

# Diabetes and Pregnancy

Burnaby Hospital



**Bring this booklet and your blood glucose meter to all your appointments with us.**

Maternal, Infant, Child & Youth Program



You have recently been told you have developed diabetes.

When a woman develops diabetes while pregnant, it is called '**gestational diabetes**' (sounds like 'jes-tay-shun-al die-ah-beet-ez').

This booklet explains this type of diabetes, how to care for yourself during your pregnancy, and why it is important for both you and your baby.

As your diabetes healthcare team, we specialize in caring for people with diabetes. You will work with a dietitian, a nurse, and a doctor. We meet with you regularly during your pregnancy. You are also welcome to call with questions.

**Diabetes and Pregnancy Clinic**

**Burnaby Hospital**

1<sup>st</sup> floor

3935 Kincaid Street

Burnaby

**Monday and Wednesday**

**8:00 a.m. to 4:00 p.m.**

Main Reception for Gestational Diabetic clinic:

604-434-4211, extension **533361#**

Registered nurse or dietitian phone line:

604-434-4211, extension **532182#**

Fax: 604-412-6646

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## Gestational Diabetes

### What is gestational diabetes?

Gestational diabetes is a higher than normal blood sugar (glucose) level during pregnancy.

The high sugar happens because your body's insulin either is not working properly or there is not enough being made by your body.

Insulin is a natural substance (hormone) that keeps blood glucose levels normal. Pregnancy hormones block the use of your body's insulin.

Generally, pregnant women do not experience any symptoms of gestational diabetes. That is why pregnant women are tested for this condition.

### How is gestational diabetes detected?

Gestational diabetes is detected with blood tests. You might start with a '1 hour 50 gram glucose challenge test' and then a '2 hour 75 gram glucose tolerance test', or you might just have the '2 hour 75 gram glucose tolerance test'.

The results from this test tell us your body does not have enough insulin to handle or tolerate carbohydrates.

	<b>Normal results</b> (millimoles per litre)	<b>Your results</b>
Fasting blood sugar	Less than 5.1	
Blood sugar after 1 hour	Less than 10.0	
Blood sugar after 2 hours	Less than 8.5	

## **Why did you get gestational diabetes?**

Sometimes, there does not seem to be a reason. However, gestational diabetes is more common if you:

- are over 35 years of age
- have had a large baby (weighing 9 pounds or more)
- have had gestational diabetes with a previous pregnancy
- have a family history of diabetes
- are Aboriginal, Hispanic, South Asian, Asian, African, or Middle Eastern
- are overweight
- are having a twin pregnancy
- have an imbalance of female sex hormones (called Polycystic Ovarian Syndrome)
- have higher than normal blood sugars but not high enough to be called diabetes (called prediabetes)

## How to manage gestational diabetes

This type of diabetes can usually be managed very well by changes to your diet. This means following a specific meal plan, eating regular meals and snacks, not adding sugar to your diet, and not eating sugary foods or drinks.

To help your dietitian decide the best meal plan for you, you will need to check your blood sugar regularly.

Exercise is also important. It helps lower your blood glucose by 'burning off' sugar. It also improves the way your insulin works. Walking every day after a meal is one example of using exercise to control your diabetes. Talk with your doctor about a safe exercise program for you.



Sometimes, the meal plan and exercise are not enough to keep your blood sugar at a healthy level. Should this happen, you might need to give yourself insulin. A nurse will teach you how to give yourself insulin. Insulin lowers your blood sugar level. It is not harmful to your baby because it does not go through the placenta to the baby.

You give your baby the best chance for good health when you control your blood sugar levels. If your sugars are too high, your unborn baby could grow very large.

Large babies can:

- make delivery difficult
- increase the chances of delivering early or delivering by Caesarean section

Large babies are more likely to:

- have very low blood sugars right after birth
- be obese as a child
- have prediabetes

Your diabetes plan is made just for you. It will not compare to the plan for other people with diabetes.

