Preparing for Parenthood: Pregnancy and Labor

Slide 1

Preparing for Parenthood: Pregnancy and Labor
How Much Do You Know About Preconception Health?

Preconception Health Quiz
(click on link)

Preconception Health Quiz
How much do you know about preconception health? Take this true/false quiz to find out.
Preconception health is a woman's health before she becomes pregnant. It means knowing how health conditions and risk factors could affect a woman or her unborn baby if she becomes pregnant. For example, some foods, habits, and medicines can harm your baby — even before he or she is conceived. Some health problems, such as diabetes, also can affect pregnancy.

Every woman should be thinking about her health whether or not she is planning pregnancy. One reason is that about half of all pregnancies are not planned. Unplanned pregnancies are at greater risk of preterm birth and low birth weight babies. Another reason is that, despite important advances in medicine and prenatal care, about 1 in 8 babies is born too early. Researchers are trying to find out why and how to prevent preterm births. Experts agree that women need to be healthier before becoming pregnant. By taking action on health issues and risks before pregnancy, you can prevent problems that might affect you or your baby later.
Women and men should prepare for pregnancy before becoming sexually active — or at least three months before getting pregnant. Some actions, such as quitting smoking, reaching a healthy weight, or adjusting medicines you are using, should start even earlier. The five most important things you can do for preconception health are:

• Take 400 to 800 micrograms (400 to 800 mcg or 0.4 to 0.8 mg) of folic acid every day if you are planning or capable of pregnancy to lower your risk of some birth defects of the brain and spine, including spina bifida. All women need folic acid every day. Talk to your doctor about your folic acid needs. Some doctors prescribe prenatal vitamins that contain higher amounts of folic acid.
• Stop smoking and drinking alcohol.
• If you have a medical condition, be sure it is under control. Some conditions that can affect pregnancy or be affected by it include asthma, diabetes, oral health, obesity, or epilepsy.
• Talk to your doctor about any over-the-counter and prescription medicines you are using. These include dietary or herbal supplements. Be sure your vaccinations are up to date.
• Avoid contact with toxic substances or materials that could cause infection at work and at home. Stay away from chemicals and cat or rodent feces.
Preconception care can improve your chances of getting pregnant, having a healthy pregnancy, and having a healthy baby. If you are sexually active, talk to your doctor about your preconception health now. Preconception care should begin at least three months before you get pregnant. But some women need more time to get their bodies ready for pregnancy. Be sure to discuss your partner's health too. Ask your doctor about:

- Family planning and birth control.
- Vaccines and screenings you may need, such as a Pap test and screenings for sexually transmitted infections (STIs), including HIV.
- Managing health problems, such as thyroid disease, obesity, depression, eating disorders, and asthma. Find out how pregnancy may affect, or be affected by, health problems you have.
- Ways to improve your overall health, such as reaching a healthy weight, making healthy food choices, being physically active, caring for your teeth and gums, and reducing stress.
- How to avoid illness.
- Hazards in your workplace or home that could harm you or your baby.
- Health problems that run in your or your partner's family.
- Problems you have had with prior pregnancies, including preterm birth.
- Family concerns that could affect your health, such as domestic violence or lack of support.
Steps Women Can Take for Healthier Babies

• Take folic acid every day
• Keep hands clean
• See a health care professional regularly
• Eat a balanced diet

Not all birth defects can be prevented. A woman can increase her own chance of having a healthy baby by taking care of herself.

Many birth defects happen very early in pregnancy, sometimes before a woman even knows she is pregnant. Remember that about half of all pregnancies are unplanned.

Here are some additional steps a woman can take to get ready for a healthy pregnancy:
• Take a vitamin with 400 micrograms (mcg) folic acid every day.
• Keep hands clean by washing them often with soap and water to prevent infections.
• See a health care professional regularly. Talk with the healthcare professional about any medical problems (such as obesity, diabetes, seizures, etc.) and medicine use (both prescription and over-the-counter).
• Ask about avoiding any substances at work or at home that might be harmful to a developing baby.
• Eat a healthy, balanced diet.
• Avoid unpasteurized (raw) milk and foods made from it.
• Avoid eating raw or undercooked meat.
Be sure to get these 12 important minerals for you and your baby’s health. You can meet many of your daily mineral needs by eating a well-balanced diet. But because pregnancy can cause ups and downs in eating habits and your iron and calcium needs are at an all-time high, you’ll likely need to take a prenatal vitamin.

