UNIVERSITY OF MICHIGAN
HEALTH-SPARROW
MICHIGAN MEDICINE

PRENATAL INSTRUCTIONS

Your pregnancy test is positive. It is probably difficult to grasp the impact of that statement. You don't look pregnant and having a baby seems a long way off. Nevertheless, you are pregnant and we wish you a happy, healthy pregnancy and would like to acquaint you with the management of your prenatal care.

Office Procedures

During your initial visit, the nurse will spend time orienting you to our practice. She will take a complete medical history, order laboratory tests, prescribe a vitamin supplement and answer any questions you have concerning your pregnancy. If your medical history indicates that you need to see a physician before your next scheduled appointment, the nurse will make arrangements for you to do so.

On your second visit, you will meet with a physician. At this time, you will become acquainted (or reacquainted) with the doctor and will have a complete physical examination. The physical exam will include a breast and pelvic exam with gonorrhea and chlamydia cultures. A pap smear may also be collected, if indicated. The laboratory will bill you independently for these tests because insurance coverage varies. Check with your carrier regarding cost and/or coverage. If you have any questions about the findings from the physical examination or the laboratory test results, just ask. It is important that you be an informed health care consumer.

Your office visits are scheduled on a regular basis. The frequency of visits is determined by your needs and the progress of your pregnancy. Since many factors determine the frequency of your visits and whom you will see, including high-risk pregnancy, repeat cesarean birth and illness, it is difficult to provide specifics regarding your prenatal visit pattern.

We encourage you to use this time to discuss your birthing plan, expectations regarding your hospital stay, and plans for home care. The staff is here to help make this pregnancy proceed as smoothly and comfortably as possible.

This practice consists of physicians as primary health care providers. The birthing services of University of Michigan Health-Sparrow are used exclusively by this practice when providing your pregnancy care. After-hour care is covered by our physician staff and one of our physicians is "on call" at all times to meet emergency situations.

An important part of the office is the reception area. At the desk, the receptionist will make all of your office appointments. We attempt to meet your needs regarding appointment times. Please feel free to discuss any changes in appointments with the receptionist. Because of the physicians' demanding schedules, the flexibility of office time may sometimes be limited. We ask for your understanding in this matter.

Medication Safety During Pregnancy

The following medications are safe to take at any point during your pregnancy:

- Tylenol® (plain or extra strength, cold or sinus)
- Sudafed® plain
- Kaopectate®
- Imodium®
- Lomotil®
- Preparation H® (cream or suppositories)
- Tucks®
- Mylanta®
- Tums®
- Pepcid AC®
- Chloraseptic Spray® or lozenges (or cough drops)
- Zyrtec®
- Claritin®
- Colace®
- Miralax®
- Metamucil®
- Citracel®
- Benadryl®

The following medications are safe to take after 13 weeks of pregnancy:

- Robitussin® plain

***Motrin is only safe to take between 13 and 28 weeks of pregnancy. Do not take Motrin after 28 weeks.**

Changes Occurring During Pregnancy

Physical Changes

Many normal physical changes occur during pregnancy. Learning about these changes may help relieve concerns you might have if you experience minor discomforts.

Fatigue is common in early pregnancy. The need to nap or even to sleep away the evening is not unusual. Often you may feel that you will never have the energy to accomplish even the simplest of tasks. Medical science is unable to explain why fatigue accompanies early pregnancy, but we do know that near the beginning of the second trimester, around 14 weeks gestation, the fatigue usually fades and you again have the energy to enjoy a full day.

The need to empty your bladder more frequently is evident early in pregnancy. The bladder gives up room within the pelvis to allow the uterus to grow. Consequently, your bladder cannot hold as much urine and you make more trips to the bathroom. As long as this symptom is not accompanied by a feeling of burning or pain, it is considered normal. The frequent need to urinate will decrease between the 16th and 18th week of pregnancy, only to return again during the last three months of pregnancy when the baby has grown big enough to rest heavily on your bladder.

Another change you may notice is an increase in vaginal discharge. This is normal and not a cause for alarm. However, if you notice a local irritation, pain, burning about the labia and vagina, or a foul odor, inform the office so that evaluation and treatment can be provided.

