

Chapter Organization – Pregnancy

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**A baby fills a place in your heart that you
never knew was empty!**





Diabetes and Pregnancy

2018 Clinical Practice Guidelines Summary

Key messages for women with diabetes who are pregnant or planning to be

- Keep blood sugars in a healthy range; this will protect you and the baby
- Poorly controlled diabetes can increase the risk of miscarriage, stillbirth, and malformations in the baby
- If planning to become pregnant talk to your health care team about:
 - Blood glucose targets
 - General health & status of any diabetes complications
 - If overweight, aim for a healthy weight before becoming pregnant with healthy eating
 - Start a 1 mg/day folic acid supplement
 - Make sure you have all important vaccinations
 - Review medications

Gestational Diabetes

- 3 to 20% of women develop diabetes during pregnancy
- A few risk factors that may increase risk for diabetes during pregnancy include:
 - Age over 35, obesity, having a family relative who experienced diabetes in pregnancy, being from a high risk ethnic group including Indigenous Peoples, or having prediabetes.

- All pregnant women should be checked for gestational diabetes between weeks 24 – 28
- If diagnosed, breastfeed for 4 months to prevent hypoglycemia in your newborn, obesity in childhood, and diabetes for both you and your child. If overweight, reduce to a healthy weight. Be screened for type 2 diabetes
 - within 6 weeks to 6 months of giving birth
 - again, before planning another pregnancy
 - and every 3 years (or more often if living with risk factors)

More Information: Pre-existing Diabetes (type 1 and type 2) in Pregnancy

Before Pregnancy Care (Planning Period)

- Outcomes for mom and baby are improved significantly by taking a few steps before becoming pregnant. It is important to become a healthy body weight (if overweight), have optimal blood sugar control, discontinue any potentially harmful medications, and begin a folic acid supplement of 1 mg/day. All of this should be done with guidance from a diabetes health care team.

Assessment & Management of Complications

- Women should have their eyes checked by an optometrist before becoming pregnant, within the 1st trimester, within 1 year of giving birth, and more often in between if needed.

- Women living with diabetes who experience hypertension before and during pregnancy (preeclampsia) have a 40 – 45% chance of this complicating pregnancy. It is important to address hypertension with a health care professional.

- Women wishing to become pregnant should be screened for chronic kidney disease; changes to medications may need to be made to protect the baby.

Management

There are many people with important roles to play in assisting women living with diabetes through preplanning and pregnancy. Diabetes educators, dietitians, endocrinologists, and doctors should all be part of this team to manage the following.

Glycemic Control: blood sugar control is very important for the health of the baby. Before becoming pregnant women should consult their diabetes health care team to set and reach their target glycemic range. It will be important to stay within this target range during pregnancy to avoid complications such as premature birth, hypoglycemia in the baby, fetal malformations, and fetal or infant death.

Definition of hypoglycemia in pregnancy: blood glucose levels are lower in pregnant women by about 20% so although hypoglycemia is typically defined as <4.0 mmol/L during pregnancy it is <3.3 mmol/L. Keep in mind that hypoglycemia levels vary person to person. Although not desired, brief periods of hypoglycemia seem to be safe for the baby as long as mom does not lose consciousness, have convulsions, or fall. Health care providers should make sure pregnant women living with diabetes have a glucagon kit, know what to do if severe

hypoglycemia occurs, and are recommended to let close relatives and coworkers know about the increased risk during her pregnancy.

Weight Gain: women planning for pregnancy are recommended to achieve a healthy weight first. Obesity can have negative effects on the baby and mom during pregnancy. Normal weight gain according to the Institute of Medicine recommendations also applies to women living with diabetes.

Medications: certain medications involved in a woman's diabetes treatment and management may need to be altered before or once becoming pregnant. Women are advised to speak to their health care team about what medication are safe and which may not be safe for the baby so that adjustments can be made to the care plan if needed.

Obstetrical Considerations for women with preexisting and gestational diabetes: since risks of stillbirth are elevated, monitoring the fetus and planning delivery are important considerations. It is recommended that between weeks 34 – 36 mom and fetus receive weekly checkups. This will help determine whether and when an induced delivery should be recommended.

