson’s Essentials of Pediatrics, 7th edition*
- *Pediatrics: A Competency-Based Companion*

**F. Other Resources**

- *Nelson’s Textbook of Pediatrics, 20th edition*

**G. Didactic and Reading Assignments**

As noted above. The Pediatric EM modules are well-referenced for additional readings. This is encouraged to develop a broader and more in-depth scope of knowledge.

The Universal Notes program is also useful as a rather comprehensive review of pediatrics for the medical student, including review questions.

**H. Additional Recommendations**

Review the basic components of the pediatric normal physical exam, including newborn, infant, and toddler, including developmental milestones. Frequent review of preventive care, such as parental counseling on diet and safety as well as vaccination schedules is prudent.

**I. Grading**

Completion of online modules and readings 100%
COVID-19 Elective OLM
Two-weeks - Spring 2020

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I. Description
The purpose of this elective is to interpret literature during a medical emergency like the current SARS-CoV2 (COVID-19) pandemic. As physicians, review of medical and experimental literature is critical to maximize knowledge by attaining, maintaining and improving medical competency and stay current with medical trends. In a time of crisis this can be incredibly difficult with the rate in which case and laboratory studies emerge with and without peer review.

II. Outcomes
1. Understand how to do a critical review of literature
2. Demonstrate the ability to do a critical review of literature on the current COVID-19 pandemic
3. Identify falsely reported information or limitations to statistics being reported for COVID-19
4. Explain the basic science mechanisms to projected pathogenesis and treatments for COVID-19
5. Describe parameters that would affect epidemiological analysis of the current COVID-19 pandemic (ex. age, gender, ethnicity, geographic location, occupation, etc.)

III. Osteopathic Relevance
The COVID-19 Elective focuses on communication as an osteopathic physician. It is important to interpret literature and communicate effectively to patients. Understanding that a world medical emergency infectious diseases such as the COVID-19 pandemic incorporates the four osteopathic tenets:
1. The body is a unit; the person is a unit of body, mind, and spirit
2. The body is capable of self-regulation, self-healing, and health maintenance
3. Structure and function are reciprocally interrelated
4. Rational treatment is based upon an understanding of the basic principles of body unity, self-regulation, and the interrelationship of structure and function. Without complete knowledge of the viral pathogen, no effective antivirals, no vaccines, and unknown extraneous factors, we rely on these tenets for treatment and healing from this pandemic.

IV. Activities

1. Read the following brief communications on interpreting scientific literature:
   a. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3191655/
   b. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3687192/

2. In no more than 10 pages (single spaced, Arial font - 11point, 1 inch margins), complete a critical literature review using the guide below to answer the following questions within each section.
   a. **Section I**: 1describe the virus and how it compares to the other coronavirus pandemics (MERS-CoV and SARS-CoV1), 2 explain the viral mechanism(s) being described and what factors are known to influence the mechanism(s) of COVID-19, 3 describe the antiviral treatments, vaccines and their mechanisms discussed in the literature of COVID-19.
   b. **Section II**: 1identify and summarize one controversial report based on basic science mechanisms described in section I, 2 explain the limitations on the statistics being reported to date of the COVID-19 pandemic.
   c. **Section III**: 1 describe the reported risk factors and how they tie directly to the mechanism(s) explained in section I for COVID-19, 2 explain how patient management has evolved over time during the pandemic due to limitation in reporting described in section II, 3 identify influences (if any) on epidemiological parameters of COVID-19 examples in outcome 5.
   d. **Section IV**: In a few sentences, comment on how this pandemic has shaped your thoughts on infectious disease and medicine as a training physician.

V. Resources

1. Utilize the resources of the WVSOM online library (https://www.wvsom.edu/library/library-home)
3. Two Lancet articles as a starting point
   b. https://www.thelancet.com/action/showPdf?pii=S2213-2600%2820%2930116-8

Core Competencies

The core competencies can be found using this link:
http://www.wvsom.edu/Academics/pre-clinica-competencies

Professionalism

Professionalism will be exhibited each day in class and each student will be expected to adhere to
institutional policy ST-01 and their own statement below which was written by the student government association:

“As medical students of the West Virginia School of Osteopathic Medicine, we acknowledge and value the importance of professional conduct. We recognize that the behavior and attitudes of individuals and groups reflects on all of us, our institution, and our profession. Professionalism encompasses but is not limited to the virtues of respect, integrity, honesty, confidentiality, and dependability. We will strive to uphold these values in our endeavors at all times. We will show honesty and integrity to all those we come into contact with, meaning that we will adhere to the moral and ethical principles we have been taught and show soundness of moral character. We will be expected to maintain confidentiality in all settings no matter how small the issue. Above all else we will show self-less service to our patients, colleagues, institution and community.”

For further details that relate to professional behavior, refer to the following institutional policies that can be accessed on the WVSOM Website at http://www.wvsom.edu/About/policies_procedures

**Copyright**

Materials used in this course may be copyrighted and should not be shared with individuals not currently enrolled in this course. Sharing copyrighted materials outside of WVSOM will result in having a note in the student’s Dean’s file regarding unprofessional conduct.

*This syllabus is subject to change upon written notification.*
Muscular Dystrophies Elective

Spring 2020

Preceptor:
Predrag Krajacic, MD
pkrajacic@osteo.wvsom.edu
(304) 647-6305

I. Description
The purpose of this elective is to broaden the student’s knowledge on muscular dystrophies with a special focus on Duchenne Muscular Dystrophy (DMD). The elective will incorporate self-guided review of muscular dystrophies in general, followed by guided primary literature search with a special focus on the current state of the search for the cure. Finally, we will wrap up the elective reviewing a JAOA article geared towards osteopathic physicians summarizing the challenges and actions they are uniquely equipped to take in caring for patients with DMD, or diagnosing them early. This will provide the students with the opportunity to get better informed on this devastating disease and be better equipped to help the patients and families struggling to manage it.

II. Outcomes
1. Explain and discuss the disease mechanism and clinical findings for Duchenne Muscular Dystrophy (DMD)
2. Perform a critical review of literature and discuss the current state of research for therapeutic approaches
3. Discuss the current and relevant information regarding DMD diagnosis and management relevant for an osteopathic primary care physician.

