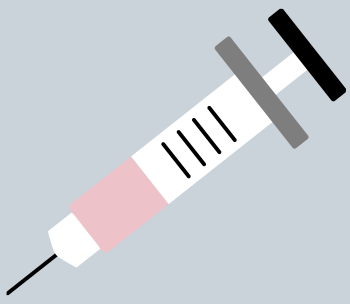
She Found Health | Pregnancy for Professionals

GESTATIONAL DIABETES

Diabetes that occurs during pregnancy that was not present prior to pregnancy.



1 WHAT IS IT?

Gestational Diabetes is defined as Diabetes occurring during pregnancy, that was not present prior to becoming pregnant.

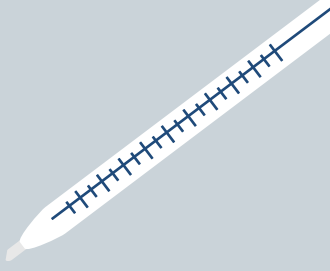
The major hormone involved in diabetes is Insulin. Insulin is released by the pancreas into our blood stream, and essentially acts as a key, which opens up cells in our body to allow the sugar to enter them from the blood stream. Without insulin sugar in our blood stream can not enter our cells, leaving higher amounts in the blood stream. Once the sugar or glucose is inside your cells it is either converted to energy to run the cell, or stored for later use.

During pregnancy our tissues become less sensitive to insulin, which means our body needs to secrete more and more of it to have the same effect. We think the amount of insulin we need to make in pregnancy increases by 200%!

We don't understand entirely why this happens in Pregnancy, but it is related to hormones produced by the placenta, and also partly by other pregnancy and obesity related factors.

Gestational Diabetes happens when our pancreases can't increase the amount of insulin needed to get all the sugar into our cells, so our blood sugar rises.

Our babies receive their nutrition through our placenta, and this includes sugar or glucose. So if our sugar levels are high, our little babies have to increase the amount of insulin they produce to help manage those levels and get it all into their cells to store. Both the high levels of insulin and the fact that all of this extra glucose needs to be stored in the cell as fat, means that babies grow bigger causing what we refer to as Macrosomia (babies weighing more than 4kg or 8.8 pounds at term)



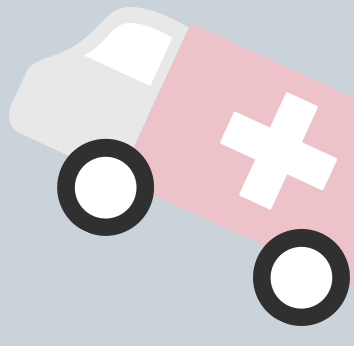
2 HOW DOES IT DIFFER FROM PRE EXISTING DIABETES?

We know that having pre-existing diabetes (either type 1 or type 2) can have some
significant impacts on your baby and your pregnancy over and above what just having Gestational Diabetes does. High sugar levels early on in pregnancy can cause an increased risk in malformations in your developing fetus. You also have an increased requirement for folic acid early in pregnancy. There are also other increased risks so it is very important to talk to your physician about how to optimize your health prior to conceiving, so you have the best chance at a healthy pregnancy!

Goals - pre conception HbA1C <7%, normal BMI <25, folic acid supplementation of at
least 1mg per day, and perhaps higher in those with obesity as well.

3 WHAT ARE THE RISK FACTORS FOR GESTATIONAL DIABETES?

Numbers vary from 3-20% of pregnancies affected by GDM - In Victoria last year approximately 15% of pregnant people were referred to the Gestational Diabetes Clinic. These referrals would be because they had gestational diabetes in a previous pregnancy, or the gestational diabetes
screen we did was positive.



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Risk Factors Include:

Being

- 35 years of age or older, which increases risk for many of the complications of pregnancy, including hypertensive disorders of pregnancy
- from a high-risk ethnic group (African, Arab, Asian, Hispanic, Indigenous, or South Asian)

Having

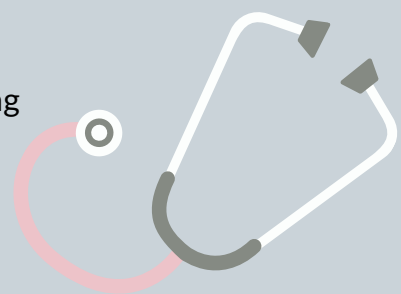
- Obesity (a body mass index greater than or equal to 30 kg/m2) - you can calculate this by taking your weight in kilograms and dividing it by your height in meters squared
- Prediabetes
- Gestational diabetes in a previous pregnancy
- Given birth to a baby that weighed more than 4 kg
- A parent, brother or sister with type 2 diabetes
- Polycystic ovary syndrome or acanthosis nigricans (darkened patches of
- skin in certain areas that are typical for this pattern, most commonly the armpits, groin and neck).

