National and Regional Guidelines for Recommendations of ANC in Pregnant Women and Pregnant Health Care Workers during the time of COVID-19

Current as of 22 March 2020

Summary points:

- Reduce routine ANC visits as much as possible, telemedicine as much as possible
  "These changes should be relayed to patients with a discussion of the altered risk/benefit balance of coming to the office for testing in the setting of a global pandemic."

- If patient being tested or symptomatic – attempt to delay routine appointment if possible
  If unable to do so, triage quickly and keep in dedicated area, consider moving to end of day, mask for patient and provider

- Only work recommendation is from RCOG – stop public facing roles after 28 weeks. Pregnant women expected to use social distancing. ?is this because of expected higher burden of disease in general population secondary to more relaxed approach to social distancing generally.

Organization	Date and Source	Target Population	Rec for testing	Rec for work	Rec for ANC
SOGC	13 March 2020 https://sogc.org/en/content/featured-news/Updated-SOGC-Committee-	All Pregnant Patients			• patients with symptoms should wear surgical mask on presentation • patients suspected has having COVID19 or being exposed to COVID19 case should be given a mask and moved to room ASAP

	Opinion%E2%80%93%20COVID-19-in-Pregnancy.aspx				• consider delaying ANC appt in women being tested for COVID19 • resolved confirmed cases of COVID-9 should be monitored monthly to r/o FGR
SOGC	16 March 2020 https://www.sogc.org/en/content/featured-news/SOGC-Statement-Pregnant-Health-Care-Professionals-and-COVID-19.aspx	Pregnant Health Care Workers		Consult HCP	
RCOG	21 March 2020 https://www.rcog.org.uk/globalassets/documents/guidelines/2020-03-21-covid19-pregnancy-guidance-2118.pdf	All Pregnant Patients	Only with severe symptoms requiring hospital admission	<28 weeks with no underlying health conditions: routine recommendations for social distancing apply. To work as normal – ie: same as non-pregnant colleagues. AVOID working in areas with suspected or confirmed COVID19 patients, especially where aerosol-generating procedures are performed >28 weeks or with underlying heart or lung conditions: work from home, avoid interactions with anyone with any symptoms, reduce unnecessary social contact. HCW should move to telephone/remote work or	• Do not attend routine clinic if symptoms; alternate arrangements should be made ie: end of day visits, full IPAC recommendations • for women who have had symptoms, visit may be deferred for 7 days from onset of symptoms, unless symptoms (other than cough) persist • for women self-isolating because of contact with household member with symptoms, appointment should be deferred for 14 days - remote appointments where possible • flag women who have missed multiple appointments • reduced number of ANC visits for low-risk women •growth scan 14 days following resolution of COVID19 symptoms to r/o FGR

				administrative, non-patient facing duties. Should not see patients	
SMFM	19 March 2020 https://www.sciencedirect.com/science/article/pii/S2589933320300367 https://doi.org/10.1016/j.ajogmf.2020.100106	All Pregnant Patients	Pregnancy + new flu-like symptoms warrant testing		• Social distancing of at least 6 feet; if not feasible, extended dividers, or other precautions • Any elective or not-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 •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 (e.g. 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 • new intakes done remotely • schedule for IN PERSON visits in Table 1 • interim telehealth visits scheduled as per provider discretion • patients to obtain BP cuffs

					• consider doing all visits by telehealth if possible • if viability established before 11 weeks, consider skipping NT and offering cfDNA • PP visits by telehealth, if wound concerns can upload photo • anatomy scan 20-22 weeks. BMI>40 – schedule at 22 weeks. Follow up views in 4 weeks instead of 2 weeks • if PTB >34 weeks and cx > 35mm at anatomy scan consider no more cx length monitoring • all singleton with growth US at 32-34 weeks • follow up LLP/previa 34-36 weeks • Table 2: suggested US schedules for common high risk indications. Units advised to create their own list • Consider reviewing US findings over the phone or with OB provider at next visit • Changes to fetal health surveillance frequency: Twice weekly NSTs only for intrauterine growth restriction (IUGR) with abnormal umbilical artery Doppler • Limit NSTs initiated with no other comorbidities, consider kick counts instead of NST. See Table 3 for recommendations for specific indications • For patients with gestational hypertension/preeclampsia, plan weekly visit in 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 need for additional visits.

					These changes should be relayed to patients with a discussion of the altered risk/benefit balance of coming to the office for testing in the setting of a global pandemic.
ISUOG	18 March 2020 https://obgyn.onlinelibrary.wiley.com/doi/epdf/10.1002/uog.22013		Any suspected case should be tested Suspected case = anyone with acute resp illness + fever + no other etiology + travel/contact with confirmed or probably COVID-19 case In areas where local transmission has been confirmed, a lower threshold of suspicion should be used		•Patients with confirmed COVID19 should have ANC and routine US delayed by14 days • Medical staff caring for suspected or probably COVID-19 cases should be monitored closely for fever and resp symptoms and should minimize contact with other patients and with colleagues • medical staff who have been exposed without PPE should self-isolate for 14 days US equipment used on suspected or probably COV-19 patient should be cleaned as per manufacturers recommendation

Table 1 (SMFM, Boelig 2020)
IN PERSON 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

Table 2: (SMFM, Boeling 2020) (*Note from Noor: I don't understand the GA columns. Is that when they suggest to start?)*

***Table 2:** Outline of common indications for growth ultrasound and suggested frequency/timing in setting of COVID19 pandemic. Practice locations should adjust as needed based on site capacity and risk of COVID exposure.*

