GUIDELINES FOR PRENATAL SCREENING AND TESTING

NL Health Services

Perinatal Program Newfoundland Labrador

FIRST PRENATAL VISIT (6–10 WEEKS GESTATION)

- Hemoglobin/Platelets
- Hemoglobinopathy screening if indicated
- Urine C&S
- Hepatitis B Antigen
- Syphilis serology
- Hepatitis C
- HIV screen
- ABO/Rh(D)
- Rubella: Vaccination advised post-partum if non-immune.
- TSH/Serum ferritin if indicated (see indications on back)
- Early Diabetes Screening*
- Gonorrhea and chlamydia
- Cervical cytology if indicated
- 1st trimester dating U/S between 8–12 weeks to confirm gestational age, viability, number of fetuses, early anatomic assessment, and chorionicity in multiples.
- Genetic risk screen: Consult Provincial Medical Genetics Program.

11–14 WEEKS GESTATION

Cell-Free DNA Screening/Non-Invasive Prenatal Screening (NIPT)**:**

Discuss NIPT with all pregnant persons, however, it is provincially funded only for those who meet high-risk criteria:

- Screen positive for MSS for trisomy 21 or 18
- Maternal age > 37 at EDD
- Twin pregnancy
- History of aneuploidy in a previous pregnancy or child**

If a patient wants NIPT in lieu of MSS, or after a low-risk screening result, the testing is available on a self-pay basis. These patients should **NOT** have MSS.

Refer and discuss with Maternal Fetal Medicine for the following risk factors

- Twins, tripletes, and higher order multiples regardless of chorionicity
- Previous pregnancy with genetic condition or major structural abnormalities

* EARLY DIABETES SCREENING

All pregnant people with risk factors should be screened with HgbA1C with first trimester bloodwork.

Add a fasting plasma glucose (FPG) for those with renal disease, a hemoglobinopathy, or prediabetes, previous GDM, multiple gestation, BMI > 30 kg/m^2, PCOS, corticosteroid use, glycosuria, or high-risk population (Indigenous, Hispanic, South Asia, Asian, African Canadian), or AMA ≥ 40

15–20+6 WEEKS GESTATION

2ND trimester Maternal Serum Screening (MSS):

- Offer to all pregnant persons regardless of age.
- MSS is an assessment of risk for fetal chromosomal abnormalities (trisomy 21 or 18), open fetal defects, and placental abnormalities.

18–22 WEEKS GESTATION

2nd trimester U/S

- Offer to all pregnant persons, including fetal biometry, amniotic fluid volume, placentation, anatomical review for anomalies, and markers for fetal aneuploidy.

24–28 WEEKS GESTATION

- Repeat antibody screen

If Rh(D) Negative:

Repeat antibody screen at 26–28 weeks BEFORE giving WinRho SDF at 28–29+6 weeks.

- Syphilis serology
- HIV (re) screen if high risk
- GDM screen***
- **Tdap** vaccine: 27–32 weeks with Public Health
- CBC
- ABO/Rh(D)

*** 24–28 WEEKS GESTATIONAL DIABETES MELLITUS (GDM) SCREEN

Random 50g 1-hour GCT

- 1-hour venous plasma glucose (VPG) >= 11.1 mmol/L = GDM
- 1-hour VPG <7.8 mmol/L = no GDM
- 1-hour VPG 7.8-11.0 mmol/L = proceed to 75 g oral glucose tolerance test (OGTT)
  - » Fasting VPG >= 5.3 mmol/L = GDM
  - » 1 hour >= 10.6 mmol/L = GDM
  - » 2 hour >= 9 mmol/L GDM

GDM diagnosis: No further testing required. Refer immediately to local specialty diabetes team for nutrition plan; physical activity; self-monitoring of blood glucose.

Third Trimester

- Syphilis (28–32 weeks)
- Gonorrhea and Chlamydia urine PCR
- Group B Strep (35–37 weeks)

Complete EACH trimester

- EPDS (Anxiety/Depression screen)
- WAST (Intimate partner violence (IPV) screen)
- T-ACE (Alcohol screen)

** Other criteria for funded NIPT are restricted to Medical Genetics and Maternal Fetal Medicine (e.g. certain soft markers, fetal anomalies, etc).

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PRE ECLAMPSIA: RISK FACTORS

High risk:

- History of Hypertensive Disease in pregnancy
- Chronic kidney disease
- Systemic lupus erythematosus (SLE)
- Antiphospholipid antibody syndrome (APS)
- Type 1 or 2 diabetes
- Chronic hypertension
- BMI ≥ 30
- Assisted Reproductive Technology (ART)
- Multiple Gestation

Moderate Risk

- First pregnancy
- Age ≥ 40 years
- Prior abruption
- Prior stillbirth
- Prior fetal growth restriction

Consult OBS if history of previous pre-eclampsia or strong clinical markers of ⬆ risk of hypertension.