Postpartum Care: women with pre-existing diabetes should be supported by their health care team to decrease insulin therapy as their insulin needs have quickly reduced, discuss and monitor thyroid function, learn the benefits of breastfeeding, take birth control measures, and seek psychosocial supports for the transition period they will experience. Healthy weight loss to pre-pregnancy

DIABETES CANADA

weight and a normal BMI are recommended at this time.

Breastfeeding: women with diabetes have lower reported rates of breastfeeding, can experience a delay in lactation, and can have a lower milk supply. The major factors that contribute to this include poor glycemic control, insulin resistance, obesity, and impaired bonding with the child as result of a complication (premature birth, C-section, NICU admission). Baby born to mothers living with diabetes sometimes show immature sucking behaviour which can make breastfeeding challenging for the first few days as well. With this in mind breastfeeding is also incredibly beneficial to the newborn – reducing the risk of hypoglycemia and development of diabetes in childhood, and childhood obesity. It is recommended that women breastfeed their newborn for at least 4 months after birth up until 2 years of age.

More information: Gestational Diabetes (GDM)

Prevention and Risk: rates of GDM are increasing worldwide. Factors that increase risk include age and obesity. A few treatments to prevent GDM have shown effect including healthy eating, myo-inositol supplements, and probiotic supplements whereby healthy eating shows to be the most effective.



Pregnancy and Diabetes

Teaching Tool

Statistically, the level of risk for a woman with type 1 or type 2 diabetes and for the baby is largely determined by the health of the woman just before conception and within the first 11 weeks of pregnancy.

Women with diabetes are typically not discouraged from having a baby unless they have experienced eye complications, damage to their kidneys or have heart disease. Good blood sugar control is crucial within the first five to 11 weeks as the baby's organs are beginning to develop. If the mother's blood sugar level is high during this time period, the baby's spinal cord and heart could be affected. There are various tests offered to women at 16 weeks and at 20 weeks to determine the risk for spina bifida, Down's Syndrome and heart deformities.

If you are thinking about getting pregnant, do some planning. Talk to your endocrinologist or diabetes educator a few months in advance so that the birth of your child will be as wonderful as it should be.

What is gestational diabetes?

Gestational diabetes is a temporary condition that occurs during pregnancy. Between 3 to 20 per cent of pregnant women develop gestational diabetes, depending on their risk factors. Having gestational diabetes may increase the risk of developing diabetes for both mother and child. Your body cannot produce enough insulin to handle the effects of a growing baby and changing hormone levels. Insulin helps your body to control the level of glucose (sugar) in your blood. If your body cannot produce enough insulin, your blood sugar levels will rise.

The good news

- Your baby will not be born with diabetes.
- Gestational diabetes can be managed and you can expect to have a happy, healthy baby.

What does gestational diabetes mean for my baby?

If left undiagnosed or untreated, gestational diabetes can lead to high blood sugar levels. This increases the risk that your baby will weigh more than 4 kg (9lbs) and will have a difficult delivery. Gestational diabetes can also increase the risk of your baby becoming overweight and developing type 2 diabetes in the future. It is important to breastfeed immediately after delivery for at least four months, if you can, to help reduce the risk of obesity and diabetes for your baby.

What does gestational diabetes mean for me?

A diagnosis of gestational diabetes means you will be working closely with your health-care team to manage your blood sugar levels and keep them in the target range. This will help you avoid complications in labour and delivery. After your baby is born, blood sugar levels will usually return to normal. However, you are at greater risk for gestational diabetes in your next pregnancy and of developing type 2 diabetes in the future. Achieving a healthy weight in the normal BMI range can help reduce this risk.

Risk factors for gestational diabetes

Being:

- 35 years of age or older
- From a high-risk group (African, Arab, Asian, Hispanic, Indigenous, or South Asian descent)

Using:

- Corticosteroid medication

Having:

- Given birth to a baby that weighed more than four kilograms (nine pounds)
- Prediabetes
- Gestational diabetes in a previous pregnancy
- Obesity (BMI of 30kg/m² or higher)
- A parent, brother or sister with type 2 diabetes
- Polycystic ovary syndrome (PCOS) or acanthosis nigricans (darkened patches of skin)

How is gestational diabetes managed?