If you have any questions, talk with your healthcare team.

## Testing and tracking your urine ketones

Ketones (sounds like *key-tone-z*) are acids found in urine (pee). They appear when your body turns to burning fat for energy. If you have ketones in your urine, you might need to eat more at bedtime or change the bedtime snack you eat.

- Do this simple urine test **every day before breakfast**.
- Always test your urine during the first time you urinate (go pee) in the morning. Getting up during the night to urinate will not affect this test.

**What you need:** 1 ketone testing strip (such as 'Ketostix')  
Colour chart on the side of the container

### How to test for ketones:

- Remove a testing strip from the container. Do not touch the pad at the end of the strip.
- Hold the testing strip so that when you urinate, you thoroughly wet the end of the strip with urine.
- Wait 15 seconds.
- Compare the colour of the pad on the strip to the colour chart on the testing strip bottle.

Write the result in the '**Urine Ketones**' column in this booklet, using the following letters.

<b>N</b> for	Negative
<b>T</b> for	Trace
<b>S</b> for	Small
<b>M</b> for	Moderate
<b>L</b> for	Large

If there is no obvious change in the colour, record the result as 'N' for Negative.



## Testing and tracking your blood sugar

Using the blood sugar meter we give you, you start with testing your blood sugar six (6) times a day. Remember to take your meter with you when you go out.

### Testing Times

1. When you **wake up**
2. **1 hour after** you eat breakfast
3. **Just before** you eat lunch
4. **1 hour after** you eat lunch
5. **Just before** you eat dinner
6. **1 hour after** you eat dinner

Use the charts in this booklet to write down your results.

Depending on how well your blood sugars are controlled, we might ask you to test your blood sugar more often or at different times.

Use the 'Food and Activity Record' to explain any blood sugar results outside the ideal blood sugar levels. This includes anything unusual in your meal plan or any exercise that could impact your blood sugar levels. (see the examples here)

Food/Activity
<i>No walk today</i>
<i>Ate dinner out</i>

Continue testing your blood sugar up to the day you deliver. It is important to keep your blood sugar in control until your baby is born.

## How to average your blood sugar results

To get your average blood sugar:

1. Add up the blood sugars in the same column.
2. Divide this total by the number of blood sugars in that column. Example: If you have 7 blood sugars in a column, divide the total by 7.
3. Write in the result in the row called '**Average**'.

To get your low and high blood sugars, simply choose the lowest and the highest blood sugar from that column.

### Example

Date	Breakfast		Lunch						
	Before	After	Before	After					
March 1	4.3	6.2	4.2	8.0					
March 2	4.4	7.8	4.8	7.9					
March 3	4.7	6.9	4.4	8.1					
March 4	3.9	5.5	5.0	7.7					
March 5	4.8	5.9	4.1	7.6					
March 6	4.9	6.4		8.0					
March 7	5.2	7.2	4.4	7.7					
<b>Low</b>	<b>High</b>	3.9	5.2	5.5	7.8	4.1	5.0	7.6	8.1
<b>Average</b>		4.6	6.5	4.5	7.8				

$$4.3 + 4.4 + 4.7 + 3.9 + 4.8 + 4.9 + 5.2 = 32.2$$

$$32.2 \div 7 = 4.6$$

## After giving birth

### Blood sugar levels

After delivery, your blood sugar should return to normal.

- Check your blood sugar when you first wake up the day after delivery (fasting blood sugar). Ideally, your blood sugar level will be less than 6.1 (< 6.1).
- To check for diabetes after pregnancy, your family doctor will give you a form for a '2 hour 75 gram glucose tolerance' test. Take this form to your local community laboratory 6 to 8 weeks after delivery.
- Arrange to see your family doctor to get the results of the glucose tolerance test.
- Even if your results are normal, see your family doctor every year to have a 'fasting blood sugar' test.