Here’s a rundown of the functions of these important minerals:

**Calcium** is essential for bone formation and growth as well as muscle and nerve regulation. During pregnancy, calcium is critical to your baby’s developing skeletal system and teeth. Calcium also can reduce the risk of developing pregnancy-related high blood pressure. Calcium is absorbed best when it’s consumed along with vitamin D—try low-fat milk fortified with vitamin D, canned salmon, or vitamin-D-fortified cereal.

**Chromium** regulates blood sugar levels and stimulates protein production for your baby’s tissues. Optimum chromium intake can reduce the risk of developing pregnancy-related diabetes.

**Copper** works in the development of your baby’s heart and circulatory system. It also helps maintain healthy hair and skin color.

**Fluoride** aids bone and tooth enamel development.
Iodine can help regulate you and your baby’s metabolism. Getting too little iodine during pregnancy can lead to irreversible mental retardation and other health problems for your baby. However, this threat is rare in people who use iodized salt and consume the recommended servings of other iodine-rich foods such as milk.

Iron is enormously important during pregnancy, because your iron needs increase dramatically as a result of the increase in your blood volume and the demands of your growing baby. Iron is the oxygen carrier in the body; getting too little can leave you feeling tired, confused, and susceptible to colds and infections. Iron deficiency also reduces your ability to tolerate blood loss during labor. A way to help absorb iron is when it’s consumed along with vitamin C.

Magnesium helps regulate energy metabolism, blood sugar levels, and nerve transmissions. It works with calcium to regulate muscle contractions, including those in the uterus.

Manganese aids in enzyme regulation throughout your body.

Molybdenum is essential for all enzyme development.

Phosphorous helps in bone formation and energy metabolism.

Selenium is an antioxidant that protects red blood cells and cell membranes. It also helps maintain the immune system. Large quantities can be harmful, so don’t take large supplement doses.

Zinc is a critical part of every pregnancy, because it facilitates conception. And during the pregnancy, it’s essential for enzyme development, including those enzymes that stabilize the genetic code in every cell to help maintain normal tissue growth.
Weight Gain During Pregnancy

- 1 to 4 pounds total during the first 3 months (first trimester)
- 2 to 4 pounds per month during the 4th to 9th months (second and third trimesters)

You should gain weight gradually during your pregnancy, with most of the weight gained in the last 3 months. Many doctors suggest women gain weight at the following rate:

1 to 4 pounds total during the first 3 months (first trimester)
2 to 4 pounds per month during the 4th to 9th months (second and third trimesters)

The total amount of weight you should gain during your pregnancy depends on your weight when you became pregnant.
Women whose weight was in the healthy range before becoming pregnant should gain between 25 and 35 pounds while pregnant. The advice is different for those who were overweight or underweight before becoming pregnant.
Food Safety
Because pregnancy affects your immune system, you and your unborn baby are more susceptible to the bacteria, viruses, and parasites that cause foodborne illness.
The Beginning of Pregnancy

**Ovulation and Due Date Calculator**
(click on link)

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Ovulation and Due Date Calculator
Use this calculator to find out when you are most likely to become pregnant and to estimate your due date should conception occur.
A missed period is often the first clue that a woman might be pregnant. Sometimes, a woman might suspect she is pregnant even sooner. Symptoms such as headache, fatigue, and breast tenderness, can occur even before a missed period. These days, many women first use home pregnancy tests (HPT) to find out. Your doctor also can test you.

All pregnancy tests work by detecting a special hormone in the urine or blood that is only there when a woman is pregnant. It is called human chorionic gonadotropin (kohr-ee-ON-ihk goh-NAD-uh-TROH-puhn), or hCG. hCG is made when a fertilized egg implants in the uterus. hCG rapidly builds up in your body with each passing day you are pregnant.

How do we test for pregnancy?

Morning sickness gets its name due to the fact that it is more common in the morning. However, many women complain of feelings of nausea throughout the entire day. While the cause of morning sickness is not exactly certain, one theory is that it is caused by the hormonal changes that accompany pregnancy.

What can women do to reduce the symptoms of morning sickness?

Shortness of breath-Due to the pressure of the enlarged uterus pressing upward on the lungs, pregnant women may experience shortness of breath. When climbing stairs or after walking...
short distances, pregnant women may experience shortness of breath that is not evident before pregnancy.

