

# Women's Health Update



July 2011

*Bureau of Health Promotion and Risk Reduction, Office of Healthy Ohio, Ohio Department of Health*



**Update Focus: Women and Gestational Diabetes**



## Letter from Debra Seltzer

**Moms and babies...** not much can tap into our deepest emotions as their well being. The caretaking instinct to help someone who is pregnant or respond protectively to a crying baby is deeply ingrained and immediate for most of us. But data shows we don't do as good a job as a community as we should at protecting the health of moms and babies. In this issue of the Women's Health Update, you will find articles about gestational diabetes and what we can do both as women's health professionals and as members of our families and

communities to protect women and children from preventable health complications. Here in Ohio, a wonderful collaboration has occurred bringing together staff from across divisions of the Ohio Department of Health to get the word out on this topic. This newsletter will help you better understand the issues and provide ways that you can help women connect with information and resources to stay healthy.

*Debra Seltzer* - Program Administrator  
Program Administrator  
Violence and Injury Prevention Program



# What is Gestational Diabetes?

Cynthia Shellhaas, Bureau of Children and Family Health Services, Medical Director, Ohio Department of Health



Gestational diabetes mellitus (GDM) is diabetes that is found for the first time when a woman is pregnant. Out of every 100 pregnant women

in the United States, two to 10 get gestational diabetes. Diabetes means that a person's blood sugar is too high. The body uses glucose for energy but too much glucose in the blood can be harmful. Changing hormones and weight gain are part of a healthy pregnancy. But both changes make it hard for the body to keep up with its need for a hormone called insulin. When that happens, the body doesn't get the energy it needs from the food eaten and gestational diabetes develops.

GDM is closely associated with long term health issues for both the mother and baby. In Ohio alone, GDM complicates approximately 9,000 pregnancies each year. Obesity and overweight status, which are major risk factors for the development of type 2 diabetes, each occur in 22-25 percent among women of reproductive age in Ohio.

During pregnancy, too much glucose is not good for the baby. With too much glucose, the baby can grow too big (macrosomia) leading to complications during delivery, such as shoulder and arm problems or a broken collarbone. Once these babies are born however, they continue to have too much insulin in their body and are more likely to have problems with glucose levels falling too low (hypoglycemia). Hypoglycemia, if severe enough, can lead to seizures. Additionally, these newborns are more likely to have breathing problems after birth and may need

treatment with extra oxygen or other medications. Unfortunately, the effects of GDM do not end after delivery. Babies born to mothers with GDM are more likely to be overweight or obese as children and are more likely to have elevated blood pressure or cholesterol as an adult. They may be more at risk to develop type 2 diabetes as well, a risk that could last a lifetime.

**“Women with a history of GDM are 60% more likely to develop type 2 diabetes.”**

Pregnancy complications for the mother include a higher risk for pre-eclampsia (high blood pressure during pregnancy) and a higher rate of cesarean deliveries. All women with a history of GDM are more likely to have GDM in future pregnancies and are more likely to develop type 2 diabetes mellitus. This is a lifetime elevation in risk, with up to 60 percent developing type 2 diabetes mellitus in the first 10 years following pregnancy. Because of this risk, women with such a history should not only be screened for type 2 diabetes at their post-partum visit but at least every two to three years thereafter. Lifestyle counseling and education about future risk is recommended to prevent or delay the onset of type 2 diabetes mellitus. Despite recommendations, many women fail to return for post-partum blood sugar testing. In a study of the Ohio Medicaid population, only 46 percent of women kept their post-partum appointments. Women who fail to return for post-partum screening are more likely to have a more severe case of GDM in subsequent pregnancies as well as a higher pre-pregnancy weight.

## KEY FACTS

*every woman should know*



Did you know that women with GDM have an approximately 50 percent risk for development of type 2 diabetes within the next five to 10 years?



Did you know that if you had GDM while pregnant, your child (from that pregnancy) is at increased risk for obesity and type 2 diabetes? You can lower your child's risk by serving healthy foods including lots of fruits and vegetables and being more active as a family.



