

Welcome to Los Olivos Women's Medical Group

We are pleased that you have chosen our office for your obstetric care. Our approach toward your care is to educate you and work together with you to make your pregnancy a wonderful and memorable experience. To help achieve this goal, please read this information booklet and visit our website www.lowmg.com.

Los Olivos is affiliated with South Bay Surgical Center. The South Bay Surgical Center has been awarded accreditation from the Joint Commission for office based surgery. The Joint Commission sets standards for patient safety and quality of care in outpatient care settings. Accreditation by the Joint Commission demonstrates commitment to highest level of care by Los Olivos Women's Medical Group.

Los Olivos is also accredited by the American Institute for Ultrasound Medicine (AIUM). Los Olivos has achieved accreditation in recognition that the practice has met voluntary standards set by the diagnostic ultrasound profession. The entire practice was reviewed, including the practice's personnel; physical facilities; documentation, storage and record-keeping practices; policies and procedures; quality assurance methods; and how the practice meets the AIUM Standards.

Los Olivos Women's Medical Group Physicians

As specialists in the health care of women, all of the physicians are board certified or board eligible Fellows of the American College of Obstetrics and Gynecology. The physicians are also members of the American College of Obstetricians and Gynecologists.

Dr. Elizabeth Adie: College - Michigan State University; Medical School - Wayne State University School of Medicine; Residency - University of Texas at Houston

Dr. Kristine Borrison: College - Santa Clara University; Medical School - Medical College of Pennsylvania; Residency - Kaiser Permanente, Santa Clara

Dr. Jennifer Conwell: College - Cornell University; Medical School - University of California, San Francisco; Residency - University of California, Davis

Dr. Mary Imig: College - University of Nebraska; Medical School - Howard University College of Medicine; Residency - University of California, Los Angeles

Dr. Karen Kunzel: College - University of California, Santa Barbara; Medical School - University of Southern California; Residency - University of Southern California

Dr. Tamara Neuhaus: College - Williams College; Medical School - University of California, San Diego; Residency - Kaiser Permanente, Santa Clara

Dr. Charlene Reimnitz: College - Stanford University; Medical School - Case Western Reserve University; Residency - University of California, Los Angeles

Dr. Gordon Rosenberg: College - Stanford University; Medical School - Mount Sinai School of Medicine; Residency - Winthrop University Hospital, University of New York

Dr. Martin Silverman: College - Brown University; Medical School - University of South Florida College of Medicine; Residency - University of California, Los Angeles

Practice Information

Appointments

You may schedule appointments before or after your office visit or by calling our office. If you have been advised about the need for an ultrasound or non-stress test, please tell the receptionist so that this can also be scheduled. Additional appointments may be scheduled as needed.

Visits are typically scheduled as follows for an uncomplicated pregnancy:

- First appointment between 8 and 12 weeks
- Every 4 weeks until 30 – 34 weeks
- Every 2 weeks until 36 weeks
- Every week until delivery

Our physicians are dedicated to their patients. Your obstetrician may be called out of the office to deliver a baby or tend to an emergency when you are in for a visit. We ask for your understanding and patience. We would be happy to offer to reschedule your appointment or you may wait for your physician to return.

Office Hours

Our office is open Monday through Friday from 8:00 am to 5:00 pm. We are located at 15151 National Avenue in Los Gatos on the corner of Carlton Avenue and National Avenue, next to the Los Gatos Surgical Center.

After Hours

For urgent concerns that cannot wait until regular office hours, you may contact a Los Olivos physician by calling the answering service at (408) 554-2872. When you call, describe your problem and the physician on call will return your call as quickly as possible. Please limit your calls to true emergencies. Unblock your telephone if necessary to receive calls from private numbers. Have your pharmacy number available and please make sure that they are open. Physicians on call are sometimes in surgery or delivering a patient and may not call back immediately. If you need to go to labor and delivery or the emergency room and your call has not been returned, please do so. Do not call the emergency number for medication refills or routine questions.

Communication

Feel free to ask questions or discuss concerns at scheduled appointments. We welcome and encourage you to call the office if you have any medical problems or additional questions. Please make non-emergency calls during office hours when your records are available. Nurses will convey information to and from your physician during the day. If you wish to speak with a physician, your call will be returned at the end of the day, if possible. Please always have your pharmacy phone number available.

Laboratory Testing

Los Olivos is not affiliated with any laboratory. Most patients are required by their insurance to have blood work at Quest Laboratory or Hunter Laboratory. If your insurance requests that you go to a different lab, please inform your physician. It is your responsibility to determine which lab is covered by your insurance. The policy at Los Olivos is to call patients with abnormal results only. Usually, no news is good news. If

you would like to hear that your results are normal, please leave a voice mail message with your doctor's nurse. To locate your chart more readily, please spell your first and last name, indicate which doctor you see, and your date of birth. Please leave a phone number(s) where you can be reached and the best time for us to contact you. Results will not be left on an answering machine or with anyone other than you without your permission.

Childbirth Education and Hospital Tours

Sign up for a birthing class early in your pregnancy as you may not be able to take it at the time or place of your choice if you wait until the third trimester to register. Los Olivos birthing classes are designed to help both new and experienced parents prepare for childbirth. With adequate knowledge and preparation, expectant parents are encouraged to take an active role towards a healthy and fulfilling pregnancy and childbirth. A cesarean section class is also available. Classes are taught by experienced registered nurses certified in childbirth education. The instructors are committed to providing the most current pertinent and practical birth information. Dates and information about classes are available at www.lowmg.com/office/classes.html

Register for Los Olivos classes at 356-0431 extension 209, or by email: CBEclass@lowmg.com. Good Samaritan Hospital offers childbirth education classes, breast-feeding classes, infant CPR and sibling classes. Register by calling 559-BABY. Tours of Good Samaritan Hospital labor and delivery and the mother and baby suites are included with the birthing classes or can be arranged separately by calling 559-BABY.

Anesthesia Information

GSH offers a free informational monthly meeting to discuss pain control options during labor and delivery. The discussion is led by an anesthesiologist (pain relief MD) and covers many topics including epidurals and narcotics. The meeting is the first Tuesday of every month at 7:00 pm in the Good Samaritan Hospital auditorium. Call 559-BABY for more information. An anesthesiologist is available on the labor and delivery unit for your safety at all times. This service is provided by physicians in Group Anesthesia Services. More information about the group is available at www.groupanesthesia.com.

Hospital Registration

Los Olivos Women's Medical Group delivers babies at Good Samaritan Hospital. You will be provided with a hospital registration form during the third trimester of your pregnancy or you can download it from the Los Olivos website or at <https://prereg.app.mediccity.net>. After completing the form, FAX it to Good Samaritan Hospital admissions at (408) 559-2675. They will need a copy of your insurance card and driver's license with the form. The completed form can also be dropped at the admissions desk located in the lobby of Good Samaritan Hospital.

Cesarean Section Scheduling

If you are planning a cesarean section, they are typically scheduled in the week before your due date to avoid going into labor and to be certain the baby's lungs are mature. A cesarean section in a high risk pregnancy may be scheduled earlier if necessary. Once you and your physician agree on a date, please contact Celeste so that the surgery can be scheduled. Her phone number is (408) 358-4835 and email is celestec@lowmg.com

Billing

The global fee for a normal vaginal delivery without complications includes all routine pregnancy related office visits, vaginal delivery and the postpartum visit. The fee does not include laboratory testing, ultrasounds, or additional visits due to complications of pregnancy. These are additional services that are billed to your insurance carrier.

If you require a cesarean section, the surgeon and assistant surgeon have additional fees. Unfortunately, complications during a pregnancy or in delivery can occur. Any charges incurred for complications are not included in the fee for a normal vaginal delivery.

Office visits for non-pregnancy related issues such as colds or urinary tract infections are typically not covered by your “global” fee and will be charged as a separate visit outside the global fee. Hospital visits outside of admission for delivery are billed separately as they are not included in the global fee.

Insurance and Financial Agreement

After your first obstetrical appointment, please visit our financial counselor to determine an estimate of your out-of-pocket expenses for an uncomplicated vaginal delivery or repeat cesarean section. We will make every effort to work with you and your insurance company. The counselor will contact the insurance company to determine your level of benefits. Your portion of the estimate, including the deductible, should be paid by the 26th week of your pregnancy. Pre-certification is simply a statement that the insurance carrier has been notified and believes that the admission is medically necessary. It is not a guarantee of benefits.

Please keep in mind that we have no control over hospital charges and that you will receive separate bills from the hospital, laboratory and anesthesiologist. If you have any questions regarding billing, insurance, or the financial arrangement, please call Celeste at (408) 358-4835 or email her at celestec@lowmg.com.

Directory

The Los Olivos daytime number is **(408) 356-0431**. Please choose the appropriate extension to move through the voice mail. You may also dial many of the extensions directly. If you are calling about an emergency, push “0” to speak with the Los Olivos operator. Voice mail messages left after hours will be returned on the next business day.

The after hours emergency number is **(408) 554-2872**. Please call if you are in labor or have an emergency that cannot wait until normal business hours. If the electricity to the office is interrupted due to severe weather, the phones will not work. Please call the exchange at the after hours number to contact a physician.

Perinatal Diagnostic Centers

Genetic counseling, High-Risk Pregnancy consultation, Nuchal Translucency, Amniocentesis, Sweet Success Diabetes Program

- Obstetrix Medical Group: (408) 371-7111. Address: 900 E. Hamilton Ave, Suite 220, Campbell, CA <http://sanjose.obstetrix.com/>
- Stanford University Perinatology Group: (650) 725-7030

Directory (continued)

Preregistration for Good Samaritan Hospital admissions: FAX: (408) 559-2675 or
<http://goodsamsanJose.com/patients/registration-information.dot>

Office Phone numbers

For Physicians	Receptionist Phone	Medical Assistant Phone (408) 356-0431 extension xxx
Elizabeth M. Adie, MD	358-4847	247
Kristine A. Borrison, MD	358-4847	223
Jennifer Conwell, MD	358-4832	206
Mary L. Imig, MD	358-4830	228
Karen E. Kunzel, MD	358-4834	249
Tamara B. Neuhaus, MD	358-4832	254
Charlene E. Reimnitz, MD	358-4838	239
Gordon S. Rosenberg, MD	358-4830	277
Martin S. Silverman, MD	358-4834	250

FAX numbers: Please have your pharmacy FAX all prescription refill requests

Office	FAX number	Office	FAX number
General Office	408 356-8569	Imig	408 358-9142
Business Office	408 358-1602	Kunzel and Silverman	408 356-6461
Administration	408 358-3962	Adie and Borrison	408 358-6372
Reimnitz	408 358-6352	Neuhaus	408 827-3035
Rosenberg	408 827-3035	Conwell	408 356-8569

Frequently called numbers

Financial counseling Cesarean section scheduling celestec@lowmg.com	408 358-4835	Los Olivos Childbirth classes cbe@lowmg.com	408 356-0431 ext. 209
Good Samaritan Hospital Main number	408 559-2011	Group Anesthesia Services	408 354-2114
Labor and Delivery	408 559-2327	Vaccination Clinic Suite 2 Los Olivos building	408 356-9500
Good Samaritan Hospital Birth classes and tours	408 559-BABY	Hospital Admissions FAX	408 559-2675

Laboratory Information (locations and phone numbers on the request forms)

- Quest laboratory: (800) 288-8008 #2 www.questdiagnostics.com
- Hunter laboratory: (Suite 1 at Los Olivos) (408) 402-0600 <http://www.hunterlabs.com/>

Medication Use in Pregnancy

The following medications have been taken during pregnancy and have not been shown to cause birth defects. Even so, we recommend not using any medication unless necessary. If you take a medication routinely for a medical problem and are unsure about the medication, please contact our office before discontinuing that medication. Take all medications according to the manufacturers directions listed on the bottle unless otherwise directed by your physician.

Acne medications (topicals are allowed)

Antacids (Mylanta, Maalox, Pepcid AC, Tums, Zantac)

Antibiotics (Keflex, Macrochantin, Macrobid, Amoxicillin, Penicillin, Zithromax, Clindamycin, Cipro)

Antihistamines (Allegra, Benedryl, Claritin, Chlor-Trimeton, Dimetapp, Tavist, Zyrtec)

Anti-nausea medications (Phenergan, Zofran, ½ Unisom plus Vitamin B6, Reglan, Scopolamine patch, Ginger)

Antiviral medications (Acyclovir, Valtrex)

Blood pressure medications (Nifedipine, Aldomet, Propanolol, Labetolol)

Cold medications (Airborne, Theraflu)

Cough drops/lozenges/syrups (Cepacol, Herbal cough drops, Robitussin, Vicks)

Decongestants (Actifed, Sudafed, Entex)

Kaopectate

Gas-X

Hemorrhoids (Anusol HC, Preparation H, Tucks, Analpram)

Laxatives (Ducolax, Miralax, Milk of Magnesia)

Pain medications (Codeine, Vicodin, Darvocet, Demerol, Morphine)

Nasal sprays (Afrin, Beclovent, Flonase, Nasonex, Neosynephrine, Saline, Ventolin)

Pepto-Bismol

Sleeping medications (Tylenol PM, Sominex, Unisom, Ambien, Sonata)

Stool softeners (Benefiber, Colace, Citracel, Fibercon, Metamucil)

Thyroid medicine (Synthroid, Thyroxine)

Tocolytics to stop labor (Terbutaline, Ibuprofen, Nifedipine)

Tylenol

Vitamins (Vitamin C, Airborne, Vitamin B6)

Yeast medications (Monistat, Gyne-Lotrimin, Femstat, Terazol, Diflucan)

Medication you should **NEVER** take during pregnancy includes: Accutane, Lithium, Tetracycline, Vibramycin, Minocycline. Though Ibuprofen (NSAID – anti-inflammatory drugs) or aspirin may be prescribed by your physician for certain medical conditions during your pregnancy, we recommend against routine use without your doctors advice.

Other medications may be safe or have minimal risk but should be discussed with your physician before taking the medication. Most fall into the “unknown category”. This means that there is no documentation of their safety during pregnancy.

The following medications may be taken safely during pregnancy. We recommend that you try non-drug treatments first. For example, if you have a headache, try lying down in a quiet, dark room. If you do not get relief, please use the following guidelines. If a prescription is necessary, an Rx will appear next to the medication.

Cold/Sinuses

Tylenol Cold
Sudafed/Actifed
Airborne/Theraflu
Nasal crom - Rx
Dristan
Breathe Right Strips
Nasonex - Rx
Flonase - Rx

Allergies

Claritin
Zyrtec
Tylenol Sinus
Chlor-Trimeton
Benadryl
Dimetapp
Tavist
Allegra - Rx

Antibiotics - Rx

Ampicillin
Amoxicillin
Clindamycin
Macrobid
Zithromax
Keflex

Depression

Prozac - Rx
Zoloft - Rx
Wellbutrin - Rx

Itching

Benedryl
Atarax - Rx
Aveno

Cough

Robitussin DM
Robitussin Plain
Dextromethorphan
Vicks Vapo Rub
Cepacol

Heartburn

Tagamet
Zantac
Pepcid
Tums/Rolaids
Gas-X
Pepto-Bismol

Antivirals - Rx

Zovirax
Acyclovir
Valtrex

Constipation/Stool softeners

Fibercon
Metamucil
Citrucel
Benefiber
Miralax
Ducolax (laxative)

Headache

Fioricet - Rx
Tylenol

Indigestion

Tums/Rolaids
Mylanta
Maalox
Gas-X

Diarrhea

Imodium
Kaopectate

Antivirals - Rx

Acyclovir
Valtrex

Nausea/Morning Sickness

Scopolamine patch - Rx
Unisom 1/2 tablet with Vitamin B6
Phenergan - Rx
Zofran - Rx
Reglan - Rx

Sore Throat

Halls drops
Chloraseptic Spray
Cepacol
Sucrets

Yeast Infection

Mycelex
Gyne-Lotrimin
Monistat
Femstat
Terazol - Rx
Diflucan - Rx

Aches/Pain/Fever

Tylenol #3 - Rx
Vicodin - Rx
Tylenol

Hemorrhoids

Anusol HC
Tucks
Hydrocortisone cream
Analpram - Rx
Preparation H

Rx = needs a prescription

Teratogen (Birth defect) Information

OTIS Pregnancy Risk Information -OTIS provides accurate clinical information to patients about exposures during pregnancy and lactation. www.OTISpregnancy.org or (800) 532-3749

National Pesticide Information Center (800) 858-7378

Frequently Asked Questions in Pregnancy

What can I take for a headache? Tylenol is safe to take for a headache, fever or any general discomfort. Follow the recommended dosage on the bottle.

