

SPARROW

Lansing OB/GYN



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. At this time, we will discuss genetic screening and your potential need for tests such as the full serum integrated, Quad test, or amniocentesis.

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 pap smear if it has been a year since you were last screened for cervical cancer. You will also be tested for gonorrhea and chlamydia. If either of these tests are positive, your sexual partner also should receive treatment. His treatment is necessary because these infections are sexually transmitted and can be passed back and forth.

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 is a group practice which has both physicians and nurse practitioners as health care providers. The birthing services of Sparrow Hospital 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. During your pregnancy, you may want to see each physician at least once in order to become acquainted with all of the physicians in the group.

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.

Also in the reception area, the bookkeeper is available to discuss fees and payment plans with you. She will explain this information to you on your first visit so that you can become familiar with office policies. If you have questions concerning fees or payment, please direct these to the bookkeeper.

Changes Occurring During Pregnancy

Physical Changes

Many normal physical changes occur during pregnancy. Learning about these changes may help relieve concerns you might have should 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 bony 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 areola darken and become more pronounced. This is thought to make it easier for the infant to find the nipple. 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.



“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 control 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.
- Get plenty of clean, fresh air.

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.

Constipation

During pregnancy, constipation may be a problem because your growing uterus takes up a part of your digestive systems 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, milk).
- 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 you find that after all of the above measures have been tried to no avail, and you feel that you really need a laxative, you may use one of the natural bulk-type laxatives such as Metamucil® or Citracel®.



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. Bleeding in pregnancy is very frightening. **By performing some laboratory tests**, and possibly an ultrasound, we might determine the cause of the bleeding. We may or may not be able to stop the bleeding but, whatever the case, by calling you will be reassured to know that everything that can be done will be done.
- Severe nausea and vomiting (“severe” meaning several times within an hour).
- Chills and fever over 100½°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.
- 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.

Emotional Changes

Some emotional changes may occur during pregnancy and, if unexpected, could cause you unnecessary anxiety.

Feelings early in pregnancy are often unpredictable. For whatever reason, you may not be happy about being pregnant. This may not be an opportune time for you to have a baby, and you may have guilt feelings as a result. On the other hand, you may feel very excited and happy about the prospect of motherhood, but underlying this happiness is a certain uneasiness or apprehension about the changes in the future. Both extremes are normal, and one of the best ways to deal with them is to talk about your feelings and apprehensions, and to increase your awareness of these changes.

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 commonplace. You may lash out at those individuals closest to you and then feel guilty later. Mood swings are a result of the many physical and psychological changes taking place within your body. As hormones level off, and as you become more comfortable with the idea of being pregnant, your emotions will stabilize. Reassure your partner that emotional changes are a normal part of pregnancy.



Dos 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 for the health and the health of your little children, that you do not resume smoking 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 250 mg. per day. An 8 oz. serving of coffee has 100 mg. of caffeine; a 12 oz. can of cola has 50 mg. of caffeine; tea has 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.



General Prenatal Care

Diet

During your initial visit, the nurse will review your responses to nutritional assessment questions. Often a slight change in daily eating habits may be all it takes to ensure a quality pregnancy diet.

One of the most valuable contributions you alone can provide for the baby you are carrying is to choose to eat a well-balanced diet during pregnancy. This diet should never be a weight reduction diet and should include all the basic food groups with a daily intake of approximately 2,000 to 2,500 calories.

This practice's health care providers are responsible for helping guide you to eat a well-balanced diet designed to maximize you and your baby's good health.

Circle the response which best identifies your diet habits **before** you became pregnant.

