MFM guidance for COVID-19

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The World Health Organization has declared coronavirus 2019 (COVID-19) a global pandemic. Healthcare providers should prepare internal guidelines covering all aspect of the organization in order to have their unit ready as soon as possible. This document addresses the current COVID-19 pandemic for maternal-fetal medicine practitioners.

The goals of the guidelines put forth here are 2-fold: first, to reduce patient risk through health care exposure, understanding that asymptomatic health systems/health care providers may become the most common vector for transmission, and second, to reduce the public health burden of COVID-19 transmission throughout the general population.

Box 1 outlines general guidance to prevent the spread of COVID-19 and protect our obstetric patients. Section 1 outlines suggested modifications of outpatient obstetrical (prenatal) visits. Section 2 details suggested scheduling of obstetrical ultrasound. Section 3 reviews suggested modification of nonstress tests (NSTs) and biophysical profiles (BPPs). Section 4 reviews suggested visitor policy for obstetric outpatient office. Section 5 discusses the role of trainees and medical education in the setting of a pandemic. These are suggestions, which can be adapted to local needs and capabilities. Guidance is changing rapidly, so please continue to watch for updates.

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Section 1: Outpatient obstetrical (prenatal) visits

All new obstetrical intakes should be completed by telehealth/remotely unless the patient describes an urgent problem, in which case she will be appointed as an urgent in-person visit. The standard timing for in-person encounters in routine, uncomplicated pregnancies are described in Table 1. The hope is that necessary laboratory work and/or ultrasounds can be done at the same visit.

Consideration may also be given to having laboratory work performed

BOX 1

General guidance for outpatient obstetric practice management in setting of COVID-19

General obstetric/MFM COVID-19 recommendations

- Prevention of spread should be the number 1 priority.
- Social distancing of at least 6 feet; if not feasible, extended dividers or other precautions.
- Any elective or non-urgent visits should be postponed.
- Each patient should be called to decide on need for next in-person visit and/or test.
- Any visit that can be done by telehealth should be done that way.
- No support person to accompany patient to outpatient visits unless they are an integral part of patient care.

Testing-specific recommendations:

- Pregnancy alone in the setting of new flu-like symptoms with negative influenza is sufficient to warrant COVID-19 testing; test especially if additional risk factors (eg, older, immunocompromised, advanced HIV, homeless, hemodialysis, etc).
- Symptomatic patients are best triaged via telehealth to assess their need for inpatient support or supplemental testing; in general, they should be presumed infected and self-isolate for 14 days. In-person evaluation is not indicated if symptoms are mild.
- Utilize drive-through testing or stand-alone testing rather than in-office testing where exposure can spread.
- Symptomatic patients who nonetheless arrive to hospital or office should be managed as if they are COVID-19 positive; so immediately properly isolated in designated areas, with appropriate (eg, N-95) mask on.
- Designated separate areas should be created in each unit for suspected COVID-19 patients: increase sanitization; hand sanitizer available at front desk, throughout waiting area; wipe down patient rooms after each patient; wipe down waiting area chairs frequently.

Practice-specific considerations and recommendations:

- Meetings should all be virtual/audio/video.
- Keep some providers at home, as feasible, with clinical duties, especially those at highest risk (eg, >60 years old and/or comorbidities).
- Practitioners should be leaders in their unit. COVID-19 leaders should be designated for each area (eg, L&D, outpatient; ultrasound). Use this and other guidance (SMFM; ISUOG; ACOG; WHO; CDC; etc) and adapt to your specific situation. No guideline can cover every scenario. Use this guidance and clinical judgment to avoid any contact as much as feasible.

ACOG, American College of Obstetrics and Gynecology; *CDC*, Centers for Disease Control and Prevention; *COVID-19*, coronavirus 2019; *ISUOG*, International Society of Ultrasound in Obstetrics and Gynecology; *L&D*,labor and delivery; *MFM*, maternal-fetal medicine; *SMFM*, Society for Maternal-Fetal Medicine; *WHO*, World Health Organization.

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TABLE 1
Summary of suggested antenatal visit timing in setting of COVID-19 pandemic

Gestational age	In-person OB visit	Ultrasound	Comments
<11 weeks[a]			Telephone OB intake
11–13 weeks[b]	X	X (dating/NT)	Initial OB lab tests
20 weeks	X	X (anatomy)	
28 weeks	X		Labs/vaccines
32 weeks		X (if indicated)	Telehealth
36 weeks	X	X (if indicated)	GBS/HIV screen
37 weeks to delivery			Weekly telehealth and kick counts
Postpartum			Telehealth

Use of telehealth visits facilitate blood pressure cuff/kick counts at home so that in-person visits are not necessary. Additional visits including diabetes control, hypertension, mood disorder, etc may be done remotely with teleheath as well.

