GUIDELINES FOR ANTENATAL SCREENING & TESTING
REPRODUCTIVE CARE PROGRAM OF NOVA SCOTIA

FIRST PRENATAL VISIT (6 - 10 weeks)

- **Hemoglobin / Platelets**
- **ABO/Rh(D)** and **antibody screen**
- **Urine C&S**
- **Hepatitis B** Antigen
- **Syphilis** serology
- **HIV screen** (considered standard of care; counsel and inform of risks/benefits of screen and the right of refusal).
- **Rubella:** screen if immune status is unknown. Vaccination advised post-partum if nonimmune.
- **Varicella:** screen if no history of infection, vaccination, or positive serology. Vaccination advised post-partum if non-immune.
- **TSH / Serum Ferritin if indicated** (see indications on back)
- **GDM** screen *
- **Gonorrhea and chlamydia:** screen if at risk (e.g. age < 25 years, previous STI's, new sexual partner, etc.)
- **Cervical cytology** if indicated (as per NS Cervical Screening Guidelines).
- **1st trimester dating U/S between 7-12 weeks** (ideally) to confirm gestational age, viability, number of fetuses, early anatomic assessment, and chorionicity in multiples (plus or minus nuchal translucency (NT) as MST not applicable for multiples).
- **Genetic risk screen:** consult Maritime Medical Genetics (MMG) prn.

11 - 14 WEEKS GESTATION

Cell Free DNA (NIPT)

- Discuss NIPT with all pregnant persons; however it is provincially funded only for those with a high-risk screening result for Trisomy 21 in lieu of invasive testing. The testing will be offered to patients when they are seen by Maternal Fetal Medicine (MFM) or MMG and after being identified as high risk through maternal serum testing (MST).
- If a patient wants NIPT in lieu of standard screening, or after a low-risk screening result, the testing is available by self-pay through an independent referral laboratory.

These patients should then not undertake any MST.

Early Maternal Serum Testing:

- Offer early MST to all pregnant persons regardless of age.

Note: 2nd trimester testing must be done along with 1st trimester testing for an integrated screen.

Early Pregnancy Review (EPR):

- Offer to pregnant persons with specific risk factors and those > 35 years of age at the EDD. An EPR, conducted at the FATC at the IWK, is an ultrasound to review viability, dates, early development and assess for fetal abnormalities, through specific markers, particularly a nuchal translucency. An EPR is best used in conjunction with the MST for assessment of risk for Trisomy 21.

14 - 22 WEEKS GESTATION

2nd trimester MST:

- Offer to all pregnant persons regardless of age.

Integrated Maternal Serum Test (IMST):

- Incorporates maternal age and 1st and 2nd trimester MST into an integrated assessment of risk for fetal chromosomal abnormalities, open fetal defects, and placental abnormalities.

Integrated Prenatal test:

IMST with EPR included in the integration.

18 - 22 WEEKS GESTATION

2nd trimester U/S

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

24 - 28 WEEKS GESTATION

- **Hemoglobin / Platelets**
- **Repeat antibody screen**

If **Rh (D) Negative**: Repeat antibody screen at 26-28 weeks BEFORE giving WinRho®SDF at 28 - 29+6 weeks.
WinRho®SDF is **not required** if the baby's father is **documented** to be Rh(D) negative. Refer to Rh Guidelines

- **Syphilis** serology
- **HIV** (re)screen if high risk
- **GDM** screen **
- **Tdap** vaccine -27-32 weeks

35-37 WEEKS GESTATION

- **Group B strep**
- **Gonorrhea and chlamydia**

Complete EACH Trimester

- **EPDS** (Anxiety / Depression screen)
- **W-AST** (Intimate partner violence (IPV) screen)
- **TACE** (Alcohol screen)

GESTATIONAL DIABETES MELLITUS (GDM) * DCPNS 2021

Screen everyone with a **HbA1c** with their prenatal bloodwork. **Add fasting plasma glucose (FPG) for those with renal disease, a hemoglobinopathy, or strong risk factors** (i.e. prediabetes, previous GDM, multiple gestation, BMI > 40 kg/m2, PCOS, corticosteroid use, glycosuria, or high-risk population (Indigenous/First Nations, Hispanic, South Asia, Asian, African Canadian).

INITIAL GDM SCREEN *

HbA1c plus or minus FPG

- HbA1c ≥ 6.5% and/or FPG ≥ 7 mmol/L = overt diabetes or GDM*
- HbA1c ≥ 5.7% and/or FPG ≥ 5.3mmol/L = GDM*
- HbA1c < 5.7% and/or FPG < 5.3 mmol/L = lower risk for GDM, repeat screen at 24-28 weeks

24-28 WEEKS GDM SCREEN (PREFERRED) **

Random 50g 1-hour GCT

- 1-hour 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 OGTT.
  - Fasting VPG ≥ 5.3 mmol/L = GDM*
  - 1 hour ≥ 10.6 mmol/L = GDM*
  - 2-hour ≥ 9 mmol/L = GDM*

24-28 WEEKS GDM SCREEN (ALTERNATE) **

HbA1c and FPG

- HbA1c ≥ 5.7% and/or FPG ≥ 5.3mmol/L = GDM*
- HbA1c < 5.7% and/or FPG < 5.3 mmol/L = no GDM

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

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PREECLAMPSIA: RISK FACTORS NICE 2020