Using

- Oral Corticosteroid medication

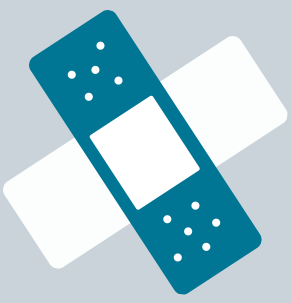
There tend to be two groups of people who get gestational diabetes, one group which is described above, those who trend towards obesity, maybe have some PCOS etc, There is also a group of pregnant people who are diagnosed with gestational diabetes who surprise us. They are of normal BMI and do not tend to have the same risk factors as mentioned above. We think the pathophysiology (way the body functions causing disease) is different in these two groups. This group is much less common, but still very important to identify them.

4 RELATED HEALTH ISSUES?



Pregnant people with gestational diabetes also have a higher risk of getting high blood pressure associated with pregnancy, which we will discuss in a separate podcast, and they share some of the same risk factors.

As we previously discussed, babies exposed to higher levels of sugar and insulin, also tend to grow bigger and there is a greater chance of having a macrocosmic or large baby. This leads to an increased risk for cesarean section or operative vaginal delivery such as forceps or vacuum, and if you have a successful vaginal delivery, there is a higher chance of shoulder dystocia which can result in injury to baby and more perineal trauma to the birthing person.



Neonatal Hypoglycemia - what this means is that because your baby is producing higher amounts of insulin in pregnancy, once they are born this does not decrease right away, but their supply of sugar through the placenta does! So that insulin puts all the sugar it can away for storage and your baby's sugar in their blood stream can drop below normal levels. As a result we have to be very careful and monitor baby's sugars frequently to make sure they adjust normally. Frequent feeding, hand expression and giving them what you were able to express helps alot, but sometimes babies need formula or sugar gel to help them keep their sugar levels stable while their little pancreas adjusts how much insulin it makes.

Hyperbilirubinemia or jaundice in babies is also increased in infants of moms who required insulin to manage their diabetes.

Both the pregnant person and their baby are at an increased long term risk for type 2 diabetes and obesity, if the pregnant person had gestational diabetes.

5 HOW DO WE SCREEN FOR IT?

Depending on your community, there are a few different ways to screen for gestational diabetes if you have not had it before.

If you have had it before, we generally treat you as if you have it in each following pregnancy, implementing dietary optimization, checking your blood sugars and being followed by a specialized gestational diabetes clinic or physician as needed. This can look different in different communities, but as you have come to understand having a dietitian and physician involved is of the utmost importance!

If you have not previously been diagnosed with gestational diabetes, then we can do one of two things.

1. If you have certain risk factors for gestational diabetes, we would screen you early in pregnancy and between 24-28 weeks of gestation. The screen is giving you a load of sugar - in the form of a sweet sugary drink, and checking your blood sugar levels after that. There are different tests, which you can discuss with your care provider.
2. Some communities, like ours, recommend screening all pregnant people at the beginning of pregnancy and between 24-28 weeks. We do this as, we occasionally catch people who do not seem to be high risk for gestational diabetes, and we have the resources to do it this way. As discussed previously, there is a group of pregnant people who do not have the traditional risk factors who can get gestational diabetes, and by screening everyone we do not miss this group.

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6 IS THERE ANY WAY TO PREVENT IT?

There have been quite a few studies done looking at diet, lifestyle modification, medications and supplements. The major take home from these studies, in that women who suffer from obesity, they can decrease their risk of getting gestational diabetes from 18% to 7% through dietary changes. These changes included seeing a Dietitian, getting weighed at each prenatal visit, and keeping a food record, and reviewing it with a trained professional. The other interesting piece was that women who's protein intake came mostly from animal sources - specifically red meat had an increased risk of getting gestational diabetes, where as those who got most of their protein sources from plant sources, specifically nuts, had a decreased risk of getting gestational diabetes!