What can I take for a cold? Sudafed or Actifed is safe to take for a decongestant. Robitussin is safe to take for a cough. Tylenol is safe to take for fever, aches, and pains. Sore throat lozenges are safe to take for a sore throat. You may use Airborne.

What can I do if I have been exposed to chicken pox? There is no danger to your baby if you have previously had chicken pox. If you are not sure, a blood test can be done to determine if you are immune. If you are not immune, please call your physician.

What do I do if I have been exposed to Fifth's Disease (Parvovirus B19)? It is likely that you have had the disease as a child and are therefore immune. If you are not sure, a blood test can be done to determine your immunity. It is not likely that you will contract the disease with casual contact. Good hand washing and hygiene are important to prevent infection. Please call your physician if you have been exposed. More information is available at www.cdc.gov/ncidod/dvrd/revb/respiratory/B19&preg.htm

What should I do if I am exposed to Hand, Foot and Mouth Disease? HFMD is a common illness of infants and children and is characterized by fever, sores in the mouth, and a rash with blisters. It is caused by an enterovirus and does not harm a pregnant mother or the fetus. Good hygienic practices will prevent its spread.

How late in my pregnancy can I travel in an airplane? Please discuss with your doctor if you plan to travel during the third trimester, as some physicians do not allow travel after 28 weeks. You should never fly in an airplane after your 34th week of pregnancy. When traveling, it is important to drink plenty of water and to get up and walk about the cabin of the plane every hour. Please check with your insurance company to make sure you are covered outside the San Jose area should an emergency arise. Airport screening will not harm the baby.

Can I sleep on my back or abdomen? You may sleep on your back until the third trimester as long as you are comfortable. When your uterus is large enough to compress your major blood vessels causing hypotension (low blood pressure), you will become nauseous and dizzy. Placing a pillow under one hip should prevent these symptoms. You may sleep on either your left or right side. Sleeping on your abdomen does not harm the baby and can be continued as long as comfortable.

What can I do if I am constipated? Increase oral fluids, dietary fiber (fresh fruits and vegetables), and exercise (walking). You may try Citrucel, Benefiber, or Fibercon. Coffee and herbal teas can also have a laxative effect and alleviate constipation. Miralax is safe and effective. For severe constipation, Ducolax suppositories or Fleet's enema may be used.

When can I expect to feel the baby move? You can expect to begin to feel the baby move at about 20 to 22 weeks of pregnancy. You may not feel daily regular movements until 28 weeks of pregnancy.

Is it normal for my pelvis to ache? Early in pregnancy it is normal to feel cramping as the uterus grows and discomfort as the ligaments stretch. During the second trimester, it is normal to feel pains in the pelvis as the uterus grows, your skin stretches, and the baby

moves around. During the third trimester, it is common to have a backache and sciatica. Sciatica causes shooting pains down the back of the leg and buttocks. Toward the end of the third trimester, ligaments in the hips and pelvis loosen causing discomfort. The baby may kick nerves on the inside of the uterus causing shooting pains toward your upper abdomen or vagina. Areas of numbness may also occur on your abdomen. If you are concerned about preterm labor, please call your physician.

Is spotting normal in the third trimester? It is common to have spotting or bleeding during the last month of pregnancy after vaginal exams or intercourse. This is caused by hormonal changes that cause the cervix to soften. It is also common to have slight bleeding in early labor. Call the office for heavy bleeding (like a period), prolonged bleeding, or bleeding associated with pain.

I have asthma (or allergies). Can I continue my regular medications? Yes, you need to be healthy for the baby to be healthy. Use of inhalers such as Ventolin, Asthmacort, Proventil, Advair, Nasonex or Flonase will help to keep the breathing passages open. Claritan, Benadryl, Dimetapp, Zyrtec and Tavist are antihistamines in this category that can be taken safely during pregnancy.

You say I am 20 weeks pregnant. How many months is that? Obstetricians have standardized timing a pregnancy to 40 weeks. The first day of your last menstrual period is used to calculate your due date. Twenty weeks is exactly half way through your pregnancy or about 4 1/2 months along.

My dentist needs to take X-rays. Is that okay? You should continue to care for your teeth in the normal manner. If X-rays are necessary, your dentist will shield the baby. Filling cavities or taking antibiotics if prescribed by your dentist is safe and desirable as pregnancy can increase dental disease and cause preterm labor. Ampicillin is the most commonly prescribed antibiotic and is safe during pregnancy. Lidocaine for pain relief can be used as necessary.

Can I paint or remodel the baby's room? Many paints, glues and flooring materials can release toxic chemicals long after you complete a project. Ask for "VOC-free" and "water-based" materials. Let your husband or someone else do the remodeling and painting. Avoid solvents and oil based paints. Keep the room well ventilated.

My feet are swollen. Is that normal? Mild swelling of the ankles and legs is related to the normal and necessary increase in body fluids during pregnancy. To ease the discomfort, elevate your legs or lie down when you can. Wear comfortable shoes and avoid elastic-top socks or stockings. Drink at least sixty ounces of fluid each day. Support hose may help ease the discomfort.

Is it okay to have my hair colored, highlighted or permed? What about artificial nails? Can I get manicures or pedicures? What about spray tanning and tooth whitening? There is no information that any of these procedures will hurt your baby. Please weigh any benefits against any unknown potential risks.

Will it hurt the baby if I don't take prenatal vitamins? Taking prenatal vitamins with folic acid or folic acid alone during the first trimester may decrease the incidence of neural tube defects such as spina bifida. There is no data that taking vitamins after the first trimester benefits the baby.

I would like to take a hot bath. Is that okay? Studies show that hot saunas during the first trimester may cause miscarriage. There is no evidence that baths up to 100 degrees Fahrenheit cause any fetal harm.

I have a sinus infection. Can I take antibiotics? Yes, the only antibiotic that you should absolutely not take in pregnancy is tetracycline. Avoid sulfa and quinolone antibiotics like Cipro in the third trimester if possible. Zithromax is frequently prescribed during pregnancy and is safe.

Will higher elevations and altitude be harmful to the baby? No, but if you have any difficulty breathing you should return to a lower elevation. Stay hydrated.

Is it okay to have sexual intercourse during pregnancy? There is no evidence that sex causes miscarriage or premature labor in low risk pregnancies. The baby is inside the uterus surrounded by amniotic fluid and the placenta. You may be sexually active until labor starts unless your physician instructs you otherwise. Lubricants such as Astroglide or KY jelly are not harmful. A small amount of spotting during the 24 hours following intercourse is common. Do not have any sexual activity if you have a placenta previa, preterm labor or your amniotic membranes have ruptured.

It feels as if my heart is racing. Is that normal? Yes, it is common to have palpitations. Notify your physician if you have fainting spells.

What can I use to relieve the discomfort of hemorrhoids? Use Anusol HC cream or Tucks medicated pads to relieve hemorrhoidal discomfort. Increase the fluids and fiber in your diet to decrease constipation.

I have varicose veins. Is there anything I can do to alleviate the discomfort and prevent them from getting worse? Avoid long periods of standing or sitting. When sitting elevate your legs above the level of your hips. Try wearing support panty hose throughout the day. Exercise, such as walking 20 to 30 minutes daily, is also helpful. If you are experiencing uncomfortable vulvar varicosities, wearing maternity or bicycle shorts may help.

Should I get the flu shot? All women who will be pregnant during influenza season (Oct. - May) should be vaccinated, regardless of their stage of pregnancy. The vaccine should be thimerosal (mercury) free. H1N1 is included with all flu shots and is recommended.

Is it safe to exercise? Yes. In an uncomplicated pregnancy, we recommend exercise as it makes labor easier, decreases the incidence of preterm labor as well as cesarean section. If an exercise causes cramping, shortness of breath, or pain, then decrease the intensity or stop exercising and discuss with your doctor. You should be able to carry on a conversation while you exercise. It is not necessary to keep your heart rate below 140. Contact sports such as soccer, ice hockey, skiing, horseback riding, and water skiing are strongly discouraged. Scuba diving is not safe at any time during pregnancy.

When do I have to stop running or riding my bike? You can run and ride your bike as long as you are comfortable doing so. Your ligaments will become softer and stretch after 28 weeks. If you have knee pain, you should discontinue running. Your balance will change during your third trimester, which may limit your ability to run or ride. Please use common sense and stop before it becomes a problem.

I drank wine, beer or alcohol before knowing I was pregnant. Will that harm my baby? The baby has different blood circulation very early in pregnancy. A small amount of

alcohol before missing a period is very unlikely to hurt the baby. After you know that you are pregnant, you should avoid all alcohol.

I have a belly piercing. What should I do? Remove the ring before it starts to stretch. If you want to replace it during the pregnancy, see www.pregnancypiercing.com.

I just had an ultrasound and they gave me a different due date. Is my baby due at a different time? If the dates are off by more than 2 weeks, the due date may be changed. The ultrasound machine does not know when you got pregnant. It is giving an estimate based on the size of the baby. If you have a large baby, it may appear that you are further along in your pregnancy. Babies can be smaller than dates and still be healthy. Your doctor will confirm your final due date.

What can I do about leg cramps? Leg cramps are common during pregnancy, especially in the second and third trimester. The cause is unknown. Stay hydrated and try stretching more. There is some evidence that a magnesium supplement may help. Increasing your calcium or potassium intake may also help. When you get a cramp, straighten your leg, and gently flex your toes back toward your shins. Try stretching and muscle massage prior to going to sleep as well.

What changes can happen to my skin in pregnancy? It is common to have more acne during pregnancy. You may also develop a “mask” of pregnancy (darkening of the skin on your face) and a black line or linea nigra on the abdomen under the umbilicus. These changes are due to the increased hormones your body is producing. Other common changes are development of skin tags and more moles. Most of the changes resolve after the pregnancy. If you are concerned about abnormal growth of any moles, please see a dermatologist.

Should I avoid deli meats and hot dogs? The March of Dimes website http://www.marchofdimes.com/pregnancy/nutrition_risks.html lists recommendations for food borne risks in pregnancy. The FDA lists Food At-A-Glance <http://www.fda.gov/downloads/Food/ResourcesForYou/HealthEducators/UCM148940.pdf> .

The recommendations for prevention of listeria include:

- Do not eat hot dogs and luncheon meats — unless they are reheated until steaming hot.
- Do not eat soft cheese, such as Feta, Brie, Camembert, “blue-veined cheeses,” “queso blanco,” “queso fresco,” and Panela — unless they’re labeled as made with pasteurized milk. Check the label.
- Do not eat refrigerated pâtés or meat spreads.
- Do not eat refrigerated smoked seafood — unless it’s in a cooked dish, such as a casserole. (Refrigerated smoked seafood such as salmon, trout, whitefish, cod, tuna, or mackerel, is most often labeled as “nova-style,” “lox,” “kippered,” “smoked,” or “jerky.” These types of fish are found in the refrigerator section or sold at deli counters of grocery stores and delicatessens.)
- Do not drink raw (unpasteurized) milk.

Pregnancy Information – Maternal and Fetal Changes

First Trimester (before 12 weeks)

What to expect at the first doctor visit:

- Please complete the genetics questionnaire and the prenatal questionnaire before your appointment and bring them with you. You can obtain these two forms at www.lowmg.com/office/first-ob-visit.html or have them sent to you.
- Your due date will be determined as well as an estimate of how many weeks pregnant you are. It is helpful if you know the first day of your last menstrual period (LMP) or when you ovulated. A “nine month” pregnancy lasts 40 weeks starting from the first day of your last menstrual period (LMP).
- During your appointment, your questionnaires will be reviewed and your questions will be answered. If you have not had a recent examination, a physical exam with a Pap smear will be performed.
- Carrier states for some genetic diseases can be diagnosed (page 64). Tests are available for cystic fibrosis (CF), spinal muscular atrophy (SMA), fragile X disease and sickle cell disease. If you or the father of the baby is of Jewish descent, you may be screened with an Ashkenazi Jewish Genetic Screening panel which includes Tay-Sachs, Canavan’s and Gaucher’s disease. If you are of African-American descent, you may be screened for the sickle cell genetic trait.
- The California Prenatal Screening Program will be discussed and offered. This test is an optional screening test for Down syndrome and some other genetic conditions and is available to all age groups. Please refer to the Prenatal Patient Booklet to help you decide if you would like to choose one of the three available testing options.
- We recommend that you take prenatal vitamins or folic acid (.4 mg to 1.0 mg) daily during the first 13 weeks of pregnancy. If you have a preference for a certain brand, please let the nurse know and a prescription can be called to your pharmacy. Most nonprescription (OTC or over-the-counter) vitamins have similar formulations and may be less expensive than prescription vitamins.
- After meeting with the doctor, you will have an opportunity to meet with the financial counselor. She will call your insurance company to determine your level of benefits and complete a financial agreement.
- Please feel free to ask any questions during any of your visits. We recommend that you write them down so that you do not forget any of your concerns and all of your questions can be answered. Between appointments you may call during office hours and leave non-urgent questions on the voice mail. Your calls will be returned by our office staff the same day in most instances.
- Please sign up for birthing classes early in your pregnancy as you may not be able to take them at the time or place of your choice if you wait until the third trimester to register. Los Olivos classes are very popular and fill up quickly. Register at Los Olivos (extension 209), CBEclass@lowmg.com, or at Good Samaritan Hospital (559-BABY). Good Samaritan hospital also offers classes on breast-feeding, infant CPR and sibling classes if you are interested www.lowmg.com/office/classes.html.

First Trimester

You may be experiencing:

- Missed period
- Fatigue, sleepiness, no energy
- Heartburn, indigestion, bloating, excess gas
- Food aversions and cravings
- Emotional ambivalence, anxiety
- Headaches
- Nausea or vomiting
- Breast tenderness and enlargement
- Frequent urination

Baby changes include:

1st month (0-4 weeks)

- The fertilized egg grows rapidly
- The placenta begins to develop
- The heart and lungs begin to develop
- By the end of this month, the baby is ¼ inch long (smaller than a grain of rice)

2nd month (5-9 weeks)

- The baby's major organs and facial features begin to develop
- Fingers, toes, ears and eyes are forming
- Bones are starting to replace cartilage
- By the end of this month, the baby is about one inch long
- The heart begins to beat

3rd month (10-13 weeks)

- The baby's sexual organs develop by the end of this month
- The baby can also open and close its fists and mouth
- As this month ends, the baby is about four inches long and weighs over one ounce
- Warning signs: Please call our office immediately if you experience active bleeding, significant cramping, or trauma or injury to your abdomen.