If you had GDM, get tested for diabetes six to 12 weeks after your baby is born and at least every three years after the baby's birth. You should also breastfeed your baby and talk to your doctor if you plan to become pregnant again in the future. Another way to reduce your risk is to try to reach your pre-pregnancy weight within six to 12 months after your baby is born.



Did you know that most women are screened for GDM at 24 to 28 weeks gestation during prenatal care? If you or your health care provider has concerns, you may be screened earlier.



Before becoming pregnant, talk with your health care provider about how to reduce your risk of GDM. Some tips include being physically active, making healthy food choices, and maintaining a healthy weight.



Did you know that the main risk factors for developing type 2 diabetes after a diabetic pregnancy are obesity, hypertension, low HDL, high triglycerides, lack of physical activity and increased maternal age?



Did you know that lifestyle behavioral changes, including weight control and exercise between pregnancies, may prevent recurrence of GDM as well as modify onset and severity of type 2 diabetes later in life.



ODH has just become an outreach partner of the **text4baby** program.

**Text4baby** is a free mobile information service designed to promote maternal and child health.

Text4baby launched nationally on February 4, 2010. While not everyone has access to the Internet, 90 percent of Americans have a mobile phone.

An educational program of the National Healthy Mothers, Healthy Babies Coalition (HMHB), text4baby provides pregnant

women and new moms with information to help them care for their health and give their babies the best possible start in life. Women sign up for the service by texting BABY (or BEBE in Spanish) to 511411 and will receive free text messages each week, timed to their due date or baby's date of birth. These messages focus on a variety of topics critical to maternal and child health, including birth defects prevention, immunization, nutrition, seasonal flu, mental health, oral health and safe sleep. Messages also connect women to prenatal care and infant care services and other resources. For example, these messages include those targeted at promoting screening for gestational diabetes mellitus

in pregnancy as well as post-partum. It is free; there is no charge to the women who sign up for the program.

Text4baby is made possible through a broad, public-private partnership that includes government, corporations, academic institutions, professional associations, tribal agencies and non-profit organizations. Founding partners include HMHB, Voxiva, CTIA - The Wireless Foundation and Grey Healthcare Group. Johnson & Johnson is the founding sponsor, and premier sponsors include WellPoint, Pfizer and CareFirst BlueCross BlueShield. U.S. government partners include the White House Office of Science and Technology Policy, the Department of Health and Human Services and the Department of Defense Military Health System. The mobile health platform is provided by Voxiva and free messaging services are generously provided by participating wireless service providers. Implementation partners include BabyCenter, Danya International, Syniverse Technologies, Keynote Systems and The George Washington University. MTV Networks is a media sponsor.

**For more information:** <http://www.text4baby.org>

## A Lifetime of Small Steps for a Healthy Family

### For Moms/Pregnant Women:

1. Ask your doctor if you had GDM. If so, let your future health care providers know.
2. Get tested for diabetes six to 12 weeks after your baby is born, then at least once every three years.
3. Breastfeed your baby. It may lower your child's risk of being overweight or obese, which are risk factors for later development of type 2 diabetes.
4. Talk to your doctor if you plan to become pregnant again in the future.
5. Try to reach your pre-pregnancy weight six to 12 months after your baby is born. Then, if you still weigh too much, work to lose at least five to seven percent (10 to 14 pounds if you weigh 200 pounds) of your body weight slowly, over time, and keep it off.
6. Make healthy food choices such as fruits and vegetables, fish, lean meats, dry beans and peas, whole grains, and low-fat or skim milk and cheese. Choose water to drink.
7. Eat smaller portions of healthy foods to help you reach and stay at a healthy weight.
8. Be active at least 30 minutes, five days per week to help burn calories and lose weight.

### For The Whole Family:

1. Ask your child's doctor for an eating plan to help your child grow properly and stay at a healthy weight. Tell your child's doctor that you had gestational diabetes. Tell your child about his or her risk for diabetes.
2. Help your children make healthy food choices and help them to be active at least 60 minutes a day.
3. Follow a healthy lifestyle together as a family. Help family members stay at a healthy weight by making healthy food choices and moving more.
4. Limit TV, video, and computer game time to an hour or two a day.