### Healthy eating

- Eat healthy well-balance meals.
- Keep eating three small to medium-sized meals with snacks in between.
- Avoid high calorie foods and drinks.
- We encourage you to breastfeed if possible. Breastfeeding is the healthiest choice for you and your baby. It helps you reduce your weight and it reduces your baby's chances of childhood obesity.

## **Activity**

- Stay active.
- Exercise for at least 30 minutes most days of the week.

## **Your weight**

- Lose weight if you need to.
- Aim to return to the weight you were before you got pregnant within one year after delivery. If you were overweight before you got pregnant and want help with weight loss, talk to your dietitian.

## **Chances of diabetes in the future**

Here is what we know from studies.

- One to two women in 10 (16 to 20%) will develop prediabetes within 3 to 6 months after delivery.
- Two out of 10 women (20%) will develop Type 2 diabetes within 9 years after delivery.

## **Future pregnancies**

- If you have an ideal body weight, you are less likely to develop gestational diabetes (3 out of 10 women or 30%).
- If you are overweight, you have a much greater chance of developing gestational diabetes (8 out of 10 women or 80%).

Anytime in the first 3 months of a pregnancy (called the first trimester), expect your doctor to send you for a '2 hour 75 gram glucose tolerance' test. If this test is normal, expect to have the test repeated at 24 to 28 weeks of the pregnancy.

## **Worried about the cost? Fair PharmaCare**

If you are a B.C. resident, you could be eligible for the Fair PharmaCare plan. The plan might pay for part or all of the cost for testing strips and medication. The plan's coverage is based on your family income. Once you have paid the costs to a certain level (known as your annual deductible), PharmaCare begins helping you with the eligible costs for the rest of the year.

To be eligible for Fair PharmaCare, you must:

- Have valid B.C Medical Services Plan coverage
- Have filed an income tax return 2 years ago.

To register for Fair PharmaCare to start right away:

1. Go online to <https://pharmacare.moh.nhet.bc.ca/>  
or
2. Phone 604-683-7151 (toll free 1-800-663-7100)

PharmaCare sends you a consent form. Sign and return the consent form within 30 days to keep the coverage.

Once PharmaCare has verified your net income, they send you a letter confirming your level of coverage.

**When you register with PharmaCare**

Have the following information for each of your family members:

- Personal Health Numbers (found on the BC CareCard or BC Services Card)
- Birth dates

For you and your partner, you also need:

- Social Insurance numbers
- Net income from line 236 of your income tax returns from 2 years ago.
- The amount of any Universal Child Care Benefit payments reported on line 117 of your income tax returns from 2 years ago.
- Any income from a Registered Disability Savings Plan reported on line 125 of your income tax returns from 2 years ago.

**My Food and Activity Record**

**My Urine Ketones and Blood Sugar Record**

**Food and Activity Record**

Date	Breakfast	Snack	Lunch	Snack	Dinner	





**Food and Activity Record**

<b>Date</b>	<b>Breakfast</b>	<b>Snack</b>	<b>Lunch</b>	<b>Snack</b>	<b>Dinner</b>								



**Food and Activity Record**

<b>Date</b>	<b>Breakfast</b>	<b>Snack</b>	<b>Lunch</b>	<b>Snack</b>	<b>Dinner</b>								

- Ideal Urine Ketone level**
    - ▶ Before breakfast
  - Ideal Blood Sugar level**
    - ▶ Before meals and before bedtime snack
    - ▶ 1 hour after meals
    - ▶ 2 hours after meals
- Negative (no colour change)**  
 Less than 5.3  
 Less than 7.8  
 Less than 6.7

Date	Blood Sugar Level								Insulin				
	Breakfast		Lunch		Dinner				Breakfast	Lunch	Dinner		
	Wake Up	After ____ hrs	Before	After ____ hrs	Before	After ____ hrs	Before	After ____ hrs	Type				
<b>Low</b>	/												
<b>High</b>	/												
<b>Average</b>	/												

