

Gestational Diabetes

An information booklet for women with Gestational Diabetes.



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What is Gestational Diabetes?

Gestational Diabetes (GDM) is a type of diabetes that develops during pregnancy. It means your blood sugar is higher than normal because some pregnancy hormones do not let insulin work the way it should.

Screening of Gestational Diabetes is done between the 24th and 28th week of pregnancy. Gestational Diabetes usually goes away after your baby is born. Women who have had Gestational Diabetes are at a higher risk of developing Diabetes later in life. To prevent Diabetes and to protect your child's health, maintain a healthy lifestyle for you and the whole family.

Risk Factors for Gestational Diabetes

Being:

- 35 years of age or older
- From Aboriginal, Hispanic, south Asian, and African ethnicity
- Obese (a BMI of 30 or higher)

Having:

- Gestational Diabetes with previous pregnancies
- A baby weighing more than 4kg (9lbs) at birth
- Immediate family member with Type 2 Diabetes
- Polycystic ovary syndrome (PCOS)
- Or, acanthosis nigricans (dark skin patches)

How is the Baby Affected?

With good blood sugar control you can expect to have a healthy baby.

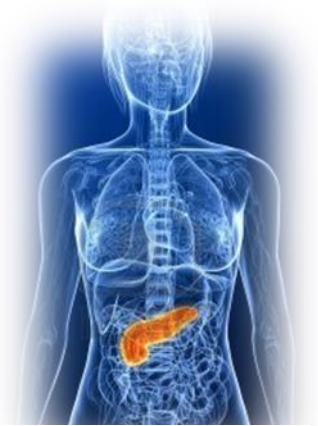
If not treated, high sugars may cause the baby to grow too large.

- A larger baby can be difficult to deliver
- The baby may have a low blood sugar at birth
- Later in life your child will be at higher risk for being overweight and getting Diabetes.

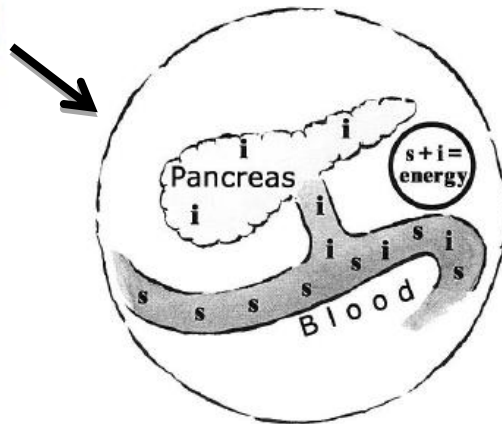
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What is happening in the body?

Insulin is made by our pancreas to move sugar from the blood into our cells to give us energy. We may feel tired and sluggish when there are higher levels of sugar in our blood and is not being used for energy.



The pancreas



i = insulin
s = sugar



In pregnancy, hormones made by the placenta cause insulin to be sluggish. This is called insulin resistance and can cause blood sugars to be higher. As pregnancy goes on, more hormones are made, which makes it even harder for your insulin to do its job.

Carbohydrates from food break down into sugar and travel to our blood where insulin can move it into our cells. Checking blood sugars often will show if the amount carbohydrate at each meal and snack is balanced with insulin.

How Do I Manage My Gestational Diabetes?

Lifestyle:

- Follow a healthy meal plan
 - 3 meals and 3 snacks each day
- Take a daily multi-vitamin, that contains
 - 0.4 to 1.0 mg folic acid
 - 16 to 20 mg of iron
- Exercise 20 to 30 minutes, 5 times each week
- No smoking and no alcohol
- Take insulin, if needed



Monitoring Blood Sugars:

- Test blood sugars as directed by your Diabetes Team or Endocrinologist

Blood Sugar Targets

Before Meals: Less than 5.3 mmol/L
1 hour after Meals: Less than 7.8 mmol/L
2 hours after Meals: Less than 6.7 mmol/L

Regular Visits with your Diabetes Team:

- Bring your blood sugar meter
- Bring completed meal records

Healthy Eating for You and Baby

Many moms with Gestational Diabetes are able to control their blood sugars by making changes with their food and being more physically active.

Healthy eating will give you the nutrition you need to support pregnancy, give you energy, and help feel your best.

Tips for healthy eating with gestational diabetes:

Eat 3 meals and 3 snacks per day

- Regular spacing of meals and snacks will support the best blood sugar control across the day.

