Antepartum Care in the Setting of the COVID-19 pandemic

(Abstracted from pre-print manuscript proofs - Boelig RC, Saccone G, Bellussi F and Berghella V. MFM Guidance for Covid-19. American Journal of Obstetrics and Gynecology – MFM, 2020)

General Principles for Care –

1. Minimize exposure and risks for patients and providers by limiting contact/visits during pregnancy
2. Coordinate visits such that everything needed at that time (visit, u/s, antenatal testing, labs) can all be done in one visit.
3. Look at **minimizing** testing

Outpatient Access to Clinics

1. Screen all patients prior to being checked in – ideally outside the clinic reception area. If positive screen use UNMH or ACOG flow chart for management
2. Do not allow or discourage visitors or children at the appointment
3. Providers should wear a procedure mask at all face to face encounters and wash hands prior to and after each clinical encounter
4. Re-schedule non-urgent appointments if patient or visitor are symptomatic. Possibly refer for testing.

Clinic Visit Scheduling

1. Consider abbreviated in person visits. Suggested in person visits for uncomplicated prenatal care would be at 12 weeks, 20 weeks, 28 weeks, 32 weeks, 36 weeks, then weekly until delivery. Visits such as intake, 16 weeks, 24 weeks, 30 weeks and 34 weeks could be done via phone call. *(See attached Table 1 from Boelig)*
2. If high risk for ectopic consider early u/s for pregnancy location and then skip in person visit at 12 weeks using NIPT rather than NT screen
3. Schedule U/S at times for most optimal information (e.g. anatomy at 22 weeks in women with BMI>40 or fewer growth u/s. See considerations for U/S Table

Antenatal Fetal Surveillance Strategies :

1. Fetal Growth scans are commonly done every 3-4 weeks. The “need” for these scans and the frequency has increased over the last decade for a

number of reasons that are not well supported in the literature. Table 3 outlines a more conservative but appropriate schedule for growth scans.

2. Fetal surveillance can be done using fetal kick counts (with strict instructions as to what to do if <8 movements), NST, BPP, and U/S for AFI or dopplers. Since Reactive NSTs are reassuring for 7 days, it is not necessary for all patients to get them twice weekly. See Table 4 for suggested modification in scheduling surveillance based on underlying indication. These are all done weekly **EXCEPT** for IUGR with abnormal dopplers

In Summary – During time of COVID-19 concerns, it is important to consider the risks of exposure to our patients and staff as we evaluate prenatal care activities. Many of our traditional visits are based on routine care in the pre-ultrasound days of dating and no direct fetal growth assessments other than fundal height. For this reason in the uncomplicated patient, we do not need the tradition 12-14 face to face visits. By combining the provider visit with any necessary u/s or lab can decrease exposure for all. In the "visits" when these are not needed the encounter should potentially be done via phone. In fact with multiparous women with uncomplicated obstetric histories and prenatal course might be able to be seen every two weeks the last month than weekly in person.

On small silver lining to this black cloud. Covid-19 may help us determine ways to provide effect prenatal care to women who live remote from an obstetrical provider through video conferencing and limited visits.

Table 1: Summary of suggested antenatal visit timing in setting of COVID-19 pandemic. Additional visits including follow up of diabetes control, hypertension, mood disorder etc. may be done remotely with telehealth. NT: nuchal translucency, GBS: group B strep

Gestational Age	In-person OB Visit	Ultrasound	Comments
<11 weeks*			Telephone OB intake
11-13 weeks**	X	X (Dating/NT)	Initial OB labs
20 weeks	X	X (Anatomy)	
28 weeks	X		Labs/vaccines
32 weeks	X	X (if indicated)	
36 weeks	X	X (if indicated)	GBS/HIV screen
37 weeks-Delivery	X		Weekly
Postpartum			Telehealth

* Earlier scan may be indicated if at risk for ectopic;

**If viability previously established consider skipping 11-13 week scan and offering cfDNA.

TABLE 2 – Considerations for Ultrasounds

Dating Ultrasound:

- Combine dating/NT to one ultrasound based on LMP
- If ultrasound earlier in the first trimester (e.g., less than 10 weeks) is indicated due to threatened abortion, pregnancy of unknown anatomic location, may consider foregoing 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 stopping serial cervical length after anatomy u/s if transvaginal cervical length≥35mm, prior preterm birth at >34 weeks
- BMI>40: 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 exception
- Consider q 6 week rather than q4 week follow up for most patients

Table 3 – Outline of common indications for growth ultrasounds and suggested frequency timing in the setting of COVID-19 pandemic

Indication	Gestational Age			Frequency			Comments
	24w	32w	36w	Once	q4w	q6w	
Pregestational diabetes mellitus						X	
Chronic HTN on medications						X	Once if no meds
Current preeclampsia/gestational HTN					X		
History of severe pre-eclampsia						X	
History of IUGR or SGA						X	
Current IUGR					X		
Sickle cell disease						X	
CKD						X	
Multiples - Mono/Di*					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 years old)				X			
Gestational diabetes A1				X			
Chronic HTN off medications				X			
Abnormal placentation				X			At 34-36 weeks
Uterine fibroids >5cm				X			

Table 4 – Weekly fetal surveillance (EXCEPT IUGR with ABN dopplers) : summary of common indications for NSTs and modified frequency of testing in setting of additional risks related to COVID-19 exposure.

INDICATION FOR NST	Gestational Age to begin 1x/wk	Gestational age to begin 2x/wk	COMMENTS	COVID 19
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
PRE-ECLAMPSIA		DIAGNOSIS		Weekly with home BP monitoring
CKD	32			
IUGR		DIAGNOSIS		Weekly with Doppler. Sub 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	32			Fetal kick counts instead of NST
OLIGOHYDRAMNIOS	DIAGNOSIS			
POLYHYDRAMNIOS	DIAGNOSIS			Diagnosis or at 32 weeks if <32wk diagnosis. Only for AFI>30
PRIOR IUFD	32		1wk prior to IUFD	
SICKLE CELL DISEASE	32			Kick counts if well controlled
SINGLE UMBILICAL ARTERY	32			Fetal kick counts if normal growth, normal microarray