

Course Logistics: Designing a Virtual Advanced Clinical Elective in Maternal-Fetal Medicine

Caitlin Radford, BA

Ilona T. Goldfarb, MD, MPH

Contents:

- (1) Virtual MFM Advanced Clinical Elective Proposal
- (2) Virtual MFM Student Welcome Letter
- (3) Virtual MFM Student Schedule
- (4) Virtual MFM Outpatient Consult Protocol

In May of 2020, due to the COVID-19 pandemic, Dr. Goldfarb created a two-week, entirely remote, advanced clinical elective in Maternal-Fetal Medicine (MFM) at Massachusetts General Hospital for senior Harvard medical students applying into Ob/Gyn residency. Given that the virtual setting was new to both faculty and students, it was important to establish clear learning objectives and expectations in the orientation materials. Dr. Goldfarb met with the advanced student the week prior to the rotation to review these goals together. In addition, remote access to the hospital's EMR was granted, and all necessary onboarding modules were completed by the student prior to the elective's start date.

In transitioning to the virtual setting, a robust asynchronous curriculum was necessary. Approximately half of the student's schedule was purposefully dedicated to independent work to complete clinic duties, reading, and research. For a final assessment, the student presented a COVID-related research proposal and reflection paper to the advanced elective director. This independent time was supported by regularly scheduled check-ins with Dr. Goldfarb. Not only did the independent project provide one-on-one mentorship, but it also resulted in additional educational opportunities, including the student's graduation thesis.

Patient care and clinical learning were supplemented with curated literature relevant to both Maternal-Fetal Medicine and COVID-19. These materials were posted on Harvard Medical School's Canvas website. A PDF copy of the Creasy & Resnik textbook was also available electronically via Dropbox.

(1) Virtual MFM Advanced Clinical Elective Proposal

OB510M.3 Maternal Fetal Medicine

Offered: May 18, 2020 to May 29, 2020

Location: MGH - Mass. General Hospital

Advanced Clinical Elective Director: Ilona Goldfarb, MD, MPH

Proposal for an “MGH Advanced Clinical Elective in Maternal Fetal Medicine: High Risk OB care during a Pandemic”

Rationale:

The novel coronavirus pandemic necessitates physical distancing for medical students, faculty and patients. However, a significant amount of the care of pregnant women with COVID-19 is being performed virtually and provides a unique learning opportunity for HMS students interested in high risk obstetrics.

Goals:

To integrate an advanced medical student into the care of pregnant patients with COVID-19, by use of telemedicine and virtual learning opportunities.

Objectives:

At the end of this advanced elective HMS students will be anticipated to:

1. Develop skills in interpersonal patient-provider relationships
2. Recognize the impact of the physiologic changes in pregnancy on COVID-19 disease presentation and disease outcomes
3. Deepen understanding of Social Determinants of Health that factor into patient adherence and shared decision-making

Experience Logistics:

- HMS 2-week virtual experience – For students who have already completed their Ob/Gyn Core Clerkship
- Orientation to role by clerkship director (Dr. Ilona Goldfarb)
- The student will function on the maternal-fetal medicine service at MGH as part of a four person team which includes the maternal fetal medicine (MFM) specialist, the MFM clinical fellow, a junior OB/GYN resident, and the medical student. The student will be joining the team remotely.

The activities will include:

- Participating in daily sign out tele-rounds of laboring and complicated postpartum patients. This includes a daily COVID-related briefing for the department.
- Tele-rounding daily on the antepartum service

- Writing notes and orders under the supervision of the MFM fellow, when appropriate
- Participating in weekly high-risk patient tele-consults with MFM Attendings (3-5 patients /week). Student will be engaged in every part of the telehealth visit including history taking, counseling, and note writing.
- The student will be assigned a small panel of COVID positive pregnant outpatients to check in with daily and follow their course longitudinally. This will include note writing and case presentations. These “COVID Calls” will be supervised by the course director, Dr. Ilona Goldfarb.
- Weekly Virtual didactics to include department COVID teaching, fellowship teaching conference and genetics conference
- Assignments include a reflection paper on COVID-19 in pregnancy
- Opportunity for virtual ultrasound teaching will be explored