Eat fibre rich foods

- For example, whole grain breads & unsweetened cereals, brown rice, legumes (beans, lentils), fruits and vegetables.
- High fibre carbohydrates slow the release of sugar to the blood

Avoid juice and sweetened drinks

- For example, regular pop and fruit juice, cocktails or drinks, including unsweetened juice, etc.
- These will raise your blood sugar very quickly
- Drink milk and water as fluids instead

Limit high fat processed foods

- For example, baked goods (pies, donuts, etc.), fast food, battered meats, deep fried food
- These will cause high blood sugars more than 2 hours later

Limit caffeine intake to 300 mg per day

- Approximately two 8 oz cups coffee or 3-4 cups tea

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My Healthy Eating Plan

Carbohydrates are the part of foods that turn into sugar in your body. They are mainly found in *fruits, milk, yogurt, grains* and *starchy foods*.

Spacing carbohydrates with each meal and snack will support you during pregnancy to control blood sugars.

Meal and Snack Time	Carbohydrates (grams)		
	Initial targets	Date Adjusted:	Date Adjusted:
Breakfast	45g		
Morning Snack	15-30g		
Lunch	45g		
Afternoon Snack	15-30g		
Supper	45g		
Evening Snack	45g		
Overnight Snack	-		

Artificial Sweeteners

These can be used to sweeten foods without raising your blood sugars.

Safe in Pregnancy	Avoid in Pregnancy
Sucralose = <i>Splenda</i> Aspartame = <i>Equal, NutraSweet</i> Acesulfame Potassium (Ace-K) Saccharin = <i>Hermesetas</i> Stevia = <i>Truvia</i>	Cyclamate = <i>Sugar Twin, Sweet'N Low</i>

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Carbohydrates Sources:

Grains and starches, fruit, and milk and alternatives are the main sources of carbohydrates in our diet. Count the carbohydrates in these foods to meet the amounts shown in the meal plan.

	1 cup (250 mL)		1 tablespoon (15 mL)
	1/2 cup (125 mL)		1 teaspoon (5 mL)
	1/4 cup (60 mL)		measure after cooking
			1 ounce (30 grams) by weight

1 serving = 15 g available carbohydrates or 1 carbohydrate choice:

GRAINS & STARCHES

										
1.5x2.5 in		1 slice	3/4 cup 			1/4 large	1/2 small	1.5x2.5 in	1 slice	1/2
										
1 (6 in)		1/2					7	3/4 cup	10	1/4 (6 in)
										
1/2 cup	1/2 (6 in)	1/2 medium	1/2 cup 				1 (4 in)	1/2 (6 in)	1/12 (12 in)	2 (5 in)

FRUITS

										
1 medium		1 small	2 		15	15	2 medium			
										
1/2 medium		1 medium	1 large	1 medium	3/4 cup	2 medium				

MILK & ALTERNATIVES

										
			4 			1/2 cup	3/4 cup	3/4 cup		

OTHER CHOICES (sweet foods and snacks)

										
	3 			3	2 in square		1/2 small	1 bar (28 g)	7 large/ 30 sticks	3 

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Sample Meal Plan

Breakfast:		45 grams of carbohydrate
2 Grain/Starches	2 slices of whole grain toast	= 30 grams carb
1 Milk & Alternative	1 cup skim/1% milk	= 15 grams carb
1 Meat & Alternative	2 tbsp. peanut butter	
Extra	water/decaf coffee or tea	
Morning Snack:		15 to 30 grams of carbohydrate
1 fruit	1 medium apple	= 15 grams carb
Other	2-3 plain arrowroot cookies	= 15 grams carb
Lunch:		45 grams of carbohydrate
2 Grain/Starches	2 slices of whole grain bread	= 30 grams carb
1 Milk & Alternative	1 cup skim/1% milk	= 15 grams carb
Vegetables	2 cups tossed green salad	
1 Meat & Alternative	½ c egg salad	
2 Fats	2 tbsp. light salad dressing/mayo	
Extra	water/decaf coffee or tea	
Afternoon Snack:		15 to 30 grams of carbohydrate
1 Fruit	1 peach	= 15 grams carb
Other	½ small homemade muffin	= 15 grams carb
Supper:		45 grams of carbohydrate
2 Grain/Starches	1 medium potato	= 30 grams carb
1 Milk & Alternative	1 cup skim/1% milk	= 15 grams carb
Vegetables	½ cup broccoli + ½ cup carrots (cooked)	
1 Meat & Alternative	2 ½ oz. fish	
2 Fats	2 tsp. margarine	
Extra	water/decaf coffee or tea	
Evening Snack:		45 grams of carbohydrate
1 Grain/Starch	½ whole wheat english muffin	= 15 grams carb
1 Milk & Alternative	¾ cup yogurt	= 15 grams carb
1 Fruit	15 grapes	= 15 grams carb

Helpful Tips for Carbohydrate Counting

Count carbohydrates closely to make sure you are eating the recommended amounts meals and snacks.

