

Fourth Year Medical Student COVID-19 Clinical Focus SYLLABUS

COURSE DESCRIPTION

The COVID-19 pandemic has affected the traditional practice of medical education and training across the globe. These unprecedented changes in response to the pandemic have caused significant concern for MS4 students who are preparing to transition from medical student to medical doctor for their intern year.

This course will aim to provide fourth year medical students with a considerable knowledge base to treat patients with COVID-19. Topics covered will range from ventilator management and the differential diagnosis of respiratory pathogens to therapeutic treatment ethics to difficult conversations and discharge planning. Students will take on the coursework independently and be provided with a variety of resources, such as videos, interactive visual presentations, remote synchronous seminar sessions, selected readings, and journal articles. At the end of each module, students will be required to complete topic-appropriate discussion prompts to explain their understanding and quizzes to demonstrate knowledge.

At the end of this course, students will not only be able to illustrate the common presentation, differential diagnosis and treatment of COVID-19 but also explore complexities associated with ventilator management, communications skills and discharge planning in preparation for patient care during residency.

OVERARCHING LEARNING GOALS

- To translate the medical knowledge surrounding the COVID-19 pandemic to the practice of medicine
- To acquire the medical knowledge necessary to care for patients with COVID-19 and related conditions

MS4 ADVANCED TOPICS (in addition to the topics covered in the MS3 clinical focus course)

1. Inpatient Comorbidity Management
2. Advanced ICU Management
3. Hydroxychloroquine as Treatment
4. Difficult Conversations
5. Discharge Planning

COURSE MATERIALS

Course materials consist of video presentations, required journal articles, patient cases and outlines, and interactive presentations.

COURSE OVERVIEW

This course was developed rapidly in response to the COVID-19 pandemic. As a result, taking ownership of assignment due dates and deadlines is of paramount importance. Students should utilize Canvas to determine and adhere to assignment deadlines.

PRE- AND POST-WORK

- Each module top will contain a module outline, interactive video/presentation and required journal article to establish a foundational knowledge base.
- Students knowledge will be assessed after module completion with a 5-question online quiz along with application of material via answering of varying discussion prompts.

ONLINE LEARNING MODULES

1. In Hospital Comorbidity Management

This module will advance skills developed in years 1-3 with intentional preparation for the upcoming intern year. Students will design treatment plans for conditions that may be exacerbated by COVID-19, including cardiac manifestations, glucose monitoring and fluid management.

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Learning Objectives

- Analyze blood glucose management in COVID-19 hospitalized patients with diabetes also on steroids
- Analyze EKG findings in patients who are being treated for COVID-19
- Identify treatment options for various EKG morphologies
- Summarize overview and management of a COVID-19 patient

2. Advanced ICU Management

This module illustrates the management of patients with respiratory failure and the strategies involved when different lung pathologies are expected. Ventilator settings, pressure and volume control along with indications for intubation and extubation will be covered.

Learning objectives

- Describe the indications for patient intubation and determine heat warrants invasive versus noninvasive ventilation
- Appraise different modes of invasive ventilation and determine which is indicated for a patient scenario
- Describe the difference between volume and pressure-controlled ventilation
- Define and apply the following terms in patient scenarios: airway elastance, compliance, plateau pressure, PEEP, airway resistance, rapid shallow breathing index, EPAP, and IPAP
- Assess a patient for extubation liberation and monitoring

3. Hydroxychloroquine as Treatment

This module further develops on the concepts outlined in the medical therapies module with focus on hydroxychloroquine given its recent attention in the media. The mechanism of action, dosing, side effects, monitoring, theory of efficacy in COVID-19 along with indications, prophylaxis and informed consent of experimental therapies is covered.

Learning Objectives

- Explain the mechanism of action, efficacy, side effects, indications, and dosing of hydroxychloroquine
- Identify patient characteristics that warrant hydroxychloroquine treatment
- Summarize aspects of experimental therapies and informed consent

4. Difficult Conversations

In this module, students will practice having difficult conversations regarding prognosis, social isolation, no visitors, rationing of resources, informed consent on experimental therapeutics, and having difficult conversations with loved ones over the phone.

Learning objectives

- Explain how to provide poor prognostic information about a patient to a family member
- Prepare to provide a patient with the difficult news they may not receive a ventilator
- Summarize monitoring in-patient mental health regarding social isolation and devise treatment plans

5. Discharge Planning

In this module students will practice skills expected of them as an intern regarding discharge planning. Students will cover indications for discharge, the creation of return precautions and the drafting of discharge summaries.

Learning Objectives

- Describe the milestones a patient must meet to be eligible for discharge
- Create discharge summary for a simulated patient admitted for COVID-19
- Assemble return precautions for a patient discharged from hospitalization with COVID-19

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EVALUATION

The course is Pass/Fail. A passing grade will be assigned to students that have completed all quizzes and discussion assignments along with completion of a post-course survey. The quiz scoring regarding number correct will not be used in final course grading but rather only completion of the quiz.

PRE- AND POST-COURSE ASSESSMENTS AND SURVEYS

At the end of the course feedback on the materials and methods used in this course will be collected, as well as your attitudes, abilities and beliefs about the topic covered and activities performed in the course. All surveys are performed in an effort to improve your online learning experience and to help you achieve the learning outcomes of the course.

Course Leadership

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Associate Dean for Diversity and Inclusion
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Contributing Faculty and Students

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