Second Trimester (12 - 28 weeks)

16-20 weeks

- During the second and subsequent visits, you will be asked to give a urine specimen which is tested for protein (screening for pregnancy-induced hypertension) and glucose (screening for gestational diabetes). Your weight and blood pressure will be recorded. We will listen for fetal heart tones and answer questions. As your pregnancy progresses, the uterine or fundal height will be checked and other tests may be ordered.
- If you are participating in the California Prenatal Screening Program, a second trimester blood test should be drawn between 15 and 20 weeks of pregnancy. This screening test will give a Risk Assessment to estimate the chance of your baby having Down syndrome or Trisomy 18.
- If you are under 35, schedule an ultrasound at Los Olivos between 18 and 20 weeks. The ultrasound will check the baby for size, fetal anatomy and placement of the placenta. The ultrasound creates an image of the fetus from sound waves. Our

sonographers in Suite 1 and Suite 5 perform most ultrasounds. It is your decision to find out the gender of your baby. If you wish to know, please let the ultrasound technologist know. Unfortunately, there is no guarantee of the fetal sex based on the ultrasound alone (a genetic amniocentesis would be necessary).

- If you are over 35, you may schedule genetic counseling and amniocentesis based on your age alone. This is performed at a Prenatal Diagnosis Center between 16 and 18 weeks. Amniocentesis is also available if your Risk Assessment is less than 1 in 1000.
- If you will be 35 years or older on your due date, schedule an ultrasound at a Prenatal Diagnosis Center between 18 and 20 weeks.
- Your physician will measure your fundal height (the top of your uterus) every visit after 20 weeks to ensure that your uterus is growing appropriately. The top of the uterus is at the umbilicus (belly button) at 20 weeks. Usually, the fundal height, measured in centimeters, is close to your gestational age in weeks (plus or minus 2 centimeters).

24-28 weeks

- You will take a two-hour glucola test to check for gestational diabetes. Gestational diabetes occurs when your placenta makes a hormone that causes your body to become resistant to your own natural insulin. When this occurs, the level of glucose or sugar in your blood stream becomes elevated which can cause problems for your baby.
- If you have gestational diabetes as determined by the test, you will be referred to Sweet Success Diabetes program that educates you about your diet so that your sugar levels remain normal throughout the remainder of your pregnancy.
- Your blood count is repeated to check for anemia. It is very common to develop anemia in the third trimester and need iron supplements.
- If your blood type is Rh negative and your partner has a Rh positive blood type, you will receive a shot of Rhogam at 28 weeks to protect your baby. This will be discussed in more detail if applicable.
- If you decide to do cord blood banking, information and collection kits are available in the financial counselor's office at Los Olivos.
- The Tdap vaccine is recommended for all adults in contact with newborns and toddlers under the age of one to prevent transmission of pertussis, also known as whooping cough. If you have not been vaccinated within the last ten years, you should consider vaccination. The Tdap is available in the Vaccination Clinic in Suite 2 in the Los Olivos building (phone 356-9500) or at the hospital after the baby is born.
- Pay your portion of the estimated delivery charges by 26 weeks.

You may be experiencing:

- A linea nigra (a dark line running down your abdomen) forms
- At 18-22 weeks, you will usually begin to feel "quickening" or fetal movements
- Nasal congestion or nose bleeds or bleeding gums
- Increased appetite
- Mild swelling of hands and feet and leg cramps
- Lower abdominal aches, backaches, and constipation

Baby changes include:

4th month (14-18 weeks)

- The baby's heartbeat may now be audible with the use of a doppler (ultrasound)
- Eyelids, eyebrows, eyelashes, nails and hair are formed
- The baby is developing reflexes, such as sucking and swallowing
- Tooth buds appear
- The fingers and toes are well-defined
- The gender is identifiable
- By the end of this month the baby is about 6 inches long

5th month (19-23 weeks)

- A soft, downy "lanugo" (fine hair) covers your baby's body
- Hair begins to grow on its head
- A protective vernix (cheese-like) coating covers the fetus
- The baby now weighs about one pound and measures nearly 10 inches long

6th month (24-28 weeks)

- The baby's essential organs are formed
- The baby weighs 1-2 pounds and is about 12 inches long
- The eyes begin to open, fingerprints form
- The baby grows quickly from now until birth
- The organs are developing further
- The baby can hiccup
- The skin is wrinkled and covered with fine hair
- The baby moves, kicks, sleeps and wakes
- The baby can swallow and hear
- The urinary system is working

Third Trimester (28 weeks - delivery)

After 28 weeks

- You should be feeling the baby move daily.
- Start recording fetal kick counts. A fetal kick count form is included on page 26 or can be downloaded www.lowmg.com/info/medinfo/ob/ob_book/fetal_kick_counts.pdf.
- Take a tour of Good Samaritan Hospital and preregistration. You can preregister online at Good Samaritan San Jose Hospital or complete a form that can be downloaded from http://www.lowmg.com/info/forms_and_consent/ob_forms_consent/ob_admission_form.pdf. FAX the form to the hospital admissions department (559-2675) or return it to Los Olivos. The hospital requires a copy of your driver's license and insurance card. Please keep a copy of the completed form.
- Choose a pediatrician. The community is fortunate to have many excellent pediatricians. Ask your friends or your physician for recommendations. The pediatrician is the physician with whom to discuss nursing, circumcision, and the baby's health after birth. If you wish to interview pediatricians, this should be done early in the third trimester. A list of pediatricians can be found on page 59.
- Your physician may check your cervix for dilation and/or softening during the last month of your pregnancy. A vaginal culture for beta-streptococcus is usually taken at 36-37 weeks of pregnancy.

- You will be monitored for pre-eclampsia (Pregnancy Induced Hypertension or PIH) during the third trimester. Signs of pre-eclampsia include increased blood pressure, right upper quadrant abdominal pain, protein in your urine, severe headaches, significant swelling of your hands, feet or face.

You may be experiencing:

- Abdominal pains and Braxton-Hicks contractions
- Shortness of breath
- Stronger fetal activity and larger movements
- Difficulty sleeping
- Swelling of hands and feet
- Itchy abdomen and the navel sticking out
- Frequent urination
- Colostrum or leaking breasts
- Increasing back and leg aches
- Hemorrhoids and increased vaginal discharge

Baby changes include:

7th month (29-32 weeks)

- This is a period of extreme growth and maturation for the baby
- By the end of this month fat begins to deposit on the baby
- The baby can suck its thumb, hiccup, cry, and can taste sweet or sour
- The baby can respond to stimuli (pain, light and sound)
- The placental functions begin to diminish
- The volume of amniotic fluid lessens
- The baby is about 14 inches long

8th month (32-36 weeks)

- The baby is starting to see and hear as the brain matures
- Excluding the lungs, most systems are well-developed
- By the end of this month, the baby is about 18 inches long and weighs about 5 pounds

9th month (37-40 weeks)

- The lungs are maturing this month
- The baby adds about ½ pound per week
- The baby may weigh nearly 7 pounds and be about 18-20 inches
- The baby kicks and stretches as the baby gets bigger and there is less room
- Fine body hair disappears
- Bones harden, but the bones of the head are soft and flexible for delivery
- The baby settles into a position for birth

Prenatal Testing

Routine Blood Tests

Many tests will be discussed during your pregnancy. Some tests are routine such as the first trimester panel and the Glucola test later in pregnancy. Prenatal genetic screening tests are available to all patients (page 64). Additionally, the California Prenatal Screening Program for genetic diseases including Down syndrome and Trisomy 18 will be offered. Please make sure that you read the California Prenatal Screening Program booklet. See page 19 for more details.

First Trimester

- **First Trimester panel** - Blood tests include: Hepatitis B, HIV, RPR (syphilis test), Rubella (German measles), Blood type and antibody screen, CBC (complete blood count for anemia), TSH (hypothyroidism), Hemoglobin A1c and Urinalysis.
- **California Prenatal Screening Program** – This optional screening test may include a first trimester blood test, nuchal translucency (NT) ultrasound, and a second trimester blood test to determine your Risk Assessment for some genetic conditions. Please read the California Prenatal Screening Program booklet. The first blood test is drawn between 10 weeks and 13 weeks 6 days.
- **MaterniT21** - a genetic blood test for patients at high risk for Down syndrome (page 22).
- **Additional optional tests** - Cystic fibrosis testing, Ashkenazi Jewish panel, Sickle cell anemia, Fragile X syndrome, SMA, Hemoglobin electrophoresis, Varicella (Chicken pox) and Toxoplasmosis are available.

Second Trimester

- **15-20 weeks** - As part of the California Prenatal Screening Program, this optional blood test is drawn between 15 and 20 weeks and is used to screen for some genetic conditions (please read the California Prenatal Screening Program booklet for further details). This tests for the Quad Marker Screening (only second trimester test), Serum Integrated Screening (first and second blood test) and or Full Integrated Screening (two blood tests and NT) if you have chosen to participate in the California Prenatal Screening Program.
- **16-18 weeks** - If you will be over 35 at delivery, have a history of a genetic condition, or Screen Positive with the California Prenatal Screening program, we recommend genetic counseling and a detailed (Level II) ultrasound at a Prenatal Diagnosis Center. Patients who screen with a risk of greater than 1/500 chance of Down syndrome or Trisomy 18 are also offered amniocentesis with a Prenatal Diagnosis Center. During genetic counseling, a detailed family history will be obtained and the risks and benefits of amniocentesis will be discussed. Obstetrix Medical Group (408) 371-7111 is the local Prenatal Diagnosis Center. If you are Screen Negative with the Preliminary Risk Assessment, as an alternative to amniocentesis you may schedule the second blood test and a detailed ultrasound at the Prenatal Diagnosis Center at 18 weeks.
- **24-28 weeks** - The two-hour glucola test is recommended between 24 and 28 weeks as a screening test for gestational diabetes. You must fast for 12 hours prior to the test and be prepared to have three blood draws over a two hour period. Gestational

diabetes is defined as one abnormal value. You may take the 2 hour GTT test at any laboratory that is convenient. You will also have a CBC drawn to check for anemia. It is common to need iron sulfate supplementation in the third trimester and you will be notified if this is necessary for you.

- Both Quest and Hunter have Saturday hours. For locations, call Quest Laboratory: (800) 377-8448 or http://www.questdiagnostics.com/hcp/psc/jsp/hcp_psc_index.jsp Quest requires an appointment. Hunter Laboratory: <http://www.hunterlabs.com/patientservicecenters.html> or (800) 762-9722. The Hunter laboratory next to Los Olivos at 15195 National Blvd. Suite 205 is open on Saturdays from 8 AM to 1 PM.
- **Rhogam** - If you are Rh negative, your partner's blood type becomes important. If he is Rh positive, you will need Rhogam to prevent Rh incompatibility (see page 39). Rhogam is administered as an injection after amniocentesis, at 28 weeks of your pregnancy and after delivery if the baby is Rh positive.

Third Trimester (after 28 weeks)

- **Group B streptococcus culture** – This is a vaginal and perineal culture that tests for bacteria and is usually performed at 36 weeks if you are planning a vaginal birth. It is not necessary if you are scheduling a cesarean section.
- **Ultrasound** – Routine ultrasounds are not necessary in an uncomplicated pregnancy. Your physician may recommend additional ultrasounds to check for fetal growth, amniotic fluid quantity and fetal position if there are indications of concern in these areas. It is very difficult to see anatomy in the third trimester.

Ultrasounds

Los Olivos has accreditation by the American Institute for Ultrasound in Medicine. Most patients have a screening ultrasound between 18 and 20 weeks of pregnancy. The ultrasound is an evaluation of the uterus and developing baby. Sound waves are sent from a small hand-held device, which is moved across the abdomen to show pictures of the baby. Measurements of the baby's size will be taken and the amniotic fluid will be assessed along with the location and size of the placenta. The fetal anatomy is evaluated. Ultrasounds check for placental and fetal abnormalities but cannot detect all problems. Ultrasounds do not evaluate fetal genetic abnormalities. You will receive pictures from the ultrasound (no videotapes). You may bring a camera and video directly from the screen if you would like. If you will be 35 or older at delivery, Screen Positive in the California Prenatal Screening program, or are high risk, your doctor may refer you to a Prenatal Diagnosis Center for a detailed ultrasound.

California Prenatal Screening Program

The California Prenatal Screening Program is a set of screening tests offered to pregnant women to screen for certain genetic defects. A screening test is a method of determining who is at risk for a condition that may warrant further diagnostic testing. This screening test is a noninvasive test and carries no risk to you or the baby. A diagnostic test can tell if the fetus actually has a specific birth defect. The California Prenatal Screening Program tests for Down syndrome, Trisomy 18, anencephaly, open spina bifida, abdominal wall defects and Smith-Lemli-Opitz Syndrome (SLOS). Three different types of Prenatal Screening Tests are available and are detailed in the Prenatal Patient Booklet provided by

your physician. A glossary of terms is located in the back of this book. This screening is optional and not all couples choose to have this screening.

What are the three tests that are available?

- **Quad Marker Screening** - The Quad Marker Screening test is a screening test for pregnant women during the second trimester (between 15 and 20 weeks) of pregnancy who choose to do only a second trimester blood test. The detection rates for this test are 80 out of 100 Down syndrome and 67 out of 100 for Trisomy 18.
- **Serum Integrated Screening** – This is a combination of a first and a second trimester blood test that detect 85 out of 100 for Down syndrome and 79 out of 100 for Trisomy 18. This series of two blood tests does not include an ultrasound (NT).
- **Full Integrated Screening** - This includes the Serum Integrated Screening with nuchal translucency (NT) ultrasound and detects 90 out of 100 for Down syndrome and 81 of 100 for Trisomy 18.

All three screening tests detect 97 out of 100 for anencephaly, 80 out of 100 for open spina bifida, 85 out of 100 for abdominal wall defects and 60 out of 100 for SLOS.

What is the Nuchal Translucency (NT)?

An ultrasound is performed between 11 weeks 2 days and 14 weeks at a Prenatal Diagnosis Center to measure the clear (“translucent”) space in the tissue at the back of the developing baby’s neck. This measurement assesses the baby’s risk for Down syndrome (DS) and other chromosomal abnormalities. Babies with abnormalities tend to have more fluid accumulated at the back of their necks during the first trimester, causing this clear space to be larger. Based on statistical probability, the measurements are used along with the maternal age to calculate the baby’s chances of having a chromosomal abnormality. Along with the ultrasound, an accompanying blood test increases the accuracy of the risk assessment.

What is a Preliminary Risk Assessment?

Results are delivered as a ratio to express your baby’s chances of having a chromosomal problem (based on your age, the baby’s age, and the nuchal fold measurement). For example, a patient who is 35 years of age at delivery has an average risk for a baby with a chromosomal abnormality of 1 in 178. This risk gets higher as you get older. If your baby’s nuchal fold measurement is found to be average for its gestation, the baby’s risk stays the same: 1 in 178. A thicker than average NT increases the risk for an abnormality. If the nuchal fold is thinner than average, then the baby’s risk of a chromosomal abnormality decreases.

This test does not directly test for chromosomal problems. It only gives a better indication of the baby’s statistical risk of having a problem. A normal result (sometimes called “screen negative”) is not a guarantee that your baby is normal, but it suggests that a chromosomal problem is unlikely. Nor does an abnormal result (sometimes called “screen positive”) mean that the baby has a chromosomal problem—just that it has an increased risk of one. (Even so, most “screen positive” babies still end up being normal.)