So, if you are obese going into pregnancy, talk to a registered dietitian and get some support around optimizing your diet, as it can make a huge difference to your pregnancy, and the health of you and your baby for years to come! And I am always amazed at how motivating pregnancy can be to make really hard life changes!

7 WHAT ABOUT SUPPLEMENTS?

Well we discussed that women with diabetes or obesity going into pregnancy should ensure they are taking at least 1mg of folic acid pre conception. The other supplement which may show some benefit to decreasing the risk of gestational diabetes especially in women who are obese is Myo-inositol. This is a substance, that gets changed in your body, to a regulator of certain hormones - including thyroid stimulating hormone, follicular stimulating hormone and insulin. As with any extra supplements, be sure to discuss with your care provider before starting it in pregnancy.

8 HOW DO WE TREAT IT?

As you can guess the treatment consists of a few things including dietary changes, exercise, blood glucose monitoring and medication if needed.

1. **Dietary Changes:** As discussed above, we know that dietary changes can have a significant impact on our blood glucose levels. Some simple tips to start with while waiting to see a dietitian or your physician include:
    a. trying to switch all simple refined sugars to more complex sugars such as whole grains or cereals instead of white, fruit and vegetables instead of fruit juice, avoiding cakes, cookies, candies etc.
    b. spreading your carbohydrates over the day, and adding protein to each meal and snack.
    c. avoiding juice or pop, and instead choosing water or milk as your drink of choice.
    d. this can all be very confusing, and so really important to talk to a health care provider about this. If you can't afford a dietitian, in BC you can call 8-1-1 and there are registered dietitian to talk with you. Many extended benefits cover dieticians so certainly look into your plan if you have one!

2. **Exercise:** we know that exercise is good for the body and the mind. It can help to regulate your blood sugars, keep you moving and strong to decrease common aches and pains of pregnancy, lead to an easier delivery and postpartum recovery. We also know that it can help with mood and stress reduction, which can come along with a new diagnosis such as this! Check out our podcast on exercise in pregnancy if you need more help with this!

3. **Blood sugar monitoring:** you will be instructed on how to do this. There are various ways of doing this, either with skin pricks 3-4 times a day or you can get continual blood glucose monitoring devices, which can be covered by extended benefits! Talk to your care provider about what might be the most appropriate for you!

4. **Medication:** Some Pregnant people are able to manage their blood sugars with these lifestyle changes, but some, despite their best efforts can not and need to start medications. There are two main types of medications we use to help manage blood sugars. They are metformin and Insulin. These have both been established to be safe in pregnancy, and you and your doctor will discuss these medications to decide which is the right choice for you.

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9 MONITORING YOUR PREGNANCY

We also keep a bit of a closer eye on your pregnancy if you have gestational diabetes. If you are on medication, this monitoring is a bit more intense, but you should have an ultrasound at 36 weeks to see the size of baby, and have a discussion with your care provider around induction of labour between 38-40 weeks of gestation. This is to decrease the risk of still born and the risk of cesarean section due to an ever growing baby!

In our prenatal course we discuss in depth monitoring of pregnancy and induction of labour if you want some more information.

10 POSTPARTUM

- Women with gestational diabetes should be encouraged to breastfeed immediately after birth and for a minimum of 4 months to prevent neonatal hypoglycemia, childhood obesity, and diabetes for both the mother and child.
- Women should be screened for diabetes between 6 weeks and 6 months postpartum, with a 75 g oral glucose tolerance test and be given ongoing education regarding strategies to reduce the risk of developing type 2 diabetes. Approximately 40-50% of women diagnosed with gestational diabetes will go on to develop type 2 diabetes in the next ten years.
- We also now recognize that it also puts you at a higher risk for cardiovascular disease, so you should have your cholesterol checked at 6 months and discuss with your doctor what your risk score is and how to decrease that risk!
- Reduce your weight, targeting a normal body mass index in order to reduce your risk of gestational diabetes in the next pregnancy and developing type 2 diabetes down the road.

REFERENCES

https://www.diabetes.ca/en-CA/about-diabetes/gestational/gd-diet
https://www.healthlinkbc.ca/healthy-eating/gestational-diabetes