

Site Applicability

Antenatal fetal surveillance occurs in the Antepartum and Maternal Ambulatory Programs.

Guideline for Minimum Frequency of Antepartum Nonstress Testing and Ultrasound Surveillance

For all Outpatient Bookings, the following is required:

1. Greater than or equal to 26 weeks gestation
2. Plan to deliver at BC Women's
3. Antenatal Records Parts 1 and 2
4. Ultrasound report

Indication	Definition/details	Type of Surveillance	Minimum Frequency	When to start
Abnormal serum screen	One or more of the following: <ul style="list-style-type: none"> ▪ Low PAPP-A (less than 0.15 MoM) ▪ High AFP (greater than 2.50 MoM) ▪ High hCG (greater than 4.00 MoM) ▪ High Inhibin A (greater than 3.00 MoM) ▪ E3 (estriol) (less than 0.4 MoM) 	Growth ultrasound		Per EMMA guidelines (or equivalent)
		NST, AFI & UA Doppler <u>only</u> if IUGR, GHTN or pre-eclampsia		Per IUGR or GHTN/ pre-eclampsia guidelines
Advanced maternal age	40 years age or more at EDD	NST & AFV assessment	2x/ week	38 weeks
Antepartum hemorrhage	Inpatient	NST	As clinically indicated	At diagnosis*
Abruption (Chronic)	Outpatient	NST	Weekly	At diagnosis*
Assisted reproductive technology	As per other indications as they arise			
Cholestasis of pregnancy	Pruritis without rash with or without abnormal liver enzymes	NST	Weekly (or increase as clinically indicated)	At diagnosis (if greater than or equal to 28 weeks)
		Ultrasound	As clinically indicated	
Decreased fetal movement	Less than 6 distinct fetal movements in 2 hours	NST Ultrasound within 24 hours (if high risk factors or suspicion of IUGR or oligo-hydramnios)	Once (or more if indicated by findings)	At diagnosis*

ANTEPARTUM NONSTRESS TESTING FREQUENCY ULTRASOUND SURVEILLANCE

DOCUMENT TYPE: GUIDELINE

Indication	Definition/details	Type of Surveillance	Frequency	When to start
Diabetes, insulin-requiring Well-controlled	type 1 or type 2 (HbA1c less than 7% and normal fetal growth)	Growth ultrasound	Screening	30 - 32 weeks
		NST	Weekly	36 weeks
	Gestational	Growth ultrasound	Screening	30 - 32 weeks
		NST	Weekly	36 weeks
Diabetes, insulin-requiring continued Poorly controlled	-type 1 and 2: (HbA1c > 7% and asymmetric macrosomia) -gestational: suboptimal glucose control &/or asymmetric macrosomia)	Growth ultrasound	Based on clinical findings	28 -32 weeks Repeat PRN
		NST	2x/ week	32 weeks
	Falling insulin requirements	Growth ultrasound		When clinically indicated
		NST	2x/ week	
Gastroschisis		NST, AFI & UA Doppler	Weekly	34 weeks
Hypertension -gestational and pre-eclampsia	BP greater than or equal to 140 and/or dBP greater than or equal to 90	NST, AFI & UAD	2x/ week	At diagnosis*
	Severity requiring admission	NST AFI & UA Doppler	Daily 2x/ week	
Hypertension -pre-existing/chronic	BP ≥ 140 and/or dBP ≥ 90 before 20 weeks or anti-hypertensive therapy before 20 weeks	NST, AFI & UAD	once/ week	35 weeks
Isolated severe oligohydramnios (with intact membranes)	DVP less than 2 cm	NST	2x/ week	At diagnosis*
		AFI & UA Doppler	2x/ week	At diagnosis*
SGA fetus ≥32 weeks gestation -See appended flow chart. -if fetus SGA at <32 weeks gestation, refer to MFM.	UA Doppler PI <95 th %ile AND AC and EFW ≥ 3 rd %ile	NST, AFI & UA Doppler	Weekly	At diagnosis*
	UA Doppler PI ≥95 th %ile, OR AC or EFW < 3 rd %ile		2x/ week	
	UA Doppler waveform with any absent (AEDF) or reversed end-diastolic flow (REDF).		Urgent referral to Maternal-fetal medicine.	
Isolated Polyhydramnios	AFI > 250mm	NST and AFI Doppler	Weekly	At diagnosis*
Maternal conditions (SLE, renal disease, APAS, etc.)	As indicated by co-morbid conditions (hypertension, IUGR, etc.)			
Morbid Obesity	Pre-pregnancy BMI greater than or equal to 35 kg/m ²	NST	Weekly	34 weeks