During pregnancy, your breasts will undergo changes whether you plan to breast feed or not. During the first three months, due to the effect of hormones, there is an increase in the number and size of milk-producing glands. This growth increases the weight of the breast by one to one and a half pounds each, accounting for the breast soreness you may experience. The nipples and the area around the nipples darken and become larger. Early in pregnancy, small bumps known as Montgomery glands appear on the nipple. By the fourth or fifth month of pregnancy, your breasts may begin to leak. Whether or not your breasts will produce milk depends on whether the nipple is stimulated by the infant's sucking. This stimulation will set off the chain of events in the breast that produces and excretes milk.

Headaches occur in early pregnancy due to a number of possible causes. Emotional stress, low blood sugar, and fluctuating hormones may be contributing factors. A headache which is not relieved by the standard dose of Tylenol® should be reported to the office.

Constipation

During pregnancy, constipation may be a problem because your growing uterus takes up a part of your digestive system's working space and hormones may slow the action of the digestive tract. Other contributing factors include the increased amount of iron intake and decrease in physical activity with advancing pregnancy. The following suggestions may be helpful:

- Drink extra fluids (water, juice).
- Eat more fiber-rich foods such as vegetables, fruits, whole grain breads, and cereals. Eat more foods with laxative properties (prunes, prune juice, figs, and bran).
- Stay as active as possible. Incorporate regular, daily exercise, such as walking, into your routine.
- Eat regularly and always eat breakfast.
- Moderate activity and good diet may be all that is necessary to provide bowel regularity.

If the above measures do not work, you can use Colace®, Metamucil®, Citracel® or Miralax®.

"Anytime Sickness"

"Anytime Sickness" is another of the typical physical changes that can occur. Nausea and vomiting are common problems experienced by one out of every two women in early pregnancy. This usually begins sometime between the first and second missed menstrual period and commonly disappears by the 15th to 18th week of pregnancy. However, it may persist slightly longer.

The exact cause of the nausea is not clear. Two factors that contribute greatly to both nausea and vomiting in pregnancy are the hormone changes taking place in the body and reduced intestinal activity that occurs as a result of pregnancy.

Much has been done to develop strategies for coping with the problem and controlling the degree of discomfort. The following suggestions may be helpful:

- Eat dry, carbohydrate-rich foods such as dry toast and low-fat crackers.
- Rest 10 minutes before slowly getting out of the bed.
- Eat five or six small meals each day instead of three large meals. Avoid long periods without food.
- Drink fluids between meals rather than with meals.
- Wait until late morning to drink any liquid. Avoid large amounts of fluids at any one time.
- Avoid greasy foods.
- Avoid strong odors.

During this period, do not worry if you cannot follow a well-balanced diet. If possible, take a vitamin and iron supplement daily. With time, the nausea will lessen and food will again taste and smell appetizing. Let the office know if you feel the nausea and/or vomiting are out of control. There are other measures that can be taken to help you through this difficult time.

Emotional Changes

Some emotional changes may occur during pregnancy. Feelings early in pregnancy are often unpredictable. Whatever your feelings toward pregnancy are, mood swings are common. You may be happy and excited one minute and want to cry the next. Anger, anxiety, and irritability are also possible. Mood swings are a result of the many physical and psychological changes taking place within your body. As hormones level off, and as you feel better, your emotions will stabilize. Reassure your partner that emotional changes are a normal part of pregnancy.

When To Call The Office

Call the office if you experience any of the following changes. They do not necessarily indicate a problem; nevertheless, we might wish to offer some direction or treatment to reduce the risk of potential difficulty.

- Bloody discharge or bright red bleeding from the vagina.
- Severe nausea and vomiting ("severe" meaning several times within an hour).
- Chills and fever over 100.5°F.
- Continued abdominal pain that is not relieved by a bowel movement.
- A sudden gush of water or fluid from the vagina.
- Frequent burning urination.
- Severe or persistent headache.
- Swelling of the hands and face (some swelling during the last months of pregnancy is normal).
- Blurring vision or spots/floaters in your vision.
- It is common to not feel fetal movement on a consistent, daily basis before 25 weeks of pregnancy. If you are concerned about a decrease in fetal movement after 25 weeks, please eat something and lie down in a quiet room. If after one to two hours of monitoring you are still concerned with your baby's movement, please call. A baby should be able to pass kick counts (10 movements in 2 hours) by 28 weeks.
- Many other concerns arise from pregnancy. If you are uncertain about the seriousness of your symptoms, please call. The only mistake you can make is not calling.