When a woman becomes pregnant, her body undergoes vast changes. Her body begins to change before she even knows that she is pregnant. A rise in body temperature at about the time of ovulation that stays higher for about three weeks can be a sign of pregnancy. This rise in body temperature is caused by a high level of hormone progesterone produced by the area that will soon be the placenta.

Later signs of pregnancy usually occur after the woman knows that she is pregnant. These later signs include an enlarged abdomen, weight gain, noticeable movement of the fetus, and a fetal heartbeat detectable through a stethoscope.
Numerous complications can occur during pregnancy. If a pregnant woman suspects she is having complications, she should consult a physician immediately.

Once a physician is consulted, the cause of these symptoms usually can be determined. Several tests can be administered to identify any complications that may be present. If these symptoms are ignored, the life of the mother and/or the fetus could be in great danger. Warning signs should never be ignored or go unexamined.
Discuss each condition, its symptoms, effect on mother and infant and treatment.

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<table>
<thead>
<tr>
<th>Condition</th>
<th>Symptoms</th>
<th>Effects on Mother and Infant</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gestational Diabetes</td>
<td>Unusually high amounts of sugar in urine</td>
<td>Mother: May give birth prematurely</td>
<td>Insulin injections, modified diet plan in a hospital setting (if weight gain is too large) or premature delivery</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Infant: Grew too quickly and may become too large to be carried to full term; early delivery of large but premature infant will require special medical care</td>
<td></td>
</tr>
<tr>
<td>Eclampsia</td>
<td>Epileptic seizures; abnormal breathing pattern; breathing hardening; increased urination; vision problems; being eclamptic</td>
<td>Mother: May cause convulsions if both kidneys are damaged; increased chance of future pregnancy being eclamptic</td>
<td>Premature labor; possible removal of damaged section of placenta; if too rapid and severe; immediate delivery, possibly may have to be performed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Infant: Development usually does not continue past the third trimester; may have seizures</td>
<td></td>
</tr>
<tr>
<td>Preterm Labor</td>
<td>Fetal edema (fluid from respiratory obstructed contractions)</td>
<td>Mother: Medications given may have side effects such as nausea or heart burn, breathing difficulty, increased blood pressure, and increased urination in mother's urine</td>
<td>Bed rest under a doctor's supervision; administration of steroids to lengthen pregnancy; may require labor to stop premature labor</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Infant: May have similar side effects from medications since they can pass through the placenta</td>
<td></td>
</tr>
<tr>
<td>Preterm Birth</td>
<td>Ectopic pregnancy (implantation of embryo in a place other than uterus)</td>
<td>Mother: May give birth prematurely</td>
<td>Ultrasound examination to determine severity; additional help possible termination of pregnancy; refer to local hospital to reduce chance of premature labor; amniocentesis may be used to remove excess fluid</td>
</tr>
</tbody>
</table>

Discuss each condition, its symptoms, effect on mother and infant and treatment.

Numerous complications can occur during pregnancy. If a pregnant woman suspects she is having complications, she should consult a physician immediately.
Discuss each condition, its symptoms, effect on mother and infant and treatment.

Note to teacher: For enrichment, you can assign the students to further research a particular complication which might occur during pregnancy.
Heredity determines how the fetus will develop and what characteristics she or he will possess. The chromosomes and genes that are contained in the nucleus of the reproductive cells determine a person’s heredity. The male reproductive cell is the sperm and the female reproductive cell is the egg. The head of sperm and the nucleus of the egg contain the genetic material that determines the offspring’s characteristics.

Inside Pregnancy: Fertilization
The race starts with the act of love. Tens of millions of spermatozoa rush ahead on a hunting trip that may eventually lead to a fateful encounter and a promise of new life.
http://www.babycenter.com/2_inside-pregnancy-fertilization_10354435.bc
Once an egg is fertilized, three stages of prenatal development occur. These stages are the period of the zygote, the period of the embryo, and the period of the fetus. A pregnancy also is sometimes referred to in periods known as trimesters. A trimester is a period of time encompassing three months. Therefore, a nine-month pregnancy is divided into three trimesters. In addition to referring to pregnancy by stages or trimesters, pregnancy also is discussed according to monthly development.