Based on the screening risk, you will decide if you want to have diagnostic testing done. Individual parents-to-be have different feelings on what is an “acceptable” risk for them. The California State test considers a risk of 1 in 200 for Down syndrome as a “negative” test. Obstetrix Medical Group offers genetic counseling and the option of a diagnostic test if the risk is greater than 1 in 500. It is your choice to have further testing or not and

it is up to you to decide what your comfort level is for further testing. A detailed ultrasound can provide additional information, but definitive tests that can diagnose a chromosomal defect are chorionic villus sampling (CVS) and amniocentesis.

What does it mean that the Full Integrated Screening test is “90% accurate?”

You may have read that the results of this test are 90% accurate in detecting your risk of having a baby with Down syndrome. That means that if your baby has Down syndrome, there’s a 90% chance that the test will pick that up and give a “screen positive” result that indicates further testing is recommended. It also means there is a 10% chance that the test will miss the Down syndrome and give a “screen negative” result and diagnostic testing will not be recommended. This does NOT mean that a “screen positive” baby has a 90% chance of having DS. It just means that 90% of babies who have DS will have screening results that are suspicious enough to recommend diagnostic testing. And 10% of babies who have DS will be shown to be at normal risk—that is, the results will be falsely reassuring. This screening test also has up to a 5% false positive rate. (A “false positive” result is when a test suggests there may be a problem when, in fact, there is no problem.) In this case, a 5% false positive rate means that 5% of all the babies with normal chromosomes who are tested will be “screen positive” meaning that the test will show them to be at an increased risk even though they are normal. Considering this “false positive” result, their mothers may opt for invasive diagnostic testing that they otherwise might not have done.

What are the advantages of the Full Integrated Screening?

The advantage to these screening tests is that they can give you a better estimate of your baby’s risk for chromosomal problems at an early date without subjecting you to the small risk of miscarriage from a more invasive diagnostic test like CVS. If the risk is low, you can find out as soon as possible and may be relieved. If the risk is high you can decide whether to have CVS (done between 10 and 12 weeks), or amniocentesis at about 16 weeks. These tests give a definitive answer while still early in the pregnancy. The NT is noninvasive and carries no more risk than an ordinary ultrasound. Even if you forgo diagnostic testing (CVS or amniocentesis), you can get more information about your baby’s health and development by following up with a routine second trimester ultrasound at 18 to 20 weeks that looks for “soft markers” of chromosome disorders, such as short limbs, a bright dot in the heart, bright intestines, cysts in a portion of the baby’s brain, and certain problems in the kidneys.

What’s the downside of these screening tests?

Like any screening test, they are not diagnostic—that is, they cannot tell you definitively if your baby has normal chromosomes. In some cases they will lead the patient towards additional intervention. In other cases the tests will be incorrectly reassuring. The NT does not detect neural tube defects, such as spina bifida and other anomalies that may be indicated by the Quad Marker Screening (done at 15 to 20 weeks) and the second trimester ultrasound.

What is the cost of the various components of these tests, and what if my insurance does not pay?

Because this procedure is separate and additional from your global obstetric services, it may not be a covered benefit. Because the California Prenatal Screening Program offers these tests, they are usually covered by insurance – but not always, so it is important to check with your insurance company. If you screen positive, the initial fee covers

additional diagnostic testing. The nuchal translucency ultrasound for the Full Integrated Screening is not included in the California Prenatal Screening Program fee.

MaterniT21 Testing

What is the MaterniT21 test?

This test is a new blood test conducted on the mother. It analyzes the amount of chromosome 21 in fetal DNA picked up from the maternal blood sample. It can detect an increased amount of chromosome 21 material which is associated with trisomy 21 (Down syndrome). It is completely non-invasive as it only involves a blood sample from the mother.

Who should be tested?

This test was developed and tested for pregnant women with one or more of the following:

1. Advanced maternal age (35 or older)
2. Fetal ultrasound abnormality suggestive of chromosomal abnormality
3. Positive 1st or 2nd trimester screening test
4. Personal or family history of Down syndrome.

When can I have this test?

This test can be done as early as 10 weeks gestation. Results are available in about two weeks. Genetic counseling is recommended to further discuss the risks, benefits and alternatives of the various prenatal screening methods in this group of high risk women for whom this testing may be considered.

How are the test results given?

The test results are given as positive or negative. The test has a sensitivity of 99.1% and a specificity of 99.9%.

How do I interpret a positive California NT Screening test and a negative MaterniT21?

Multiply the result by 72. If you have a 1 in 80 risk of Trisomy 21 with the California Prenatal screening test, the new risk becomes 1 in 5760. With a risk of 1 in 80 (1.25% chance of Down syndrome), there is a 98.75% chance the baby does not have Trisomy 21. With the addition of a negative MaterniT21, the risk decreases to .01%.

What if I have a positive result?

A diagnostic test (CVS or amniocentesis) is recommended to confirm this blood test.

Does the MaterniT21 test for other conditions?

Right now, this blood test is only approved to test for Chromosome 21. It is also currently being developed to test for trisomy 13 and 18. If abnormal amounts of these chromosomes are found, the company will report these findings as well. This test does not detect all of the types of chromosome problems that genetic amniocentesis or CVS can detect.

How much does it cost?

With PPO insurance, the cost is \$235 out of pocket.

Diagnostic Chromosomal Testing

Risk Table for Chromosomal Abnormalities by Maternal Age

Maternal age	Risk of Trisomy 21 by age		Risk for any chromosomal abnormality
	At 12 weeks	At birth	At birth
20	1 in 1070	1 in 1480	1 in 525
25	1 in 950	1 in 1340	1 in 475
30	1 in 630	1 in 940	1 in 384
32	1 in 460	1 in 700	1 in 322
34	1 in 310	1 in 456	1 in 243
35	1 in 250	1 in 353	1 in 178
36	1 in 200	1 in 267	1 in 148
38	1 in 120	1 in 148	1 in 104
40	1 in 70	1 in 85	1 in 62
42	1 in 40	1 in 54	1 in 38
44	1 in 20	1 in 39	1 in 23

Diagnostic Testing for Down syndrome and chromosomal abnormalities

The only way to be certain whether your baby has Down syndrome (Trisomy 21) or not is by doing an invasive diagnostic test – an amniocentesis or chorionic villus sampling (CVS). Both tests provide a sample that contains tissue that has the same genetic make-up as the baby, which allows the baby's chromosomes to be examined. Because of the small increased risk of miscarriage associated with these two tests, they are not generally recommended unless the fetus is at increased risk. Traditionally, this is a mother over 35 years old. Many patients elect to do the nuchal translucency screening test to determine their individual risk of Trisomy 13 and 18. Genetic counseling is recommended for women over 35 and those with a nuchal screen showing 1/500 chance of having a baby with Trisomy 13 or 18.

Amniocentesis

What is an amniocentesis?

An amniocentesis is a procedure where a small amount of amniotic fluid (fluid surrounding the developing baby) is removed from the uterus through a thin needle, using ultrasound guidance. This procedure is typically performed during 16 to 20 weeks of pregnancy. It can be done as early as 12 to 14 weeks and as late as near term. Some women say amniocentesis does not hurt, while others say they feel pressure or a cramp.

What tests can be performed on amniotic fluid specimen?

- Different tests can be done on amniotic fluid; the most common tests are listed below.
- Chromosome analysis to detect chromosome abnormalities such as Down syndrome or Trisomy 18.
- AFP (alpha-fetoprotein) and AChE (acetylcholinesterase) measurements to detect neural tube defects such as spina bifida and anencephaly. In spina bifida there is an opening in the back or spinal cord, usually requiring multiple surgeries, and may be associated with

physical disabilities. In anencephaly the brain development is incomplete, usually resulting in death.

- Genetic diseases that can be diagnosed prenatally, including Cystic fibrosis, Fragile X syndrome, Hemophilia, Sickle cell disease, Thalassemia, Tay-Sachs disease, Canavan disease and Gaucher's disease.

Who should consider having an amniocentesis?

- Women who will be 35 years or older at the time of delivery. The risk of having a child with Down syndrome or other chromosome abnormalities increases with increasing maternal age.
- Women with an abnormal nuchal translucency screening test.
- Either parent can be a carrier of a chromosome rearrangement. Some individuals have chromosome rearrangements, in which some of the genetic materials on a chromosome may be moved from their normal location. These individuals are healthy, but they may have a child with a chromosome imbalance that can be associated with developmental and physical defects.
- Previous child with chromosome abnormality. These couples have an increased risk of having another child with a chromosome abnormality.
- Parents who are carriers of a prenatally diagnosable genetic disorder. These couples have an increased risk of having a child with the genetic disorder. If diagnosis for the disorder is available, amniocentesis can be performed for this purpose. Carrier screening is available for a number of disorders.
- Women with abnormal ultrasound findings. When ultrasound examination shows abnormalities, amniocentesis for diagnostic testing of the amniotic fluid may be recommended.
- Women with abnormal California Prenatal Screening test results. This may indicate an increased risk for chromosome abnormalities or neural tube defects.
- Family history of neural tube defects. The risk of having a child with a neural tube defect, such as spina bifida, is increased when a close relative has the disorder.
- Certain seizure medications may increase the risk for neural defects and amniocentesis should be considered.

Chorionic Villus Sampling (CVS)

What is a CVS?

A CVS is performed between 10 and 12 weeks and involves taking a small amount of tissue from the placenta. Although methods can vary, the procedure involves inserting a small tube called a catheter through the cervix into the uterine cavity. It may be performed after an abnormal nuchal thickness to evaluate the chromosomes of the fetus for abnormalities. CVS chromosomal results are available earlier in pregnancy than amniocentesis results. To complete the testing, AFP only and detailed ultrasound are still recommended. CVS is performed at a Prenatal Diagnosis Center.

NT screen, Amnio and CVS Scheduling at a Prenatal Diagnosis Center

What are the risks and benefits of amniocentesis and CVS?

All invasive procedures have some risks associated with them. These tests are generally recommended when the risk of having the condition is higher than the risk of the procedure. The risks associated with the procedure will be discussed with you before the procedure by the genetic counselor and the physician that performs the procedure. You

will have time to have all your questions answered. Generally the risks of an amniocentesis include bleeding, fluid leakage, infection and miscarriage. The physicians at Obstetrix Medical Group estimate a 1 in 1000 risk of miscarriage from an amniocentesis.

NT scheduling

This ultrasound is done at a Prenatal Diagnosis Center between 12 and 13 weeks 6 days. Call your insurance carrier to determine if NT is included in your benefits. The current procedure code for NT is 76813 (singleton) and 76814 (twins). The diagnosis code is 655.83. If you would like to schedule nuchal translucency ultrasound or CVS, you should call before 11 weeks of pregnancy.

Chromosomal testing scheduling

If you are at higher than average risk of a chromosomal abnormality, call a Prenatal Diagnosis Center to schedule your appointment for genetic counseling, CVS or amniocentesis. Amniocentesis is usually performed with a detailed ultrasound between 16 and 18 weeks of pregnancy. If you elect not to have the amniocentesis, you should still consider genetic counseling and a detailed ultrasound at 18-20 weeks. If you are undecided about testing, schedule genetic counseling during the first trimester of your pregnancy.

Prenatal Diagnostic Centers

Please check with your insurance carrier to determine which physician and facility is contracted with your insurance. We recommend the Obstetrix Medical Group at (408) 371-7111 or the Stanford perinatology department at (650) 725-7030.

Third Trimester Tests

Fetal Fibronectin

The fetal fibronectin test is used to help identify patients at risk for preterm delivery. The test is useful in ruling out preterm labor in patients between 24 and 34 weeks of pregnancy with regular uterine contractions. Although a negative test appears to be useful in ruling out imminent preterm delivery (within 2 weeks), the clinical implications of a positive result have not been fully evaluated. The test is not used as a screening test for preterm labor.

Non-stress Test (NST)

This test is based on the premise that the heart rate of a normal healthy fetus will temporarily accelerate with movement. This ability to increase heart rate is a good indicator of healthy fetal function. An electronic fetal monitor is attached to the mother's abdomen and a report of the baby's heart rate fluctuations is produced. This test can be performed during the last 10 weeks of pregnancy, once or twice per week. It is usually performed at Los Olivos and takes approximately 30 minutes. NSTs are used in high-risk pregnancies such as those with twins, high blood pressure, diabetes, or low amniotic fluid. Your doctor will tell you if this test is necessary for your pregnancy.

Group B Streptococcus (GBS)

Group B strep is a bacteria that is naturally present in the gastrointestinal tract of 15-40% of women. If present in the vagina when the baby delivers, GBS may cause serious infections in a newborn infant. To test for GBS, a culture is obtained between 35-37

weeks of pregnancy. Please ask to know your GBS status before delivery. Patients undergoing elective cesarean section with intact membranes are automatically given prophylactic (preventive) antibiotics and no GBS testing is necessary. If your test comes back positive for GBS, you have a history of group B strep in your urine or vagina, or have had a previous baby infected with GBS, you should get antibiotics when you begin labor or your water breaks. The antibiotics are given through an intravenous line (IV). The antibiotics help during labor only – they are not given before labor because the bacteria recolonize the vagina. More detailed information about GBS can be found at <http://www.cdc.gov/groupbstrep/resources/flyer-protect-baby.html>

Fetal Kick Counts

Kick counts are a good way to monitor your baby's movements and should be performed daily after 28 weeks. Monitor the baby's movements at the same time each day. Healthy babies are very active, especially after meals.

The baby normally has sleep and wake cycles or periods of activity and rest. Usually there are at least four noticeable movements or "kicks" most hours of the day. Such activity is reassuring. As the baby grows larger, you may feel fewer "big" movements. When you are busy during the day, you may not notice your baby moving as much as when you are at rest. Kick counts should be done with an empty bladder about one hour after a meal, while resting on your left side to promote circulation.

To perform kick counts, pay attention to any kick or rolling movement of the baby. If four movements occur within 60 minutes, your baby has "passed the test". The best time to do the test is after a meal, the same time each day. If by one hour you have not been aware of four movements, you may have been too busy with other activities. Repeat the test while resting on your left side. If you still have not noted four movements in the next hour, telephone the office (even on weekends and holidays). You may be requested to come into the office or to go to the hospital for further evaluation.

Sample of Fetal Kick Count Form

Date	Time	Number of Movements	Date	Time	Number of Movements

A kick count form is available at http://www.lowmg.com/info/ob/ob_book/fetal_kick_counts.pdf

Common Discomforts in Pregnancy

Abdominal cramping - It is common to have cramping as the uterus grows. Pain can occur in the ligaments as the uterus enlarges. Braxton-Hicks are irregular uterine contractions and are common in the second and third trimester. Rx: Use a heating pad, increase fluid intake, rest and try Tylenol to help with discomfort. Call for severe pain, bleeding or regular contractions (more than 4 in one hour).

Acne - It is common for acne to occur during pregnancy due to hormonal changes. Keep your face clean and dry. Benzoyl peroxide, erythromycin and clindamycin can help with acne if prescribed by a dermatologist. Do not use Accutane or Tetracycline while pregnant.

Allergies - Hormonal changes can increase nasal sensitivity resulting in nasal stuffiness and allergies. Rx: Avoid allergens such as mold, dust and pets. Antihistamines such as Claritin or Zyrtec may help. Nasal sprays of saline may help. Prescription nasal steroids such as Flonase or Nasonex will treat allergies. A humidifier is often useful.