Do's and Don'ts

When you are pregnant you are particularly susceptible to advice givers. As soon as your pregnancy becomes evident, well-meaning relatives, friends, and total strangers feel compelled to tell you what you should and should not do. Remember, as questions arise, please feel free to contact the professional staff at the office. We are here to answer your questions and help you to have a healthy pregnancy. Here are some things to avoid in pregnancy:

- Do not smoke cigarettes or marijuana. Studies have shown the detrimental effects that smoking has on the unborn as well as on the young child living in an environment where one or both parents smoke. Therefore, it is the advice of the professional staff that you stop smoking during pregnancy and remain smoke free after delivery.
- Do not douche.
- Do not take over-the-counter drugs or prescription drugs without checking with the office first. The exceptions are: Tylenol®, Metamucil® and some antacids such as Tums® and Mylanta®.
- Do not sit in hot tubs, jacuzzis, or whirlpools with water exceeding 100°F. Also, do not sit in saunas. Do not sunbathe in hot weather. The reason for this precaution is the need to keep your core body temperature normal. Any of the preceding activities have the potential to heat your body to levels that are not safe for your baby. Avoid tanning booths as well.
- Do not use toxic substances: varnish, paint remover, pesticides, etc.
- Do not eat fish caught in Michigan. Because of high levels of toxic chemicals found in Michigan fish, the Department of Public Health has issued carefully constructed guidelines regarding consumption of fish found in many Michigan lakes and specific types of sports fish. To avoid the risk of ANY exposure, we recommend that you not eat Michigan fish during your pregnancy or while nursing your baby. Ocean fish such as shark, swordfish and king mackerel should also be avoided.
- Do not drink alcohol.
- Do not consume excessive amounts of caffeine. Moderate caffeine intake has been defined as three servings or 200 mg. per day. An 8 oz. serving of coffee has 100 mg. of caffeine; a 12 oz. can of cola has 35-50 mg. of caffeine; tea has about 40 mg. in an 8 oz. serving.
- Do drink 8-10 glasses of water every day.
- As a sugar substitute, NutraSweet® may be used in moderation during pregnancy. Moderation is defined as no more than two servings daily.

While this list does not include everything, it does provide guidelines to help you make some reasonable choices as you carry out the normal activities of daily living.

Your daily intake should include the recommended number of servings from each food group. Your body will burn calories more efficiently if you eat throughout the whole day. Therefore, try to eat six times each day:

- Breakfast (always!)
- Mid-morning snack
- Lunch
- Mid-afternoon snack
- Dinner
- Evening snack

Most women need to gain weight during pregnancy. Studies have show that gaining weight is healthy for both you and your baby. Throughout your pregnancy, remember: weight gain is essential, normal and temporary. An adult woman of normal weight needs to gain 25-35 pounds during her pregnancy. (See Figure 1.)

Often times pregnant women know what constitutes a good diet. However, if weight gain or loss is not at desired levels, one reason may be a misunderstanding about serving sizes. Figure 2 is provided to give you some guidance with individual portions when planning meals. Remember, avoiding large amounts of concentrated sweets (cookies, cakes, candies) will help keep your weight in check, and moderation in all the food groups is the best health practice.

Recommended Total Weight Gain Ranges for Pregnant Women

Pre-Pregnancy Weight-for-Height Category	Recommended Total Gain Pounds
Low (BMI <19.8)	28–40
Normal (BMI 19.8 to 26.0)	25–30
High (BMI 26.0 to 29.0)	15–25
Obese (BMI >29.8)	at least 15 pounds

These ranges are for single pregnancies. The range for women carrying twins is 35 to 40 lbs (15 to 20 kg). Young adolescents (less than 2 years after beginning their period) and African American women should strive for gains at the upper end of the range. Short women (less than 62 inches or 157 cm) should strive for gains at the lower end of the range.

Components of Weight Gain in Pregnancy (pounds)

Fetus	6.6–8.5	Breasts	1.0–1.5
Placenta	1.5–2.0	Uterus	2.0–2.5
Amniotic fluid	2.0–2.5	Blood	4.0–6.0
Maternal nutrition stores	4.0–6.0	Fluid	4.0–6.0

TOTAL WEIGHT GAIN 25.1–35.0

Figure 1

GRAINS

Make half your grains whole

Eat at least 3 oz. of wholegrain cereals, breads, crackers, rice, or pasta every day.

1 oz. is about 1 slice of bread, about 1 cup of breakfast cereal, or 1/2 cup of cooked rice, cereal, or pasta.

Eat 6 oz. every day

VEGETABLES

Vary your vegetables

Eat more dark-green veggies like broccoli, spinach, and other dark leafy greens.

