MFM guidance for COVID-19

Rupsa C. Boelig, MD, MS; Gabriele Saccone, MD; Federica Bellussi, MD; Vincenzo Berghella, MD

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.

Section 1: Outpatient obstetrical (prenatal) visits
All new obstetrical intakes should be completed by telehealth/remote 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 through the general population.

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.

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, 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.

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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.

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

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**TABLE 1**

<table>
<thead>
<tr>
<th>Gestational age</th>
<th>In-person OB visit</th>
<th>Ultrasound</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;11 weeksa</td>
<td></td>
<td>Telephone OB intake</td>
<td></td>
</tr>
<tr>
<td>11—13 weeksb</td>
<td>X</td>
<td>X (dating/NT)</td>
<td>Initial OB lab tests</td>
</tr>
<tr>
<td>20 weeks</td>
<td>X</td>
<td>X (anatomy)</td>
<td></td>
</tr>
<tr>
<td>28 weeks</td>
<td>X</td>
<td></td>
<td>Labs/vaccines</td>
</tr>
<tr>
<td>32 weeks</td>
<td>X (if indicated)</td>
<td></td>
<td>Telehealth</td>
</tr>
<tr>
<td>36 weeks</td>
<td>X (if indicated)</td>
<td></td>
<td>GBS/HIV screen</td>
</tr>
<tr>
<td>37 weeks to delivery</td>
<td>X</td>
<td></td>
<td>Weekly telehealth and kick counts</td>
</tr>
</tbody>
</table>

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 telehealth 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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**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)**
- Consider follow-up views in 4—8 weeks rather than 1—2 weeks.
- Consider serial cervical length for those at highest risk for spontaneous preterm birth, otherwise do once with anatomy ultrasound.
- BMI >40 kg/m²: 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.*

*Or earlier if desired based on state-specific termination laws.*

*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).*

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/m² 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 2
Outline of common indications for growth ultrasound and suggested frequency/timing in setting of COVID-19 pandemic

<table>
<thead>
<tr>
<th>Indication</th>
<th>Frequency</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pregestational diabetes mellitus</td>
<td>Once q 4 wks</td>
<td>X</td>
</tr>
<tr>
<td>Chronic HTN on medications</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current preeclampsia/gestational HTN</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>History of severe preeclampsia</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>History of IUGR or SGA</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Current IUGR</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Sickel cell disease</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>CKD</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Multiples, mono/di&lt;sup&gt;a&lt;/sup&gt;</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Multiples, mono/mono</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Multiples, di/di</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>GDMA2</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Lupus, no renal dysfunction</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Prior unexplained IUFD</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Organ transplant</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Maternal cardiac disease</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Uncontrolled thyroid disease</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Current tobacco or substance use</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>AMA (≥35 y old)</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Gestational diabetes, A1</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Chronic HTN, off medications</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Abnormal placentation</td>
<td>X</td>
<td>At 34—36 wks</td>
</tr>
<tr>
<td>Uterine fibroids &gt;5 cm</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

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.

<sup>a</sup> Consider every 2 week twin-twin transfusion screening.

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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