Backache - The increasing uterine size causes a shift in the center of gravity and posture. A hormone called relaxin causes the ligaments to soften and elongate. Rx: Practice good posture and keep core muscles strong. Bend at the knees instead of the waist when lifting. Wear low heels and avoid standing for long periods of time. A heating pad, ice or Tylenol may be helpful. Wear a support bra if needed. Try stretching, pelvic rocking, or wearing an external abdominal binder or "Belly band". Physical therapy or a massage may also help.

Bleeding gums - The high level of estrogen increases gum sensitivity. Rx: Practice good oral hygiene. Use a soft toothbrush & floss regularly. Try warm saline mouthwashes. Increase Vitamin C intake.

Braxton-Hicks contractions - Irregular contractions of the uterus in preparation for labor. Braxton-Hicks do not usually signify labor is going to start. Rx: Rest on your left side and drink lots of fluid. Keep your bladder empty. Call if the contractions become regular (more than 4 in one hour) and intense and you are less than 34 weeks pregnant.

Breast changes - The increased hormone levels thicken the fat layer of the breast and stimulate the development of milk ducts causing breast pain. As the blood supply to the breasts increases, the blood vessels enlarge and bluish veins may appear on the breasts. The areola and nipple darken and Montgomery glands, the small pores around the areola, enlarge. Colostrum may leak during the last part of the pregnancy. Rx: Avoid caffeine, take Vitamin E 800 IU and wear a support bra.

Carpal tunnel syndrome - Fluid retention causes compression of the ulnar nerve in the wrist resulting in numbness and pain in the hands. Rx: Wear a wrist splint while sleeping. The numbness usually disappears about 6-8 weeks postpartum. Remove rings from your fingers before they become too swollen.

Constipation - Progesterone produced in pregnancy relaxes smooth muscle in the colon and decreases peristalsis resulting in constipation. Iron and calcium supplementation, decreased exercise, stress and dehydration can contribute to constipation. Rx: Drink 8 glasses of water daily, eat prunes and a high fiber diet. Increase exercise and use a stool softener such as Colace or Benefiber. Use Miralax if necessary.

Diarrhea - Caused by hormonal changes affecting peristalsis. This frequently occurs during early labor. Rx: Drink liquids to avoid dehydration. Eat rice, bananas and toast. Avoid dairy products.

Dizziness - The enlarged uterus compresses the vena cava. Dizziness can also be caused by dehydration, nausea, vomiting and blood sugar fluctuations. It may be caused by standing or sitting in the same position for long periods of time causing blood to accumulate in the lower extremities. Rx: Lay on your side (left or right) while sleeping. Eat frequent, small meals and stay well hydrated. Do not get up from sitting too quickly or take very hot showers. Move your legs while standing in place to increase blood circulation.

Fatigue - Caused by a fall in the metabolic rate, hormone level changes and sleep disturbances. Rx: Rest or take naps frequently. Avoid exercise before bed. Avoid caffeine.

Flatulence - Increased progesterone relaxes the anal sphincter. Rx: Avoid gas-producing foods, chewing gum or drinking carbonated drinks. Try Mylicon.

Headaches - Caused by stress, increased blood volume, low blood sugar, or hormone level changes. Rx: Rest, drink fluids, and try relaxation techniques or massage. Use Tylenol.

Heartburn - Increased progesterone relaxes the lower esophageal sphincter and decreases gastric motility. Production of stomach acids increases and the baby puts upward pressure on the stomach. Rx: Avoid acidic foods such as citrus fruits, tomatoes, red peppers and chocolate. Avoid spicy foods. Eat small, frequent meals rather than large meals. Do not lie down after eating. Try Maalox or Milk of Magnesia. Elevate the head of the bed when sleeping. Pepcid and Zantac decrease stomach production of acid. Tums will neutralize the stomach acid and Reglan (prescription) may increase gastrointestinal motility.

Hemorrhoids - Straining during bowel movements and constipation can cause veins in rectum to become inflamed and swollen. Increased blood volume and pressure due to additional weight from the pregnancy can cause varicose veins in the rectal area. Rx: Eat a high fiber diet, bran, whole grains and fruit. Try frequent sitz baths, sitting on a rubber ring, Preparation H, Tucks, or Anusol HC.

Hip pain - Commonly caused by ligaments become softer and looser due to hormonal changes. Keep active by walking and stretching. A heating pad and massage may help.

Insomnia - Caused by hormonal changes and discomfort due to physical changes in pregnancy. Rx: Try a warm bath, relaxation techniques, and a body pillow. Exercise daily, avoid caffeine, and reduce noise while sleeping. Experiment with comfortable sleeping positions. Benadryl causes fatigue and is commonly used to help with insomnia.

Itching - Caused by changing hormone levels. Rx: Increase fluid consumption. An Aveeno bath and moisturizing lotion may help. Use Benadryl cream, calamine lotion or hydrocortisone cream.

Leg cramps - The uterus puts pressure on pelvic blood vessels causing decreased circulation to the lower extremity muscles. Rx: Stretch by straightening the affected leg. Flex the toes forward and away. Try leg elevation and massage. Calcium and magnesium supplements may help. A heating pad, hot water bottle or a warm bath may decrease symptoms.

Mood swings - Occur from constant fluctuation of hormone levels, fatigue and stress. Rx: Make time for yourself, rest, and exercise.

Nasal congestion - The hormone changes increase nasal mucosa sensitivity. Rapid breathing increases the dryness in the nasal passages. Rx: Use a humidifier, drink fluids, and try saline nasal sprays. (See nose bleeds)

Nausea and vomiting - This occurs from changing hormone levels, slowed peristalsis, stretching of the internal organs and the enlarging uterus putting pressure on the stomach. Rx: Avoid spicy or greasy foods. Eat small, frequent meals. Drink tea and liquids between meals. Keep crackers, popcorn, or toast at bedside. Try Vitamin B6 50-100mg with ½ a Unisom tablet. Acupressure wristbands and ginger may help. Several prescription medications are available if symptoms persist and interrupt daily life.

Nose bleeds - Caused by high estrogen levels, which increase nasal sensitivity. Rx: Sit with head tilted forward and pinch your nostrils for 10 - 15 minutes. Avoid overheated, dry air and excessive exertion. Blow your nose gently. Try sleeping with a room humidifier. Use Vaseline on the nasal passages or saline nasal spray to keep the nostrils moist. Try a nasal decongestant (pseudoephedrine) to shrink the swollen vessels.

Numb spot on the abdomen - Caused by the baby pushing on nerves to the abdomen. It is normal and no treatment is necessary.

Pain with intercourse - Occurs from pelvic and vaginal congestion, uterine enlargement and changing hormone levels. Rx: Try changing positions, more foreplay and using a lubricant.

Palpitations - Heart palpitations (pounding or rapid beats) are a normal response to the extra blood volume and are common in the first trimester. Rx: Take slow, deep breaths and reduce stress and anxiety.

Round ligament pain - The ligaments that support the enlarging uterus are stretching. Rx: Flex your knees to your abdomen. Try warm baths, a heating pad, exercise, or sleeping with a body pillow.

Shortness of breath - The enlarging uterus presses up against the diaphragm causing shortness of breath. Rx: Avoid restrictive clothing. Use pillows to elevate the back while sleeping.

Skin changes - Estrogen and progesterone hormones have melanocyte stimulating effects, causing a dark line on the abdomen (linea nigra) and a facial rash (chloasma). Rx: Avoid sun exposure and wear sunscreen. Be patient, it should resolve by 6 months after delivery.

Stretch marks - There is nothing that prevents stretch marks, although avoiding excessive weight gain in pregnancy may minimize them. The marks occur when the skin's normal elasticity does not accommodate the growing uterus. Stretch marks can occur on the abdomen, breast, thighs and upper arms. The marks usually fade after delivery. Rx: Moisturizing lotion may help with itching or discomfort.

Swollen hands or feet - Water retention in the extremities occurs from a pressure differential between the blood vessels and the lymphatic system. It occurs more often in the third trimester and can cause discomfort and carpal tunnel syndrome. Rx: Avoid

restrictive clothes and long periods of standing. Wear support hose and try elevating the legs. Increase exercise and water intake.

Urinary frequency - Caused by the heavy weight of the uterus putting pressure on the bladder. Rx: Drink fewer fluids before bed. Wear easily removable clothing and do Kegel exercises to prevent urinary leakage.

Urinary tract infection - Due to relaxation of the sphincters in the perineum and slower peristalsis in the urinary system. Rx: Drink more fluids and consider cranberry juice or cranberry tablets. Use Vitamin C tablets. After urination, wipe from front to back. Urinate after intercourse. Call the office if you suspect an infection.

Vaginal discharge - Estrogen causes increased cervical mucus formation. Rx: Wear cotton underwear and panty liners. Call if odor, persistent itch, changes in color or consistency. Avoid pantyhose, girdles, and tight pants. Over the counter yeast medications are safe if symptoms warrant treatment.

Varicosities or varicose veins - Caused by impaired circulation, pressure of the uterus on the circulatory system, and hormonal effects on veins. May be hereditary. Rx: Avoid restrictive clothing, long periods of standing, and crossing legs at the knees. Elevate legs and wear support hose. Continue exercising.

Yeast infection - Caused by a change in vaginal flora due to hormonal fluctuations and pH changes. Rx: Use good hygiene. Wear cotton underwear. Try yeast medication (available without a prescription).

Special Considerations for the Pregnant Woman

Caffeine

The March of Dimes recommends that women who are pregnant consume no more than 200 mg of caffeine per day. This is equivalent to two 8 ounce cups of coffee or four soft drinks per day. The Organization of Teratology Information Specialists www.OTISpregnancy.org states that caffeine has not been shown to cause an increased chance for birth defects. Caffeine crosses the placenta and in large quantities can affect babies in the same way as it does adults.

Alcohol

Fetal Alcohol Syndrome (FAS) is the leading known cause of mental retardation. It is preventable. Please DO NOT drink alcohol during your pregnancy or use any illicit drugs such as amphetamines, cocaine, marijuana, or hallucinogenic drugs. There is no known safe amount of alcohol use in pregnancy.

Herbal Supplements

We do not recommend any herbal supplements during pregnancy. Most have not been studied so no safety record is available. If you are taking a supplement, please bring it to your appointment and discuss its use with your physician.

DHA and Omega-3 Supplements

Docosahexaenoic acid (DHA) is an omega-3 fatty acid. It is found in cold-water fatty fish and fish oil supplements, along with eicosapentaenoic acid (EPA). Vegetarian sources of DHA come from seaweed. Because omega-3 fatty acids are needed for brain development, research is being done to see if DHA may prevent Attention Deficit Hyperactivity Disorder (ADHD) in children. At this time, there is no proven benefit for pregnant women who take fish oil supplements. Supplements can cause a prolonged bleeding time, interaction with other medications and may have side effects (loose stools, abdominal discomfort and belching). Additionally, it is recommended that pregnant women avoid eating fatty fish due to the mercury content in fish.

Smoking

Smoking while pregnant increases the incidence of low birth weight babies, placental abruption, miscarriage, and pre-term labor. It also increases your baby's risk for future ear infections, frequent colds and SIDS. Please do not smoke during your pregnancy. Call the American Cancer Society for information on quitting (800) 662-8887.

Toxoplasmosis

Toxoplasmosis is a parasite that is sometimes found in birds. If you have a cat that catches and eats birds and uses an indoor litter box, feces from the cat may contain toxoplasmosis. This can be harmful to a developing fetus if inhaled. Please have someone else change the litter box.

Dental Exams

Local anesthesia injections are safe. Use a lead apron if X-rays are necessary. Pain medications and most antibiotics are safe (your dentist will prescribe correctly). Dentists

commonly use Lidocaine and Ampicillin for dental procedures which are both safe in pregnancy.

Hot Tubs and Saunas

Studies have shown that there is an increased incidence of miscarriage if a sauna is used during the first three months of pregnancy. We recommend against using the sauna during the entire pregnancy and not using a hot tub during the first three months of pregnancy. After the first three months of pregnancy, limit the hot tub to 100 degrees temperature. The danger to the fetus appears to be from raising the mother's core body temperature. Warm baths and showers are safe throughout pregnancy.

Vaccinations

The Tdap (Tetanus, diphtheria and pertussis) vaccine is recommended for all adults in contact with newborns and toddlers under the age of one to prevent transmission of pertussis, also known as whooping cough. If you have not already received this vaccine, you may receive it during the second or third trimester of pregnancy. If you have not received it during pregnancy, the hospital will offer it after delivery. The Flu shot is recommended for all women who will be pregnant during the flu season. Flu season is usually October to May. The H1N1 vaccine is recommended for all pregnant women. The most up-to-date information is available at <http://www.cdc.gov/h1n1flu/pregnancy/>. Vaccines are available in the Vaccination Clinic in Suite 2 of the Los Olivos building by appointment (408) 356-9500. Family members can also schedule appointments in the Vaccination Clinic.

Food Handling

Tips for preventing food borne illnesses can be found on the FDA website at <http://www.fda.gov/Food/ResourcesForYou/HealthEducators/ucm083316.htm>. Use the same precautions when you are pregnant that you normally use for food preparation and storage. Soft cheeses are safe as long as they are pasteurized. Deli meats should only be consumed if fresh. Cooking food destroys bacteria and parasites.

Processed Foods and Plastic Bottles

Minimize your exposure to processed foods. Ham and bacon contain sodium nitrate, which may be harmful in large quantities. Plastic bottles may contain Bisphenol A (BPA), a synthetic chemical that interferes with the body's natural hormonal messaging system. Health advocates also recommend not reusing bottles made from plastic #1 (polyethylene terephthalate, also known as PET or PETE), including most disposable water, soda and juice bottles. Such bottles may be safe for one-time use, but reuse should be avoided because studies indicate they may leach DEHP—another probable human carcinogen—when they are in less-than-perfect condition. Use BPA free water bottles. Do not microwave food in plastic containers. Use only glass or ceramic dishes in the microwave oven.

Toxic Substance Exposures

Toxic Substances are chemicals and metals that can harm your health. Minimizing your exposure during pregnancy can protect you and your baby. Here are some tips to prevent or reduce your exposure to these substances. For more information visit:

www.prhe.ucsf.edu/prhe

1. Don't spray bugs: Pesticides are toxic chemicals for killing insects, rodents, weeds, bacteria and mold. Keep pests out of your home by cleaning up crumbs and spills. Store food in tightly closed containers. Seal cracks around doors and windows. Repair drips and holes and get rid of standing water. Use baits and traps. Don't use chemical tick and flea collars, flea baths or flea dips.
2. Mop more. Toxic substances like lead, pesticides and flame retardants are present in dust. Sweeping or dusting with a dry cloth can spread the dust in the air instead of removing it. Use a wet mop or wet cloth to clean floors and surfaces.
3. Take off your shoes. Shoes can carry toxic chemicals into your home. Wipe shoes on a sturdy doormat if you want to keep them on.
4. Clean your home with non-toxic products. It is cheap and easy to make effective, non-toxic cleaners. You can use common items like vinegar and baking soda.
5. Avoid dry-cleaning clothes. Most dry-cleaning systems use a chemical called perchloroethylene (PERC). Dry-cleaned clothes release PERC, polluting your home. Use water instead. Most clothes labeled "dry clean only" can be washed with water. Hand wash them yourself or ask the dry-cleaner to "wet clean" them for you.
6. Use non-toxic personal care products. Many products have ingredients that can harm reproductive health.
7. Avoid toxic substances in food and water. Eat organic food when possible to reduce your exposure to pesticides. If you don't buy organic produce, buy the fruits and vegetables with the lowest pesticide levels. Limit foods with a lot of animal fat. Many toxic substances build up in animal fat. Avoid canned foods and beverages as much as possible to avoid exposure to the BPA used in the lining of most cans.
8. Prevent exposure from work. If you are exposed to toxic substances at work, request a change in your duties. If you live with someone who works with toxic substances, that person should shower after work.