Eat more orange vegetables like carrots and sweet potatoes.

Eat more dry beans and peas like pinto beans, kidney beans, and lentils

Eat 2 1/2 cups every day

FRUITS

Focus on fruits

Eat a variety of fruit.

Choose fresh, frozen, canned, or dried fruit.

Go easy on fruit juices.

Eat 2 cups every day

MILK

Get your calcium rich foods

Go low-fat or fat-free when you choose milk, yogurt, and other milk products.

If you don’t or can’t consume milk, choose lactose-free products or other calcium sources such as fortified foods and beverages.

Get 3 cups every day

MEAT & BEANS

Go lean with protein

Choose low-fat or lean meats and poultry.

Bake it, broil it, or grill it.

Vary your protein routine – choose more fish, beans, peas, nuts, and seeds.

Eat 5 1/2 oz. every day

Know the limits on fats, sugars, and salt (sodium)

Make most of your fat sources from fish, nuts, and vegetable oils.

Limit solid fats like butter, margarine, shortening, and lard, as well as food that contain these.

Check the Nutrition Facts label to keep saturated fats, *trans* fats, and sodium low.

Choose food and beverages low in added sugars. Added sugars contribute calories with few, if any nutrients.

Figure 2

Travel

Travel of any kind (car, plane, train) does not need to be restricted until 36 weeks of pregnancy providing that your pregnancy has progressed normally. The following suggestions will help make travel safe and comfortable:

- Let us know when you are going so we can inform you of any precautions specific to you.
- Because pregnancy causes you to tire more easily, rest more while traveling.
- Increase your daily intake of fluids, especially water.
- When traveling by car, make frequent stops to empty your bladder and walk at a moderate pace for three to five minutes. These activities will help prevent bladder and bowel problems.
- Always wear your seat belt. The proper positioning of your seat belt during pregnancy is to have the lap belt positioned under the uterus and the shoulder belt over the uterus.

If you travel more than five or six hours from home and are planning to be away for more than a few days, remember we are only a phone call away. If you need care while you are away, we can provide a copy of your pregnancy record by fax to the physician, clinic or hospital that is caring for you.

Dental Hygiene

Pregnancy is a time when you want to be as healthy as possible, and good health includes the care of your teeth and gums. Have a dental checkup early in pregnancy. It is recommended that your dental health be maintained during pregnancy. Be sure to tell your dentist you are pregnant. Discuss the use of anesthetic agents, X-rays, and pain medication. If either you or your dentist have questions regarding a dental health plan, one of the physicians in the practice is available to help guide treatment.

Toxoplasmosis

Toxoplasmosis may be a word you have never heard before. The following explanation is offered to clarify any misconceptions regarding toxoplasmosis.

Toxoplasmosis is an infectious disease that can be of some concern to pregnant women because of possible harmful effects to the baby. Toxoplasmosis is caused by a parasite. The three prime sources of toxoplasmosis infection in our environment include undercooked meat, contaminated soil, and cat feces. The best treatment for this infection is prevention. The best prevention is good hygiene, especially washing your hands frequently. The best ways
to avoid the infection are:

- Cook meats thoroughly;
- Wear gloves while working in the yard or garden;
- Refrain from emptying the cat's litter box. Ask someone else to do this task for you.

Because most people already have an immunity to toxoplasmosis and avoiding exposure is possible by following the above suggestions, the risk of contracting toxoplasmosis during pregnancy is minimal. A blood test can determine if you have had this infection.

Sexual Intercourse

There are many questions and misconceptions about sexual intercourse during pregnancy. If your pregnancy progresses normally, you may continue to have intercourse right up until the time your labor begins. In later pregnancy, a change in positions may be necessary for enjoyment. Let your partner know what is comfortable for you. We hope you will feel comfortable asking questions regarding this very personal subject. You may be asked to avoid intercourse if you are bleeding, but may resume activities if the problem resolves.

Herpes Virus

You may be aware of herpes since it is becoming increasingly common. During an active state, the herpes virus can cause painful sores on the genitals. A pregnant woman who carries the herpes virus requires careful medical management in order to minimize the potential risks to the baby.

There are now effective medications to control and prevent herpes outbreaks. Let the doctor know if you experience active lesions, so they can be treated promptly.