III. Osteopathic Relevance
Patients with DMD have dysfunctions in all 5 body physiologic functions and, therefore, would be best approached and optimally treated by relying on all 5 models of osteopathic care. Special focus will be put on an osteopathic primary care physician’s approach to a DMD patient and their family. Approaching DMD care using this osteopathic primary care treatment paradigm will provide the student with up-to-date, holistic, and life-enhancing care options for DMD patients.

IV. Activities
1. Self-guided review of course material related to muscular dystrophies with a special focus on Duchenne Muscular Dystrophy (DMD) in WVSOM Year 1 MSK course and Year 2 Rheum course using textbooks available through the Clinical Key.
2. Guided primary literature search with a special focus on the current state of the search for therapeutics
3. Review and discussion of the JAOA review article "Bridging the Gap: An Osteopathic Primary Care–Centered Approach to Duchenne Muscular Dystrophy"

V. Resources

1. Utilize the resources of the WVSOM online library (https://www.wvsom.edu/library/library-home)
3. JAOA article (https://jaoa.org/article.aspx?articleid=2630265)

VI. Grading

Grade for this elective rotation will be assigned by the preceptor.

Core Competencies
The core competencies can be found using this link: http://www.wvsom.edu/Academics/pre-clinical-competencies

Professionalism
Professionalism will be exhibited each day in class and each student will be expected to adhere to institutional policy ST-01 and their own statement below which was written by the student government association:

“As medical students of the West Virginia School of Osteopathic Medicine, we acknowledge and value the importance of professional conduct. We recognize that the behavior and attitudes of individuals and groups reflects on all of us, our institution, and our profession. Professionalism encompasses but is not limited to the virtues of respect, integrity, honesty, confidentiality, and dependability. We will strive to uphold these values in our endeavors at all times. We will show honesty and integrity to all those we come into contact with, meaning that we will adhere to the moral and ethical principles we have been taught and show soundness of moral character. We will be expected to maintain confidentiality in all settings no matter how small the issue. Above all else we will show self-less service to our patients, colleagues, institution and community.”

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This syllabus is subject to change upon written notification.
Medical Communication Skills Elective

In response to a widespread emergency affecting multiple hospitals and other clinical learning sites, this represents an alternate syllabus to the course.

This syllabus is only to be used when the student is notified of such by the Associate Dean of Predoctoral Clinical Education or his/her designees in response to a severe disruption or other dire circumstances that preclude access to clinical learning by direct or indirect patient care.

This syllabus will describe remote learning, including but not limited to delivery methods such as readings, online modules, video presentations, or other.

A. Introduction
   This is a two-week rotation. This rotation may be scheduled as a 2 two week rotation to occur in a consecutive 2 week time period.

B. Course (Rotation) Objectives and Core Competencies

1. Medical Knowledge
   At the conclusion of this rotation, the student will demonstrate medical knowledge, understanding of disease process, and the student’s ability to apply cognitive skills in differential diagnosis as it relates to the assigned modules related to Medical Communication Skills.

2. Patient Care
   Explain how to educate patients and/or caregivers and evaluate their comprehension of the diagnosis and treatment plan, including conveying clinical condition and obtaining informed consent prior to procedures.

3. Interpersonal and Communication Skills
   a. Summarize how to effectively communicate with patients, their family members, and the healthcare team.
   b. Explain how parental and patient concerns and perspectives including cultural and religious influences impact care.
   c. Explain how to share diagnostic plan of care, and prognostic information with patients and families.

4. Professionalism
   a. Detail an understanding of privacy and independence of adults and adolescents.
b. Explain how sensitivity, empathy and responsiveness to diverse patient population, including but not limited to diversity in gender, age, culture, race, religion, disabilities, and sexual orientation impacts care.

5. **Systems-based Practice**
   Student will demonstrate the ability to understand his/her role as a member of the health care team, the student’s understanding of local community medical resources, and the student’s understanding of providing effective and cost effective medicine.

6. **Osteopathic Relevance**

C. **Study Guide**
   Using Online DocCom modules. Student will complete the assigned modules and complete both the multiple choice and essay questions associated with each module.

D. **COMAT Blueprint**
   N/A

E. **Required textbooks**
   None

F. **Other resources**
   Evidence Medicine Sites:
   - [www.ahrq.gov/clinic/cps3dix.htm](http://www.ahrq.gov/clinic/cps3dix.htm)
   - [www.clinicalkey.com](http://www.clinicalkey.com)
   - [www.cochrane.org/](http://www.cochrane.org/)

G. **Didactic and reading assignments**
   As above

H. **Additional Recommendations**
   None

I. **Patient Procedure Logs**
None.

J. Grading/Calculations

1. Successful completion of assigned online course modules constitutes passage for the Elective.
Opioid Use Disorder and Treatment Elective

In response to a widespread emergency affecting multiple hospitals and other clinical learning sites, this represents an alternate syllabus to the course.

This syllabus is only to be used when the student is notified of such by the Associate Dean of Predoctoral Clinical Education or his/her designees in response to a severe disruption or other dire circumstances that preclude access to clinical learning by direct or indirect patient care.

This syllabus will describe remote learning, including but not limited to delivery methods such as readings, online modules, video presentations, or other.

A. Introduction

This is a two-week rotation. This rotation may be scheduled as a two-week rotation to occur in a consecutive 2-week time period.

B. Course (Rotation) Objectives and Core Competencies

1. Medical Knowledge
   At the conclusion of this rotation, the student will demonstrate medical knowledge, understanding of disease process, and the student’s ability to apply cognitive skills in differential diagnosis as it relates to the assigned modules related to Opioid Use Disorder, Pain Management, Addictions, and MAT.

2. Patient Care
   Explain how to educate patients and/or caregivers and evaluate their comprehension of the diagnosis and treatment plan, including conveying clinical condition and obtaining informed consent prior to procedures.

3. Interpersonal and Communication Skills
   a. Summarize how to effectively communicate with patients, their family members, and the healthcare team regarding substance use disorders and pain.
   b. Explain how parental and patient concerns and perspectives including cultural and religious influences impact care of substance use disorders and pain.
   c. Explain how to share diagnostic plan of care, and prognostic information with patients and families regarding substance use disorders and pain.

4. Professionalism
a. Detail an understanding of privacy and independence of adults and adolescents with substance use problems.
b. Explain how sensitivity, empathy and responsiveness to diverse patient population, including but not limited to diversity in gender, age, culture, race, religion, disabilities, and sexual orientation impacts care of individuals with substance use disorders and pain.