Indication	Definition/details	Type of Surveillance	Frequency	When to start
Motor Vehicle Accident	Contractions less than 1 in 10 min, no vaginal bleeding, no abdominal pain and normal FHR	Continuous EFM x 4 hours from admission		At diagnosis*
	Regular contractions, vaginal bleeding, ABN FHR, pain, low platelets or fibrinogen	Continuous EFM x 24 hours from the event		
Multiple gestations (assuming no other complications or IUGR)	Dichorionic twins and trichorionic triplets	Ultrasound	Every 3-4 weeks	18-20 weeks
		NST	2x/ week	37 weeks for twins 35 weeks for triplets
	Monochorionic diamniotic twins	Ultrasound	Every 2 weeks	16 weeks
		NST	2x/ week	36 weeks for twins 34 weeks for triplets
	Monoamniotic twins	Growth ultrasound	Every 2 weeks	16 weeks
		AFI & UA Doppler	2x/ week	At admission (based on GA for intervention)
		NST	2x/ day	
	TTTS No laser	Ultrasound	At least weekly	At diagnosis
		NST	At least 2x/ week	At diagnosis*
	Laser or Bipolar or Selective Reduction	Ultrasound	Weekly x 4, then every 2 weeks	From procedure time
NST		2x/ week	34 wks	
Post dates	Maternal age less than 40 years	NST & AFV assessment	2x/ week	41 weeks
PPROM		NST	3x/ week	At diagnosis*
Preterm labour	While on maintenance tocolysis for 48 hours	NST	Daily	At diagnosis*
	Once contractions have stopped completely	NST	Only if preterm labour returns	
Previous stillbirth	Previous IUFD of unknown etiology in second or third trimester	Serum screening for placental evaluation		
		NST, AFI & UA Doppler	Weekly	32 weeks or 1-2 weeks before previous IUFD
		Growth ultrasound	Every 4 weeks	28 weeks
Red blood cell allo-immunization	Kell antibody: at any titre Other significant antibodies: once titre greater than or equal to 1:16	Growth ultrasound and MCA Doppler as per Mari chart and trend	As per MCA PSV chart	At significant titre or 20 weeks previous affected pregnancy/ Kell allo-immunization
		NST	Weekly	32 weeks

Indication	Definition/details	Type of Surveillance	Frequency	When to start
Substance use	-Perform NST prior to methadone dose or minimum 8 hours post methadone dose -Perform on admission or readmission after absence against medical advice or for other obstetrical indication.	NST	As per obstetrical indication	After 28 weeks
		NST	Once at readmission	
		Ultrasound within 24 hours (if high risk factors or suspicion of IUGR or oligo-hydramnios)	As per OB indication	
Trisomy 21	Fetus diagnosed with trisomy 21 this pregnancy	NST	Weekly	34 weeks
Umbilical Vein Varix		NST	Weekly	At diagnosis*

* Provided fetus(es) at a gestational age and estimated weight compatible with option for intervention.

Key:

AC = Abdominal Circumference	etc = et cetera	MoM = multiples of the median
AFI = amniotic fluid index;	FHR = fetal heart rate	NST = nonstress test
AFV = amniotic fluid volume	GA = gestational age	PAPP-A = pregnancy associated plasma protein A
APAS = antiphospholipid antibody syndrome	GHTN = gestational hypertension	PRN = as needed
BMI = basal metabolic index	hCG = human chorionic gonadotropin	sBP = systolic blood pressure
dBp = diastolic blood pressure	IUFD = intrauterine fetal demise	SLE = systemic lupus erythematosus
DVP = Deepest vertical pocket	IUGR = intrauterine growth restriction	TTTS = twin to twin transfusion syndrome
EDD = expected date of delivery	kg/m² = kilograms per metre squared	UA = umbilical artery
EFM = electronic fetal monitoring	MCA doppler = middle cerebral artery	x = times
EMMA = evaluating maternal markers of acquired risk for pre-eclampsia		

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Developed By

BCW Maternal Newborn Program – Maternal Fetal Medicine Specialists

Version History

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28-Nov-2021	C-06-07-60013 Antepartum Nonstress Testing Frequency Ultrasound Surveillance	Approved at: Perinatal Best Practice Committee

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