Childbirth Education

Prenatal classes are offered in this community at a nominal fee. We believe these classes contribute greatly to your understanding of pregnancy and the birth process. The classes teach breathing and relaxation techniques for labor and delivery as well as child care and parenting skills. There are variations to the basic series including: refresher and sibling courses for repeaters, weekend classes, a single mother's class, and a post-delivery new baby class. You should plan to begin classes by the 28th week of your pregnancy. Therefore, you will need to call and make arrangements to attend class prior to that time. We encourage you, your partner, and family to participate in these classes because the more knowledgeable you and your loved ones are about the process of pregnancy, labor, and delivery, the less anxious and frightened you will be.

Another way to gain information is to read current literature. The end of this booklet lists suggested readings to get you started. Feel free to share your reading and ask questions of the staff to improve your understanding.

Vaginal Birth After Cesarean Birth

If you have had a cesarean birth with a previous pregnancy, you will need to discuss with the staff the various options available to you with this pregnancy. The options depend on several factors, but the most important are the reason or reasons for the first cesarean birth. If the reason is not clear to you, be sure to ask any questions you may have so that your knowledge of the circumstances surrounding your previous delivery will be complete.

If the reason for the cesarean birth no longer exists (i.e., breech presentation, placenta previa), you may elect a vaginal birth.

Our practice has adopted the following policy regarding vaginal birth after cesarean birth: If not precluded for medical reasons, a vaginal birth after a previous cesarean section is four times safer than a repeat cesarean section. This includes the slight and unpredictable risk of uterine scar rupture shown in most studies, but assumes you will labor in the hospital with monitoring available.

We have looked carefully at the benefits of a vaginal birth over a cesarean delivery and feel that a vaginal birth gives you a more rapid recovery time as evidenced by less fatigue and a smoother, more rapid return to pre-delivery activity level.

It is, therefore, the policy of this practice and the recommendation of the American College of Obstetricians and Gynecologists that after a careful review of a mother's previous obstetrical history, a vaginal delivery may be elected. The mother and her physician will jointly make the decision to experience a trial labor and attempt a vaginal birth.

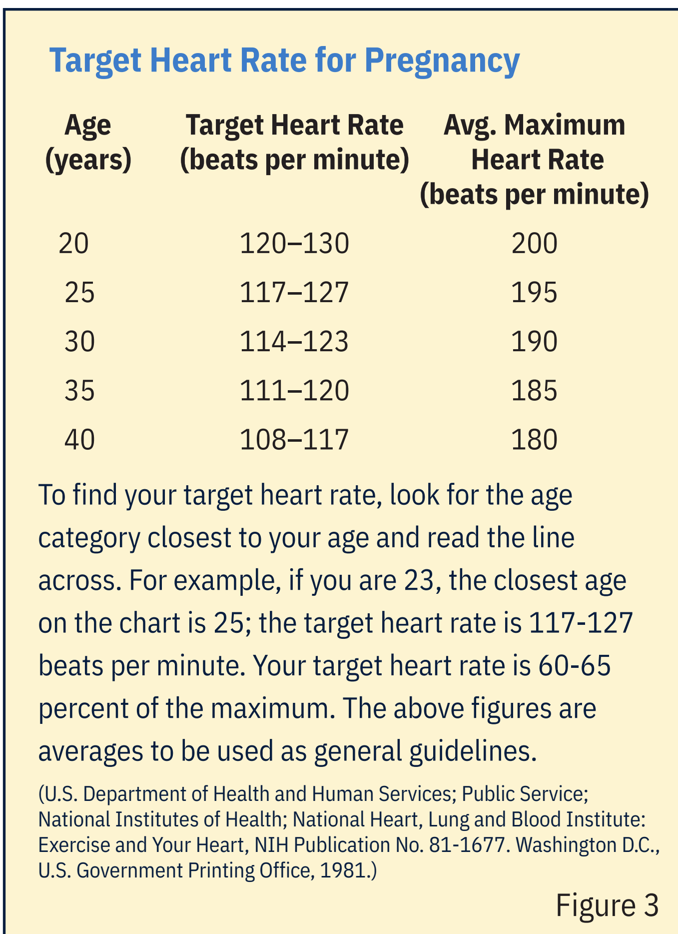
Exercise

Exercise is healthy. You should begin early to prepare your body physically for the added work of your pregnancy, labor and delivery. Prenatal exercises are basic and can be incorporated into your daily activities. They will help strengthen the body structures that provide physical comfort, support and good posture.

A daily brisk walk is a good way of getting fresh air and helps to keep muscles toned. Sports and activities which you feel comfortable doing may be continued.