5. **Systems-based Practice**
   Student will demonstrate the ability to understand his/her role as a member of the health care team, the student’s understanding of local community medical resources, and the student’s understanding of providing effective and cost effective medicine related to substance use.

6. **Osteopathic Relevance**
   Substance Use disorder and the Opioid Crisis is a crisis of mind-body-and-spirit. Competent care involves sensitive, respectful use of CDC guidelines and evidence-based best practices. Pain management using the least dangerous forms, particularly OMM, is in line with Osteopathic relevance.

C. **Study Guide**
   Using Online PCSS, the student will complete 35 modules on https://onlinemeded.org/spa/cases

D. **COMAT Blueprint**
   N/A

E. **Required textbooks**
   None

F. **Other resources**
   Evidence Medicine Sites:
   
   www.ahrq.gov/clinic/cps3dix.htm
   
   www.clinicalkey.com
   
   www.cochrane.org/

G. **Didactic and reading assignments**
   As above

H. **Additional Recommendations**
   None
I. Patient Procedure Logs

None.

J. Grading/Calculations

Successful completion of assigned online course modules (pass is 70% on each module quiz) constitutes passage for the Elective.
Introduction to the ICU: Online Course

Introduction to the ICU: Online
Course Syllabus 2019-2020

Course director: Elizabeth Ziner, DO
eziner@osteo.wvsom.edu
Office phone: 304-647-6569

Dr. Ziner’s Administrative Assistant: April Williams
awilliams@osteo.wvsom.edu
Office phone: 304-793-6806

Thank you for participating in this course! I hope you’ll enjoy learning the content. This is a self-directed course designed to teach you introductory intensive care unit (ICU) principles and procedures. I have tried to provide you with very high-yield, easy to learn content. If you, along your journey, find other sources that you find helpful in learning these topics, please share them with me so that I can share them with others. You will also be given resources for you to use during your residency when you are responsible for direct patient care in the ICU – most of this content is under the “Additional (optional) Resources” heading for each module.

Just to be clear:
The Global Objective of the course is: Students will learn introductory intensive care unit principles and procedures required to diagnose and manage a critically ill patient with hypoxemia, hypercapnia, shock, and pneumonia.

The Global Outcome for the course is: Students will be able to apply the basic skills required to diagnose and manage a critically ill patient with hypoxemia, hypercapnia, shock, and pneumonia.

You may find the links to all of the policies, disclaimers, core entrustable professional activities for entering residency, and all other fine print related to this course at the end of this document. These are all in one place for your convenience.

It is imperative that you email your Statewide Campus Dean and April Williams, my administrative assistant @ awilliams@osteo.wvsom.edu, and tell them that you are officially taking this course.

Read this syllabus in its entirety.
**How to find this course in eMedley:** Login to eMedley, go to educate, then filter for 005-1. Statewide Campus Information – CO2020 & CO2021. Then search for ICU Online Course. All documents for the course are posted within the announcement folder. If you have difficulty accessing the course please email Janet Miller at jmiller@osteo.wvsom.edu or call her at 304-647-6278 or email Machelle Lisenmeyer at alisenmeyer@osteo.wvsom.edu or call her at 304-793-6871.

**For this course:**
The content in this course is broken down into eight modules. You will be busy during this two week rotation! Don’t procrastinate. Each module has a theme(s). Most of the content is found on the New England Journal of Medicine (NEJM) Website, NEJM Resident 360 website, UpToDate, YouTube, and a couple of other sources such as websites, and dare I say, one book chapter.

There are several NEJM Videos in Clinical Medicine for you to watch. To access these videos log into the NEJM website at [www.nejm.org](http://www.nejm.org). Once you are logged in click on the heading “Multimedia” then choose “Videos in Clinical Medicine” from the drop down menu, then simply scroll through them to find the video you have been directed to watch. Each video has a written article associated with it – I will want you to read through the written content. To find these just click on the “PDF” download button found to the left of the video. I will also want you to read any corrections to the articles or correspondence related to the articles – you can find those links to the right of the video under the heading “related articles”.

You will need to set up a “NEJM Resident 360” account. Instructions on how to do this are provided in the screen shot below. If you have trouble setting up your account please contact the library library@osteo.wvsom.edu or call (304) 647-6261. I will not be able to help you with that. Once you’ve created your account follow the login instructions provided on the screenshot below (next page).
I have also found another way to login to NEJM Resident 360. Go to www.nejm.org then in the top left hand corner of the website there is a drop down menu called “NEJM Group” – hover over the menu, then choose “NEJM Resident 360”. Then use the username/password you created for the NEJM Resident 360 site. See the screen shots below. I think you all will enjoy using NEJM Resident 360 – it has a lot of nice content.
I have provided you with the links to the YouTube videos and other websites. Simply hover your cursor over the hyperlink and click. If for some reason it doesn’t work I’ve provided enough information to you so that you can find the video on your own if needed. You could also copy and paste the hyperlink into your web browser.

Read the outcomes for each module and try to focus in on those while going through the content.
If you are unable to find the content that is not accessed via the WVSOM library (such as a YouTube video or a website), please contact me or my administrative assistant April Williams at awilliams@osteo.wvsom.edu or phone 304-793-6806. If you are having trouble accessing content that you access via the WVSOM library (such as NEJM, NEJM Resident 360, Clinical Key, etc.) then you need to contact the library to help you gain access at library@osteo.wvsom.edu or call (304) 647-6261.

**This elective rotation is pass/fail. There is no remediation. See below for how you will be evaluated. When you have completed all the modules:**

1. You will have a 10 question quiz in Universal Notes. You may take the quiz as many times as you need in order to achieve a score of $\geq 80\%$. Please see the instructions below on how to access the quiz.

2. You will write two board style questions, in clinical vignette style. You must choose from the topics listed in the required modules. You must provide your rational for the correct answer and provide a list of references you used to create the question. The references need to be in AMA format. I will review the questions and give you feedback about them – you will be able to resubmit any question(s) which needs improvement. Please review the document “Writing medical board questions” and follow these guidelines when writing your questions. This document can be found in eMedley under this course. You will submit your questions to my administrative assistant April Williams at awilliams@osteo.wvsom.edu. Her phone number is 304-793-6806. Your questions should be saved as a word document as follows: lastname.ICU.dateofsubmission for example, “Ziner.ICU.3.25.20”

3. The quiz and all submissions of board style test questions (including resubmissions of test questions) will need to be completed no later than 5 days from the last official day of the rotation. This is a 14 day rotation.

