

BC Women's Hospital - Diabetes in Pregnancy Clinic

LOCATION: BC Women's Hospital Entrance #93
Please check in at Desk #7 upon arrival.

TIME: Follow up appointments are on Tuesday and Wednesday mornings. **Please be on time.**

CLERK: Monday to Friday 8:00 am to 4:00 pm 604-875-3135
Please call the clerk to make or change an appointment.

NURSES: Monday to Friday 7:30 am to 8:30 am 604-875-2339
1:30 pm to 3:00 pm

ENDOCRINOLOGISTS:

Dr. J. Kong Pager 604-875-2161
Dr. D. Thompson Pager 604-875-2161

On weekends and statutory holiday – please page the doctor between 9:00 am to 10:00 am **for the following reasons only:**

1. If you have been asked by the nurses to call the doctor on the weekend
2. If it is a diabetes related emergency

After hours and diabetes related emergencies - please page the doctor

DIETITIANS: Monday to Friday 8:00 am to 3:30 pm **604-875-2211**

SOCIAL WORKER: 604-875-2161 Pager 1480

PHYSIOTHERAPY: 604-875-2126 Pager 1474

If you have any questions or concerns, please feel free to ask us. We are here to help you.

Welcome to BC Women's Diabetes in Pregnancy Service

The Purpose of the Service

Women who have diabetes during pregnancy or are at risk for developing diabetes need education and help to control their diabetes. The diabetes health care team can help you with this.

What to Expect

Regular visits to the diabetes clinic are important to help keep your blood sugar normal. At follow up visits which are set up on Tuesday and Wednesday mornings, you will see your diabetes doctor as well as other members of the team (nurse, dietitian, physiotherapist and social worker) as needed. Your first follow up visit will take a **minimum of 90 minutes**.

If you need fetal monitoring or ultrasound we will try to schedule these at the same time. A family member or friend is welcome to come with you to your appointments.

The diabetes clinic is a busy place, so please eat your breakfast, bring your snacks and something to do (such as a good book) to keep yourself busy while waiting.

Please remember to make your next appointment before you leave the clinic.

What to Bring to Your Appointments

- Medical Insurance Card
- Blood sugar testing meter
- Meal plan
- Diabetes Record Book
- Snack

Gestational Diabetes

Gestational diabetes affects about 16% - 18% of all pregnancies. The word "gestational" means "during pregnancy". Diabetes means your body does not make enough insulin and/or cannot use insulin very well. Insulin is made by your body and keeps your blood sugar (glucose) normal.

During pregnancy the placenta makes hormones. You and the baby need these hormones for a healthy pregnancy. However, these hormones do not let the insulin in your body work well, so your body needs to make extra insulin to keep your blood sugars normal. Gestational diabetes happens when a woman's body cannot make this extra insulin. Once the baby is born, the hormones return to normal and so should the blood sugars.

It is important to treat gestational diabetes so that it does not cause problems for you or your baby. You can control your blood sugars by following a special meal plan and exercising after meals. For many women the meal plan and exercise work well to keep blood sugars normal. However, some women do need to take insulin as well. Your doctor will discuss this with you if it is needed.

To see how well the meal plan and exercise are working, you will need to check your blood sugar levels and urine ketones throughout your pregnancy.

Pregnancy is a time of learning. Please speak with the diabetes team if you have any questions or concerns. By working closely with the diabetes team you will be doing your very best to keep yourself and your baby healthy.

Questions & Answers

Q: How will gestational diabetes affect my baby?

A: Short term effects

If your blood sugars are high, the extra sugar goes to the baby. The baby stores the extra sugar as fat and may grow very big, causing problems with delivery.

When the baby gets extra sugar it makes extra insulin to control that sugar. When the baby is making extra insulin, the baby's lungs do not mature as they should and the baby may have trouble breathing.

After delivery the baby is no longer getting sugar from the mother, but is still making extra insulin. The baby can quickly use up its sugar supply and have low blood sugar, which is not good for the baby's health.

Long term effects

Big babies born to women with gestational diabetes have a higher risk of developing obesity and type 2 diabetes in childhood and adulthood.