Many mothers are interested in an exercise program that is a little more strenuous than a brisk walk. Activities such as running, bike riding, and tennis may be continued during pregnancy if they are guided by good judgment.

If you are not accustomed to using your heart rate as your exercise guide, you will need to begin to do so.



Target Heart Rate for Pregnancy

Age (years)	Target Heart Rate (beats per minute)	Avg. Maximum Heart Rate (beats per minute)
20	120–130	200
25	117–127	195
30	114–123	190
35	111–120	185
40	108–117	180

To find your target heart rate, look for the age category closest to your age and read the line across. For example, if you are 23, the closest age on the chart is 25; the target heart rate is 117-127 beats per minute. Your target heart rate is 60-65 percent of the maximum. The above figures are averages to be used as general guidelines.

(U.S. Department of Health and Human Services; Public Service; National Institutes of Health; National Heart, Lung and Blood Institute: Exercise and Your Heart, NIH Publication No. 81-1677. Washington D.C., U.S. Government Printing Office, 1981.)

Figure 3

To check your heart rate, count your pulse for 10 seconds after you stop exercising and multiply this number by six to obtain the number of beats per minute. Use this technique to monitor your body’s response to exercise. Make sure you stay within 60-65% of your maximum heart rate. Use Figure 3 to determine your exercise target heart rate.

Exercise Guidelines

- Exercise at only 60-65 percent of your maximum heart rate.
- Increase fluid intake during and after exercise.
- Avoid oxygen deficiency - do not exercise to the point of being totally out of breath. (You should be able to carry on a conversation or sing while exercising.)
- Exercise should not be continued to the point of exhaustion. Avoid extreme fatigue. Stretching and bending may be limited from the 26th week of pregnancy until delivery.
- Excessive heat is unhealthy for you and the baby. Remember: when doing strenuous exercise, your core body temperature can rise. This is especially true in hot weather, so take extra care when exercising in hot weather.
- You may need to choose an exercise that is non-weight bearing late in pregnancy because of increased pressure and discomfort. Swimming is an excellent exercise.

The Lansing community offers a variety of fitness programs specifically designed for pregnant women. Both one-on-one and group sessions are available. Many women prefer group activities because they offer an atmosphere of support. Often these workouts are designed to help alleviate the stresses of pregnancy.

Exercise videos designed especially for pregnant women also are available. These videos may be used in the privacy of your home and at a time that is convenient for you. Please feel free to ask for recommended titles.

Laboratory Testing

Sometimes during pregnancy, conditions arise that may require obtaining additional clinical information about your baby and his or her environment. Evaluation techniques that look carefully at your baby's health and well-being may be performed either in the office or at the hospital. For your general information, some of the frequently used tests are discussed.

Preterm Labor

It is very important to be aware of the signs and symptoms of preterm labor. Preterm labor is defined as labor that begins three or more weeks before your due date. Preterm labor is usually not painful. The warning signs of preterm labor include the following:

- Uterine contractions which happen every 10 minutes or more often.
- Menstrual-like cramps which come and go or don't go away.
- Pelvic pressure which feels like the baby is pushing down. This also may come and go.
- Low, dull backache which comes and goes or doesn't go away.
- Abdominal cramping with or without diarrhea.
- Increase or change in vaginal discharge.

If you have any of the above symptoms of preterm labor, we will want you to (1) drink two or three glasses of water or juice; (2) lie down on your side for an hour. If the signs do not go away, if you have fluid leaking from your vagina, or if you are bleeding from the vagina call the doctor immediately. Keeping well-hydrated with 10-12 glasses of water a day will make your uterus less irritable.

Choice of Infant Feeding

One of the most important decisions you will make is how to feed your new baby. Whether to breast-feed or bottle-feed has been debated over hundreds of years. You should be aware of the benefit of nursing before making your decision. Mother's milk is balanced for a normal baby and agreeable to the baby's digestive system. Breast milk can also protect the baby from infection, illness, and developing allergies. Perceived disadvantages of nursing such as leaking, feeling tied down, father's involvement are temporary and, with patience and information, can be overcome.

Of course, the decision to breast-feed must be made by each couple. It may not be for everyone. However, you need information on which to base your decision. If you have questions or concerns about breast-feeding, we have a lactation consultant who would be glad to talk with you.

Relax!

Learning to relax is the key factor in developing a sense of comfort with the added physical stresses that pregnancy will place on your body. You can achieve relaxation at any time and in any place. The objective is to “let go” in order to feel the release of muscle tension.