Prenatal Nutrition

Healthy Eating During Pregnancy

The following are guidelines for healthy eating in pregnancy. The United States Department of Agriculture has an excellent website for pregnancy: www.mypyramid.gov/mypyramidmoms/index.html. MyPyramid Plan for Moms will show you the foods and amounts that are right for you. Enter your information for a quick estimate of what and how much you need to eat. Go to the MyPyramid Menu Planner For Moms to see how your food choices compare to what you need.

Additional folate or folic acid (400 mcg) is important during the development of the baby's neural tube, which occurs during the first trimester. Prenatal vitamins contain folic acid. Foods rich in folic acid include beans, lentils, peanuts, sunflower seeds, walnuts, almonds, orange juice, pineapple, cantaloupe, bananas, avocados, broccoli, asparagus, spinach, dark green lettuce and okra. Many cereals and breads may be fortified with folate. The nutrition label on the foods should list any supplements. Patients with a history of a pregnancy complicated by a neural tube defect (NTD) should take 4 mg per day.

Weight Gain During Pregnancy

Pregnant women need about 300 calories a day more than before pregnancy to support growth of the fetus. Before pregnancy, most active women need about 2,200 calories daily. Sedentary women need 1600 calories. If activity levels decline with pregnancy, fewer additional calories are needed.

Weight gain during pregnancy should be gradual with the most weight being gained in the last trimester. If you are a normal weight at the beginning of your pregnancy, you should gain about 2 to 8 pounds during the first three months of pregnancy and then 3 to 4 pounds per month for the rest of your pregnancy. Your BMI can be calculated at www.nhlbisupport.com/bmi/.

Total weight gain for women with a normal Body Mass Index (BMI) should be about 25 to 35 pounds. If you are pregnant with twins, the recommended total weight gain is 35 to 45 pounds. If you start pregnancy underweight, the recommended total weight gain is 28 to 40 pounds. If you start pregnancy overweight, the recommended total weight gain is 15 to 25 pounds.

Obese women should not gain more than 15 pounds during the pregnancy. Obesity is a risk factor for having babies with neural-tube defects and other malformations. They are twice as likely to need a cesarean section for delivery. Babies born from obese mothers are more likely to be overweight later in life.

Suggestions to Avoid Excessive Weight Gain

- Do not eat for two. Your metabolism is more efficient during pregnancy and absorbs more nutrients. Eat an additional 300 calories as long as your activity level remains constant.
- Limit the amount of fat (butter, mayonnaise, salad dressing, sauces) that you add to your foods.
- Avoid fast food.
- Drink nonfat or low-fat milk rather than whole milk.

- Eat three small meals and three snacks daily at 2-3 hour intervals (graze, rather than eat large meals).
- Chose fresh fruit or raw vegetables for snacks rather than sweets.
- Read juice labels. Many drinks that seem to be fruit juices are really drinks that have little or no fruit juice. Since fruit-type drinks are mostly sugar, they do not count as a serving. Remember, fresh fruits and dried fruits have more fiber than fruit juice, so they are a better choice.
- Incorporate more activity and exercise into your daily routine.
- Drink at least 8 to 10 glasses of water per day.

Food Guide Pyramid: Daily Choices for Pregnant Women

Food Group	Recommended Servings	What Counts as a Serving?
Breads, Cereal, Rice, and Pasta Group—especially whole grain and refined (enriched)	6 - 11 servings	1 slice bread ½ hamburger bun or English muffin 3 - 4 small or 2 large crackers ½ cup cooked cereal, pasta, or rice About 1 cup ready-to-eat cereal
Fruit	2 - 4 servings	¾ cup juice ¼ cup dried fruit 1 medium apple, banana, orange, pear ½ cup chopped, cooked or canned fruit
Vegetable (Eat dark-green, leafy, yellow or orange vegetables, and cooked dry beans and peas often.)	3 - 5 servings	1 cup raw leafy vegetables ½ cup other vegetables—cooked or raw ¾ cup vegetable juice
Meat, Poultry, Fish, Dry Beans, Eggs, and Nuts—preferably lean or low fat	3-4 servings	2-3 ounces cooked lean meat, poultry, fish ½ cup cooked, dry beans** or ½ cup tofu counts as 1 ounce lean meat 2 tablespoons peanut butter or ⅓ cup nuts counts as 1 ounce meat
Milk, Yogurt, and Cheese—preferably fat free or low fat (1%)	3 - 4 servings*	1 cup milk 1 cup buttermilk 8 ounces yogurt 1½ ounces natural cheese 2 ounces processed cheese 1 cup calcium-fortified soy milk
Fats and Sweets	Use sparingly	Limit fats and sweets

Fish and Seafood

The FDA has warned that some fish (shark, swordfish, king mackerel, tuna and tilefish) may contain levels of mercury that could lead to brain damage in the developing fetus and should not be consumed. Currently the FDA suggests not more than 12 ounces each week of fish that are low in mercury. Five of the most commonly eaten fish that are low in mercury are shrimp, canned light tuna, salmon, Pollock and catfish. Albacore has more mercury than light canned tuna so the limit for this fish is six ounces. For more information on fish consumption advisories, go to the website: www.cfsan.fda.gov/~frf/sea-mehg.html Cooking fish does not decrease the mercury content. Additional information can also be obtained at www.epa.gov/fisadvisories/advice/factsheet.html.

Calcium and Iron

Dietary Sources of Calcium

Pregnant and lactating women need 1200 mg of calcium daily. If your nutritional calcium intake is not adequate, calcium from your bones is used for the baby's development. This puts you at risk for osteopenia (weak bones) or osteoporosis later in life. Foods are the best source of usable calcium. Food sources of calcium include milk and milk products, cheese, fish, and many vegetables. Other food sources are fortified breads and cereals. High fat dairy products should be taken sparingly. If you are unable to obtain all the necessary calcium from foods, a combination of foods and a moderate amount of supplement may be the best therapy. A list of common foods that contain calcium is available at www.lowmg.com/info/medinfo/general_health/bone_density_information/calcium_sources.pdf.

Calcium Supplements

If you don't ingest enough calcium in your diet, calcium supplements should be considered. Calcium carbonate provides the largest percentage of usable calcium and should be taken with meals to increase absorption. Calcium absorption is dependent on an adequate level of vitamin D (1000 IU per day). Vitamin D is added to fortified milk and occurs naturally in fish and eggs. Exposure to sunlight for 10 minutes each day also creates Vitamin D in the skin. If you have a history of kidney stones or if calcium carbonate causes gas or constipation, try calcium citrate. Calcium citrate should be taken between meals for best absorption.

Dietary Sources of Iron

Iron is a mineral that the body needs to produce red blood cells. When the body does not get enough iron, it cannot produce the number of normal red blood cells. Iron deficiency (iron shortage) is very common in pregnancy and causes anemia. The best dietary source of iron is lean red meat. Chicken, turkey, and fish are also sources of iron, but they contain less than red meat. Dried apricots, molasses, potatoes, raisins, dark leafy greens such as spinach, chard, parsley and strawberries also contain some iron.

Iron Supplements

A blood count will be drawn during your pregnancy at the first visit and again in the third trimester to determine whether you have an iron deficiency anemia. Lack of iron may lead to unusual tiredness, shortness of breath, a decrease in physical performance, and learning problems in children and adults, and may increase your chance of getting an infection. Different preparations include ferrous sulfate, ferrous gluconate or ferrous fumarate. Your body can absorb only a small amount each day, so any of these preparations is adequate for iron supplementation. Some iron preparations contain vitamin C, which increases iron absorption or a stool softener if you have problems with constipation. Nature Made (65mg of iron sulfate) or Slow FE (45 mg) can be taken up to three times daily. If you are taking more than one iron tablet per day, separate the times that you take it and do not take it with your multivitamin. Iron should not be taken with antacids. Stools may turn black in color while taking iron supplementation.

Prenatal Exercises

Exercise Guidelines for Pregnancy

(Adapted from Alton, Exercise guidelines for pregnancy and the ACOG Tech Bulletin 267)

Exercises for Pregnancy and Childbirth

Knee press, abdominal strengthening exercises and pelvic rock information is available on the lowmg.com website. Pilates and prenatal yoga are helpful for maintaining strength and stability during the pregnancy. Exercise and general fitness decrease the incidence of preterm labor. The length of labor and need for pain medication are also decreased in women who exercise on a regular basis.

Benefits of Exercise During Pregnancy

- Improved posture and relief of back pain
- Improved circulation and flexibility
- Increased energy level and less fatigue
- Stronger muscles for labor with reduced need for pain medication in labor
- Shorter labor
- Reduced risk of preterm labor

Physiologic Changes that Occur During Pregnancy Include

- Progesterone, relaxin, estrogen and cortisol soften and stretch the connective tissue resulting in laxity and instability of ligaments and joints, thus increasing the risk of musculoskeletal injury.
- As the uterus and breasts enlarge, the center of gravity shifts, resulting in balance problems and increasing the risk of falling and of straining the hips and back.
- Blood volume expansion and increased resting cardiac output decrease the cardiac reserve during exercise. Increased resting oxygen consumption reduces availability of oxygen during aerobic exercise.
- The effects of progesterone on respiratory function combined with the u-ward displacement of the diaphragm by the enlarging uterus lower the threshold for hyperventilation.
- Dehydration and hypoglycemia occur more readily.
- There have been no reports that hyperthermia associated with exercise causes birth defects.

Exercise Precautions

Avoid vigorous exercise during hot, humid weather or if you have a high fever. Avoid use of a sauna, exercising while fatigued or to the point of exhaustion, exercises that strain the lower back, stress ligaments, injure knees, or promote separation of the pubic bone (symphysis pubis). Avoid holding your breath or straining. Avoid exercising while on the back in the third trimester (causes nausea, dizziness and decreased blood pressure).

Exercise Recommendations

- Regular, aerobic exercise of mild-to-moderate intensity for 30 minutes daily is preferable to intermittent activity or a sudden increase in exercise level.
- Intensity should be light enough to allow conversation during exercise (there are no heart rate limitations).

- Exercise should be preceded by an extended warm-up and followed by a cool-down period and stretching.
- Ample fluid intake is important before, during and after exercise.
- Carbohydrates (milk, fruit, juice, grains) should be consumed before and after exercise to prevent hypoglycemia.
- Caloric intake should be adequate to support exercise and promote optimal weight gain.

Warning Signs to Stop Exercising

Stop exercising if you experience vaginal bleeding, dizziness, headache, chest pain, muscle weakness, calf pain or swelling, preterm labor, decreased fetal movement, amniotic fluid leakage

Exercises Considered Safe During Pregnancy (adapted from Cont OB/Gyn 1995:5:62-90)

Bicycling (stationary balance is difficult to maintain), bowling, dancing, golf, jogging, light weight-training, low-impact aerobics, rowing, running, swimming, tennis, walking, water aerobics

Exercises Not Considered Safe During Pregnancy (adapted from Cont OB/Gyn 1995:5:62-90)

Contact sports, marathon running, diving, downhill skiing, gymnastics, heavy weight-training, high-impact aerobics, horseback riding, ice skating, mountain climbing, racquetball, rollerblading, roller-skating, scuba diving, sky diving, surfing, water skiing

Contraindications to Exercise During Pregnancy (ACOG Tech Bulletin No. 267)

Pregnancy-induced hypertension, severe anemia, cardiac disease, cervical incompetence or cerclage, extreme underweight, hemoglobinopathies, three or more prior miscarriages, intrauterine growth retardation, severe infection, multiple gestation at risk for preterm labor, placenta previa, polyhydramnios, preterm labor, renal disease, preterm rupture of membranes, uncontrolled seizure disorder, uncontrolled diabetes, persistent second or third trimester bleeding, poorly controlled hypertension, poorly controlled hyperthyroidism.

Posture

Good posture can decrease low back and neck pain and fatigue. During pregnancy the weight of the baby causes the center of gravity to move forward. To prevent this, it is important to maintain a pelvic tilt with the pelvis tucked under the spine. It is important to maintain the “core” abdominal muscles and keep the shoulders down to prevent curvature of the spine and back pain. Since traditional crunches and abdominal work are difficult in the third trimester, consider using a yoga ball for crunches. Try doing planks focusing on the side abdominals and keeping the pelvis tilted to support the lower back. Consider wearing a maternity support belt. Avoid high heels late in pregnancy as they can cause the center of gravity to move forward. While sitting, maintain the pelvic tilt and avoid slouching. Sit with knees level to hips. During the third trimester, avoid lying flat as it can compress the vena cava (large blood vessel) and cause decreased blood pressure. This will cause nausea and dizziness in the mother and may cause distress in the baby. To avoid this, place a pillow under your hip to tilt the uterus.

Kegel Pelvic Floor Strengthening Program

What are Kegel Contractions?

Kegel pelvic floor muscle exercises help women improve stress incontinence or the involuntary loss of urine with sudden increases in their abdominal pressure (i.e. sneezing, coughing, running, or exercising). The Kegel exercise is an isometric program designed to strengthen the internal pelvic muscle called the pubococcygeus muscle (the "P.C." muscle). This muscle forms the floor of the pelvis and surrounds the urethra, vagina, and anus, thereby, providing support for all the pelvic organs. It is the muscle used to stop urination, to prevent a bowel movement, or to tighten the vagina during intercourse.

The P.C. muscle contains two types of muscle fibers called "slow-twitch" muscle fibers (70%) and "fast-twitch" muscle fibers (30%). Both muscle fiber types should be exercised to improve the muscle's resting tone (slow-twitch) and its rapid reflex contraction (fast-twitch) during episodes of sudden increases in intra-abdominal pressure (i.e., a cough or sneeze). The muscle can be felt by placing your fingers one to two inches inside your vagina, tightening your PC muscle, and feeling the squeeze.

Incorporate the one-minute series of contractions as a regular part of your normal voiding routine for the rest of your life. You will significantly improve the strength of your pelvic floor muscles and improve your bladder control and vaginal tightness. During a sudden cough or sneeze, the pelvic floor muscles will contract reflexly, thereby stabilizing the position of the bladder neck and decreasing the accidental loss of urine.

How Do You Identify the P.C. Muscle?

Sit on the toilet and begin urinating. When your bladder is nearly empty, attempt to stop the flow of urine WITHOUT contracting your abdominal, buttocks, or inner thigh muscles. This will help you identify the correct muscle. (Contraction of the P.C. muscle is performed by "drawing in" the vaginal muscles and tightening the bladder and anal sphincters as if to stop urination or defecation.) When you can successfully start and stop urinating or feel the vaginal muscle contract, you are using your P.C. muscle.

Performing Kegel exercises: Every time you go to the bathroom (after you finish urinating, but before you stand up) remain sitting on the toilet for one minute and perform either of the following muscle exercises (perform on alternating days):

Slow-Twitch Exercise Hold the muscle tight for a slow count of three to ten-seconds, relax, and repeat again for a total of five to ten contractions.

Fast-Twitch Exercise Quickly contract and relax your P.C. muscle ("quick flicks") 20 to 50 times, relax for five-seconds, and repeat again for a total of two to four sets. You may only be able to start out with a total of 40 "quick flicks"; however, over a period of a few weeks you will be able to increase the number up to a total of 200.

