Practice Resource: Recommendations for Gestational Diabetes Mellitus (GDM) Screening in NS

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Pregnant persons who experience diabetes mellitus (DM), and their infants, have a higher risk of encountering complications which include:

- Preeclampsia
- Intrauterine fetal death
- Large for gestational age infants
- Cesarean delivery and
- Neonatal complications such as
    - birth trauma
    - shoulder dystocia
    - respiratory distress, and
    - neonatal hypoglycemia.

The adverse outcomes associated with diabetes in pregnancy are substantially linked to maternal hyperglycemia, as well as the co-existing metabolic environment. Outcomes for the fetus/neonate and pregnant person with both pre-gestational diabetes mellitus and gestational diabetes mellitus (GDM) are improved with optimal blood sugar control and appropriate surveillance of fetal well being[1]. Early identification and treatment of pregnant persons with diabetes mellitus will have a positive impact through a reduction in the occurrence of the adverse outcomes listed above.

Nova Scotia's incidence of GDM is increasing, 5.5% in 2012 to 8.7% in 2018. Based on risk factors in the current RCP Prenatal Record (2015), 57% of pregnant persons in NS have more than 1 risk factor for GDM and close to 70% of pregnant persons in NS have at least one risk factor for developing Type 2 DM*. These individals should be screened before the universal GDM screening point of 24-28 weeks' gestation, yet it is suspected that currently less than 1/3 actually undergo an early screen. This results in a significant proportion of individuals with GDM or unrecognized Type 2 DM not being identified until later in pregnancy (24-28 weeks gestation).

*(*Rates may be underestimated as some risk factors are not commonly coded during a pregnancy admission (e.g. PCOS) and thus do not appear in the NSAPD).*

The Diabetes Care Program of Nova Scotia (DCPNS) and Reproductive Care Program of Nova Scotia (RCP) have worked together to develop recommendations for a new approach to GDM screening for Nova Scotia; one that has been adapted specifically to Nova Scotia's context and population of pregnant persons and better aligns with the 2018 Diabetes Canada recommendations for early diabetes screening in pregnancy[1] (Appendix A).

[1] Feig. D., Berger, H., et. al., (2018) Diabetes Canada Clinical Practice Guidelines Expert Committee: Diabetes and pregnancy. Canadian Journal of Diabetes, 42 (2018) S255–S282.

It is anticipated that the new approach to GDM screening (at less than 20 weeks gestation), which includes early screening with HbA1c and and a fasting glucose (for those with strong GDM risk factors) will be beneficial in identifying persons with overt diabetes and those at increased risk of developing GDM at a much earlier gestation. This screening approach will also allow for:

- Earlier referral for specialized services;
- Screening for diabetes related morbidity;
- Improved pregnancy outcomes; &
- Closer postpartum follow-up care

The DCPNS and RCP recommend that GDM screening in NS be as follows:

- **Universal collection of HbA1c with initial prenatal bloodwork performed early in the antenatal period (before 20 weeks gestation).**
- **A fasting glucose be added to this initial bloodwork for pregnant persons with strong risk factors for developing GDM (Table 1) or risk of inaccurate HbA1c results (ex: hemoglobinopathies, chronic kidney disease).**

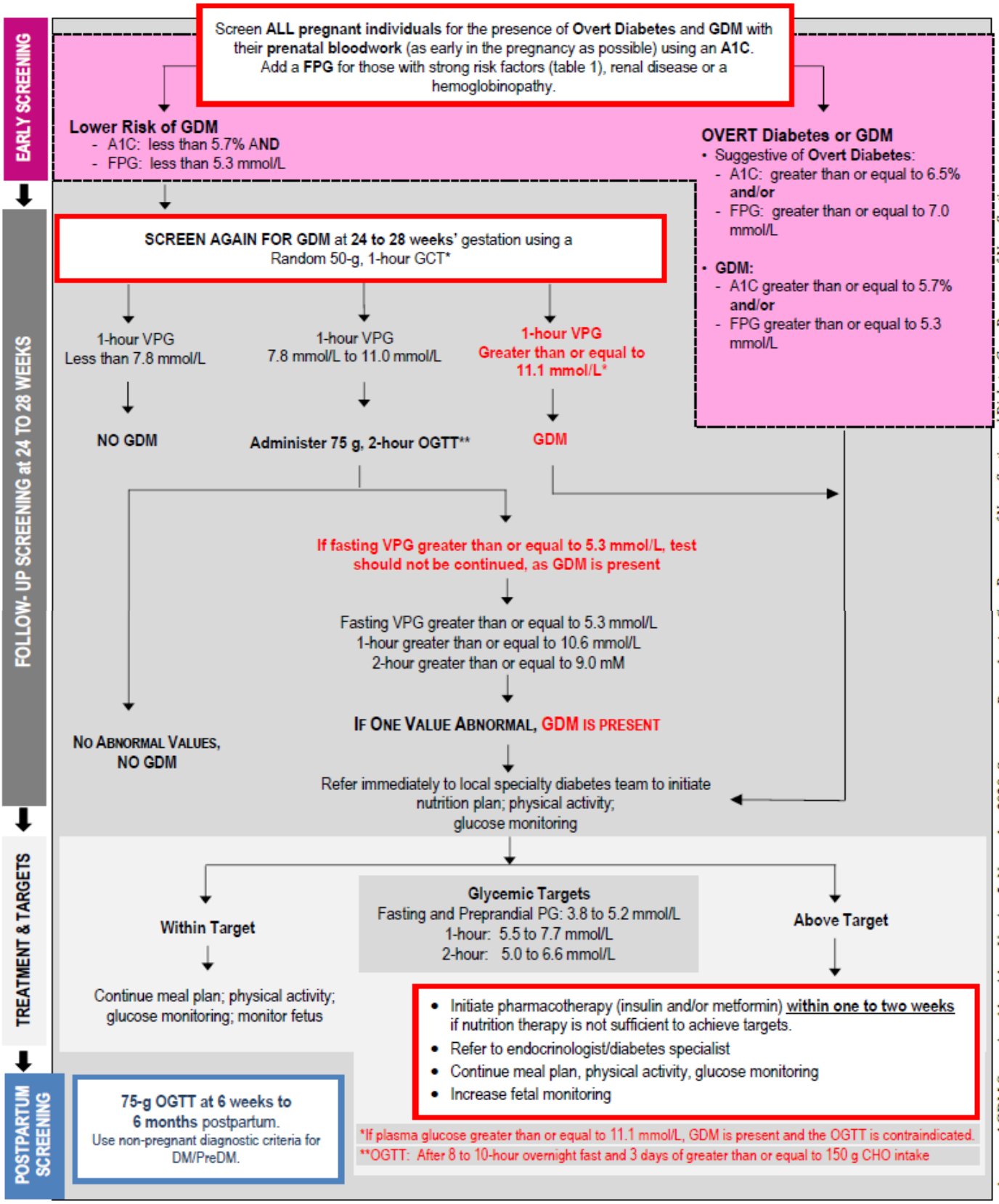
Note:

1. *Care providers are advised to identify prenatal bloodwork and indicate **'DO NOT CANCEL – Pregnancy'** next to the HbA1c test on blood requisitions to ensure testing is completed, regardless of time frame. Please ensure the indicator of **'DO NOT CANCEL- Pregnancy'** clearly refers to **HbA1c** testing.*
2. *The threshold for an abnormal HbA1c result has also been lowered to faciltate early diagnosis of GDM as per recent evidence[1]. This new preferred approach will assist with earlier identification of individuals with overt diabetes and those at increased risk of developing GDM.*

TABLE 1: INDIVIDUALS CONSIDERED AT HIGHEST RISK FOR HAVING OVERT DIABETES OR DEVELOPING GDM

Strong Risk Factors
• Prediabetes • Previous diagnosis of GDM • Multiple Gestation • BMI greater than or equal to 40 • Polycystic Ovary Syndrome (PCOS) • Corticosteroid use • Member of a high-risk population (Indigenous, Hispanic, South Asian, Asian, African Canadian) • Glycosuria

APPENDIX A: SCREENING FOR OVERT DIABETES and GESTATIONAL DIABETES (GDM) In PREGNANCY



**** If 50-g GCT is not available (i.e., COVID-19 pandemic) or for those individuals who cannot tolerate the 50-g GCT or 75-g OGTT (e.g., allergy to orange dye, hyperemesis gravidarum), an A1C and a FPG can be done at 24-28 weeks using the same cutoffs used in early screening.**

Key: GCT = oral glucose challenge test; OGTT = oral glucose tolerance test