4. Just an FYI (and I hate to even say it) but failure to complete the above is considered a violation of WVSOM’s policy on student professionalism Institutional Policy ST-01 (https://www.wvsom.edu/About/policies_procedures) and will be reported as such. I know that this will not be a problem with anyone taking this course!

To access the quiz:

1. Log into **Universal Notes** at https://web.myuniversalnotes.com/index#home
2. Click on the **Q-bank** (circled Q on left column)
3. Click on **Start a Quiz**
4. In the “Questions by Tag” drop down menu select **Topic** and
5. In the box labeled “topic tags” type: **Rotation Exam: WVSOM Intensive Care Unit.** Click to select that exam.
6. Select appropriate testing mode (**Test Mode** will lock you into 1 minute per question)
7. Set number of questions to **10**
8. Click **Submit** and begin the test
9. At the end of the test click **Finish Quiz** and it will show your results.

Retake your quiz by clicking on “retake quiz” (as seen in the screenshot below) or by following the steps above.
I hope you enjoy working through the modules! At the end of the course you will receive a survey - thank you in advance for your thoughtful feedback on how to improve the course.

Before we get started let’s review the osteopathic relevance for this course:

**Osteopathic Relevance:**
It is of the utmost importance that an osteopathic physician be able to initiate management of a critically ill patient and do so with empathy and compassion for the patient and the family. Osteopathic physicians do so while remembering the Four Tenets of Osteopathic Medicine:
1. The body is a unit
2. Structure and function are interdependent
3. The body has self-healing and self-regulatory capabilities
4. Rational osteopathic care relies on the integration of these tenets in patient care

The osteopathic physician should always:
1. Apply the five models of osteopathic care to each relevant clinical scenario;
2. Diagnose and treat related somatic dysfunction when applicable;
3. Determine if OMT is primary, supportive, or non-contributory to treatment of the representative cases.
Please also refer to the osteopathic code of ethics that can be found in your clinical education manual at

Osteopathic Oath

The Osteopathic Oath

I do hereby affirm my loyalty to the profession I am about to enter.

I will be mindful always of my great responsibility to preserve the health and life of my patients, to retain their confidence and respect both as a physician and a friend who will guard their secrets with scrupulous care and fidelity, to perform faithfully my professional duties, to employ only those recognized methods of treatment consistent with good judgement and with my skill and ability, keeping in mind always nature's laws and the body's inherent capacity for recovery.

I will be ever vigilant in aiding in the general welfare of the community, sustaining its laws and institutions, not engaging in those practices which will in any way bring shame or discredit upon myself or my profession. I will give no drugs for deadly purposes to any person, though it be asked of me.

I will endeavor to work in accord with my colleagues in a spirit of progressive cooperation, and never by word or by act cast imputations upon them or their rightful practices.

I will look with respect and esteem upon all those who have taught me my art.

To my college I will be loyal and strive always for its best interests and for the interests of the students who will come after me. I will be ever alert to further the application of basic biologic truths in the healing arts and to develop the principles of osteopathy which were first enunciated by Andrew Taylor Still.
Module One
Hypoxemia and Hypercapnia

Oximetry

Acute respiratory failure

Capnography

Outcomes for Module One

- Students will be able to create a differential diagnosis for hypoxemia.  AACOM 2016 and AAMC 2017 EPA 2
- Students will be able to recognize clinical features of hypercapnia and create a differential diagnosis of hypercapnia.  EPA 2
- Students will be able to describe different oxygen delivery devices.  EPA 10
- Students will be able to describe proper use and the limitations of pulse oximetry.  EPA 10
- Students will be able to create a differential diagnosis for acute respiratory failure.  EPA 2 and 10
- Students will be able to describe how capnography is used to monitor patients.  EPA 10

Assignments for Module One

- Find Chapter 36 “Acute Respiratory Failure” in the book Critical Care Medicine: Principles of Diagnosis and Management in the Adult, 5th edition, in Clinical Key. Just read all the sections up to Acute Respiratory Distress Syndrome (ARDS). You do not need to read the ARDS sections in this chapter. You will be learning about ARDS later.
- In UpToDate read “Measures of oxygenation and mechanisms of hypoxemia”
- In UpToDate read “The evaluation, diagnosis, and treatment of the adult patient with acute hypercapnic respiratory failure”
- Watch YouTube video “Oxygen delivery devices in ICU.” (8 minutes 11 seconds) by IUCriticalCare at https://www.youtube.com/watch?v=IYc-cjd3x-A&t=252s
- Watch YouTube video “Oxygen Delivery Device” (4 minutes 19 seconds) by xtremern1 at https://www.youtube.com/watch?v=LGxV9mHqXP0&t=36s
- Learn about different Oxygen Delivery Devices by going to the website https://teachim.org/2017/07/15/oxygen-delivery-devices/
- Watch the video on YouTube titled “RT Clinic: Heated High Flow Cannula” (11 minutes 30 seconds) https://www.youtube.com/watch?v=tGtbHxjS6r8
- In NEJM watch the video in clinical medicine on “Pulse Oximetry” (16 minutes 4 seconds). Also read its accompanying PDF article (April 21, 2011 N Engl J Med 2011; 364:e33 DOI: 10.1056/NEJMvcm0904262). To access the video sign in to NEJM.org. Click on “Multimedia” select “Videos in Clinical Medicine”, then find the video. Find the PDF by clicking on “PDF” located to the left of the video image.
- Watch the NEJM video in Clinical Medicine “Monitoring Ventilation with Capnography” (16 minutes 31 seconds) and read its accompanying PDF article (November 8, 2012 N Engl J Med 2012; 367:e27 DOI: 10.1056/NEJMvcm1105237)
Additional (optional) resources for Module One:

- Read through the journal article “BTS guideline for oxygen use in adults in healthcare and emergency settings” (O’Driscoll BR, et al. Thorax 2017;72:i1–i90. doi:10.1136/thoraxjnl-2016-209729) can be accessed at https://thorax.bmj.com/content/thoraxjnl/72/Suppl_1/i1.full.pdf
- https://www.capnography.com/ This is a terrific website for learning more about capnography!
- UpToDate “Carbon dioxide monitoring (capnography)”