Read Food Labels

Compare **serving size** to the amount you will eat.
The total amount of carbohydrate includes starch, sugars and fiber. Fibre does not raise blood sugars and should be subtracted.

Carbohydrate – fibre = available carbohydrates

Example:

15 g carbohydrate
- 3 g fibre
12 g available carbohydrate
per 4 crackers



Nutrition Facts			
Per 4 crackers (20 g)			
Amount		% Daily Value	
Calories 90			
Fat 2 g		3 %	
Saturated 0.3 g + Trans 0 g		2 %	
Cholesterol 0 mg			
Sodium 90 mg		4 %	
Carbohydrate 15 g		5 %	
Fibre 3 g		12 %	
Sugars 1 g			
Protein 2 g			
Vitamin A	0 %	Vitamin C	0 %
Calcium	2 %	Iron	8 %

Use Measuring Cups!

For example, a glass of milk may not equal 1 cup (or, 250 ml).

Websites for Nutrition Information

www.calorieking.com

www.eatracker.ca

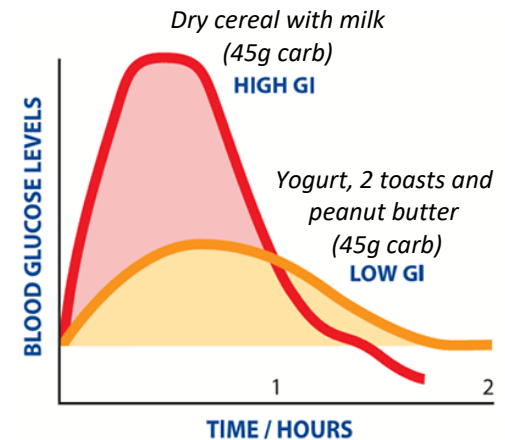
Choosing the Right Types of Carbohydrates – Glycemic Index

Eating lower Glycemic Index (GI) foods more often can help to get better control of your blood sugars.

What is the Glycemic Index of foods?

The Glycemic Index (GI) is a scale that ranks carbohydrate-rich foods by how much they raise blood glucose sugars compared to a standard food (sugar or white bread).

Low-glycemic foods are digested more slowly. They will make your blood sugars rise more slowly. These are sometimes called 'slow release' or 'complex' carbs.



Tips to make low-glycemic choices

Eat unprocessed food as often as you can

- Whole, unprocessed food usually has a lower GI than the same food when it's processed. For example, cold cereals or instant oatmeal packages are more processed than stove-top oatmeal. Boxed side dishes like *Kraft Dinner* and *Side Kicks* are more processed than regular pasta noodles and long-grain rice.

Don't overcook pasta (Cook it *al dente*!)

- Overcooking pasta raises its GI. For a lower GI, pull the pasta out of the water when it's still a little firm – but not hard – when you bite it.

Choose high-fibre foods

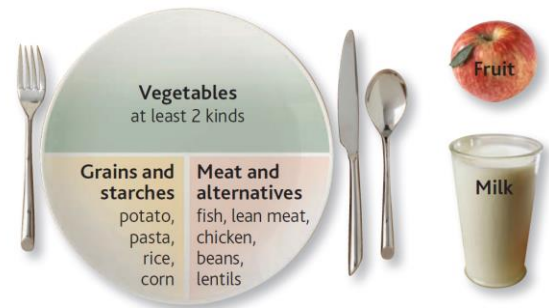
- Most food that is high in fibre takes longer to digest and raises blood sugar slowly.

Eat a low-glycemic food along with a high-glycemic food

- The low-glycemic food will help counter the effect of the high-glycemic food, so your blood sugar may rise more slowly.
- Try to have a 'mixed meal', with food from different food groups. Although sticky rice has a high GI, eating it with chicken and vegetables will lower its GI.

Choose whole grains

- Whole grains include barley, brown rice, and 100% whole-grain bread.



