

Gestational Diabetes Mellitus (GDM)



Molly Dutton-Kenny, RM, CPM
HIVE National Midwifery Institute
May 7, 2023

Types of Diabetes

Type 1 Diabetes

Autoimmune condition

Body does not produce insulin

Careful monitoring and intake of insulin

Typically diagnosed in childhood

Type 2 Diabetes

Body does not use insulin well

Managed with nutrition and exercise

Monitoring blood sugar, administering insulin

Typically diagnosed in adulthood

Gestational Diabetes

Temporary condition during the time of pregnancy

Mimics type 2 diabetes, some will require insulin

Typically diagnosed in 2nd/3rd tri, resolves PP

Increases risk for Type 2

Physiology: Why is this happening?
natural insulin resistance of pregnancy,
placental hormones not modulating
pancreas & insulin appropriately

Risk Factors for Gestational Diabetes

Family History

- History of any type of diabetes
- Recent migration

Personal

- Higher BMI
- Poverty & Stress

Health Conditions

- Personal history of PCOS
- Hypertension

Demographics

- Ethnicity: African, South American, South Asian, Pacific Islander
- 35 years old +

Preemptive Support for clients at risk for GDM

Early, adequate informed choice discussions about GDM screening and risk.

With risk factors, many protocols recommend testing at two intervals: 14 weeks and 28 weeks.

Early interventions on nutrition and movement, and considerations for range of testing (including no testing)

Screening for Gestational Diabetes

Snapshot Monitoring

Random Serum Glucose

- Blood draw
- Today's reading

HbA1C

- Blood draw
- ~3 months of history

Urinalysis (for glucose)

Controlled Testing

OGCT and OGTT

- Controlled timing, schedule, and dose of oral glucose followed by blood draws
- Typically fasting draw, 1 hr, 2hr
- Various cutoffs for interpretation

Real Life Monitoring

Home monitoring with glucometer

- Periodic testing fasting and 1 hr post meals, comparison with normal values

Food based challenge with OGTT values

When interpreting

GDM lab values

Attention to the units for measurement!

- In USA, typically use mg/dL
- Internationally, typically use mmol/L

Attention to which org / set of normal you will use: be consistent and have a good reason for your choice

- WHO, IADPSG, ADA, NICE, CC, NDDG

How many mg glucose? 50?75?100?

Diagnosing Gestational Diabetes

Snapshot Monitoring

Urinalysis: Glucose +1

Serum Glucose

- Normal is around 125 mg/dL

HbA1C

- Normal <6.5%

Controlled Testing

OGCT (1 hr)

- 1 hour should be <140 mg/dL

OGTT (2hr)

- Fasting should be <92 mg/dL
- 1 hour: <180 mg/dL
- 2 hour: <153 mg/dL

Real Life Monitoring

Home monitoring

- Fasting should be <90-95 mg/dL
- 1 hour post prandial should be <130-140 mg/dL

Managing Gestational Diabetes

Sugar Monitoring

Periodic home monitoring, log tracking, adjusting, knowing normal values

Considerations in practice:

- Will you provide monitoring equipment?
- Will you provide guidance and protocols for management?
- When will you transfer care?
- How do clients report values to you?
- Will you collaborate with an endocrinologist?

Nutrition & Movement

Attention to how nutrition and food choice affects CBGs, movement for health and modulating insulin

Considerations in practice:

- Will you provide guidance? Meal plans? Recommendations for collaborations?

Nutrition

With GDM

Attention to:

- Healthy Fats
- Fibre
- Protein
- Foods that decrease insulin resistance specifically

Look for:

- Pairing carbs with fat and protein
- Lots of meat and vegetables
- Reducing processed foods, sugar,
—— stressors (coffee, etc.)

Diet Controlled

GDM

Reasonable to remain in
midwifery care

Insulin Dependent

IDGDM

Needs attention of specialist
(endocrinologist) and OB

Risks of Gestational Diabetes

To the Fetus/Newborn

- Macrosomia, Shoulder Dystocia & resulting birth injuries
- Cesarean Birth
- NICU stay
- Hypoglycemia after birth
- Hyperbilirubinemia
- Premature birth
- Stillbirth

To the Pregnant Person

- Complications from macrosomia and shoulder dystocia (large tear, etc.)
- Cesarean Birth
- Insulin use
- Type 2 Diabetes (later in life)

Hospital Management of GDM in labor/postpartum

In Labor

Focus on monitoring blood sugar and correcting as needed. Often recommend fasting and cEFM.

Sugar Monitoring:

- Should stay within set range
- If outside range, started in IV D5W

For the Newborn

Focus on monitoring blood sugar for hypoglycemia post birth

Sugar Monitoring:

- Should stay within set range
- If outside range, colostrum or formula supplementing, possibly IV
- Monitoring for ~24h

Antenatal colostrum expression

To support infant transition to
avoid hypoglycemia

Consider pre-saving colostrum in the
freezer with antenatal hand
expression

Consider donor milk

Consider formula

Identifying the hypoglycemic Infant

Of a GDM pregnancy

Weak Cry

Hard to Wake

Extra Hungry - but won't wake to eat

Postpartum followup with GDM

Most monitoring abruptly stops in the postpartum period

Client may choose (are recommended) to re-screen using similar methods to initial diagnosis around 6-8 weeks postpartum

Client will be at risk for developing Type 2 diabetes later in life, should be reminded to re-screen around age 45-50.

Child will be at risk for hormonal/insulin disorders in life, with a higher chance of elevated weight