Always remember to rest as well as to exercise. While pregnant, you will need to rest more frequently both for your health and for that of your baby.

Gestational Diabetes Screening

We screen all pregnant women for gestational diabetes. This test is scheduled some time between the 26th and 28th week of pregnancy.

The diabetes of pregnancy is called gestational diabetes and exists in 2.5-4% of all pregnancies. Gestational diabetes is an inability to metabolize carbohydrates normally. This inability results in elevated blood sugar levels. Carbohydrate intolerance manifests itself in varying degrees of severity and is usually diagnosed in the second or third trimester.

During pregnancy, rising levels of placental hormones cause a resistance to insulin actions. Usually, the body will compensate by producing increased amounts of insulin. However, age, obesity, family history, and pancreatic reserve are factors which may make a woman susceptible to gestational diabetes.

Testing involves a visit to the laboratory. One hour after drinking a sweet drink at the laboratory, a blood sample will be drawn and analyzed.

The test is abnormal or positive if the glucose level is 135 mg/dl or higher. Any reading below 135 mg/dl is considered within normal limits, and the mother is at very low risk for developing gestational diabetes.

A positive screen, 135 mg/dl or higher, requires further evaluation with a three-hour glucose tolerance test. The preparation for this test is more involved. A three-day, high carbohydrate preparation diet is required for the most accurate results. Then, after an overnight fast, a blood sample is drawn. The mother drinks a solution containing glucose and, after each hour for three consecutive hours, a blood sample is drawn. A diagnosis of gestational diabetes is made if at least two of the blood glucose levels are elevated over the norm.

It is important

to keep in mind that the Serum Screening is only a tool to help decide who should be offered further testing. The tests do occasionally indicate an increased risk of birth defects in pregnancies that have normal babies.

Genetic Screening

Genetic screening is testing that can be done to identify babies that may have certain birth defects. Conditions that the genetic screening can help detect include Downs Syndrome, Trisomy 18, spina bifida, anencephaly, ventral wall defects, and Smith-Lemli-Opitz syndrome. There are a few different screening options available (Cell-free DNA, Full Integrated, Serum Integrated, and Quad Screening) that use blood samples with or without a first trimester ultrasound to predict whether the chance of a birth defect is average, above average, or below average. If the results suggest an increased risk of a certain birth defect, you will be given options for further testing. These options may include another blood test, an ultrasound examination or possibly an amniocentesis to give you accurate information regarding the health of your baby. Fortunately, most babies are normal and the screening indicates average or below average risk for a problem. If the result is an above average risk, however, remember that most babies are still normal.

Please refer to the handouts given to you at your initial visit for more information about these tests.

Special Testing

Ultrasound

Ultrasound is a diagnostic technique using high frequency sound waves to take pictures of your baby. Ultrasound may be used at any time during your pregnancy. The technique used is known as realtime ultrasound. This procedure produces a black and white motion picture that is viewed on a small TV monitor.

There are many reason for using ultrasound. The most common include: 1) to determine the age and size of the baby; 2) to determine the location of the placenta; and 3) to rule out the presence of a multiple pregnancy. Sometimes the sex of the baby can be determined at the time of your ultrasound. Decide if you would like to have this information. In some selected cases, ultrasound helps determine the presence or absence of certain birth defects or abnormalities.

Ultrasound is a very useful diagnostic test. However, it should not be used indiscriminately. To date, there are no known harmful effects from the use of diagnostic ultrasound. If an ultrasound is necessary during your pregnancy, be sure to have a clear understanding of why the test is being done and feel free to ask questions regarding the findings. If you receive a picture from the ultrasound, do not laminate it, as this will ruin the picture.

Non-Stress Testing

A non-stress test is used to closely evaluate the condition of your baby. This test is ordinarily ordered late in pregnancy, usually after the 32nd week, and is customarily done in our office. A fetal heart monitor is attached to your abdomen and the baby's movements and heart rate are recorded over a period of 20 to 30 minutes. The information obtained from this test helps us to decide a course of action related to your pregnancy.

Biophysical Profile

Sometimes ultrasound and non-stress testing are used together. When we do this, we are conducting a physical exam of the baby. We rate baby activity, baby muscle tone, the presence or absence of breathing movements, the amount of amniotic fluid and the placenta's condition. This test is one more way for us to evaluate the current health of your baby.