The National Diabetes Education Program (NDEP) offers materials that can help you and your family make healthy food choices to prevent or delay type 2 diabetes. You can order a booklet for adults at risk called **Your GAME PLAN to Prevent type 2 Diabetes**, and a tip sheet for children at risk called **Lower Your Risk for type 2 Diabetes**. (Web site: <http://www.ndep.nih.gov>)

# Facts About Gestational Diabetes

(Excerpted from PubMed Health, National Center for Biotechnology Information National Institutes of Health)

<http://www.ncbi.nlm.nih.gov/pubmedhealth/PMH0001898/>

## Causes, Incidence & Risk Factors

Pregnancy hormones can block insulin from doing its job. When this happens, glucose levels may increase in a pregnant woman's blood.

### You are at greater risk for GDM if you:

- Are older than 25 when you are pregnant
- Have a family history of diabetes
- Gave birth to a baby that weighed more than nine pounds or had a birth defect
- Have sugar (glucose) in your urine when you see your doctor for a regular prenatal visit
- Have high blood pressure
- Have too much amniotic fluid
- Have had an unexplained miscarriage or stillbirth
- Were overweight before your pregnancy

## Symptoms

Usually there are no symptoms, or the symptoms are mild and not life threatening to the pregnant woman. Often, the blood sugar (glucose) level returns to normal after delivery.

### Symptoms may include:

- Blurred vision
- Fatigue
- Frequent infections, including those of the bladder, vagina and skin
- Increased thirst
- Increased urination
- Nausea and vomiting
- Weight loss in spite of increased appetite



## Signs & Tests

GDM usually starts halfway through the pregnancy. All pregnant women should receive an oral glucose tolerance test between the 24th and 28th week of pregnancy to screen for the condition. Women who have risk factors for GDM may have this test earlier in the pregnancy.

If you are diagnosed with GDM you can see how well you are doing by testing your glucose level at home. The most common way involves pricking your finger and putting a drop of your blood on a machine that will give you a glucose reading.

## Treatment

The goals of treatment are to keep blood sugar (glucose) levels within normal limits during the pregnancy, and to make sure that the growing baby is healthy.

## Watching Your Baby

Your health care provider should closely check both you and your baby throughout the pregnancy. Fetal monitoring to check the size and health of the fetus often includes ultrasound and nonstress tests.

- A nonstress test is a very simple, painless test for you and your baby. A machine that hears and displays your baby's heartbeat (electronic fetal monitor) is placed on your abdomen. When the baby moves, the baby's heart rate normally increases 15 - 20 beats above its regular rate.
- Your health care provider can compare the pattern of your baby's heartbeat to movements and find out whether the baby is doing well. The health care provider will look for increases in the baby's normal heart rate occurring within a certain period of time.

## Diet & Exercise

The best way to improve your diet is by eating a variety of healthy foods. You should learn how to read food labels, and check them when making food decisions. Talk to your doctor or dietitian if you are a vegetarian or on some other special diet.

In general, your diet should be moderate in fat and protein and provide controlled levels of carbohydrates through foods that include fruits, vegetables, and complex carbohydrates (such as bread, cereal, pasta, and rice). You will also be asked to cut back on foods that contain a lot of sugar, such as soft drinks, fruit juices, and pastries.

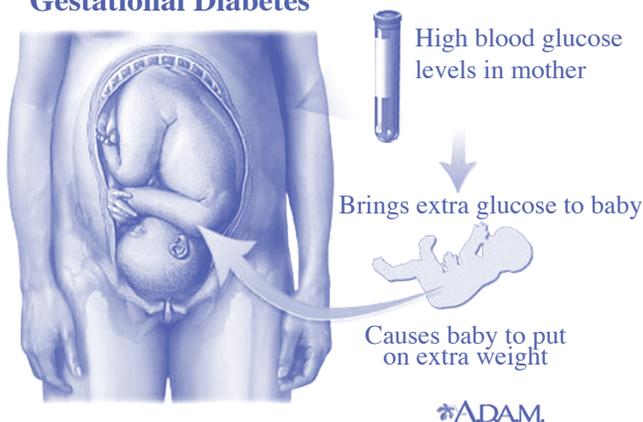
You will be asked to eat three small- to moderate-sized meals and one or more snacks each day. Do not skip meals and snacks. Keep the amount and types of food (carbohydrates, fats, and proteins) the same from day to day.