- Establish gestational age, baseline BP, and lab values (e.g. creatinine, liver function, urinary protein creatinine ratio)
- Initiate low-dose aspirin (162 mg/day) starting at 12–16 weeks and stopping by 36 weeks for those with a high-risk factor for pre-eclampsia or with more than one moderate risk factor
- Closely monitor BP and weight gain
- Consider calcium supplements (1 g/day) for those with low calcium intake.

PRE TERM BIRTH: RISK FACTORS

- Previous pre term birth (PTB)
- Cervical surgery
- Cervical insufficiency
- Uterine anomaly/surgery
- ART
- Poor nutrition
- Low socioeconomic status
- Trauma/IPV
- Age < 17 > 40
- Physical labor
- +fFN 22–34 weeks
- Interpregnancy interval < 6 months
- Poly/Oligohydramnios
- BMI < 18 kg/m^2
- Diabetes
- Hypo/hyperthyroid
- Black or indigenous
- Mental Illness
- < Grade 12 education
- Substance use
- Poor prenatal care
- Infection
- Fetal anomaly
- Vaginal bleeding
- Multiple gestation
- Short cervical length
- PPROM
- Periodontal disease

Vaginal progesterone therapy (VPT) for those with a short cervical length in current pregnancy (≤ 25 mm by transvaginal U/S between 16–24 weeks) or with a previous PTB

- Daily dose: 200mg for single pregnancy/400mg for multiple pregnancy, initiated between 16–24 weeks gestation (whenever risk is identified)

VPT can be continued up to 34–36 weeks gestation (considering individual risk factors).

INDICATIONS FOR ⬆ FETAL SURVEILLANCE

Consult OB when increased fetal surveillance is indicated, or if risk of fetal demise is identified and delivery of the infant is considered for improved perinatal outcomes.

This list of indications suggesting enhanced fetal surveillance is not exhaustive and are suggestions only. Individualization about when to offer prenatal surveillance is advised.

- Twins
- Pre-existing diabetes
- SLE
- APS
- Sickle cell disease
- Renal/cardiac disease
- Rh iso-immunization
- Previous stillbirth
- Previous IUGR or pre-eclampsia requiring pre term delivery
- IUGR (< 10th percentile)
- Post-dates (> 41 weeks)
- Preeclampsia
- Decreased fetal movement
- MVA/Trauma/IPV
- ART
- BMI ≥ 30
- GDM
- Velamentous cord insertion
- Single umbilical artery
- PPROM
- Gestational hypertension
- Underlying maternal disease
- Chronic abruption
- Oligohydramnios
- Cholestasis

INDICATIONS FOR THYROID STIMULATING HORMONE (TSH) SCREEN ACOG 2021 CADTH 2016

- + thyroid peroxidase Ab
- History of thyroid dysfunction
- Family history of thyroid disease
- S&S of thyroid dysfunction
- Recurrent miscarriages or PTB
- Infertility
- Goiter
- Age >30 years
- Use of amiodarone/lithium/radiologic contrast
- Type 1 Diabetes
- Autoimmune disorder
- BMI ≥ 30kg/m^2
- Thyroid surgery
- Head or neck radiation

INDICATIONS FOR SERUM FERRITIN

Anemic: Known hemoglobinopathy/prior IV iron replacement.

Non-Anemic with high risk of iron deficiency anemia: Previous anemia; ≥ Para 3; Multiple pregnancy; Interpregnancy interval < 1 year, poor dietary habits; vegetarian/vegan diet; Age <2 0 years; recent history of clinically significant bleeding.

Non-anemic when serum ferritin might be necessary: high risk of bleeding during pregnancy or at birth, those declining blood products or those whom providing compatible blood is challenging.

Discussion Topics

- Vitamins/Iron
- Nutrition counselling
- Food safety
- ID precautions
- Hot tubs/Saunas
- Seat Belts/Air bags
- Prenatal care expectations
- TOLAC counselling PRN
- Physical/Sexual activity
- Pelvic floor health
- Prenatal education/resources
- Immunization status
- Early pregnancy loss: signs and symptoms
- Signs of preterm labor/preeclampsia/PPROM
- Work/Parental leave
- Fetal Growth/movement
- Birth expectations: fears, family adjustment, support person(s)
- Late pregnancy symptoms
- Normal stages of labor/when to call care provider
- Pain relief options in labor
- Potential interventions/blood products
- Post-dates management/Induction/Cervical ripening
- Infant feeding plan
- Skin-to-skin/Breastfeeding
- Newborn care (e.g., Vitamin K)
- Length of stay/Discharge plan
- Postpartum contraception
- Postpartum depression
- Newborn Screening
- Rhogam if needed

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