High Risk Pregnancy

Bleeding During Pregnancy

Bleeding or spotting may occur in 30-40% of pregnancies during the first trimester. Twenty percent of all pregnancies result in miscarriage. The usual cause of a miscarriage is a chromosomal abnormality in the fetus, not something that the pregnant mother has done or could have avoided. Viability can be determined by a vaginal ultrasound. Once a normal heartbeat is visualized, the risk of miscarriage decreases to less than 5% in the first trimester.

It is common to have bleeding after a Pap smear or pelvic examination. Bleeding after exercise or intercourse may also occur. Bleeding during labor is also common as the cervix stretches and softens. Most cases of heavy bleeding in the 2nd or 3rd trimester are caused by placental problems. These include a placental previa (the placenta covers part or all the cervix) or a placental abruption (a separation of the placenta from the uterine wall). If you experience heavy bleeding in the second or third trimester, call your physician.

Morning Sickness (Hyperemesis)

Changing hormone levels may cause morning sickness or hyperemesis during the first trimester. Increased progesterone causes slowing of intestinal peristalsis causing bloating and increased acid reflux into the esophagus. Nausea and vomiting may result in little or no weight gain during the first trimester. To help alleviate symptoms, stay hydrated and rest. Eat small, frequent meals and avoid spicy and greasy foods. Eating more protein or complex carbohydrates (crackers, popcorn, toast) may help. Antacids and antiemetic (anti-vomiting) medications can be used. Vitamin B6 50-100mg with ½ of a Unisom tablet work well and can be purchased without a prescription. Accupressure wrist bands and ginger may help. Your physician may prescribe Zofran, Reglan, Phenergan or Scopolamine patches. These medications all work differently and can be taken individually or together as needed under the advice of your physician

Rh Negative Mothers and Rhogam

If the mother is Rh negative and the baby's blood type is Rh positive, there is an Rh incompatibility. The baby's red blood cells have the potential to leak into the maternal blood system causing the mother to produce antibodies against the baby's blood. The antibodies remain in the maternal system and can cause damage to subsequent babies. Because the baby's blood type cannot be determined during the pregnancy, all women that are Rh negative should receive Rhogam, unless they are certain the father's blood type is also Rh negative. Rhogam is a synthetic antibody that will block maternal antibody response. Rhogam is injected at 28 weeks and within 72 hours after a birth, miscarriage, abortion or amniocentesis. If the baby is Rh negative, a second Rhogam injection is not necessary after birth.

Twins

There are two types of twins, fraternal and identical. Fraternal twins are more common because each fetus develops from a separate egg and has its own placenta and gestational sac. Mothers of twins are at increased risk of high blood pressure, pre-eclampsia, anemia, gestational diabetes, hyperemesis, preterm labor and postpartum

hemorrhage. Babies are more at risk of preterm labor, slowed growth, low birth weight or unequal size (discordance) and birth defects (identical twins). Twin pregnancies are monitored closely with more frequent ultrasounds and non-stress testing. Because of the risk of preterm labor, women carrying twins may stop working sooner than those with a singleton pregnancy.

Preterm Labor

Labor that begins before 37 weeks is considered preterm. It occurs more frequently in women with medical health problems such as kidney or heart disease, twin pregnancy, uterine anomalies such as fibroids or an incompetent cervix, previous history of preterm labor, delivery within the last year and maternal age younger than 18 or older than 40. Symptoms of preterm labor include regular uterine contractions that get longer, stronger and closer together. Braxton-Hicks contractions are not regular and are not usually strong. Call if you have more than 5 regular contractions per hour, have abdominal cramps, pain, pressure, bleeding, or think you may have ruptured the membranes. If you are unsure if you are having Braxton-Hicks contractions or preterm labor, go home, rest and drink lots of fluid. If your contractions persist at 5 per hour and are regular, call the office to be seen.

Pregnancy Induced Hypertension or Preeclampsia

Preeclampsia is also called Pregnancy Induced Hypertension (PIH) or toxemia and can occur in about 5% of pregnancies. The cause is unknown. PIH is diagnosed by a triad of physical signs that include hypertension (high blood pressure), edema (swelling) and proteinuria (protein in the urine). Symptoms may include severe headache, upper abdominal pain, blurred vision and rapid weight gain. PIH is more common in first pregnancies, multiple gestations, gestational diabetes, teenage pregnancy and pregnancy with hypertension diagnosed before 20 weeks of gestation. The treatment for PIH is delivery. If you develop PIH before your baby can be safely delivered, you may be recommended to start bed rest either at home or in the hospital. In severe cases of PIH, you may be delivered despite the gestational age as the risks of PIH to the mother may outweigh the risks of premature delivery. Severe preeclampsia can result in kidney failure, severe bleeding, stroke and eclampsia (seizures). Magnesium sulfate is frequently used to help prevent seizures during labor.

Gestational Diabetes

If you do not pass the two-hour glucola screening test, it means that you have gestational diabetes. If you are diagnosed with gestational diabetes, you will be referred to the Sweet Success Program at Obstetrix Medical Group. The phone number is (408) 371-7111. At Sweet Success, you will meet with a dietician to learn about altering your diet during pregnancy. A nurse will teach you how to check your blood sugar. Most women are able to control their blood sugar through diet and exercise. A food pyramid and a preliminary diet for gestational diabetes are available at <http://www.diabetes.org/food-and-fitness/> or at <http://www.cdc.gov/ncbddd/bd/diabetespregnancyfaqs.htm>

What is gestational diabetes?

Approximately 5 percent of expectant mothers develop gestational diabetes. During pregnancy, the placenta can produce a hormone that makes the mother resistant to her own insulin. This results in an elevated glucose level. Glucose is a small molecule that

passes through the placenta and causes the baby to increase its insulin production. This results in complications for the pregnancy as well as the infant. Neonatal (baby) complications from persistent elevated blood sugars may include macrosomia (big baby) and stillbirth. Macrosomia may lead to a shoulder dystocia (shoulders get stuck resulting in neurologic damage to the baby) with a vaginal delivery or a cesarean section.

After delivery, the baby may produce too much insulin and may develop hypoglycemia (low blood sugar) which can cause seizures. The baby is also at increased risk for jaundice and polycythemia (high red blood cell count). The baby's glucose is tested at delivery with a heel stick blood test. If the sugar level is low, the baby may need to be given a sugar water bottle or even an IV glucose solution. Some studies have found a link between severe gestational diabetes and an increased risk for stillbirth in the last two months of pregnancy. Having gestational diabetes makes you about twice as likely to develop pre-eclampsia as other pregnant women.

What factors would put me at risk for gestational diabetes?

All patients are screened with the first trimester labs and again between 24 and 28 weeks. You may be at increased risk if you are obese (body mass index over 30), have a history of gestational diabetes in a previous pregnancy, have a strong family history of diabetes, have previously given birth to an unusually large baby, had an unexplained stillbirth, had a baby with a birth defect, or have high blood pressure.

Will my baby be monitored during my pregnancy to avoid complications?

You should begin kick counts after 28 weeks of pregnancy. Information is available at http://www.lowmg.com/info/medinfo/ob/ob_book/fetal_kick_counts.pdf. Most physicians will perform non-stress tests during the last few weeks of your pregnancy. You will also have an ultrasound to determine a size estimate and make sure the placenta is not overly mature.

How is gestational diabetes managed?

It depends on how serious your condition is. You'll need to keep diligent track of your glucose levels using a home glucose meter or strips. Eating a well-planned diet can help you keep well-controlled glucose levels. The American Diabetes Association recommends getting nutritional counseling from a registered dietician who will help you develop specific meal and snack plans based on your height, weight, and activity level. Once enrolled in the Sweet Success Program, you will be asked to monitor your diet and keep a record of your blood sugars.

Studies show that moderate exercise also helps improve your body's ability to process glucose, keeping blood sugar levels in check. Most women with gestational diabetes benefit from 30 minutes of aerobic activity, such as walking or swimming, each day.

If you are not able to control your blood sugar well enough with diet and exercise alone, you may have a medication prescribed. You may be a candidate for oral medications (glyburide or metformin). About 15 percent of women with gestational diabetes need insulin.

Third Trimester Information

Cord Blood Banking

Newborn Stem Cell Banking

After your baby's umbilical cord has been cut, the cord's blood and tissue are still rich in valuable stem cells. These genetically unique stem cells can only be collected immediately after birth. If they are not saved, your baby's stem cells are discarded as medical waste.

Here are some of the most common questions expectant parents have about newborn stem cell banking:

Why do families choose to collect and store their babies' cord blood?

Most families bank their babies' cord blood stem cells for the assurance of having these stem cells safely stored in case they're ever needed by a family member.

- Cord blood has been successfully used in transplant medicine for more than 20 years to treat many serious diseases,¹ including leukemia, lymphoma, certain other cancers, and blood disorders. Today, stem cell therapies continue to evolve, bringing new hope to patients and their families.
- Cord blood and tissue stem cells also are being evaluated for their healing potential in **regenerative medicine**. Current studies are looking at the potential for treating conditions like brain and spinal cord injury, and hearing loss.

Each family banks for its own reasons, whether to potentially harness the advances in stem cell science or because of an illness in the family. Here are some of the top reasons why expecting parents bank:

- **Family History** – If your family has a history of a disease that is treatable with stem cells, such as certain cancers and blood disorders, consider banking your baby's stem cells. It is important to remember, however, that not all medical needs can be foreseen.
- **Minority or Mixed Ethnicity** – Ethnic minorities and children of mixed ethnicity may have greater difficulty finding stem cell donors when needed.
- **Fertility Issues/Absence of Full Sibling** – Families preparing to adopt a newborn, use a surrogate, or fertility treatments choose cord blood banking because, if needed, the cord blood may be the only genetically related source of stem cells available.

How is cord blood used in medical treatments?

Cord blood stem cells are used in two areas of disease and injury treatment: transplant medicine and regenerative medicine.

- **Transplant Medicine** – Cord blood has been successfully used in transplant medicine for more than 20 years to treat many life-threatening diseases like leukemia, certain other cancers, and blood disorders. In these cases, cord blood stem cells are generally used to regenerate a healthy blood and immune system in patients who have undergone chemotherapy.
- **Regenerative Medicine** – Regenerative medicine using cord blood and cord tissue stem cells is being studied for the stem cells' ability to repair damaged tissues and organs. Research has shown that stem cells may travel to damaged sites in the body to help repair or promote healing.

Are cord blood and cord tissue stem cells different?

Yes, the primary stem cells in cord blood (hematopoietic stem cells) are different from the primary stem cells in cord tissue (mesenchymal stem cells).

Cord blood stem cells are generally used to regenerate a healthy blood and immune system in patients who have undergone chemotherapy. Cord tissue stem cells create structural and connective tissue and are currently being studied in a broad range of applications, including treatment for spinal cord injury, heart repair following a heart attack, bone repair, and cartilage regeneration.

How are cord blood and cord tissue collected?

Cord blood and cord tissue collection are simple, safe, and painless procedures that usually takes less than five minutes and can be performed after vaginal or cesarean births.

Cord Blood — After your baby has been born and the cord has been clamped and cut, the blood will be drawn from the umbilical cord before it is discarded. Your baby's cord blood will then be sent to a laboratory for processing and storage.

Cord Tissue — Following cord blood collection, your doctor or midwife will collect a 4- to 8-inch segment of the umbilical cord and place it in a provided container. The collection will then be sent to a laboratory for storage.

What are my options for saving my baby's newborn stem cells?

There are two types of banks: family banks and public donor banks. With family banking, the cord blood is saved exclusively for your family — for your child or another family member — for a fee. Public donations go to anonymous patients in need. It is not available everywhere, and there is no guarantee that donated cord blood will be saved. If the cord blood is saved, it is available for use by anyone and may not be available if your family needs it. Cord tissue banking is only available at certain family banks.

What is the likelihood that my family will need to use stem cells?

The most common diseases treated with cord blood are not hereditary and occur without warning. No one can predict future illnesses or accidents, but published estimates indicate that the likelihood of needing a stem cell transplant from any source is 1 in 217 for an individual (by age 70), using his or her own stem cells or someone else's.²Based on current data, newborn stem cells will remain viable indefinitely when properly stored. This means your family may be able to use the cells for diseases and injuries that occur decades from now.

How do I find a cord blood collection company?

Many companies provide this service. A list can be obtained at www.parentsguidecordblood.org. When choosing, look for a well-established bank that has the best technology to collect, process, and save the most stem cells for your family. Having more stem cells for treatment has been shown to improve medical outcomes.³ Also, look for a company that has a strong reputation with Ob/Gyns and has a long history of providing samples for transplant and treatment.

1. Forraz N, McGuckin CP. The umbilical cord: a rich and ethical stem cell source to advance regenerative medicine. *Cell Prolif.* 2011;44 Suppl 1:60-9.

2. Nietfeld JJ, et al. Lifetime probabilities of hematopoietic stem cell transplantation in the U.S. *Biol Blood Marrow Transplant.* Mar 2008;14(3):316-322.

3. Kurtzberg J et al. Results of the Cord Blood Transplantation (COBLT) Study unrelated donor banking program. *Transfusion.* 2005;45:842-855.

Banking cord blood does not guarantee that the cells will provide a cure or be applicable for every situation. Use will be determined by the treating physician who will consider if the stem cells are applicable for the condition and whether they should come from the patient or a suitable donor (like an HLA-matched sibling). There is no guarantee that an adequate stem cell match will be found for any given patient. Cord blood and cord tissue use in regenerative medicine is experimental. There is no guarantee that treatments being studied in the laboratory or in clinical trials will be available in the future.

California State Disability Information

How do I apply for disability?

You need to check with your Human Resources Department to determine if you are eligible for private short-term disability insurance or State Disability Insurance. If you are eligible for State Disability Insurance then you can order the forms from the EDD office at (408) 277-9581 or visit their website at www.edd.ca.gov/direp/diind.htm. You can also download the form at http://www.lowmg.com/info/forms_and_consent/disability/disability_claim_form.pdf. Please complete the entire patient portion of the form before bringing it to Los Olivos. The form will then be completed and mailed directly to the Employment Development Department. If you are eligible for Private Short-Term Disability then you will need to get the forms from your Human Resources Department. Please complete the entire patient portion of the forms before bringing it to Los Olivos. The form will then be completed and faxed or mailed to the insurance company.

When do I begin my maternity leave?

The State of California allows maternity leave to begin 4 weeks before your Estimated Due Date for State Disability. Most private insurance companies allow 2 weeks before your due date. You may continue to work until your due date if you are healthy and have no medical reason for stopping work. You cannot add the four weeks before delivery disability to the postpartum disability period.

I feel sore and tired all the time. Can I stop working?

Fatigue, low back pain, nausea and swelling are common symptoms of pregnancy. Although annoying or uncomfortable, these symptoms are not considered disabling conditions for most occupations. To be eligible for disability, your physician must confirm you are disabled from doing your customary work due to a complication of pregnancy.

When does my disability end?

The state allows 6 weeks after a vaginal delivery and 8 weeks for a cesarean section. If you have a complication, you may qualify for an extended disability.

When and where should I bring my forms once I complete the patient section?

The State Disability Office will not accept the forms until you have stopped working, so please do not bring them to the office until one week before your disability date. Private Insurance companies may want the forms earlier. Please return the form when you have decided on your last day of work. Bring a stamped, addressed envelope with the completed form and leave it with your physician's nurse.

What is the difference between maternity leave and family leave?

Maternity leave is usually a period of paid time off work allowed by your employer for pregnancy. Family leave is unpaid leave that is offered by companies with at least 50 employees. Check with your HR department to determine if you qualify for this type of leave. The US Family and Medical Leave Act website at <http://www.dol.gov/whd/fmla/index.htm>.

How much does disability pay?