**Food and Activity Record**

<b>Date</b>	<b>Breakfast</b>	<b>Snack</b>	<b>Lunch</b>	<b>Snack</b>	<b>Dinner</b>	



**Food and Activity Record**

<b>Date</b>	<b>Breakfast</b>	<b>Snack</b>	<b>Lunch</b>	<b>Snack</b>	<b>Dinner</b>		





**Food and Activity Record**

Date	Breakfast	Snack	Lunch	Snack	Dinner		



**Food and Activity Record**

<b>Date</b>	<b>Breakfast</b>	<b>Snack</b>	<b>Lunch</b>	<b>Snack</b>	<b>Dinner</b>								



**Food and Activity Record**

	<b>Dinner</b>	<b>Snack</b>	<b>Lunch</b>	<b>Snack</b>	<b>Breakfast</b>	<b>Date</b>

**Ideal Urine Ketone level** ▶ Before breakfast  
 ▶ Before meals and before bedtime snack  
**Ideal Blood Sugar level** ▶ 1 hour after meals  
 ▶ 2 hours after meals

<b>Date</b>	<b>Urine Ketones</b>	<b>Blood Sugar Level</b>						<b>Insulin</b>			
		<b>Breakfast</b>		<b>Lunch</b>		<b>Dinner</b>		<b>Breakfast</b>	<b>Lunch</b>	<b>Dinner</b>	
		Wake Up	Before	After	Before	After	Before	After			
				hrs		hrs		hrs			

**Low High**  
**Average**

### Food and Activity Record

Date	Breakfast	Snack	Lunch	Snack	Dinner	



**Ideal Urine Ketone level**

- ▶ Before breakfast
- ▶ Before meals and before bedtime snack
- ▶ 1 hour after meals
- ▶ 2 hours after meals

**Ideal Blood Sugar level**

- Less than 5.3
- Less than 7.8
- Less than 6.7

Date	Urine Ketones						Blood Sugar Level												Insulin		
	Breakfast		Lunch		Dinner		Type		Breakfast		Lunch		Dinner		Breakfast		Lunch		Dinner		
	Wake Up	_____ hrs After	Before	_____ hrs After	Before	_____ hrs After	_____ hrs After	Before	_____ hrs After	Before	_____ hrs After	Before	_____ hrs After	Before	_____ hrs After						
<b>Low</b>	/																				
<b>High</b>	/																				
<b>Average</b>	/																				

**Food and Activity Record**

	Date	Breakfast	Snack	Lunch	Snack	Dinner							



## Food and Activity Record

Date	Breakfast	Snack	Lunch	Snack	Dinner													



**Food and Activity Record**

Date	Breakfast	Snack	Lunch	Snack	Dinner	



## Food and Activity Record

Date	Breakfast	Snack	Lunch	Snack	Dinner	





**Food and Activity Record**

Date	Breakfast	Snack	Lunch	Snack	Dinner	



**Food and Activity Record**

Date	Breakfast	Snack	Lunch	Snack	Dinner								



## Food and Activity Record

Date	Breakfast	Snack	Lunch	Snack	Dinner	

- Ideal Urine Ketone level**
  - ▶ Before breakfast
  - ▶ Before meals and before bedtime snack
  - ▶ 1 hour after meals
  - ▶ 2 hours after meals
- Negative (no colour change)**
- Less than 5.3
  - Less than 7.8
  - Less than 6.7

Date	Blood Sugar Level						Insulin					
	Breakfast		Lunch		Dinner		Type	Breakfast	Lunch	Dinner		
	Wake Up	_ hrs After	Before	_ hrs After	Before	_ hrs After						
<b>Low</b>	<b>High</b>											
<b>Average</b>												

**Your next appointment:**

Date	Time

**\*\*Always bring this booklet and your glucose meter\*\***

[www.fraserhealth.ca](http://www.fraserhealth.ca)

This information does not replace the advice given to you by your healthcare provider.  
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