1. On average, the number of servings I eat of bread/grains, rice and pasta daily is:
one *two-three* *four-five* *more than five*
2. I eat at a restaurant or carry-out service:
never *1-3 times a month* *1-3 times a week* *once a day* *more than once a day*
3. I eat meat (beef, pork, chicken, or fish):
occasionally *1-3 times a week* *5-7 times a week* *more than once a day*
4. I eat vegetables:
occasionally *once a day* *several times a day* *several times a week*
5. I eat/drink milk and/or milk products:
occasionally *once a day* *twice a day* *3-4 times a day*
6. Fruit and/or fruit juice is part of my diet:
occasionally *once a day* *several times a day* *several times a week*
7. I drink a caffeinated beverage (coffee, tea or colas):
occasionally *once a day* *several times a day* *several times a week*
8. I drink an 8-oz. glass of water:
0-4 times a day *4-8 times a day* *8-12 times a week*
9. I eat breakfast:
never *occasionally* *most of the time* *always*
10. I drink an alcoholic beverage (beer, wine, liquor):
never *once in a while* *once a week* *daily*



The United States Department of Agriculture officially endorsed the Food Guide Pyramid in 1992. (Figure 1). You can learn how to eat well by looking at the pyramid from the base, or ground level, up. Good nutrition begins with foods from the three food groups that form the pyramids foundation. Topping off a balanced diet are selections from the two food groups near the top of the pyramid.

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

The Food Pyramid Guide

The Pyramid is an outline of what to eat each day. It is a general guide that lets you choose a healthful diet that is right for you.

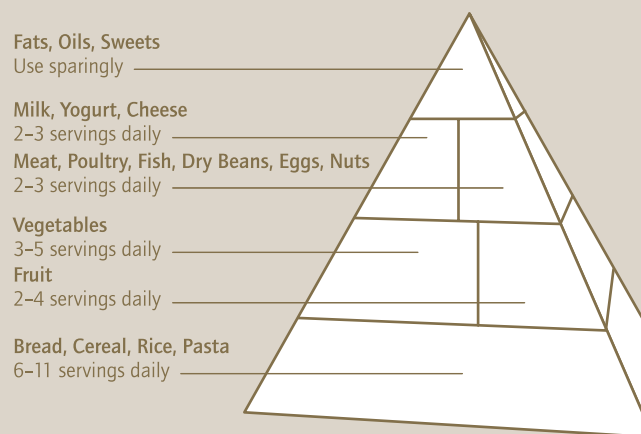


Figure 1

Most women overweight, normal weight or underweight 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 2.)

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 3 is provided to give you some guidance with individual portions when planning meals. Remember, avoiding large amounts of concentrated sweets 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 >19.8)	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 menarche) 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 2

What counts as a serving?

Bread, cereal, rice, pasta

- 1 slice of bread
- ½ bagel or hamburger bun
- 1 ounce of ready-to-eat cereal
- ½ cup of cooked cereal, rice, or pasta

Vegetable

- 1 cup of raw leafy vegetables
- ½ cup of other vegetables, cooked or chopped raw
- ¾ cup of vegetable juice

Fruits

- 1 medium apple, banana, orange
- ½ cup chopped cooked or canned fruit
- ¾ cup of fruit juice

Milk, yogurt and cheese

- 1 cup of milk or yogurt
- 1½ ounces of natural cheese
- 2 ounces of processed cheese

Meat, poultry, fish, dry beans, eggs, and nuts

- 2–3 ounces of cooked lean meat, poultry, or fish
- ½ cup of cooked dry beans, 1 egg, or 2 tablespoons of peanut butter

Figure 3

Sexual Intercourse

There are many questions and misconceptions about sexual intercourse during pregnancy. If your pregnancy is normal, sexual intercourse will not harm the baby in any way. 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.

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.

Travel

Travel of any kind (car, plane, train) does not need to be restricted up until a few months of your expected date of delivery, 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 tell 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 3-5 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 allow the uterus to ride between the two securing belts. The lap belt needs to be 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 long-distance 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.

Toxoplasmosis

Toxoplasmosis may be a word you have never heard before or it may be a word whispered by some well-meaning advice giver who told you to consider your cat dangerous. 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; and
- 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.

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.



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.

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. Remember - there are some conditions such as a small pelvis or a previous uterine incision, one that goes up and down, that do not change. These conditions require a repeat cesarean section.