The period of the zygote is the first period of prenatal growth. The egg begins as a single cell. If the egg is fertilized, it begins to grow through cell division. Once the fertilized egg divides into two cells, it is called a zygote. Cell division means that the single cell divides into two cells, and then those two cells divide and become four cells, and so on until the fertilized egg becomes a mass of cells. The period of the zygote lasts about two weeks. This period is a time of rapid growth for the zygote. During this period, the zygote reaches the uterus and implants in the uterine lining. By the time the zygote reaches the uterus, it is already a mass of nourishing cushion for the zygote to continue development.

Period of the Embryo
The second stage of prenatal development is the period of the embryo. Embryo is the term used to refer to the unborn infant from about the second week after conception until about the eighth week. During this period, the embryo grows rapidly and undergoes great change. It becomes firmly attached to the uterus, and the placenta forms from the tissue connecting the embryo to the uterus. The umbilical cord also appears during this period.
During the embryonic period, the growing embryo becomes surrounded by the amniotic sac that contains amniotic fluid. This fluid protects and cushions the infant until birth and maintains a constant temperature in which the infant can survive.

Period of the Fetus
The remainder of the pregnancy is known as the period of the fetus. The term fetus is used to refer to the unborn infant after the period of the embryo is over until the infant is born. This is the longest stage of the pregnancy. It begins about the eighth week of pregnancy. During this time, the organs become functional, physical features develop fully, and the fetus gains weight rapidly, and the mother begins to feel movement of the fetus.
Inside Pregnancy: Your Baby Takes Shape
Let's take a moment to look at one of the most mysterious phenomena, the creation of a living machine.
http://www.babycenter.com/2_inside-pregnancy-your-baby-takes-shape_10354437.bc
The developing infant goes through many changes before birth. While all infants do not develop at exactly the same rate, many changes can be seen monthly. The next three slides discuss the characteristics that appear and the development that occurs during each month of the pregnancy.
Note to teacher: Discuss the information to the right of each slide.

WebMD
Slideshow: Fetal Development Month by Month
Your Baby's Growth: Conception to Birth
You're pregnant. Congratulations! Are you curious how big your developing baby is, what your baby looks like as it grows inside you, and when you'll feel it move? Take a peek inside the womb to see how a baby develops from month to month.
http://www.webmd.com/baby/ss/slideshow-fetal-development
Review the monthly prenatal development characteristics.
Review the monthly prenatal development characteristics.
Pregnancy lasts about 40 weeks, counting from the first day of your last normal period. The weeks are grouped into three trimesters (TREYE-mess-turs). Find out what's happening with the baby in these three stages.

Inside Pregnancy: Weeks 1-9
A 3D animated look at baby development in the first trimester of pregnancy, from the first few cells that make up the blastocyst to a tiny fetus with a brain, beating heart, fingers, eyes, and earlobes.
http://www.babycenter.com/2_inside-pregnancy-weeks-1-to-9_10302602.bc

Inside Pregnancy: Weeks 10-14
A 3D animated look at baby development in the first trimester of pregnancy
http://www.babycenter.com/2_inside-pregnancy-weeks-10-to-14_10308108.bc
Second Trimester of Pregnancy

Weeks 15-20 Second Trimester
(click on links)

Inside Pregnancy: Weeks 15-20
A 3D animated look at baby development in the second trimester of pregnancy
http://www.babycenter.com/2_inside-pregnancy-weeks-15-to-20_10308111.bc
Inside Pregnancy: Weeks 21-27
A 3D animated look at baby development in the second trimester of pregnancy
http://www.babycenter.com/2_inside-pregnancy-weeks-21-to-27_10312242.bc
Third Trimester of Pregnancy

Weeks 28-37 Third Trimester
(click on link)

Inside Pregnancy: Weeks 28-27
A 3D animated look at baby development in the third trimester of pregnancy,
http://www.babycenter.com/2_inside-pregnancy-weeks-28-to-37_3658874.bc
Types of Delivery

- Cesarean Section
- Epidural
- Natural Childbirth
- Leyoyer Method
- Crouching Method
- Birth in Water
- Home Delivery

Cesarean section: a small incision made in the lower abdomen and uterus where the baby is delivered.

Epidural: a type of block used to deaden pain during labor and delivery. Mom can still push and participate in the labor.

Natural childbirth: no medications. Relax the body by using breathing techniques.

Leboyer method: ‘gentle childbirth’ — reduce the pain and shock of delivery using a quiet delivery room, dim lights, and soft music playing.

Crouching method: squatting down and letting gravity help deliver the baby. Less chance of tearing. Used in more primitive societies.