Steps you can take to lower these risks are

- be at a healthy weight when you get pregnant
- have a healthy weight gain during pregnancy
- have good blood sugars throughout your pregnancy
- breastfeed your baby for a minimum of three months

Q: Will my baby be born with diabetes?

A: No, your baby will not be born with diabetes. However, if there is diabetes in the family, there is an increased risk that family members may get diabetes later in life.

Q: Why did I get gestational diabetes?

A: Your body cannot make the extra insulin needed for pregnancy. There are many things which increase your risk of gestational diabetes. These include – having a family history of diabetes, having had gestational diabetes before in your pregnancy, having had a large baby, belonging to a high risk ethnic group (Aboriginal, Hispanic, South Asian, Asian and African), being 35 years of age or older, being overweight, and having certain medical conditions.

Q: What were my blood sugar test results?

A: Your lab blood sugar test results were

Fasting _____ 1 hour _____ 2 hour _____

Normal test results are

Fasting less than 5.1 1 hour less than 10.0 2 hour less than 8.5

Q: Based on my lab blood sugar test, how “bad” is my diabetes?

A: The blood test done at the lab just tells you whether or not you have gestational diabetes. The test results do not tell you how “bad” the diabetes is.

Q: Why do I have to test my blood sugar?

A: The blood test done at the lab only tells you that you have high blood sugar. The home blood sugar testing before and after meals will tell you if your meal plan and exercise programs are working to control your blood sugar. These test results will help you in making food and exercise changes. As well, the results show whether you need insulin injections to control your blood sugars.

Q: Why do I have to check my urine ketones?

A: To help you control your blood sugars, you will be on a controlled carbohydrate (grains, fruit, milk and yogurt) diet. Ketone checking will show if you and your baby are eating enough carbohydrates.

Q: How long do I have to follow the diet and test my blood sugar?

A: It is very important to follow your meal plan and do your activity **everyday** until the baby is born. If your blood sugars are normal with the meal plan and exercise program, your testing will be cut down and may be stopped close to the time of your delivery. If you need insulin, you will be testing a minimum of four times a day until your baby's birth.

Q: If I need insulin how do I give it? Does it hurt?

A: Your doctor will help you decide if you need insulin and will discuss this with you. It is given by injection. The nurse will teach you how to give yourself insulin. Most people say that giving insulin does not hurt and that they can't even feel the needle.

Q: Is insulin harmful to the baby?

A: No, the insulin is safe for the baby. The insulin lowers your blood sugar so that the baby does not get high blood sugars, so it is actually good for the baby.

Q: How can I exercise when my back is so sore?

A: Call BC Women's Physiotherapy department and book an appointment for the **Antepartum Back Care Class**. You may also request to see the physiotherapist at one of your clinic visits for a short consult.

Q: Will the diabetes go away when I have the baby?

A: Once the baby is born and your hormones return to normal, so should your blood sugars. Your blood sugar will be checked after the baby is born to make sure that it has returned to normal. In a very small number of women the blood sugars do not return to normal and you will have further follow-up with your family doctor.

Women who have gestational diabetes in one pregnancy are at a high risk for getting gestational diabetes in their next pregnancy, and for getting type 2 diabetes later in life. A healthy body weight and healthy lifestyle are the best prevention for type 2 diabetes.

Physical Activity – Immediately after meals

Please consult a physiotherapist if any of these activities cause you pain. If your doctor has put you on reduced activity, ask the physiotherapist for an alternative program.

Regular physical activity immediately after meals can help control your blood glucose levels. It can also help you to manage stress and prepare your body for labour, delivery and recovery.

Stepwork



Step-ups / Step-downs
or
Stairs (e.g. climb up, walk on landing, climb down, walk in hall) for 10 minutes.

Stop stepwork if you have back pain or pelvic girdle pain.

Exercise Bicycle



Bicycle for 10 minutes.
Use light tension.