Feedback:

- Weekly touch points with clerkship director
- Evaluation of final presentation/reflection project

(2) Virtual MFM Student Welcome Letter

Maternal-Fetal Medicine Advanced Clinical Elective, OB51M.3 Mass General Hospital

Welcome to the Virtual COVID-19 in Pregnancy MFM Advanced Elective at the MGH!

Even though these unusual circumstances do not allow us to experience the clinical environment in person, I hope these virtual learning opportunities will serve to broaden your understanding of high risk obstetrical care in general, as well as COVID-19 care in pregnancy.

Expectations

- 1) **READING:** An article a day and a chapter per week is a great goal. Targeted reading related to a particular patient is a wonderful way to anchor the material. To that end, I have assigned the following reading during your rotation. This list is not set in stone, and we can tailor it depending on your personal goals.

CHAPTERS: Choose 2 of the following chapters to read from Creasy and Resnik's Maternal-Fetal Medicine Textbook (electronic copy will be made available).

- Pathogenesis of spontaneous preterm birth
- Preterm labor and birth
- Premature rupture of the membranes
- Stillbirth
- Placenta previa, placenta accreta, abruptio placentae, and vasa previa
- Intrauterine growth restriction
- Pregnancy-related hypertension
- Diabetes in pregnancy

ARTICLES: Choose 10 of the available sentinel articles or COVID-19 related manuscripts that will be made available electronically on Canvas.

- 2) **REFLECTION PAPER:** A short reflection paper is due at the end of the 2 weeks. This can be a case-report style or blog-post style – your choice. 500 – 1000 words. The topic is based on what inspires you. I can help you identify or narrow your focus area.
- 3) **TEACHING:** Virtually attend all teaching sessions organized during the week—this includes department, resident and fellowship didactics, genetic conference, and other multi-disciplinary conferences.

Mostly, have fun!! This virtual platform is new to me too, so we are in this together! I would love to hear your thoughts and ideas! Please don't hesitate to reach out to me with any questions or concerns.

All the best,

Ilona Goldfarb MD MPH
Maternal Fetal Medicine Advanced
Clinical Elective Director
Associate Clerkship Director
Division of Maternal Fetal Medicine
Department of Obstetrics and
Gynecology
Massachusetts General Hospital



(3) Virtual MFM Student Schedule

The schedule is color-coded as follows:

- Blue: Time spent with the inpatient team (such as daily rounds)
- Yellow: One-on-one teaching with attendings (such as remote ultrasound reading or outpatient consultations)
- Green: Group learning (such as department town halls or online conferences)
- White: Independent time to complete clinical duties, reading, or research

The virtual setting allowed the advanced student to gain personalized teaching and mentorship. One-on-one clinical sessions - such as MFM consultations, ultrasound readings, and check-ins for the final independent project - were scheduled on 8 of the 9 days of the rotation. This lay the groundwork for long-term connections with mentors and opportunities for future research.

Please note, the student's schedule should list the appropriate Zoom link with any virtual session or the attending's contact information (both phone and email) for any one-on-one sessions. In addition, the names of the MFM inpatient attending and fellow were listed at the beginning of each week, along with their contact information (again, both phone and email).