COVID-19, coronavirus 2019; *GBS*, group B strep; *NT*, nuchal translucency; *OB*, obstetric.

[a] Earlier scan may be indicated if at risk for ectopic; [b] If viability is previously established, consider skipping 11–13 week scan and offering cell-free DNA.

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at lower-volume satellite office sites in which the ability to accomplish social distancing is more easily attained, as feasible. Interim telehealth visits can be scheduled at provider discretion (eg, at 16, 24, 34 weeks). Reschedule all obstetric visits using this paradigm.

To minimize other in-patient visits, all patients should be instructed to obtain blood pressure cuffs if feasible. Some more health plans may cover the cost of blood pressure cuffs in the setting of the coronavirus pandemic. Consider all other visits by telehealth if feasible. Postpartum evaluation of cesarean wound healing or mastitis concerns may be optimized through the use of photo upload options available in many electronic medical record patient portal programs.

BOX 2
General principles for routine ultrasounds to maximize perinatal diagnosis and minimize exposure risk

Dating ultrasound:
- Combine dating/NT to one ultrasound based on LMP.
- If ultrasound earlier in the first trimester (eg, less than 10 weeks) is indicated because of threatened abortion, pregnancy of unknown anatomic location, may consider forgoing NT ultrasound and offering cell-free DNA screening for those desiring early aneuploidy screening.
- For patients with unknown LMP or EGA >14 weeks may schedule as next available.

Anatomy ultrasound (20–22 weeks)[a]
- Consider follow-up views in 4–8 weeks rather than 1–2 weeks.[b]
- Consider serial cervical length for those at highest risk for spontaneous preterm birth, otherwise do once with anatomy ultrasound.
- BMI >40 kg/m^2: schedule at 22 weeks to reduce risk of suboptimal views/need for follow-up.

Growth ultrasounds
- All single third-trimester growth at 32 weeks.
- Follow-up previa/low-lying placenta at 34–36 weeks.
- Begin serial growth at 28 weeks (not 24 weeks) with rare exceptions.
- Consider q 6–8 weeks week rather than q 4 week follow-up for most patients,

NT, nuchal translucency; *LMP*, last menstrual period; *EGA*, estimated gestational age; *BMI*, body mass index; *q*, every.

[a]Or earlier if desired based on state-specific termination laws.

[b]Consider forgoing follow-up ultrasound for 1 or 2 suboptimal views (eg, l/s spine not seen well because of fetal position but posterior fossa normal).

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Section 2: Scheduling of obstetric ultrasound

Box 2 summarizes our suggested modifications to ultrasound timing. Table 2 outlines recommendations for specific antenatal indications. We recognize that these recommendations are specific to our practice environment. Maternal-fetal medicine physicians nationally and internationally should feel empowered to adjust as needed based on limitations in capacity and/or higher incidence of COVID, which may require further restrictions for both patient safety and public health.

In addition to modifying ultrasound timing, the routine practice of face-to-face counseling for ultrasounds should be adjusted. In most cases ultrasound findings can be reviewed either over the phone/telehealth, or in the setting of a normal routine ultrasound, by the obstetric provider at the next visit. Indeed, because of resource limitations, many sites do only have remote communications for ultrasound finding, and this technology should be adapted widely to limit unnecessary patient contact, which protects both the patient from getting an infection and the provider from being a vector.

Section 3: Scheduling of nonstress tests/biophysical profiles

Table 3 illustrates how antenatal surveillance with NSTs/BPPs may be modified in the setting of the COVID-19 pandemic and the actual increased risk patients may face in coming into the

TABLE 2
Outline of common indications for growth ultrasound and suggested frequency/timing in setting of COVID-19 pandemic

	Frequency			
Indication	**Once**	**q 4 wks**	**q 6–8 wks**	**Comments**
Pregestational diabetes mellitus			X	
Chronic HTN on medications			X	Once if no meds
Current preeclampsia/gestational HTN		X		
History of severe preeclampsia			X	
History of IUGR or SGA			X	
Current IUGR		X		
Sickle cell disease			X	
CKD			X	
Multiples, mono/di[a]		X		
Multiples, mono/mono		X		
Multiples, di/di		X		
GDMA2			X	
Lupus, no renal dysfunction			X	
Prior unexplained IUFD			X	
Organ transplant			X	
Maternal cardiac disease			X	
Uncontrolled thyroid disease	X			
Current tobacco or substance use	X			
AMA (≥35 y old)	X			
Gestational diabetes, A1	X			
Chronic HTN, off medications	X			
Abnormal placentation	X			At 34–36 wks
Uterine fibroids >5 cm	X			

Serial growth ultrasound beginning at 28 weeks; 1 time growth at 32 weeks unless otherwise indicated. Practice locations should adjust as needed based on site capacity and risk of COVID exposure.