Walking Briskly

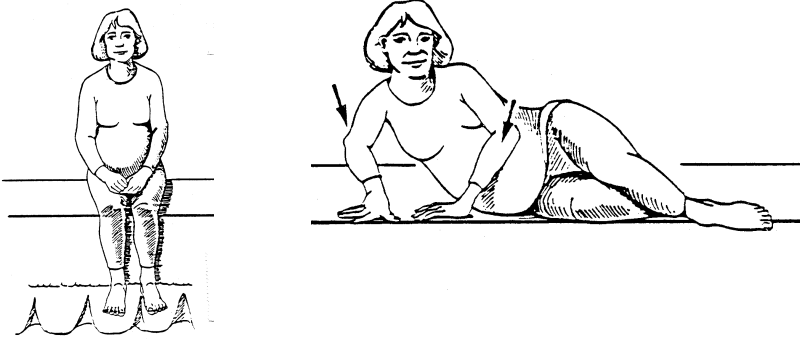


Walk briskly for 20 minutes.
Swing your arms as you walk.
Walk so that you can still talk but you cannot sing.

Housework: **Physical** housework that includes walking and moving around (examples: washing the floors, making beds).

Helpful Hints

1. Get in and out of bed on your side

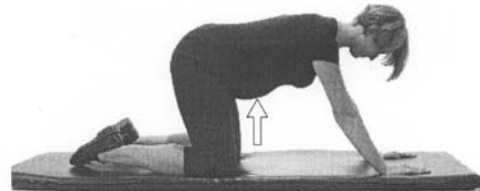
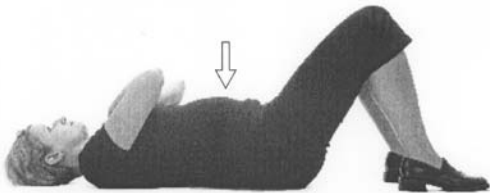


Use your arms to lower yourself onto your side when climbing into bed. Lie on your side and push with your arms when getting up.

2. Stand and walk tall.

3. Abdominal muscle tightening (tummy tucks)

As you breathe out pull the muscles below your belly button in towards your back bone (as if putting on a tight pair of pants). Hold for a few seconds while continuing to breathe, then relax. Practice tummy tightening when you are lying, sitting, standing and changing position.



4. Pelvic floor muscle exercises (Kegels)

a) **Speed'ems:**

Pull your pelvic floor muscles up and in quickly and strongly as if to stop urine or gas from escaping. Hold for 1 or 2 counts. Relax completely for 1 or 2 counts. Do several in a row until your muscles begin to feel tired up to 20 in a row. This exercise is important to help stop leakage when you cough, sneeze, lift or laugh.

b) **Hold'ems:**

Pull your pelvic floor muscles up and in quickly and strongly as you did with Speed'ems but hold for a slow count of 5. Pull in more and more. Make sure you continue to breathe. Relax completely. Rest 10 seconds before trying your next one. Repeat 5 to 10 times. When this becomes easy, hold longer (up to 10 seconds).

Remember:

1. Whenever you move or lift anything, tighten your pelvic floor muscles along with your tummy muscles and breathe out.
2. Bend your knees not your back when you lift.
3. Kneel or squat when working at floor level. Try using a low stool to sit on.
4. When standing the ideal working surface should be between hip and waist level.
5. Always listen to your body and stop if it hurts.

Calf Stretch

- keep back leg straight with heel down, shift weight forward
- stretch should be felt in the calf of your back leg
- helps lessen cramps in your calf



Mid-back

- with feet hip width apart, bend knees and shift weight backwards, push your chest towards the floor
- stretch should be felt in your mid-back region
- to feel a greater stretch on your side, cross one arm over the other



Nutrition, Diabetes and Pregnancy

During Pregnancy

Good nutrition and normal blood sugars are important for a healthy pregnancy. Your meal plan will probably need to be changed from time to time. Discuss your meal plan with the dietitian if you are

- hungry or too full
- have ketones in your urine
- have high or low blood sugar
- are gaining too much or too little weight
- find it hard to follow the meal plan
- if you have any questions or concerns