Amniocentesis

Amniocentesis is a procedure used to draw a small amount of fluid (approximately one ounce) from the bag of water which surrounds the baby during development. This procedure may be done at different times during a pregnancy for various reasons. Early in pregnancy, the fluid will be tested for certain genetic disorders; late in pregnancy, the fluid is tested for infant lung maturity. We refer to a perinatologist in the community for this procedure. They will discuss the risk of the procedure vs the benefits of the procedure at an initial consult.

If You Are Diagnosed With Gestational Diabetes

Mothers with gestational diabetes need to understand the following points:

- What is gestational diabetes and what are the potential risks to me and my baby?
- What are my individual dietary needs?
- What does a balanced exercise program consist of?
- Self-monitoring of blood glucose.
- How to record fetal movement.
- The use of insulin treatment if needed.

Treatment for gestational diabetes includes dietary counseling and blood glucose monitoring. The goal is to maintain a glucose level of between 60-120 mg/dl.

A referral to the Diabetes Center is made for nutritional counseling. The diet is well-balanced, carefully controlling carbohydrate, fat and protein eaten in three meals and two or three snacks daily. Approximately 5 percent of women with gestational diabetes cannot adequately control their glucose levels by dietary management alone and need insulin therapy.

If gestational diabetes is treated appropriately, there is little difference between the outcome of a pregnancy complicated with gestational diabetes and one where blood sugar levels have been normal. However, untreated gestational diabetes has significant consequences. Fetal and neonatal death rates of up to 20% have been reported by researchers. Complications may include large birth weight babies, post delivery low blood sugar for babies and blood chemical imbalance. Children of gestational diabetic mothers may be at greater risk for obesity and development of glucose intolerance later in life.

Sometimes gestational diabetes does not show up until later, somewhere around the 32nd week of pregnancy. If after an elevated gestational diabetes screen, the three-hour glucose tolerance test has only one elevated blood sugar level, care options will be individualized.

An important component of the plan of care is exercise. Walking after a meal can work to decrease blood sugar levels. Other good forms of exercising are swimming, prenatal exercise classes, and stationary biking.

Gestational diabetes is not of itself an indication for early delivery or cesarean section. The timing and route of delivery will be individualized, and the plan carefully worked out between the mother and her doctor.

If Your Rh Factor Is Negative

At the beginning of this pregnancy when we determined you do not have the Rh factor in your blood, therefore you are Rh negative, we also tested your blood for antibodies. One of the antibodies we were especially interested in was the antibody developed to protect you from Rh positive blood cells. Unless you have been told otherwise, your antibody screen was normal. We needed this information because we want to prevent your body during this pregnancy from creating any antibodies against Rh positive blood.

The Rh factor does not affect your general health, but can cause problems during pregnancy. This may occur when an Rh negative mother and an Rh positive father conceive an Rh positive infant. If the positive fetal blood mixes with the mother's negative blood, her blood reacts to the cells as a foreign substance and begins to make antibodies. Once formed, these antibodies do not disappear. They become a permanent part of her defense system. During pregnancy, the antibodies can cross into the fetal blood stream and attack the fetal blood cells, destroying them and causing the infant to become severely anemic. This anemia is known as hemolytic disease.

Hemolytic disease can be prevented if the Rh negative mother has not been sensitized (developed antibodies). This can be accomplished by giving her an injection of a sterilized blood product called Rh immuno globulin (RhoGam). RhoGam works because it is the antibody in a small enough dose not to cause harm but enough to make the mother's body believe she is protected against the invading blood cells. Because her body is not triggered to produce the antibody and RhoGam blood cells die after a time, the mother's body never gets the message to continue to develop the antibody which could harm the fetus. RhoGam is given around the 28th week of pregnancy, and at delivery if the baby is Rh positive. It is also given in any situation where there may be a chance of a mix of maternal and fetal blood, i.e. miscarriage, elective abortion, ectopic pregnancy, first trimester bleeding and amniocentesis. RhoGam is provided with each pregnancy because each time you get pregnant the risk is again present. If this issue applies to you and you have questions, please let the clinical staff help you understand the care and treatment of this condition.

You're On Your Way!

We hope the information found in this booklet has been helpful. There are some topics which were not included that may be of particular interest to you, i.e., breast feeding, fetal growth and development, cesarean birth, etc. Material on most areas of interest is available at local book stores, libraries or the internet.

We also hope you will feel comfortable to ask questions, make suggestions and play an active role as a member of the "team." We wish you a happy, healthy pregnancy and a joyful parenting experience.

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