Birth in water: becoming more popular. Water helps mom relax and softens the shock of delivery for mom.

Home delivery: still common. Use of midwife to help deliver the baby. Mom can be relaxed because she is at home with her family. Only to be used for low risk pregnancies.

Note to teacher: For enrichment, you can assign the students to further research a particular type of delivery and present the information to the class.
During the last month of the pregnancy, the infant’s head moves down into the pelvis into the pelvic cavity to prepare for birth. The movement of the infant into this new position is known as lightening. The change in position relieves some of the pressure on the mother’s internal organs, and she may find it easier to breathe when the infant moves down. However, the shift in position can put increased pressure on the bladder, thus causing the mother to feel the need to urinate more frequently.

Labor is not the same for all women. When labor begins, it usually appears in one of three ways. Signs of Labor:

• Discharge of blood-tinged mucus (the show)
• Amniotic fluid is discharged through the vagina (water breaking)
• Slight cramps or contractions
Once labor begins, it advances through three stages. The first stage is the dilation stage. Dilation is the opening of the cervix in order for the infant to pass into the vagina. The cervix is the opening between the uterus and the vagina. At the beginning of labor, the cervix is about one-half to three-fourths of an inch long and almost closed. In order for the infant’s head to pass through the cervix, the cervix needs to be dilated to about four inches or ten centimeters. Dilation occurs through contractions that press the infant against the cervix. This pressure causes the cervix to slowly open. Pressure from the contractions also causes the cervix to become very thin and merge with the walls of the uterus. As this stage progresses, the contractions become stronger, more frequent, and last longer.

The first stage of labor lasts for an average of ten to twelve hours. If a woman is giving birth for the first time, the first stage of labor usually lasts longer than average, while it may be shorter than average if a woman has previously given birth.
After the cervix is completely dilated, the second stage of labor begins. The second stage of labor is the expulsion of the infant. During this period, the infant is born. Since the cervix is wide enough for the infant to pass through, the contractions during this stage serve to push the infant downward into the vagina and out of the mother’s body.

As the infant enters the vagina, the vaginal opening dilates and begins to bulge. If it is apparent that the infant will not fit through the vaginal opening without tearing the surrounding tissue, the physician will perform an episiotomy. An episiotomy is an incision made at the vaginal opening toward the anus in order to make the vaginal opening large enough for the infant to pass through without tearing the tissue. An episiotomy is performed because a smooth cut will heal more easily than torn tissue. The episiotomy also decreases the pressure on the infant’s head. Immediately after the infant is delivered, the incision is stitched together.

Crowning is when the infant’s head becomes visible in the birth canal. When the infant’s entire head appears, the infant is rotated to the side and the rest of the body is expelled.
Once the child is born, the third stage of labor begins. This stage is the expulsion of the placenta. The placenta separates from the uterus as the infant is born due to the contractions of the uterus. The placenta is also called the afterbirth during this stage of labor. During this stage of labor, the mother usually feels little or no pain. She must push to expel the placenta, and this process usually lasts from a few minutes to half an hour.
Questions?
References and Resources

Images:
Microsoft Clip Art: Used with permission from Microsoft

Textbook:

Websites:
Centers for Disease Control and Prevention
Pregnancy—What You Should Know
http://www.cdc.gov/ncbddd/pregnancy_gateway/index.html
Centers for Disease Control and Prevention
Some steps a woman can take to get ready for a healthy pregnancy
http://www.cdc.gov/Features/HealthyPregnancy
Centers for Disease Control and Prevention
You’re Pregnant: Now What?
http://www.womenshealth.gov/pregnancy/you-are-pregnant/
Exploring Birth Options
Witness the wonderful emotions and deeply felt connection to womanhood in this short preview to our series exploring natural childbirth, midwifery, and your birth options.
http://www.mothersnaturally.org/videoSeries/
References and Resources

Gerber
Essential minerals for pregnancy—Be sure to get these 12 important minerals for you and your baby’s health. You can meet many of your daily mineral needs by eating a well-balanced diet.

Immunizations and Pregnancy
Before becoming pregnant, a woman should be up-to-date on routine adult vaccines.

Pregnancy
Becoming a mother is one of the most exciting times in a woman’s life. This section of womenshealth.gov will help you learn what you can do before, during, and after pregnancy to give your baby a healthy start to life.
http://www.womenshealth.gov/pregnancy/

YouTube™ videos included in the PowerPoint™:

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