Lansing OB/GYN Associates 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 affords a more rapid recovery time as evidenced by less fatigue and a smoother, more rapid return to pre-delivery activity level. There is no disputing the economic gains of vaginal birth over cesarean; the length of hospital stay is shorter and total hospital costs are reduced because of the decreased use of special environments, like operating suites.

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 in tone. Remember to wear sensible shoes and use common sense in relation to distance and weather conditions. 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. 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 4 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 and helps you feel graceful even late in pregnancy.

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 and a feeling of camaraderie with other pregnant women. 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.

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 4

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, or if you have fluid leaking from your 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 and the trend toward one method or the other has varied considerably. In the past, whether or not to breast-feed has seemed dependent on fashion and not necessarily on whether it was beneficial to mother and infant.

You should at least 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.



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 below.

Gestational Diabetes Screening

At Lansing OB/GYN, 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 cola, either at home or 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.

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 consists 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 mortality 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.

After the baby is born, what are the consequences of gestational diabetes for the mom? At the six-week postpartum checkup, a follow-up blood test will be done to be sure mom's blood sugar levels have returned to normal. Life-time periodic blood sugar surveillance is needed because the risks of becoming a diabetic is greater. With the next pregnancy, blood sugar screening is done at the first OB visit and at 28 weeks.

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.



The Quad Test and Serum Integrated Test

The Quad Test (formerly the Triple Test) is a blood test that can help identify babies that may have certain birth defects. Conditions that the Quad Test can help detect include Down Syndrome, Trisomy 18, spina bifida, anencephaly, ventral wall defects and Smith-Lemli-Opitz syndrome. The test is not effective for twin or triplet pregnancies. For those who choose to take the test, a blood sample is collected between 15 and 22 weeks of pregnancy. The test uses the levels of four pregnancy hormones in the blood 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 quad Test 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. About 19 out of 20 babies with an “abnormal” Quad Test report will be found to be normal after additional testing is completed.

The Serum Integrated Test adds an additional blood sample, drawn between 10 and 13 weeks of pregnancy, to the Quad Test. By combining the result with the other four, the Serum Integrated Test cuts in half the chance of getting an “abnormal” result (and thus the need for further investigation) while improving its ability to identify those pregnancies that have a problem.

Who should take the Quad Test or Serum Integrated Test?

Since the Quad Test and Serum Integrated Test can neither diagnose a birth defect nor guarantee the absence of a birth defect, the reason to take either test is to determine whether a diagnostic test, such as amniocentesis, would be helpful to learn more about the health of the baby. Since amniocentesis is an invasive procedure that can cause a miscarriage in one out of every 200 or 300 cases, parents must decide if the information the test provides is worth taking the small risk to obtain it. The desire to have advanced knowledge of birth defects varies among families and even between pregnancies within a family. A few groups of typical parents and the choices they make are described below:

- Some people are very interested in having as much information as possible early in pregnancy so that they can feel that they are making well-informed decisions. They might consider terminating the pregnancy if it is severely affected, or they may wish to become better informed about the birth defect and to prepare themselves to care for a child that will have special needs. People in this group usually feel that it is important enough to have this information to take the small risk of miscarriage associated with amniocentesis. The Quad Test or Serum Integrated Test is a good way for them to find out if an amniocentesis would be necessary to learn more about their pregnancy.
- Others feel that knowledge of a birth defect would not change the way they would approach their pregnancy. They would not consider terminating the pregnancy for any reason. People in this group usually feel that the risk of miscarriage associated with amniocentesis far outweighs the value of the information it could provide. They do not usually need to consider the Quad Test or Serum Integrated Test, as the results would not change their plans during the pregnancy.
- A third group of parents are those who feel less certain about how the results of the Quad Test or Serum Integrated Test would affect their pregnancy plans. They might be strongly interested in having information about their baby’s health, yet be reluctant to accept the risks associated with amniocentesis. They often have received much advice from friends and relatives but still feel undecided about what makes the most sense for them. People in this group often reach a decision by asking themselves which would be worse:
 - a) to have declined testing, later to discover that their baby had a detectable birth defect, or
 - b) to have taken the Quad Test or Serum Integrated Test, undergone an amniocentesis, and experienced a miscarriage of what was most likely a normal pregnancy

Knowing what the least worst choice is can help make a difficult decision a little easier to make.