Module Two
Use of Bag Valve Mask (BVM)

Intubation
Mechanical Ventilator Basics and Intro to Noninvasive Positive Pressure Ventilation

The ventilator bundle (strategies to prevent ventilator associated pneumonia)

Outcomes for Module Two
- Students will be able to describe the proper use of a bag valve mask. EPA 12
- Students will be able to describe how to intubate a patient. EPA 12
- Students will be able to describe noninvasive positive pressure ventilation. EPA 12
- Students will be able to describe basic ventilator modes (assist control - pressure control or volume control, pressure support). EPA 12
- Students will be able to give examples of how to prevent ventilator associated pneumonia. EPA 13

Assignments for Module Two
• Watch the YouTube Video “Lesson 3 – Mask Ventilation: MICU Fellows Airway Course” (8 minutes 23 seconds) by Dr. Gallagher’s Neighborhood at https://www.youtube.com/watch?v=1goz1l28kUQ


• Watch the YouTube video “Lesson 5 - Direct Laryngoscopy: MICU Fellows Airway Course” (14 minutes 32 seconds) by Dr. Gallagher’s Neighborhood at https://www.youtube.com/watch?v=ZjtFb7lGPic

• Watch the YouTube video “Anatomical Landmarks When Intubating” (7 minutes 24 seconds) by George O. RRT at https://www.youtube.com/watch?v=P9U4nBziewy

• In NEJM Resident 360 click on “Rotation Prep”, select the “critical care” rotation
  o Click on the “ventilation” tab read all of the information under heading “fast facts”.
  o Scroll down towards the bottom of site and click on the “additional resources” heading and watch the NEJM video in clinical medicine: “noninvasive positive pressure ventilation” (10 minutes 20 seconds) and read its accompanying PDF article (June 4, 2015, N Engl J Med 2015; 372:e30, DOI: 10.1056/NEJMvcm1513336).
  o This part of the assignment is not required but strongly recommended especially before your ICU rotation during residency…watch the MedCram videos “Mechanical ventilation explained clearly” See below for the complete list of MedCram vent videos.

• Watch the YouTube video “Ventilator Association Pneumonia Prevention” (1 minute 53 seconds) by Kaiser Permanente Thrive at https://www.youtube.com/watch?v=51VraZs4W-U

• In UpToDate read “Risk factors and prevention of hospital-acquired and ventilator-associated pneumonia in adults”

MedCram Vent Videos found on YouTube

• Mechanical Ventilation Explained Clearly – Ventilator Settings and Modes (Remastered) by MedCram https://www.youtube.com/watch?v=i6hmGVBbIJK

• Ventilator Modes Explained! PEEP, CPAP, Pressure vs. Volume at https://www.youtube.com/watch?v=iP_jN1qAPtI

• Mechanical Ventilation Explained Clearly - Ventilator Settings & Modes at https://www.youtube.com/watch?v=gk_OfJAL84&t=13s

• Mechanical Ventilation Explained Clearly by MedCram.com | 2 of 5 at https://www.youtube.com/watch?v=K0maLgTzlto

• Mechanical Ventilation Explained Clearly by MedCram.com | 3 of 5 at https://www.youtube.com/watch?v=6Bdv7QhNNy4
• Mechanical Ventilation Explained Clearly by MedCram.com | 4 of 5 at https://www.youtube.com/watch?v=KHpJ21UWbhg
• Mechanical Ventilation Explained Clearly of MedCram.com | 5 of 5 at https://www.youtube.com/watch?v=Jx7oeJKzl9g
• Ventilator Pearls Explained Clearly at https://www.youtube.com/watch?v=NUN32O054G0
• Ventilator Pearls Explained Clearly by MedCram.com | Part 2 at https://www.youtube.com/watch?v=ex4Uh2J2hWQ

Additional (optional) Resources for Module Two
• UpToDate article “Rapid sequence intubation for adults outside the operating room”
• YouTube video “Lesson 6 - Glidescope® or its Cousins: MICU Fellows Airway Course” by Dr. Gallagher’s Neighborhood at https://www.youtube.com/watch?v=I1k_z8kGwt4
• YouTube video “Will This Patient be Difficult to Intubate?” by JAMA Network at https://www.youtube.com/watch?v=RncIqUYfjwY
• For a very brief overview of ventilator go to the website, Merck Manual Professional Version, search for “Overview of Mechanical Ventilation” or click on the link https://www.merckmanuals.com/professional/critical-care-medicine/respiratory-failure-and-mechanical-ventilation/overview-of-mechanical-ventilation
• For a brief overview of ventilator management go to the website Stat Pearls Ventilator Management at https://www.ncbi.nlm.nih.gov/books/NBK448186/
• Series of ventilator lectures by Strong Medicine on YouTube: for a complete list go to https://www.youtube.com/playlist?list=PLBA5A30910F1FBF47
• Rebelem.com also does a series on ventilator videos on YouTube (see the list below)
  o Frank Lodeserto at REBEL EM: Simplifying Mechanical Ventilation – Part 1
  o Frank Lodeserto at REBEL EM: Simplifying Mechanical Ventilation Part 2 – Goals of Mechanical Ventilation & Factors Controlling Oxygenation and Ventilation
  o Frank Lodeserto at REBEL EM: Simplifying Mechanical Ventilation Part 3 – Severe Metabolic Acidosis
  o Frank Lodeserto at REBEL EM: Simplifying Mechanical Ventilation Part 4 – Obstructive Physiology
  o Frank Lodeserto at REBEL EM: Simplifying Mechanical Ventilation Part 5 – Refractory Hypoxemia & APRV
  o Frank Lodeserto at REBEL EM: Simplifying Mechanical Ventilation Part 6 – Choosing Your Initial Settings
Module Three
Arterial blood gas (ABG) interpretation
Insertion of arterial line
Arterial line (pressure transducer) troubleshooting
Venous blood gas (VBG) interpretation

Outcomes for Module Three
- Students will be able to interpret an arterial blood gas result. EPA 3
- Students will be able to create a differential diagnosis for an acid base disorder. EPA 2
- Students will be able to describe how to insert an arterial catheter. EPA 12
- Students will be able to troubleshoot problems with an arterial catheter. EPA 12

Note to the students: ABGs take some time to master. Keep learning and practicing!! Find a system that works for you and stick with it!!