- ❑ **Your doctor or nurse will prescribe a daily prenatal vitamin. They may suggest that you take extra iron or calcium. Talk to your doctor or nurse if you're a vegetarian or are on some other special diet.**
- ❑ **Remember that "eating for two" does not mean you need to eat twice as many calories. You usually need just 300 extra calories a day (such as a glass of milk, a banana, and 10 crackers).**

If managing your diet does not control blood sugar (glucose) levels, you may be prescribed diabetes medicine by mouth or insulin therapy. You will need to monitor your blood sugar (glucose) levels during treatment.

Most women who develop GDM will not need diabetes medicines or insulin, but some will.

### Gestational Diabetes



## Expectations - Prognosis

Most women with GDM are able to control their blood sugar and avoid harm to themselves or their baby.

Pregnant women with GDM tend to have larger babies at birth. This can increase the chance of problems at the time of delivery, including:

- ❑ Birth injury (trauma) due to the baby's large size
- ❑ Delivery by c-section

Your baby is more likely to have periods of low blood sugar (hypoglycemia) during the first few days of life.

Mothers with gestational diabetes have an increased risk for high blood pressure during pregnancy.

There is a slightly increased risk of the baby dying when the mother has untreated gestational diabetes. Controlling blood sugar levels reduces this risk.

High blood sugar (glucose) levels often go back to normal after delivery. However, women with gestational diabetes should be watched closely after giving birth and at regular doctor's visits to screen for diabetes.

## Complications

- ❑ Delivery-related complications due to the infant's large size
- ❑ Development of diabetes later in life
- ❑ Increased risk of newborn death and stillbirth
- ❑ Low blood sugar (glucose) or illness in the newborn

## Calling Your Health Care Provider

**Call your health care provider if you are pregnant and you have symptoms of diabetes.**

## Prevention

Beginning prenatal care early and having regular prenatal visits helps improve your health and the health of your baby. Knowing the risk factors for gestational diabetes and having prenatal screening at 24 - 28 weeks into the pregnancy will help detect gestational diabetes early.

If you are overweight, decreasing your body mass index (BMI) to a normal range before you get pregnant will decrease your risk of developing gestational diabetes.

### References

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3. Metzger BE, Buchanan TA, Coustan DR, de Leiva A, Dunger DB, Hadden DR, et al. Summary and recommendations of the Fifth International Workshop-Conference on Gestational Diabetes Mellitus. Diabetes Care. 2007; 30:S251-S260. [PubMed]
4. American Diabetes Association. Nutrition recommendations and interventions for diabetes: a position statement of the American Diabetes Association. Diabetes Care. 2008; 31:S61-S78. [PubMed]

## The Ohio Department of Health Gestational Diabetes Project:

*Fostering Collaboration between the Maternal Child Health  
and Chronic Disease Programs*

The Ohio Department of Health (ODH) Division of Family and Child Health Services, Office of Healthy Ohio and the State Epidemiology Office have teamed together to develop a statewide plan to prevent adult onset (type 2) diabetes mellitus among women with a history of gestational diabetes mellitus (GDM).

ODH was selected in the spring of 2010, to participate in a national year-long learning collaborative with Missouri and West Virginia. The Project is sponsored by and receives technical assistance from the Association of Maternal and Child Health Programs (AMCHP), the National Association of Chronic Disease Directors (NACDD) Women's Health Council, and the Centers for Disease Control and Prevention (CDC). The goal of the project is to foster collaboration between MCH and chronic disease programs around shared goals. GDM is a perfect starting point.