Choose a healthy diet

Ask your doctor to refer you to a registered dietitian to learn about healthy eating during pregnancy. Try eating low-glycemic index foods (e.g. whole grains, legumes), spread over three meals and two snacks to help manage your blood sugar.

Achieve a normal pregnancy weight gain

The amount of weight you gain will vary depending on your weight before your pregnancy. Weight loss is not recommended. Talk to your health-care provider about appropriate weight gain for you.

Be physically active

Regular physical activity can help control your blood sugar levels. It can also help you:

1. Boost your energy

2. Sleep better
3. Reduce stress
4. Reduce pregnancy discomfort
5. Prepare for childbirth
6. Get your body back faster after childbirth

Talk to your health-care provider about the right type and amount of activity for you.

Check your blood sugar at home

Checking and tracking your blood sugar with a blood glucose meter will help you and your health-care team manage your gestational diabetes.

Take medication, if needed

Sometimes healthy eating and physical activity are not enough to manage blood sugar levels and your health-care provider may recommend insulin injections or pills for the duration of your pregnancy. Medication will help keep your blood sugar level within your target range. This will help to keep you and your baby in good health.

Your health-care team can answer your questions and support you through this important time in your life. Your team may include your doctor, nurse and dietitian, but remember: the most important member of your health-care team is you!



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Having:

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All pregnant women should be screened for GDM between 24 to 28 weeks of pregnancy. Women who are at high risk for undiagnosed type 2 diabetes should be screened at less than 20 weeks of pregnancy.

What is Gestational Diabetes Mellitus (GDM)?

GDM is a type of diabetes that occurs during pregnancy. Your body cannot produce enough insulin to handle the effects of a growing baby and changing hormone levels. Insulin helps your body to control the level of glucose (sugar) in your blood. If your body cannot produce enough insulin, your blood sugar levels will rise.

The good news

- Your baby will not be born with diabetes.
- GDM can be managed and you can expect to have a happy, healthy baby

What does GDM mean for me?

A diagnosis of GDM means you will be working closely with your health-care team to manage your blood sugar levels and keep them in the target range. This will help you avoid complications in labor and delivery. After your baby is born, blood sugar levels will usually return to normal. However, you are at greater risk for GDM in your next pregnancy and of developing type 2 diabetes in the future. Achieving a healthy weight in the normal BMI range can help reduce this risk.

What does GDM mean for my baby?

If left undiagnosed or untreated, GDM can lead to high blood sugar levels. This increases the risk that your baby will weigh more than 4 kg (9lbs) and will have a difficult delivery. GDM can also increase the risk of your baby becoming overweight and developing type 2 diabetes in the future.

GDM and breastfeeding

It is important to breastfeed immediately after birth for at least 4 months to help avoid low blood sugar in your newborn, and to reduce the risk of obesity and diabetes for your baby.



After your pregnancy, it is important to be screened for type 2 diabetes:

- within 6 weeks to 6 months of giving birth
- before planning another pregnancy
- every 3 years (or more often depending on your risk factors)

Early diagnosis and management of type 2 diabetes IS IMPORTANT because:

- undiagnosed or poorly controlled type 2 diabetes in a pregnant woman increases her risk of miscarriage, the baby being born with a malformation, or having a stillborn baby
- it will improve your chances of having healthy pregnancies and healthy babies in the future

For a healthy tomorrow, take good care of your GDM today by

Choosing a healthy diet:

Ask your doctor to refer you to a registered dietitian to learn about healthy eating during pregnancy. Try eating low-glycemic index foods (e.g. whole grains, legumes), spread over 3 meals and 2 snacks to help manage your blood sugar.

Achieving a normal pregnancy weight gain:

The amount of weight you gain will vary depending on your weight before your pregnancy. Weight loss is not recommended. Talk to your health-care provider about appropriate weight gain for you.