Assignments for Module Three
- Watch the YouTube video “Understand the Arterial Blood Gas “ABG”! Awesome!” (22 minutes 20 seconds) https://www.youtube.com/watch?v=1TnykLis7nA by MedImmersion. This is a good introduction video to ABG interpretation.
- Here is another good introductory ABG video on YouTube, “Acid/Base || USMLE” (8 minutes 22 seconds) by Dirty Medicine at https://www.youtube.com/watch?v=J9jisOXB_Oo&t=189s
- Then read NEJM article “Physiological Approach to Assessment of Acid-Base Disturbances” (October 9, 2014, N Engl J Med 2014; 371:1434-1445 DOI: 10.1056/NEJMra1003327) and work through the examples at the end of the article and those in the supplementary appendix (click on the supplementary appendix link in the article to access those exercises – keep scrolling down the supplement to find the exercises). Read the correction to the original article – find the link to the correction on the right hand side of the screen listed under “related articles”. Because this article and the supplement can be a little difficult to find, I’ve uploaded it into eMedley for you. Go to the course “Introduction to the ICU: Online Course” and find the document entitled, “Physiological Approach to Assessment of Acid-Base Disturbances”, the document called “ABG NEJM Supplement”, and the document called “Correction to ABG NEJM Article”.
- Watch the NEJM video in clinical medicine “Ultrasound Guided Insertion of a Radial Arterial Catheter” (9 minutes and 35 seconds) and read its accompanying PDF article (October 9, 2014, N Engl J Med 2014; 371:e21, DOI: 10.1056/NEJMvcm1213181).
- Watch the NEJM video in clinical medicine “Use of Pressure Transducers” (13 minutes and 21 seconds) and read its accompanying PDF article (April 6, 2017, N Engl J Med 2017; 376:e26, DOI: 10.1056/NEJMvcm1513613) and the correspondence about the article (July 27, 2017, N Engl J Med 2017; 377:400-401, DOI: 10.1056/NEJMc1705833)
- Read the UpToDate article “Venous blood gases and other alternatives to arterial blood gases”
Additional (optional) Resources for Module Three

- American Thoracic Society (ATS) ABG Interpretation website
- There is a series of ABG Lectures on YouTube on Strong Medicine – these are very comprehensive and would be good to watch before your residency
  https://www.youtube.com/playlist?list=PLFDCF820E88FC83ED
- An online acid-base book can be found at
  https://www.anaesthesiamcq.com/AcidBaseBook/ABindex.php
- The above website has practice cases that you can work through and you can access those at https://www.anaesthesiamcq.com/AcidBaseBook/ab9_6.php#cases

Module Four

Acute Respiratory Distress Syndrome (ARDS)
The Prone Position in ARDS
Community Acquired Pneumonia (CAP)
Health care associated pneumonia (HCAP)/Ventilator associated pneumonia (VAP)

Outcomes for Module Four

- Students will be able to describe the pathophysiology of acute respiratory distress syndrome. EPA 2
- Students will be able to diagnose acute respiratory distress syndrome. EPA 2
- Students will be able to create a differential diagnosis for acute respiratory distress syndrome. EPA 2
- Students will be able to explain why prone positioning is used in acute respiratory distress syndrome. EPA 12
- Students will be able to diagnose community acquired pneumonia, hospital acquired pneumonia, and ventilator associated pneumonia. EPA 2
- Students will be able to access the guidelines for community acquired pneumonia, hospital acquired pneumonia, and ventilator associated pneumonia. EPA 7

Assignments for Module Four

- Watch the YouTube video “Acute Respiratory Distress Syndrome (ARDS)” (13 minutes 16 seconds) by Doctor Mike Hansen at https://www.youtube.com/watch?v=INGKH7JnIpM&list=WL&index=8&t=0s
In NEJM Resident 360 click on the “rotation prep” tab, click on the “change rotation” tab and choose “critical care”, then click on the “ARDS” tab, read everything under the “fast facts” tab

Watch the YouTube video “Acute respiratory distress syndrome ( ARDS ) Etiology, Clinical features, Diagnosis, and Treatment” (21 minutes 59 seconds) by Premiered at https://www.youtube.com/watch?v=KXw8LXKcmrw&list=WL&index=9&t=1052s

Watch the YouTube video “Proning the ARDS patient- why do we do it?” (3 minutes and 57 seconds) by Jonathan Downham at https://www.youtube.com/watch?v=FS4t5w1eCYw&list=WL&index=1

In NEJM Resident 360 click on the “rotation prep” tab, click on the “change rotation” tab and choose “infectious disease”, then click on the “pneumonia tab”, read everything under the “fast facts” tab

Additional (optional) Resources for Module Four (you should know the guidelines below when you do your residency)

- Download your very own ARDS ventilator protocol pocket card at http://www.ardsnet.org/tools.shtml
- Centers for Disease Control (CDC) CAP/HAP links to Prevention Guidelines found at https://www.cdc.gov/pneumonia/management-prevention-guidelines.html

Module Five

Sedation and delirium in the ICU
Stress ulcer prophylaxis
DVT prophylaxis

Outcomes for Module Five

- Students will be able to describe the use of sedation in the intensive care unit (ICU). EPA 4
- Students will be able to describe the causes of delirium in the intensive care unit. EPA 2
- Students will be able to describe strategies to reduce delirium in the ICU (i.e. the general principles of the ABCDEF bundle and the PADIS mnemonic (guidelines)). EPA 13
- Students will be able to identify which patients require stress ulcer prophylaxis. EPA 4
• Students will be able to describe the general principles of venous thromboembolism prevention. EPA 4

Assignments for Module Five
• In NEJM Resident 360 click on the “rotation prep” tab, click on the “change rotation” tab and choose “critical care”, then click on the “sedation and delirium” tab, read everything under the “fast facts” tab
  o Scroll down to the bottom and click on “additional resources” and click to view the CAM (Confusion Assessment Method) Worksheet – just look around so you can see all of the resources you could use in the future.
• Go to https://www.sccm.org/ICULiberation/ABCDEF-Bundles and read the purpose for the ABCDEF Bundle, know what the mnemonic stands for, and click around to skim through the various components, see the resources available for you to use in the future. FYI - You will need to know this stuff for your residency ICU rotations.
• Go to https://www.sccm.org/ICULiberation/Guidelines and skim through this website, know what the mnemonic PADIS stands for, and see the resources available for you to use in the future. FYI - For your residency ICU rotation you will need to know the PADIS Guidelines, which you can download at the website above but you don’t need to read through them today.
• Read the “summary and recommendations” section in the UpToDate article “Stress ulcers in the intensive care unit: Diagnosis, management, and prevention”, (reading the entire article is much better), know which patients require stress ulcer prophylaxis.
• In the UpToDate article “Prevention of venous thromboembolic disease in acutely ill hospitalized medical adults” read the following sections: introduction, epidemiology, definition of VTE prophylaxis, our approach, and the summary and recommendations. Skip the section on “methods of thromboprophylaxis” (just know that you will need to know this for your residency).