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Choose **LOW** and **MEDIUM** Glycemic Index (GI) foods more often

LOW GI (55 or less) * † Choose most often	MEDIUM GI (56-69) * † Choose more often	HIGH GI (70 or more) * † Choose less often
BREADS: 100% stone ground whole wheat Heavy mixed grain Pumpernickel	BREADS: Whole wheat Rye Pita	BREADS: White bread Kaiser roll Bagel, white
CEREAL: All Bran™ Bran Buds with Psyllium™ Oat Bran™	CEREAL: Grapenuts™ Puffed wheat Oatmeal Quick oats	CEREAL: Bran flakes Corn flakes Rice Krispies™
GRAINS: Barley Bulgar Pasta/noodles Parboiled or converted rice	GRAINS: Basmati rice Brown rice Couscous	GRAINS: Short-grain rice
OTHER: Sweet potato Yam Legumes Lentils Chickpeas Kidney beans Split peas Soy beans Baked beans	OTHER: Potato, new/white Sweet corn Popcorn Stoned Wheat Thins™ Ryvita™ (rye crisps) Black bean soup Green pea soup	OTHER: Potato, baking (Russet) French fries Pretzels Rice cakes Soda crackers

*expressed as a percentage of the value for glucose

† Canadian values where available|

Adapted with permission from: Foster-Powell K, Holt SHA, Brand-Miller JC. International table of glycemic index and glycemic load values Am J Clin Nutr. 2002;76:5-56

Physical Activity

Regular activity is important, check with your doctor first.

150 minutes of activity each week is recommended.

This could look like:

- 30 minutes of brisk walking 5 times a week, or
- 10 minutes after each meal

Being active improves blood sugar control, because it:

- Allows insulin do a better job
- Helps with blood sugar patterns
- Helps with weight control
- Benefits your overall well-being

Talk to your doctor about doing activities other than walking!

What if my blood sugars are too high?

If your blood sugar is high one time, it may be because you had more to eat or less activity than usual. If your blood sugars are higher than target for more than 2 days, please talk to your Doctor and/or Diabetes Team. This may mean that your insulin is too sluggish.

Use the log-sheets in this booklet to record blood sugars and meals and snacks. Please bring your log-sheets and meter to each visit to better support you during your pregnancy!

Fax or email log-sheets, if asked by your Diabetes Educator.

What to Eat When Sick

Being ill may raise blood sugars, regardless of your food intake.

Drink plenty of sugar-free fluids

- i.e. water, weak tea, chicken/beef broth
- 1 cup (250ml) every hour to relieve thirst caused by high blood sugar levels

Eat your usual meals, if you can. If cannot eat your usual meals, eat or drink 15 grams of carbohydrates every hour.

Below are ideas that are about 15 grams each:

Light Snacks:

1 slice of bread or toast
7 soda crackers
1 popsicle
½ cup sherbet
½ cup regular Jello
½ cup regular ice cream
1 medium sized fruit
4 pieces of Melba toast

Fluids:

¾ cup juice
¾ cup regular pop
1 cup milk
½ cup Glucerna
1 cup Gatorade
2 cups G2

If you have started taking insulin, continue to take your insulin with these carbohydrate containing choices.

Check blood sugar every 2-4 hours!

Will I need to take Insulin?

As you have read in this booklet, your pancreas makes insulin, but pregnancy hormones cause insulin resistance.

For some pregnant women, the insulin resistance is too much to control blood sugars at a safe level with healthy eating and physical activity alone.

When blood sugars are high, adding some more insulin will help bring blood sugars to a healthy level for your baby.

An insulin pen is used to give insulin. The needles are very short, thin and designed not to cause pain.

Your Diabetes Educator will support you if you need insulin.

After Delivery

Gestational Diabetes usually goes away after the baby is born.

All mothers are encouraged to breastfeed, keep active and eat healthy meals. You can follow the same healthy meal plan, as in this booklet. It will give you nutrition that your body will need to make breast milk and to have energy across the day.

After delivery you remain at **higher risk for getting Type 2 Diabetes**. That's why it is important to:

- Get screened 6 weeks to 6 months after delivery with a 75 gram sugar challenge blood test at the lab. Your doctor will provide you with a requisition to have this done.
- Also, attend a follow up visit with your Diabetes Team.

Lower your risk of getting Diabetes in the future by:

- Breastfeeding your baby
- Healthy eating
- Exercise regularly
- Maintain a healthy weight

Breastfeeding

There are several programs in Grey Bruce that can support you:

GBHS Breastfeeding Support Clinic

Monday, Wednesday, Thursday and Friday 9am-3pm

Tel: 519-372-3928

M'Wikwedong Native Culture Centre

Breastfeeding Support Groups

Tel: 519-371-1147 ext. 2011

La Leche League

Tel: 519-377-4931

Walkerton Breastfeeding Clinic – Family Health Team

Tel: 519-507-2021 ext. 41

Hanover Family Health Team Breastfeeding Clinic

Amy Dow RD, IBCLC

Tel: 519-506-4348 ext. 303

Notes: