Clarifying Diabetes in Pregnancy – a Statement from the Diabetes Across the Lifecourse: Northern Australia Partnership

Diabetes is a common complicating factor affecting pregnancy, and has short-term and long-term impacts on health of both mother and offspring. There is often confusion among healthcare workers and women about the terminology used when describing diabetes in pregnancy. This statement aims to clarify these ambiguities and highlight key messages vital to providing effective care for women affected by diabetes in pregnancy.

Table 1 – Diagnostic thresholds for gestational diabetes and diabetes in pregnancy[1]

Glucose measure	Gestational diabetes	Overt diabetes in pregnancy
OGTT[2] – 0 hour	5.1-6.9 mmol/L	≥ 7.0 mmol/L
OGTT – 1 hour	≥ 10.0 mmol/L	N/A
OGTT – 2 hour	8.5-11.0 mmol/L	≥ 11.1 mmol/L
Random plasma glucose	N/A	≥ 11.1 mmol/L
HbA1c[3]	*Not recommended for diagnosis*[3]	≥ 48 mmol/L (6.5%)

[1]Criteria are met if *any* of the above results meet the threshold for diagnosis.
[2]OGTT – fasting 75 gram oral glucose tolerance test.
[3] HbA1c is *not* suitable for screening/diagnosis beyond the first trimester. OGTT is the preferred test for screening both in early pregnancy (for women with risk factors for diabetes in pregnancy) and for universal screening at 24-28 weeks gestation. If OGTT is not feasible in early pregnancy, HbA1c may be used as a guide to indicate risk and prompt further testing, although is not a criterion for formal diagnosis of GDM. Ideally an HbA1c of 39-47 mmol/L (5.7-6.4%) should be confirmed with OGTT. The Partnership does not recommend use of HbA1c for diagnosis of GDM, although HbA1c ≥ 6.5% in the first trimester is diagnostic of overt diabetes in pregnancy and may be confirmed with random plasma glucose or a second HbA1c (as per diagnostic criteria for type 2 diabetes outside of pregnancy).

TERMINOLOGY

The definitions of diagnostic terms referring to diabetes in pregnancy have evolved over time, contributing to significant confusion around their meaning. To add to the confusion, diagnostic criteria have also been revised, creating a situation where multiple criteria exist with a lack of consistency in criteria used across healthcare services. The below definitions are currently endorsed by the Partnership, with diagnostic thresholds summarised in Table 1.

The Diabetes Across the Lifecourse: Northern Australia Partnership ("the Partnership") uses ***hyperglycaemia in pregnancy*** as an all-encompassing term to include all forms of raised glucose in pregnancy; this includes gestational diabetes and pre-existing diabetes. Some use the term "***diabetes in pregnancy***" as an all-encompassing term, while other groups, e.g. WHO, Queensland Clinical Practice Guidelines, use the term "***diabetes in pregnancy***" only when glucose is elevated to the degree which would meet diagnostic criteria for type 2 diabetes outside of pregnancy, classifying this as a distinct entity to gestational diabetes; the Partnership refers to this as "***overt diabetes in pregnancy***" (see below).

Gestational diabetes (GDM) refers to hyperglycaemia newly detected in pregnancy, including when assessed during universal screening at 24-28 weeks gestation or on first trimester screening in high-risk women. The Partnership defines GDM as per Table 1, where women are diagnosed with GDM if glucose levels are ***not*** sufficiently elevated to meet criteria for diagnosis of diabetes outside of pregnancy (in contrast to "overt diabetes in pregnancy", below). GDM is sometimes used by others to refer to any diabetes newly diagnosed in pregnancy.

Pre-existing diabetes refers to diabetes which has been previously diagnosed outside the setting of pregnancy, including type 1 and type 2 diabetes.

Overt diabetes in pregnancy refers to hyperglycaemia occurring during pregnancy, where glucose is elevated to such a degree which would meet criteria for diagnosis of diabetes outside of pregnancy, suggesting the woman has pre-existing diabetes. As pre-existing diabetes cannot be confirmed until the postpartum period, the term 'overt diabetes in pregnancy' differentiates these women from those with confirmed pre-existing diabetes, while acknowledging these women are likely to have a higher risk of complications during pregnancy than those with GDM and therefore require closer monitoring. **Women with overt diabetes in pregnancy require assessment for complications of diabetes at the time of diagnosis, i.e. during pregnancy, and should be managed as though they have pre-existing type 2 diabetes in pregnancy until this can be assessed further postpartum.**

GESTATIONAL DIABETES – THE RISK DOES NOT END WITH DELIVERY

Women with GDM are educated about the importance of postpartum glucose assessment; this is often explained as necessary to ensure glucose metabolism has returned to normal after pregnancy. This message may be mistakenly perceived by women as meaning GDM "goes away" after pregnancy, and there are no long-term health effects. It is essential that women are informed of **the life-long increased risk of developing type 2 diabetes**, and therefore the need for lifestyle changes to reduce their risk as well as regular glucose checks lifelong to ensure that if diabetes develops it is picked up early.

POSTPARTUM FOLLOW-UP – THE PARTNERSHIP'S KEY 5 MESSAGES

The postpartum period is an opportune time to improve health for women and families, and ensure optimal health prior to a future pregnancy. The Partnership has identified the following key 5 priorities for women's health after a pregnancy complicated by hyperglycaemia:

1. ***Glucose checks***
    - GDM – fasting 75 gram OGTT at 6-8 weeks postpartum, OR HbA1c at 4 months postpartum if OGTT not feasible
    - Overt diabetes in pregnancy – finger-prick glucose checks in the postpartum period
        - If finger-prick glucose levels in diabetes range (fasting ≥7 mmol/L and/or postprandial >11 mmol/L) – confirm with plasma fasting or random glucose
        - 75 gram OGTT at 6-8 weeks if diabetes not confirmed prior, OR HbA1c at 4 months postpartum if OGTT not feasible
    - Pre-existing diabetes – HbA1c at 4 months postpartum
2. ***Healthy weight***
3. ***Breastfeeding***
4. ***Smoke free***
5. ***Contraception***

FOR FURTHER INFORMATION, including resources regarding the Partnership's Key 5, contact the Diabetes Across the Lifecourse: Northern Australia Partnership:

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References:
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