Additional (optional) Resources for Module Five
• Read the UpToDate article “Sedative-analgesic medications in critically ill adults: Selection, initiation, maintenance, and withdrawal”
• Read the UpToDate article “Sedative-analgesic medications in critically ill adults: Properties, dosage regimens, and adverse effects”
Module Six

Types of shock

Vasopressors

Central line placement

PICC line placement

Outcomes for Module Six

- Students will be able to describe the different types of shock. EPA 2
- Students will be able to diagnose a patient with shock. EPA 2
- Students will be able to describe the general principles for the treatment of shock. EPA 4
- Students will be able to describe the different vasopressors used in shock. EPA 4
- Students will be able to describe how to place a central venous catheter using ultrasound guidance. EPA 12
- Students will be able to describe how a PICC line is inserted. EPA 12

Assignments for Module Six

- In NEJM Resident 360 click on the “rotation prep” tab, click on the “change rotation” tab and choose “critical care”, then click on the “shock and sepsis” tab, read everything under the “fast facts” tab
- Watch the YouTube videos on shock by Strong Medicine – as listed below
  o Shock: Lesson 1 - Diagnosis and Classification (12 minutes 37 seconds) at https://www.youtube.com/watch?v=vKr_B6zw7M8&list=PLYojB5NEEakXi2wW00LkbkaESav1Quk9
  o Shock: Lesson 2 - Distinguishing Shock Types (Hypovolemic/Distributive/Cardiogenic/Obstructive) (23 minutes 33 seconds) at https://www.youtube.com/watch?v=HA_zX-uMFNU&list=PLYojB5NEEakXi2wW00LkbkaESav1Quk9&index=2
  o Shock: Lesson 3 - General Treatment Principles (5 minutes 10 seconds) at https://www.youtube.com/watch?v=NWjNPtsZKOs&list=PLYojB5NEEakXi2wW00LkbkaESav1Quk9&index=3
  o IV Fluid Resuscitation (IVF Lesson 3 / Shock Lesson 4) (21 minutes 8 seconds) at https://www.youtube.com/watch?v=r14sggk2d0Q&list=PLYojB5NEEakXi2wW00LkbkaESav1Quk9&index=4
  o Shock: Lesson 5 – Pressors (17 minutes 5 seconds) at https://www.youtube.com/watch?v=WHGURz11-nE&list=PLYojB5NEEakXi2wW00LkbkaESav1Quk9&index=5
- Watch one out of the two following NEJM videos in clinical medicine on central line placement using ultrasound in its entirety (and read the accompanying pdf), the others are there for your reference. The last three videos rely on anatomical landmarks for placement (good to know in case ultrasound isn’t available – you don’t need to watch them now unless you want to)

- Watch the YouTube video on “PICC LINE INSERTION FULL PROCEDURE” (14 minutes and 14 seconds) by Toni Aoun at https://www.youtube.com/watch?v=9FvUsjje8ic
- Read the UpToDate article “Complications of central venous catheters and their prevention”

Additional (optional) Resources for Module Six
- You can YouTube various videos about the RUSH ultrasound exam for further information
- Before your residency you should be familiar with central line associated blood stream infections. For an introduction to this topic read the online article “Central Line Associated Blood Stream Infections (CLABSI)” by StatPearls found at https://www.ncbi.nlm.nih.gov/books/NBK430891/
- UpToDate article, “Intravascular catheter-related infection: Prevention”
Module Seven
Sepsis
Septic Shock
CXR Interpretation

Outcomes for Module Seven

- Students will be able to describe sepsis and septic shock. EPA 2
- Students will be able to recognize and diagnose a patient with sepsis and septic shock. EPA 2
- Students will be able to initiate treatment for sepsis and septic shock using the one hour bundle. EPA 4
- Students will know where to find the complete guidelines used to diagnose and treat septic shock. EPA 7
- Students will be able to interpret a normal and an abnormal chest x-ray. EPA 3

Assignments for Module Seven

- Watch the YouTube video “Sepsis and Septic Shock” (17 minutes 20 seconds) by Strong Medicine at https://www.youtube.com/watch?v=3EVpyBORw5Y
- Read the UpToDate article “Sepsis syndromes in adults: Epidemiology, definitions, clinical presentation, diagnosis, and prognosis”. Know how to identify patients with sepsis, i.e. how to diagnose it. Early recognition of sepsis is critical to improving mortality. Sepsis is a medical emergency!
- Go to the website https://www.sccm.org/SurvivingSepsisCampaign/Home
  - Hover over the tab “guidelines and bundles”, choose “adult patients” from the drop down menu, scroll down and read the “1-hour bundle” information, know all of the one hour bundle elements.
  - Click on the “Hour-1 Bundle Pocket Card and Infographic” and read through it – you can download this for yourself if you’d like.
  - Go back to the website (listed above) and hover over the tab “tools and education”, choose “implementation guide” from the drop down menu. Download and read through the entire guide.
  - Eventually you will need to know the entire sepsis guideline for your residency, if you want to download it now just go back to the “guidelines and bundles” tab, choose “adult patients” from the drop down menu, then click on the blue wording that says “Critical Care Medicine” or “Intensive Care Medicine”. You do not need to read through this now. For now I want you to be able to identify a septic patient and know how to start the one hour bundle. Also know that if the nurse cannot draw blood cultures on the patient (because of difficulty getting IV access, etc), this should not delay the administration of antibiotics. But every reasonable effort should be made to try to get the cultures first. Remember antibiotics in sepsis is life saving!
Go back to the website (listed above) and hover over the tab “tools and education”, choose “protocols and checklists” from the drop down menu. Check out some of the ways hospitals choose to identify patients with sepsis i.e. their protocols. Every hospital has their own protocol – when you get out to your residency make sure you know your hospital’s protocol for identifying septic patients. However, every hospital should follow the one hour sepsis treatment bundle and the rest of the sepsis guidelines.