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 3: NSTs and BPP modifications based on indication

Table 3: *Summary of common indications for non-stress tests and how we have modified frequency of testing in setting of additional risks related to COVID-19 exposure and transmission. Red text in COVID 19 column indicates changes to recommendations in setting of COVID, no change in practice suggested if this column empty*

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

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References:

Citation	SOGC	RCOG	ISUOG		
Alserehi H, Wali G, Alshukairi A, et al. Impact of Middle East Respiratory Syndrome coronavirus (MERS - CoV) on pregnancy and perinatal outcome. BMC Infect Dis 2016:1-4.		x			
Chen H, Guo J, Wang C, et al. Clinical characteristics and intrauterine vertical transmission potential of COVID-19 infection in nine pregnant women: a retrospective review of medical records. Lancet 2020	x	x	x		
Chen S, Huang B, Luo DJ, et al. Pregnant women with new coronavirus infection: a clinical characteristics and placental pathological analysis of three cases. Zhonghua Bing Li Xue Za Zhi 2020;49(0)		x			
Chen Y, Peng H, Wang L, et al. Infants Born to Mothers With a New Coronavirus (COVID-19). Frontiers in Pediatrics 2020;8(104)		x			
Coronavirus (COVID-19) 2020 [Available from: https://www.hps.scot.nhs.uk/a-to-z-of-topics/covid-19/ accessed 06 March 2020.		x			
Coronavirus disease 2019 (covid-19) Situation Report – 29. 2020 [Available from: https://www.who.int/ docs/default-source/coronaviruse/situation-reports/20200219-sitrep-30-covid-19.pdf?sfvrsn=6e50645_2 accessed 08 March 2020		x			
COVID-19: guidance on social distancing and for vulnerable people 2020 [Available from: https://www.gov. uk/government/publications/covid-19-guidance-on-social-distancing-and-for-vulnerable-people accessed 17 March 2020		x			
COVID-19: Infection, prevention and control guidance 2020 [Available from:		x			

https://www.gov.uk/govern- 42 ment/publications/wuhan-novel-coronavirus-infection-prevention-and-control/wuhan-novel-coronavirus-wn-cov-infection-prevention-and-control-guidance accessed 05 January 2020					
COVID-19: investigation and initial clinical management of possible cases 2020 [Available from: https://www. gov.uk/government/publications/wuhan-novel-coronavirus-initial-investigation-of-possible-cases/investigation-and-initial-clinical-management-of-possible-cases-of-wuhan-novel-coronavirus-wn-cov-infection accessed 05 March 2020.		x			
Critical illness due to 2009 A/H1N1 influenza in pregnant and postpartum women: population based cohort study. BMJ 2010;340:c1279		x			
Fan C, Lei D, Fang C, et al. Perinatal Transmission of COVID-19 Associated SARS-CoV-2: Should We Worry? Clinical Infectious Diseases 2020		x			
Guan W, Ni Z, Hu Y, Liang W, Ou C, He J, Liu L, Shan H et al. Clinical caharacteristics of 2019 novel coronavirus infection in China. medRxiv 2020			x		
Li N, Han L, Peng M, et al. Maternal and neonatal outcomes of pregnant women with COVID-19 pneumonia: a case-control study.		x			
Liu Y, Chen H, Tang K, et al. Clinical manifestations and outcome of SARS-CoV-2 infection during pregnancy. Journal of Infection 2020	x	x			
Mullins E, Evans D, Viner R, et al. Coronavirus in pregnancy and delivery: rapid review. Ultrasound in Obstetrics and Gynaecology (In press)		x			
Stay at home: guidance for households with possible coronavirus (COVID-19) infection 2020 [Available from: https://www.gov.uk/government/publications/covid-19-stay-at-home-guidance/stay-at-home-guidancefor-households-with-possible-coronavirus-covid-19-infection accessed 17 March 2020		x			

Swartz D, Graham A. Potential Maternal and Infant Outcomes from Coronavirus 2019-nCoV (SARS-CoV-2) Infecting Pregnant Women: Lessons from SARS, MERS, and Other Human Coronavirus Infections. Viruses 2020:1-16.		x			
Wang L, Shi Y, Xiao T, et al. Chinese expert consensus on the perinatal and neonatal management for the prevention and control of the 2019 novel coronavirus infection (First edition). Annals of Translational Medicine 2020;8(3):47		x			
Wang D, Hu B, Hu C, Zhu F, Liu X, Zhang J, Wang B, Xiang H, Cheng Z, Xioung Y, Zhao Y, Li y, Want X, Peng Z. Clinical characteristics of 138 hospitalized patients with 2019 novel coronavirus infected pneumonia in Wuhan, China JAMA 2020.			x		
World Health Organization. Report of the WHO-China Joint Mission on Coronavirus Disease 2019 (COVID-19), Feb 16-24, 2020. (accessed March 11, 2020). https://www.who.int/docs/default-source/coronaviruse/who-china-joint-mission-on-covid-19-final-report.pdf. Accessed: March 11, 2020.	x				
Zhang J, Wang Y, Chen L, et al. Clinical analysis of pregnancy in second and third trimesters complicated severe acute respiratory syndrome. Zhonghua Fu Chan Ke Za Zhi 2003;38:516-20	x	x			
Zhu H, Wang L, Fang C, et al. Clinical analysis of 10 neonates born to mothers with 2019-nCoV pneumonia. Transl Pediatr 2020;9(1):51-60		x			