It is important to keep in mind that the Quad Test and Serum Integrated Test are only tools 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. Receiving an abnormal test result is very distressing to parents and the reassurance that everything is okay can require undergoing amniocentesis and waiting for two to three weeks for the final results. Before taking either test, consider the possibility of a false-positive test result and your willingness to undergo further testing.

Chorionic Villus Sampling

Chorionic Villus Sampling (CVS) is a new technology that allows prenatal genetic testing in the first trimester of pregnancy. It is an outpatient procedure and does not require anesthesia. The results are back in about two weeks. This test is not done locally. Information is available for you related to cost and the location of health centers that perform the test. We are prepared to discuss this option with you if you feel you are a candidate for this procedure.

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. In either case, the physicians in this practice perform the procedure.

Amniocentesis is done as an outpatient and, depending on the information needed, the results can be obtained in as little as four hours or as long as two to three weeks. Regardless of the reason for the test, the technique used is the same. With a full bladder, and using ultrasound to visualize the baby and locate the placenta, one of the physicians in the practice will insert a needle through the abdomen after a local anesthetic has been used to numb the skin. The needle will penetrate the wall of the uterus and the needed fluid will be drawn off. The test takes only a short time, and after the test you will be monitored with a fetal monitor to assess how your baby is doing following the procedure.

Amniocentesis is a procedure that is not without risk. However, the risk of amniocentesis is not great. Your increased risk of a problem due to the procedure is one third to one half of 1 percent. If you require this procedure, it is important for you to know that the risks are miscarriage and infection.



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 reasons 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.

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 and libraries.

We also hope you will feel comfortable with our approach to health care delivery, and we invite you 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.

Suggested Reading

Pregnancy & Childbirth

- Albi, Linda, et al. *Mothering Twins*. 1993.
- Brown, Judith. *Nutrition & Pregnancy — A Complete Guide from Conception to Post Delivery*. 1998.
- Curtis, Glad. *Your Pregnancy: Week by Week*. 1998.
- Eisenberg, A., et.al., *What to Expect When You're Expecting*. 1996.
- Hotchner, Tracie. *Pregnancy & Childbirth*. 1997.
- Lavin, Ellen. *Essential Over 35 Pregnancy Guide*. 1998.
- Nilsson, Lennart. *A Child Is Born*. 1990.
- Noble, Elizabeth. *Essential Exercises For the Childbearing Year*. 1995.
- Scattergood, Emma. *Your Pregnancy Work Out*. 1998.

Child Care & Parenting

- Better Homes & Gardens. *New Baby Book*. 1998.
- Brazelton, T. Berry, MD. *Touchpoint: Your Child's Emotional & Behavioral Development*. 1994.
- Huggins, Kathleen. *The Nursing Mother's Companion*. 1999.
- Leach, Penelope. *Your Baby & Child: Birth to Age 5*. 1997.
- Manginello, Frank. *Your Premature Baby*. 1998.
- Mason, Diane. *Breast Feeding & The Nursing Mother*. 1997.
- Pantell, Robert, et al. *Taking Care of Your Child: A Parent's Guide to Medical Care*. 1998.
- Sundermeyer, Colleen. *I Want My Body Back: Nutrition & Weight Loss For Mothers*. 1998.

Using the Internet as a Resource

For many parents the Internet is another source of information on pregnancy and parenting. Information on the World Wide Web should be evaluated carefully. Consider its believability, authority, evidence, support and logic.

- Check for author credits or the name of the organization posting the information.
- Some sites include a list of references or a bibliography.
- Check the institution that supports the page. A web site supported by a university or a well-established organization will probably be a more objective source of information than those sponsored by a commercial entity.
- Check the date when the information was updated last. Some sites are posted and then left unattended and the information becomes quickly outdated.



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