AMA, advanced maternal age; *CKD*, chronic kidney disease; *COVID-19*, coronavirus 2019; *Di/Di*, dichorionic diamniotic; *GDMA2*, gestational diabetes-A2; *HTN*, hypertension; ; *IUFD*, intrauterine fetal demise *IUGR*,intrauterine growth restriction; *Mono-Di*, monochorionic diamniotic; *Mono/Mono*, monochorionic diamniotic; *q*, every; *SGA*, small for gestational age.

[a] Consider every 2 week twin-twin transfusion screening.

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office for 30 or more minutes of testing. In general, we suggest the following principles:

- Twice-weekly NSTs only for intrauterine growth restriction with abnormal umbilical artery Doppler.
- Limit NSTs initiated <32 weeks.
- If concurrent ultrasound, perform a BPP rather than an additional NST visit.
- In lower-risk patients, such as advanced maternal age 35–39 years or body mass index >40 kg/m^2 with no other comorbidities, consider kick counts instead of NSTs.

For patients with gestational hypertension/preeclampsia, plan a weekly visit in the office with daily blood pressure checks at home. Weekly visit will include antenatal testing, blood pressure check, and labwork drawn in the office to minimize the need for additional visits. These changes should be relayed to patients with

TABLE 3
Summary of common indications for nonstress tests and how we have modified frequency of testing in setting of additional risks related to COVID-19 exposure and transmission

Indication for NST	Gestational age to begin 1 time/wk	Gestational age to begin 2 times/wk	Comments	COVID-19[a]
AMA	36			Fetal kick counts instead of NST
Cholestasis	Diagnosis			
Decreased fetal movement	Diagnosis			One time only
Pregestational diabetes	32	36		Weekly only
GDMA2	32	36		Weekly only
Chronic HTN	32			36 weeks if no medications
Gestational HTN		Diagnosis		Weekly with home BP monitoring
Preeclampsia		Diagnosis		Weekly with home BP monitoring
CKD	32			
IUGR		Diagnosis		Weekly with Doppler. Substitute BPP when possible
Elevated Dopplers		Diagnosis		
SLE	32			
Fetal arrhythmia	Diagnosis			
Mono/Di twins	32			
Di/Di twins			Only if additional indication	
Obesity/BMI >40 kg/m^2	32			Fetal kick counts instead of NST
Oligohydramnios	Diagnosis			
Polyhydramnios	Diagnosis			Diagnosis or at 32 wks if <32 wk diagnosis. Only for AFI >30
Prior IUFD	32		1 wk prior to IUFD	
Sickle cell disease	32			Kick counts if well controlled
Single umbilical artery	32			Fetal kick counts if normal growth, normal anatomy, normal genetic screening

AMA, advanced maternal age; *BMI*, body mass index; *BP*, blood pressure; *BPP*, biophysical profile; *CKD*, chronic kidney diseases; *COVID-19*, coronavirus 2019; *Di/Di*, dichorionic diamniotic; *GDMA2*, gestational diabetes-A2; *HTN*, hypertension; ; *IUFD*, intrauterine fetal demise *IUGR*, intrauterine growth restriction; *Mono-Di*, monochorionic diamniotic; *NST*, nonstress test; *SLE*, systemic lupus erythematosus.

[a] Text in column indicates changes to recommendations in setting of COVID, and no change in practice is suggested if this column is empty.

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BOX 3
Suggested visitor policy for outpatient offices

General outpatient office visitor policy

- There should be no additional family/friend/partner in any outpatient appointment.
- Patients are asked not to bring children.
- Visitor with symptoms at front desk check-in will not be allowed in patient care areas and will be asked to return home.
- Patients may be asked to reschedule nonurgent care if they or their visitor are symptomatic.

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a discussion of the altered risk/benefit balance of coming to the office for testing in the setting of a global pandemic.

Section 4: Visitor policy for obstetric outpatient office

Box 3 outlines the general guidelines for visitors. In the setting of a pandemic, consider visitors as something that does not benefit patient care but may harm other patients/providers. Exceptions

may be made when the visitor is critical for patient care, for example, for young patients coming with a parent or someone with developmental delay who relies on a support person to aid in medical decision making.

Section 5: Involvement of trainees

In setting of a COVID-19 and the significant risk of not only trainees' health but also additional health care providers serving as a vector and using limited protective equipment, we suggest all nonessential clinical personnel remain at home. This means any nursing, medical, or sonography students should not be in the office; any other observerships should be suspended. Additionally, in an academic setting in which an attending physician is supervising residents or fellows, multiple providers providing face-to-face counseling should be limited. ■

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