Participants on ODH's team include members from Bureau of Child and Family Health Services, Healthy Ohio's Ohio Diabetes Prevention and Control Program, Women, Infants, and Children (WIC) program, the State Epidemiology Office, Women's Health Program and the Ohio Department of Jobs and Family Services. The team's key objectives focus on improving preventive healthcare in Ohio according to national guidelines; increasing the public's knowledge about gestational diabetes; and improving the understanding of the epidemiology of gestational diabetes in Ohio by increasing the availability, use and dissemination of public health data.

First, the team will use existing data sources to develop a descriptive report about gestational diabetes and its risk factors in Ohio. This report will be a resource for both medical and public health professionals that serve women with both gestational and type 2 diabetes. As a corollary, the team will evaluate existing data systems and prepare recommendations for improvement in capturing GDM-related data.

The team will also gather data about existing health care practices to determine the continuum of care for women with a history of GDM. With assistance from CDC epidemiologists, this fall the team surveyed Ohio prenatal and primary health care providers to learn about their practices. This included diagnosis and care during pregnancy, the immediate post-partum follow-up and inter-conception care and the long term follow up extending past the reproductive years. The results are currently under analysis. The team will attempt to identify gaps in service in this continuum and will determine how to develop the capacity to fill those gaps. In the summer of 2011, the team will conduct focus groups of women with GDM currently or in a past pregnancy to identify messages that women find responsive. These two pieces of data will help the state team develop appropriate collaborative interventions which may include strategies to increase post-partum glucose screening rates and improve long-term follow-up of women with a history of GDM.

The team is utilizing both social media and traditional social marketing techniques to increase public awareness. Messages focusing on reducing the risk of both gestational and type 2 diabetes and the link between obesity and the development of type 2 diabetes have been crafted for Facebook and Twitter accounts as well as for the ODH web site. Traditional modalities such as radio and print are being used to provide public service announcements. The link between GDM and type 2 diabetes mellitus was emphasized during National Diabetes Month in November and National Birth Defects Month in January. It is also a focus for Women's Health Week in May.

The successful culmination of this project is important not only in its own right but because it marks the first of many potential collaborations between these two areas.

**For more information visit:**  
[www.ODH.ohio.gov](http://www.ODH.ohio.gov)

# What Do We Know About Ohio?

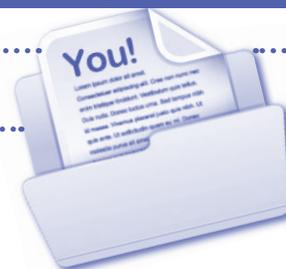
**Between  
2006-2008 in Ohio:**

- Similar to national estimates, GDM occurs in two to 10 percent of pregnancies in Ohio.
- The number of GDM-related hospital deliveries increased by two percent.
- Women with GDM have longer hospital stays during delivery than women without GDM.
- Total charges billed for deliveries among women with GDM increased 11 percent with Medicaid being billed as the primary payer for 35 percent of all GDM births.
- Mean charges per GDM delivery were approximately \$2,000 higher than non-GDM deliveries.

**In addition, risk factors  
for developing GDM  
among Ohio women of  
reproductive age are high.  
In 2008:**

- 44 percent had a pre-pregnancy body mass index more than 25 kg/m<sup>2</sup>.
- 22 percent were physically inactive.

# We're Updating Our Records!



**Ohio Department of Health Sexual Assault and Domestic Violence Prevention Program** needs your new information if there has been a change of address or change in contact person!