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Your health-care team can answer your questions and support you through this important time in your life. Your team may include your doctor, nurse and dietitian, but remember: The most important member of your health-care team is you!

Related article: *As you take your baby in your arms, take your health in your hands, and Type 2 diabetes: the basics*

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diabetes.ca | 1-800 BANTING (226-8464) | info@diabetes.ca

Diabetes Canada is making the invisible epidemic of diabetes visible and urgent. Eleven million Canadians have diabetes or prediabetes. Now is the time to End Diabetes - its health impacts as well as the blame, shame and misinformation associated with it. Diabetes Canada partners with Canadians to End Diabetes through education and support services, resources for health-care professionals, advocacy to governments, schools and workplaces, and funding research to improve treatments and find a cure.

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Living with diabetes pre-pregnancy checklist

Contraception

There are many pre-pregnancy planning steps that are important to ensuring you and the baby has a safe and healthy pregnancy. Contraceptive methods are important so that you have time to make any necessary changes to your diabetes management.

Meet with your diabetes care team

Before you would like to become pregnant discuss this with your doctor and diabetes care team. This way the team can help support you through the pregnancy.

Blood glucose targets

It is important to achieve tight control of blood glucose before becoming pregnant to protect the development of the baby. Growth abnormalities can occur if episodes of poorly controlled blood sugar occur during pregnancy.

Review Medications

There may need to be changes made to your diabetes management medications when entering pregnancy. This is very important since certain types of medication can be harmful to the baby's growth and development.

Healthy weight

Physical activity and eating healthily can help you achieve and/or maintain a healthy weight before and during pregnancy. Obesity is linked with increased risk for obesity in the child, and puts the baby at risk for developing diabetes

Begin taking 1 mg Folic Acid 3 months before desired pregnancy

Folic acid is recommended to help the baby's spinal cord and brain develop properly. Begin taking 1 mg of folic acid 3 months before you wish to get pregnant and continue for at least the first 12 weeks of pregnancy.



Pregnancy Resources Bank

Diabetes Canada Guidelines

Webpage:

<http://guidelines.diabetes.ca/patientresources>

Resources:

- Gestational diabetes pamphlet
- As you take your baby into your arms take your health into your hands

The National Diabetes Services Scheme Australia - Pregnancy & Diabetes

Webpage:

<https://www.pregnancyanddiabetes.com.au/en/having-a-healthy-baby/>

Resources:

- Printable booklets on having a healthy baby when living with type 1 or type 2 diabetes
- Pregnancy Planning checklist & factsheet
- Indigenous specific resources

BC Women's Hospital + Health Care

Webpage:

Resources:

- Printable Gestational Diabetes information package
- Healthy eating during pregnancy package

Perinatal Services BC

Webpage:

<http://www.perinatalservicesbc.ca/health-professionals/professional-resources/aboriginal-resources/pregnancy-passport>

Resources:

- Our Sacred Journey: Aboriginal Pregnancy Passport

Healthy Child Manitoba

Webpage:

<https://www.gov.mb.ca/healthychild/publicatio>

[ns/firstnationsmetis-parentresources/index.html](https://www.gov.mb.ca/healthychild/publications/firstnationsmetis-parentresources/index.html)

Resources:

- Manitoba First Nations and Metis Parenting Booklets
- Useful information for Moms to be
- Growing p healthy
- Family connections
- Fatherhood is forever

The Best Start Resource Centre Ontario

Webpage: <https://www.beststart.org/cgi-bin/commerce.cgi?search=action&category=AB1A&advanced=yes&sortkey=sku&sortorder=descending>

Resources:

- Printable Guide: Planning for Change
- Mixing Alcohol and breastfeeding handout
- The sacred journey from preconception to parenting for First Nations families 2016

Government of Canada: First Nations Health - Webpage:

<https://www.canada.ca/en/indigenous-services-canada/services/first-nations-inuit-health/family-health/healthy-pregnancy-babies.html>

-Resources:

- general information about healthy pregnancies