- Watch the video “The Hour One Bundle Functional or Fantasy” (31 minutes 1 second) located on the website https://www.sccm.org/LearnICU/Resources/Surviving-Sepsis-Campaign-Hour-1-Bundle-Teaching-S
- Watch the YouTube CXR Lecture Series on CXR interpretation done by Strong Medicine (11 videos, each video is between 11 – 24 minutes). The list can be found via this link https://www.youtube.com/watch?v=PDaRNPUNc10&list=PLYojB5NEEakU6vTUAoUeVhgRzQgaoSnFi&index=2&t=0s

Additional (optional) Resources for Module Seven
- Download the phone app “Sepsis Clinical Guide” – this is a very good app.
- Chest radiographs at https://www.saem.org/cdem/education/online-education/m3-curriculum/group-diagnostic-testing/radiographic-interpretation/chest-radiograph
- Introduction to Chest Radiology an online learning course at https://www.med-ed.virginia.edu/courses/rad/cxr/index.html

Module Eight
Communication of bad news
DNR Orders
Palliative care in the ICU
Post-ICU care syndrome
Neuromuscular weakness related to critical illness

Outcomes for Module Eight
- Students will be able to apply breaking bad news techniques during patient encounters. EPA 1
- Students will be able to discuss Do Not Resuscitate wishes with a patient. EPA 11
- Students will be able to describe the general principles of palliative care in the intensive care unit. EPA 4
- Students will be able to describe post-ICU syndrome and describe the general strategies employed to mitigate the syndrome. EPA 2
- Students will be able to describe intensive care unit-acquired weakness (ICUAW). EPA 2
Assignments for Module Eight

- Watch the YouTube video “5 Tips for breaking bad news to patients” (47 seconds) by TheDOMagazine at https://www.youtube.com/watch?v=tGxnBDi9Vy8
- Watch the YouTube video “How Should Providers Deliver Bad News?” (7 minutes 27 seconds) by IHI Open School at https://www.youtube.com/watch?v=qHGviv_7PLU
- Watch the YouTube video “We’re Doing Dying All Wrong | Ken Hillman | TEDxSydney” (14 minutes 2 seconds) by Tedx Talks at https://www.youtube.com/watch?v=gQVC-8WEB7s
- Watch the YouTube video “How to Discuss Do Not Resuscitate (DNR) Orders with Patients” (11 minutes 8 seconds) by OhioHealth at https://www.youtube.com/watch?v=-H6-yUpzdt4
- Watch the YouTube video “DNR Code Status Explained Clearly” (14 minutes 9 seconds) by MedCram at https://www.youtube.com/watch?v=L3ejcbtaXEc
- Watch the YouTube video “Palliative Care in the ICU & End of Life Care Explained Clearly” (8 minutes 37 seconds) by MedCram at https://www.youtube.com/watch?v=b3QraGZ9BSg
- Read the UpToDate article “Palliative care: Issues in the intensive care unit in adults”
- Watch the YouTube video “Post-intensive care syndrome? What is it? How can we help?” (26 minutes 14 seconds) by Critical Care Summit at https://www.youtube.com/watch?v=WpKnLeNJRfA

Additional (optional) Resources for Module Eight

- UpToDate article “Palliative care: The last hours and days of life”
- UpToDate article “Post-intensive care syndrome (PICS)”
- YouTube video “THRIVE: Redefining Recovery” by SCCM at https://www.youtube.com/watch?v=T03palv4mYU
- UpToDate article “Neuromuscular weakness related to critical illness”

Policies, disclaimers, and other resources (i.e. the fine print) for this course

Failure to Complete Required Assignments

Failure to complete the required assignments listed in this document is considered a violation of WVSOM’s policy on student professionalism Institutional Policy ST-01 (https://www.wvsom.edu/About/policies_procedures) and will be reported as such.
**Evaluation Policies**
Students will receive a pass or fail from this elective. Evaluation will be based on completion of assignments.

**Remediation Policy**
There is no remediation for this elective.

**Core Competencies**

The core competencies can be found using this link: [http://www.wvsom.edu/Academics/pre-clinica-competencies](http://www.wvsom.edu/Academics/pre-clinica-competencies)


The AAMC 2017 core entrustable professional activities for entering residency can be found at [https://www.aamc.org/what-we-do/mission-areas/medical-education/cbme/core-epas/publications](https://www.aamc.org/what-we-do/mission-areas/medical-education/cbme/core-epas/publications)

**Professionalism**
Professionalism will be exhibited each day in class and each student will be expected to adhere to institutional policy **ST-01** and their own statement below which was written by the student government association:

“As medical students of the West Virginia School of Osteopathic Medicine, we acknowledge and value the importance of professional conduct. We recognize that the behavior and attitudes of individuals and groups reflect on all of us, our institution, and our profession. Professionalism encompasses but is not limited to the virtues of respect, integrity, honesty, confidentiality, and dependability. We will strive to uphold these values in our endeavors at all times. We will show honesty and integrity to all those we come into contact with, meaning that we will adhere to the moral and ethical principles we have been taught and show soundness of moral character. We will be expected to maintain confidentiality in all settings no matter how small the issue. Above all else we will show self-less service to our patients, colleagues, institution and community.”

For further details that relate to professional behavior, refer to the following institutional policies that can be accessed on the WVSOM Website at [http://www.wvsom.edu/About/policies_procedures](http://www.wvsom.edu/About/policies_procedures)
Copyright
Materials used in this course may be copyrighted and should not be shared with individuals not currently enrolled in this course. Sharing copyrighted materials outside of WVSOM will result in having a note in the student’s Dean’s file regarding unprofessional conduct.

All Institutional Student Related Policies
To view all institutional student related policies, log onto the WVSOM web page and access the following: http://www.wvsom.edu/OMS/student-policies

This syllabus is subject to change upon written notification.