## Updating is Easy. Just Email Us!

Send an email with your name, title, organization, mailing address and email address. Phone numbers are preferred, but not required. Put in the email SUBJECT header: WH SUBSCRIBER UPDATE

Send email to: [bhpr@odh.ohio.gov](mailto:bhpr@odh.ohio.gov)

## RESOURCES FOR WOMEN

If you have GDM diabetes now:

- [http://www.marchofdimes.com/Pregnancy/complications\\_diabetes.html](http://www.marchofdimes.com/Pregnancy/complications_diabetes.html)
- <http://www.cdc.gov/reproductivehealth/maternalinfanthealth/PregComplications.htm>
- <http://www.diabetes.org/diabetes-basics/gestational/>

If you have a history of GDM or you have type 2 diabetes now:

- OSU Extension **Dining with Diabetes**: <http://fcs.osu.edu/diabetes/>
- The National Diabetes Education Program: <http://www.ndep.nih.gov>



## ORGANIZATIONS AND ASSOCIATIONS

### AMERICAN DIABETES ASSOCIATION

Website: <http://www.diabetes.org>

The mission is to prevent and cure diabetes and to improve the lives of all people affected by diabetes. The organization leads the fight against the deadly consequences of diabetes and fight for those affected by diabetes, by:

- funding research to prevent, cure and manage diabetes;
- delivering services to hundreds of communities;
- providing objective and credible information; and
- giving voice to those denied their rights because of diabetes.

### NATIONAL INSTITUTE OF DIABETES AND DIGESTIVE AND KIDNEY DISEASES

Website: <http://www2.niddk.nih.gov>

The mission of the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) is to conduct and support research on many of the most serious diseases affecting public health. The Institute supports much of the clinical research on the diseases of internal medicine and related subspecialty fields, as well as many basic science disciplines.

The Institute's Division of Intramural Research encompasses the broad spectrum of metabolic diseases such as diabetes, obesity, inborn errors of metabolism, endocrine disorders, mineral metabolism, digestive and liver diseases, nutrition, urology and renal disease, and hematology. Basic research studies include biochemistry, biophysics, nutrition, pathology, histochemistry, bioorganic chemistry, physical chemistry, chemical and molecular biology, and pharmacology.

### PUBMED HEALTH

Website: <http://www.ncbi.nlm.nih.gov/pubmedhealth/about/>

PubMed Health is a consumer health website produced by the National Center for Biotechnology Information (NCBI), a division of the National Library of Medicine (NLM) at the National Institutes of Health (NIH). PubMed Health provides up-to-date information on diseases, conditions, injuries, drugs, supplements, treatment options, and healthy living, with a special focus on comparative effectiveness research from institutions around the world.

PubMed Health includes:

- consumer guides summarizing comparative effectiveness research
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- information on drugs and supplements
- encyclopedic overviews of health topics
- links to external Web sites

Our content comes from the following sources:

- Comparative Effectiveness Review Summary Guides for Consumers from the Agency for Healthcare Research and Quality (AHRQ)
- InformedHealthOnline: Fact Sheets and Research Summaries from the German Institute for Quality and Efficiency in Health Care (IQWiG)
- PubMed Clinical Q&A: NCBI summaries of comparative effectiveness drug reports
- A.D.A.M. Medical Encyclopedia
- American Society of Health-Systems Pharmacists (AHFS) Consumer Medication Information



OHIO DEPARTMENT of HEALTH  
246 N. High Street, 8th Floor  
Columbus, Ohio 43215



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## Moms and Babies

a look at gestational diabetes

### Sexual Assault and Domestic Violence Prevention Programs:

Debra Seltzer, *Program Administrator*

(614) 728-2176 – [Debra.Seltzer@odh.ohio.gov](mailto:Debra.Seltzer@odh.ohio.gov)

Jenelle Adkins, *Executive Secretary*

(614) 644-7854 – [Jenelle.Adkins@odh.ohio.gov](mailto:Jenelle.Adkins@odh.ohio.gov)

Joyce Hersh, *Women's Health Coordinator*

(614) 728-4885 – [Joyce.Hersh@odh.ohio.gov](mailto:Joyce.Hersh@odh.ohio.gov)

Beth Malchus, *Rape Prevention Coordinator*

(614) 466-8960 – [Beth.Malchus@odh.ohio.gov](mailto:Beth.Malchus@odh.ohio.gov)

Amanda Suttle, *Rape Prevention Coordinator*

(614) 644-7618 – [Amanda.Suttle@odh.ohio.gov](mailto:Amanda.Suttle@odh.ohio.gov)



For more information  
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