During Illness

- You may notice your blood sugars are higher when you are sick.
- If you are on insulin:
Extra insulin may be needed to keep your blood sugars in the normal range (contact the doctor or diabetes nurse).
- If you are unable to eat or have severe nausea or vomiting, call your doctor or diabetes nurse immediately.
- When you feel too sick to eat your usual foods, switch to easy-to-digest foods and fluids as follows:
 - 1) Stop your meal plan and have at least one choice every hour from this list:
 - 1 cup of milk or flavoured soya milk
 - 100 g of Yop[®]
 - ½ cup of Gingerale[®] or 7-UP[®]
 - 1 cup of Gatorade[®]
 - 1 slice toast
 - 2-3 plain cookies (such as Arrowroots or Digestives)
 - 6-7 small crackers
 - 1 cup soup
 - ½ popsicle
 - ½ cup of fruit juice
 - 2) Drink extra fluids such as water or clear soup.
 - 3) Return to your meal plan slowly as you feel better.

Urine Test for Ketones

Ketones are not normally present in the urine. However, when you have not eaten enough carbohydrates, or do not have enough insulin in your body, you will burn fat for energy. This makes ketones which are removed from the body through the urine. Ketones are not good for the baby.

Ketone Testing

How to check:

1. Check the expiry date on bottle. Do not use outdated strips.
2. Remove strip from bottle. **DO NOT** touch the reagent pad at the end of the strip as it may affect the test. Keep bottle tightly closed and away from moisture.
3. Wet the beige coloured pad of the strip fully with fresh urine.
4. Wait 15 seconds.
5. Compare with colour chart on the side of the Ketostix bottle.
6. Record as N (Negative)
 - T (Trace)
 - S (Small)
 - M (Medium)
 - L (Large)

How often to check:

Before breakfast or when you first pass urine (“pee”) in the morning and before supper.

If your results are normal, your ketone testing will be cut down to 1-2 days a week.

BLOOD SUGAR TESTING

Blood Sugar Testing Instructions

You will be testing your blood sugar with a blood glucose meter. The nurse will teach you how to check your blood sugars and how to write the results in the record. The nurse will show you how to record the low, high and average blood sugars in the record.

To see how your meal plan and activity schedule are working for you, we will ask you to check your blood sugar 7 times a day as follows:

- 1) 0-5 minutes before breakfast.
- 2) 1 hour after you **start** eating breakfast.
- 3) 0-5 minutes before lunch.
- 4) 1 hour after you **start** eating lunch.
- 5) 0-5 minutes before supper.
- 6) 1 hour after you **start** eating supper.
- 7) 0-5 minutes before bedtime snack.

Example: If you eat breakfast at 8 a.m. you would test your blood sugar at 7:55 a.m. and at 9 a.m.

When your blood sugar is within the normal range your doctor may cut down testing.

The following testing schedules are used:

7 times	Means test blood sugar before meals, 1 hour after meals and before bedtime snack
0 time	Means no test, but follow diet and exercise
4 times	Means test blood sugar before meals and before bedtime snack
3 times	Means test blood sugar one hour after meals

Discharge from the diabetes service

If your blood sugars are well controlled with diet and activity, you may be discharged from the diabetes service around 36 weeks of pregnancy. Please continue to follow the meal plan and activity schedule at least until you go into labour. Even when you stop testing and do not need to come for any further appointments, you are still part of the clinic. If you have questions, please feel free to call us. If we cannot help you over the phone, you may return for an appointment.

Early Labour at Home

During early labour at home follow your meal plan if you are able to eat.

If you find you cannot follow the meal plan, try these easy to digest foods or fluids every hour:

½ cup of fruit juice

1 cup of milk

½ cup milkshake or Yop[®]

1 cup of Gatorade[®]

1 slice toast

2-3 plain cookies (such as Arrowroots or Digestives)

6-7 small crackers

1 cup soup

½ popsicle

½ cup of Gingerale[®] or 7-UP[®]

Also, have enough water so that you are not thirsty.

During Labour in Hospital

Tell your nurse that you have diabetes.