MFM Sub-Internship: COVID & Pregnancy	
Harvard Medical School	
Dates of Rotation: 5/18/20 to 5/29/20	
Elective Director: Dr. Ilona Goldfarb/email/cell	
Coordinator: Name/email/cell	
MFM Service Attending: Name/email/cell	
MFM Service Fellow: Name/email/cell	
Mon, May 18	7:30a: Antepartum Virtual Rounding w/ team members' names/contact info 8:30a: Orientation & Ultrasound Remote Reads (Zoom link) PM: Service/Reading/Research
Tue, May 19	7:30a: Antepartum Virtual Rounding w/ team members' names/contact info 9:00a: COVID Independent Project Check-In (Zoom link) PM: Service/Reading/Research
Wed, May 20	7:30a: Antepartum Virtual Rounding w/ team members' names/contact info 8:00a: Breastfeeding Seminar (Zoom link) 12:00p: MFM Fellow Lecture Series: Abdominal Wall Defects (Zoom link) PM: Service/Reading/Research
Thu, May 21	7:30a: Antepartum Virtual Rounding w/ team members' names/contact info 8:00a: MGH Ob/Gyn Department Town Hall (Zoom link) 10:00a: MFM Fellow Lecture Series: Congenital Anomalies (Zoom link) 12:30p: MGH MFM Genetics Conference (Zoom link) 1:30p: COVID Independent Project Check-In (Zoom link)
Fri, May 22	7:30a: Antepartum Virtual Rounding w/ team members' names/contact info 9:15a: MFM Telemedicine Consults w/ attending name/contact info PM: Consult Letters/Reading/Research

MFM Service Attending: Name/email/cell	
MFM Service Fellow: Name/email/cell	
Mon, May 25	Memorial Day Holiday
Tue, May 26	7:30a: Antepartum Virtual Rounding w/ team members' names/contact info 9:00a: COVID Independent Project Check-In (Zoom link) 12:15p: MGH MFM Cardiology Conference (Zoom link) PM: Service/Reading/Research
Wed, May 27	7:30a: Antepartum Virtual Rounding w/ team members' names/contact info 8:00a: Breastfeeding Seminar (Zoom link) 10:00a: MFM Fellow Lecture Series: Recurrent Pregnancy Loss (Zoom link) 1:00p: Ultrasound Remote Reads w/ attending name/contact info
Thu, May 28	7:00a: MGH Ob/Gyn Department COVID Teaching Rounds (Zoom link) 8:00a: MGH Ob/Gyn Department Town Hall (Zoom link) 9:00a: MFM Telemedicine Consults w/ attending name/contact info 12:30p: MGH MFM Genetics Conference (Zoom link) PM: Service/Reading/Research
Fri, May 29	7:30a: Antepartum Virtual Rounding w/ team members' names/contact info 12:00p: COVID Lit Review by Perinatal Neonatal Fellows (Zoom link) Consult Letters/Reading/Research/Wrap Up 2:00p: Wrap Up/Independent Project w/ Elective Director (Zoom link)

(4) Virtual MFM Outpatient Consult Protocol

Preparation:

1. Student to install Doximity Dialer on cell phone
2. 1-2 days ahead of consult session, identify the scheduled patients, review charts, read about the topic and come prepared to discuss issues of diagnosis, counseling, and management.
 - a. Epic context: MFM OB Cons YAW4
 - b. If you are having technical difficulties – please notify the attending right away so that the attending can share the names and MRNs of the patients will you ahead of time
3. Call the MFM 15 minutes prior to first consult patient for a briefing of the consult session and exchange of cell numbers
 - a. Cell phone numbers for attending are in schedule

Contact with the patient:

1. MFM attending will call the patient and introduce the student / review the plan for the morning
2. MFM will text student to confirm that the patient has agreed and is ready for the call
3. MFM will call front desk to “arrive” the patient
4. Student will call the patient using Doximity Dialer to complete the history. When history taking is complete, end call with patient, letting the patient know that the student and MFM attending will call back in a few minutes.
5. Student to call MFM to present the case and discuss management strategy/counseling
6. Student will call patient back with Doximity dialer then add in the MFM (3-way call). MFM will counsel the patient and complete the visit.

After the visit:

1. Student will draft a consult letter in Epic, which will be edited by and signed off by the MFM attending