High Risk
- Hypertensive disease in previous pregnancy
- Chronic kidney disease
- Systemic lupus erythematosus (SLE)
- Antiphospholipid antibody syndrome (APS)
- Type 1/2 diabetes
- Chronic hypertension

Moderate Risk
- First pregnancy
- Age ≥ 40 years
- Pregnancy interval > 10 years
- BMI ≥ 35 kg/m^2
- Family history of preeclampsia
- Multifetal pregnancy

Consult OBS if history of previous preeclampsia or strong clinical markers of ↑risk of hypertension.
- Establish GA, baseline BP, and lab values (e.g. creatinine, liver function, urinary protein creatinine ratio).
- Initiate **low-dose aspirin** (81-162 mg/day) starting before 16 weeks and stopping by 36 weeks for those with a high-risk factor for preeclampsia or with more than 1 moderate risk factor. SOGC 2014/2021
- Closely monitor BP and weight gain.
- Consider calcium supplements (1 gram / day) for those with low calcium intake.

PRETERM BIRTH: RISK FACTORS NICE 2019 SOGC 2017

- Previous preterm birth
- Cervical surgery
- Cervical insufficiency
- Uterine anomaly / surgery
- ART
- Poor nutrition
- Low socioeconomic status
- Abuse (IPV)
- Age < 17 or > 40
- Physical labor
- + fFN 22 - 34 weeks
- Interpregnancy interval < 6 months
- Poly/Oligohydramnios
- BMI < 18 kg/m2
- Diabetes
- Hypo/hyper thyroid
- Black or Indigenous
- Mental illness
- < grade 12 education
- Substance use
- Poor prenatal care
- Infections
- Fetal anomaly
- Vaginal bleeding
- Multiple gestation
- Short cervical length
- P-PROM
- Periodontal disease

Consult OBS
- **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**: 200 mg for single pregnancy / 400 mg 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 ACOG 2014 SOGC 2018

Weekly at 32 weeks
- Twins: MCDA
- Pre-existing diabetes: poor glycemic control
- SLE
- APS
- Sickle cell disease
- Renal/cardiac disease: unstable
- Rh Iso-immunization
- Previous 3rd trimester loss
- Previous IUGR or preeclampsia requiring preterm delivery
- Thrombophilia: high risk

1 to 2 times per week
- IUGR (< 5th percentile)
- Post-term (> 41 weeks)
- Preeclampsia

ASAP and prn
- ↓ fetal movement
- MVA

Weekly at 36 weeks
- Twins: DCDA
- Pre-existing diabetes: good glycemic control
- Abnormal MST
- Renal/cardiac disease: stable
- ART
- BMI ≥ to 40 / Age > 40
- GDM treated with insulin
- Thrombophilia: low risk
- Velamentous cord insertion
- Single umbilical artery
- Alcohol use (≥ 5 drinks/week)

Weekly from Dx
- P-PROM
- Gestational hypertension
- Chronic abruption
- Oligohydramnios
- Polyhydramnios
- Cholestasis
- IUGR

Consult OBS when increased fetal surveillance is indicated or if risk of fetal demise is identified and delivery for perinatal benefit would be considered.

Indications for increased fetal surveillance are suggestions only. Individualization about when to offer antenatal fetal surveillance is advised.

DISCUSSION TOPICS

- ☐ Vitamins / iron
- ☐ Nutrition counselling / GWG
- ☐ Food safety
- ☐ ID precautions (e.g. pets)
- ☐ Hot tubs / Saunas
- ☐ Seat belts / Air bags
- ☐ Course of care / emergency contact
- ☐ TOLAC counseling prn
- ☐ Physical / sexual activity
- ☐ Pelvic floor health
- ☐ Prenatal education / resources
- ☐ Immunization status
- ☐ Early pregnancy loss: signs and symptoms, what to do
- ☐ Signs of preterm labour / preeclampsia / P-PROM
- ☐ Work / parental Leave
- ☐ Fetal growth / movement
- ☐ Birth expectations: fears, family adjustment, support person(s)
- ☐ Late pregnancy symptoms
- ☐ Normal stages of labour / when to call care provider
- ☐ Pain relief options in labour
- ☐ Potential interventions / blood products
- ☐ Post-dates management / induction / cervical ripening
- ☐ Infant feeding plan
- ☐ Skin-to-skin / nursing
- ☐ Newborn care (e.g. vit K)
- ☐ Length of stay / discharge plan
- ☐ Postpartum contraception
- ☐ Postpartum depression

INDICATIONS for SERUM FERRITIN UK Guideline 2019

Anemic: known haemoglobinopathy/prior IV iron replacement.
Non-anemic with high risk of iron deficiency anemia: Previous anaemia; ≥ Para 3; Multiple pregnancy; Interpregnancy interval <1 year; poor dietary habits; vegetarian/vegan diet; Age < 20 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; those whom providing compatible blood is challenging.

INDICATIONS for THYROID STIMULATING HORMONE (TSH) SCREEN ACOG 2015 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
- Resides in an area of moderate / severe iodine insufficiency
- BMI ≥ 40
- Thyroid surgery
- Head or neck radiation

TSH normal range (mU/L)

1st Trimester: 0.1 - 2.5
2nd Trimester: 0.2 - 3.0
3rd Trimester: 0.3 - 3.0

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