If you are on insulin, tell the nurse about your last insulin injection. Your nurse will check your blood sugar and let the diabetes doctor know that you are labour. Your nurse will check your blood sugar every two hours in early labour, and every hour when you are in strong labour. When you pass urine, the nurse will check for ketones. Women who are in labour need a lot of sugar for energy. If your blood sugar is low/you have ketones in the urine, your nurse will give you juice and water. If you are not able to drink, you may need intravenous sugar water.

If your blood sugar is over 7.0, you will be given a small amount of insulin to bring it down.

After Delivery

You will not be on a diabetes diet. Your fasting (before breakfast) blood sugar will be checked. Normal fasting blood sugar when you are not pregnant is below 6.0.

Healthy Eating for Breastfeeding

- AVOID weight loss diets while breastfeeding. Continue to enjoy meals and snacks using a variety of foods from the four food groups. Eat enough to satisfy your hunger.
- Choose 2 to 3 servings of milk and milk products daily. Examples of one serving are 1 cup of milk, $\frac{3}{4}$ cup of yogurt, or 1 $\frac{1}{2}$ ounces of cheese.
- Continue to take a multivitamin and mineral supplement while you breastfeed.
- Drink a minimum of 6 cups of fluids daily including water, milk, juice and soup.
- Limit yourself to 2 cups of regular coffee or 4 cups of strong tea daily.

Healthy Eating for Bottlefeeding

- Enjoy a variety of foods from the four food groups daily.
- Avoid weight loss diets for at least six weeks after delivery.

Postpartum Physiotherapy Class

Plan to attend the BC Women's Postpartum Physiotherapy Class while in hospital or within six weeks after discharge. This is a "one time" class with focus on education, body mechanics and information regarding early postpartum activity. Phone 604-875-2126 to register if attending after discharge. This is not an exercise class and is suitable for all moms.

Follow-Up After Delivery

If your blood sugar after delivery is **high** - You may need a follow-up appointment with your health care provider.

If your blood sugar after delivery is **normal** – You should be screened for diabetes:

- within 6 weeks to 6 months after delivery with a 75 g glucose tolerance test (GTT). At your last diabetes clinic visit you will be provided with a lab requisition to get this done. Phone the lab of your choice to set up the appointment for this test. Follow up with your family physician to review the results.
- when you are planning another pregnancy.
- every 3 years (or more often depending on risk factors)

Future Pregnancy

Gestational diabetes recurs in about 30-85% of women and usually happens earlier in the next pregnancy.

Have your doctor check your sugars before you become pregnant. If this is not done, then have your fasting blood sugar checked at the time you discover you are pregnant. If the result is high – have your doctor refer you to the diabetes clinic.

If the result is normal - request that your doctor recheck you at 24-28 weeks of pregnancy.

You may request a referral to the clinic prior to any testing if you wish to discuss testing options with the diabetes doctor. Some women choose to simply do some testing with a blood glucose monitor and watch for high sugars, rather than having a 75 gm GTT in the lab.

Change your diet early in the next pregnancy by spreading the food out throughout the day (3 meals and 3 snacks) and limiting the amount of sugar, sweet foods and sweet drinks.

Regular and moderate amount of exercise is also encouraged if approved by the doctor (for example walking 30 minutes 5 times a week).

Thinking of the Future

- Women with gestational diabetes are at a higher risk of developing diabetes in future pregnancies and later in life.
- Reaching or maintaining a healthy weight through healthy eating and regular exercise may help lower the risk. If you need help with this, call the dietitian at 604-875-2330.
- Log on to Canadian Diabetes Association's website - www.diabetes.ca for information regarding diabetes prevention and treatment

Regular Physical Activity will also help you:

- Improve your muscle tone and reduce fat
- Increase your coordination and endurance
- Improve the fitness of your heart and lungs
- Increase your energy level
- Relax and feel well

How do I start?

- Talk to your doctor before you start. You may need a physical check-up before you start.
- Plan to be physically active at least five times a week for 30 minutes.
- Join an exercise group. Exercise with a friend. Dance to your favorite music.
- Choose a physical activity you enjoy as then you are much more likely to do it.
- For variety, choose two or three different activities a week.
- Make physical activity a part of your daily routine. For example, take the stairs not the elevator.