For State Disability you can visit their website which has the calculation method based on your quarterly pay periods. You will need to check with your HR department for the percentage that Private Insurance companies pay for short-term disability.

Paid Family Leave Information

What is Paid Family Leave?

Paid Family Leave is unemployment compensation disability insurance paid to workers who suffer a wage loss when they take time off work to care for a seriously ill family member or bond with a new child. An application can be obtained at <http://www.paidfamilyleave.org/apply.html>

How long may a person receive Paid Family Leave insurance benefits?

Workers may receive up to six (6) weeks of benefits that may be paid over a 12-month period. Employees covered by State Disability Insurance (SDI) will also be covered by Paid Family Leave insurance. If a Voluntary Plan Insurer provides your company's disability insurance coverage, then it must also provide Paid Family Leave insurance coverage.

What is the relationship of Paid Family Leave Insurance to State Disability Insurance?

Paid Family Leave Insurance is a component of the State Disability Insurance (SDI) program. The SDI benefit portion compensates workers who suffer a wage loss when they cannot work because of their own illness or injury. The Paid Family Leave benefit compensates workers who suffer a wage loss due to the need to provide care for a seriously ill family member or to bond with a new child.

What is the relationship between Paid Family Leave insurance and employee leave laws?

The FMLA and CFRA are federal and state leave laws, respectively, that allow workers to take up to 12 work weeks of unpaid leave from their jobs in a 12-month period to care for themselves or family members who are ill, or children who are unable to take care of themselves. Paid Family Leave insurance does not change either law in any way and is completely separate from them. It merely provides up to six (6) weeks of paid benefits to workers who suffer a wage loss when they take time off work to care for others. For more information about FMLA, visit the Department of Labor's Web site at <http://www.dol.gov/dol/topic/benefits-leave/fmla.htm>. For more information about CFRA contact the California Department of Fair Employment and Housing at (800) 884-1684 or at www.dfeh.ca.gov.

Are employees required to take leave under the federal FMLA and the CFRA at the same time they are receiving Paid Family Leave insurance benefits?

Yes, if your company is subject to the provisions of FMLA and CFRA. For additional information about the CFRA, visit the State Department of Fair Employment and Housing's Web site at www.dfeh.ca.gov.

Is the claimant's job protected?

The Paid Family Leave program does not protect anyone's job. It simply provides partial wage replacement when a person cannot work due to the need to care for a child, parent, spouse, or registered domestic partner, or to bond with a new child. Some persons may have their job protected under other laws, such as the FMLA or the CFRA.

How do I submit a claim for Paid Family Leave insurance benefits?

Women who are receiving State Disability Insurance benefits for their pregnancy and delivery “disability” will automatically receive a special claim form for Paid Family Leave benefits for bonding with their new child. If you do not receive the special claim form, or you want one for the baby’s father, you may request one by calling (877) 238-4273. The Claim For Paid Family Leave Benefits (DE2501F) will not be made available online. When benefits are requested due to a need to provide care for a seriously ill family member, a medical certificate that supports the claim of a serious health condition warranting care is required. The DE 2501F contains a medical certificate that must be completed in the instance noted above. Benefits to bond with a new minor child are limited to the first year after birth, adoption, or foster care placement of a child and a medical certificate is not required.

Labor Information

Birth plans

Many first time expectant couples attend prenatal classes. After you complete your classes, please ask your physician any questions that arise. The philosophy of the physicians at Los Olivos is one of nonintervention. Many patients choose natural child birth, and your physician and the labor and delivery staff are supportive. Keep an open mind to additional options should they be needed. Pain medications and anesthesia are usually available if requested. Shaves, enemas, intravenous fluids, internal monitoring, and episiotomies are not performed routinely. Intervention is kept to a minimum. Our goal is to keep you and the baby healthy and to provide a positive experience. A written birth plan is not necessary.

Signs of labor

- Contractions – during the last weeks of pregnancy, you may experience uterine contractions. Braxton-Hicks contractions serve as warm-up exercises for the uterine muscle. Labor contractions are more regular in timing and stronger in intensity, frequency and duration. Labor contractions do not go away when you lie down or rest.
- Rupture of membranes – Either a gush of fluid or a slow leaking of fluid may occur when the amniotic sac ruptures. This occurs before labor begins about 15% of the time. The fluid is usually clear and odorless.
- Bloody show – A small amount of bleeding is commonly seen after an exam in the office or just before the onset of labor. This may or may not contain the mucus plug. Unfortunately, neither the passage of blood nor the mucus plug will predict when labor will begin. It is not necessary to call the doctor if you have bloody show or lose your mucus plug.

False Labor (Braxton-Hicks)

These contractions often are irregular and do not become closer together. They may stop when you walk, rest, or change position. Often felt low in the abdomen, these contractions are usually weak and do not become stronger in intensity. Resting usually makes them stop.

Preterm labor

Preterm labor occurs at less than 37 weeks. Many patients have occasional irregular contractions, also known as Braxton-Hicks that may be painful. If you have more than 5 contractions in an hour, stop all activities, drink extra fluids and stay in bed. If you continue to have more than 5 contractions in an hour before 37 weeks, call your obstetrician.

Full term labor

Your baby is considered mature after 37 weeks. It is normal to have bloody show and mucus during early labor and after office visits if your cervix has been checked. This is due to the cervix softening or stretching.

Call Your Doctor

When in doubt, call. The guidelines offered here are guidelines, not rules. Please call if you have any one of the following:

- When contractions are 5 minutes apart, from the start of one contraction to the start of the next, and when contractions are 45 seconds to one minute in length, and have been so for at least one hour. If you can talk through the contraction, it is probably too early to call.
- If your water breaks.
- If you have heavy bleeding.
- If your baby is not moving normally.
- If the baby is known to be other than head down (breech or transverse) and labor begins or the water breaks.
- If you are scheduled for a cesarean section and labor begins.
- If this is not your first labor and your cervix is dilated when checked in the office, call when you know you are truly in labor. Your second delivery may be much faster than your first delivery.

If this is your first baby, and your pregnancy has been uncomplicated, you may want to stay home as long as possible. When labor begins, try resting. Start timing contractions when they become very painful and difficult to speak through. You may try walking, taking a warm bath, or watching a movie to keep yourself distracted until it is time to call your doctor.

If you have had a prior vaginal delivery, your labor may be more rapid than your first experience. Call when your contractions are regular or painful. If you have had very rapid labors or are dilated before labor, your doctor may tell you to call at a time earlier than suggested above.

During the day, you may call the office (356-0431). Press "0" for the operator. If you are calling after hours, call the exchange (554-2872). They will contact the doctor on call for Los Olivos. When the doctor calls you back, please communicate anything unusual about your pregnancy such as diabetes, history of herpes, positive group B strep culture, high blood pressure, breech presentation or previous cesarean section. If the doctor on call is delivering a baby or is in surgery, there may be a slight delay in returning your call. If you feel the delay is too long, please contact the exchange a second time. Call labor and delivery directly at Good Samaritan Hospital (559-2327), or go directly to labor and delivery if there is still no return call.

At Good Samaritan Hospital

Orders are called to the hospital after the doctor speaks with you. These orders include recommendations for walking, using the shower or spa, diet, monitoring, and pain medications or epidural. The nurses at the hospital will evaluate your labor and communicate with the doctors throughout your labor. Your baby will be monitored when you first arrive, and later in labor when you are no longer able to walk. Shaves, enemas, intravenous fluids, internal monitoring, and episiotomies are not performed routinely. Intervention is kept to a minimum. Our goal is to keep you and the baby healthy and to provide a positive experience.

When you are admitted to the hospital, you will be assigned a room and a nurse. If you know that you want pain medication or if you are a GBS carrier, an IV may be started. Your blood pressure, the contractions and the baby's heart rate will be monitored. Your cervix will be checked to assess dilation, effacement and the baby's head position.

The baby's heart rate and electronic pattern will be evaluated with an external fetal monitor. A small monitor is held in place by a thin elastic band and records the baby's heart rate to determine the baby's well being. A second monitor shows the frequency and length of the uterine contractions.

After you are in strong labor and no longer wish to walk or sit in the room, you can rest in the labor bed. You may be positioned on your side, sitting up or lying down depending on what is most comfortable to you and what position the baby tolerates best. No food is allowed during labor due to an increased risk of nausea and vomiting. You will be offered ice chips and clear liquids instead.

What should I bring to the hospital?

You may wish to bring your pillow, slippers, camera, music, nightgown or pajama, nursing bras, robe, toilet articles, computer or iPod, baby outfit and infant car safety seat. If you know that your baby is going to be small, make sure the car seat is the appropriate size.

How long does labor last?

Labor begins with uterine contractions and the opening of the cervix. The uterus tightens and relaxes at regular intervals, causing the abdomen to feel hard, then soft. These contractions make the cervix thin (efface) and dilate. Labor is considered active when the cervix is dilated to 4 centimeters. On average, a first labor lasts 12-20 hours. Second and subsequent labors are much faster.

What can I have for pain relief?

Natural childbirth uses relaxation, meditation and breathing techniques. If you want additional pain relief, medications are available. Narcotic pain relievers are given through an IV. Demerol and Fentanyl are the most commonly used intravenous narcotics. An epidural is a regional anesthetic that blocks pain below the waist for the duration of labor. A spinal anesthetic is usually used for a cesarean section if an epidural is not already in place.

Stages of Labor

Labor consists of regular contractions that occur closer together as time goes on and continue despite movement or rest. They increase in strength and severity with time. Contractions are usually felt in the lower back and radiate to the front of your abdomen. Blood-tinged mucous (bloody "show") is caused by cervical mucus, which passes out of the vagina as the cervix dilates. It does not mean that labor will start soon, only that the cervix is beginning to soften and dilate in preparation for labor.

Labor begins when the cervix starts to dilate and ends when the baby is born. Labor is divided into several phases, beginning with the latent phase. Latent phase is of variable duration and can last many hours or even days. The latent phase of labor ends and active phase begins when the cervix is 4 centimeters dilated. In a low risk pregnancy, it is best to stay at home during this phase. The active phase of labor usually progresses rapidly at about one centimeter per hour in first labors and much more rapidly with subsequent labors.

The second stage of labor begins when the cervix is fully dilated and it is time to push the baby out. Once the cervix is fully dilated, you will often feel extreme pelvic pressure. "Pushing" involves bearing down during each contraction until the baby is born. This stage may last for generally 1-3 hours and ends with the birth of the baby. Rest between

contractions so as not to exhaust yourself. Once your baby's head is delivered, the airways are cleared by suction. The baby is delivered and usually placed on the mother's abdomen. The cord is clamped by the physician and is then cut by a family member. The baby stays with the mother until additional baby assessment is needed.

After delivery, the placenta is delivered and the vagina is repaired if stitches are needed. This is the third stage of labor. Pitocin is generally given to help the uterus contract and control bleeding.

Vaginal Delivery

Most deliveries are spontaneous without intervention. If your doctor finds it necessary to induce you, the indication will be explained. Most interventions are used to prevent a worse outcome. Interventions are not used unless they are considered both safe and necessary. Risks and benefits of interventions as well as alternatives will be discussed. Forceps and vacuum are used to prevent a cesarean section; an episiotomy is used to prevent lacerations. The following are brief explanations of possible procedures:

- **Episiotomy:** A small incision on the perineum used to open the vagina and allow delivery of the head or to facilitate delivery in the event of fetal distress. It is used to prevent lacerations and tears into the rectum, clitoris and vagina. Most physicians will cut an episiotomy only if necessary. K-Y jelly and massage are often used during the second stage of labor to stretch the vagina and allow a smaller tear or episiotomy. Local or epidural anesthesia is given before the episiotomy to avoid discomfort.
- **Forceps:** These instruments look like large spoons. They are inserted in the vagina and gently placed on baby's head to facilitate delivery in the event of fetal distress or a very long second stage.
- **Vacuum:** A soft plastic cup that is placed on the baby's head. Suction is used to hold the cup in place so that the infant can be delivered during a contraction with the mother pushing. It is frequently used when the baby's head is not in the correct position for a vaginal delivery.

Cesarean Delivery

Reasons for a cesarean section include an abnormal position of the fetus (breech), a medical complication of the pregnancy (pre-eclampsia, active herpes, heart disease), a previous cesarean section, a large baby, a fetal heart rate abnormality signaling distress or a baby that is "stuck" (cephalo-pelvic disproportion or CPD). Cesarean sections are either scheduled (planned or elective) or unplanned (emergency or after laboring). If a cesarean section is required, the reason will be discussed with you in detail. Your partner may stay with you throughout the procedure.

If you have been laboring and have an epidural already, this will be used for your delivery. If you do not have an epidural, a spinal is the usual anesthetic. Your anesthesiologist will discuss this with you. Once you are comfortable with your anesthetic, your lower abdomen is shaved, a catheter is placed in your bladder and your abdomen is washed with sterile soap. Drapes are placed to maintain a sterile environment. Your physician will start the procedure after you are ready and comfortable.

After delivery, the baby will be examined by a pediatric nurse and a neonatologist in a room next to the operating room. Amniotic fluid is suctioned from the baby's mouth and nose and the baby will be returned to you in the operating room. Your partner can stay

with the baby during the brief time that the baby is out of the operating room. After the procedure, you will be in the recovery room with your family until your anesthesia wears off. This usually takes about two hours. Your baby is usually weighed in the recovery room after your surgery. The baby remains with you during the entire hospitalization unless you request the nurses to watch the baby in the nursery.

The IV and bladder catheter will remain in place for the first 12 – 24 hours. Once you are tolerating liquids, the IV can be discontinued. The nurses will ask you to stand during the first day and then start walking soon after. You may eat regular food when you are hungry. The hospital has a “room service” menu that you may order from 7:00 am to 7:00 pm. We encourage you to start oral pain medication as early as possible. Ibuprofen is also given to increase the effectiveness of the narcotic (Vicodin, Percocet or Darvocet) and decrease the discomfort from uterine contractions after delivery.

If you are scheduled for a planned cesarean section, you should arrive at the hospital two hours before your surgery time. Bypass the hospital’s admitting desk and go directly to Labor and Delivery. If you arrive at the hospital before 6:00 am, you must enter through the emergency room. It is not necessary to stop in the ER.

If you have not preregistered, please do so at least one day before your surgery. Obtain a preregistration form in admitting, at www.lowmq.com or on the Good Samaritan Hospital website: www.goodsamsj.org/reginfo.asp.

For a scheduled cesarean section, do NOT have anything to eat or drink (including water) after midnight the night before surgery or 8 hours prior to surgery. You will meet the anesthesiologist the morning of surgery. A spinal is normally given for a scheduled cesarean section. If you have questions regarding anesthetic services, please contact Group Anesthesia Services at 354-2114 or www.groupanesthesia.com.

Labor Induction

Labor can be initiated by your physician for medical reasons or electively. Induction can be initiated with a cervical ripening agent (misoprostel or cervidil), by breaking the amniotic sac or with pitocin. If your doctor recommends induction, the indication and the process will be discussed in detail. Generally an induction is “scheduled” at the hospital for a specific day and time. Orders are faxed to the hospital by your physician. Call labor and delivery (559-2327) one hour before your scheduled induction time to see if you can go in as scheduled. If the hospital is busy due to already laboring patients, the labor and delivery nurses will ask you to arrive at a later time.

Reasons for induction include postdates (usually one week past your due date), a history of complications in labor, premature rupture of membrane (water breaking early), high-risk pregnancy (diabetes or hypertension), low amniotic fluid, macrosomia (big baby) or elective (after 39 weeks).

Length of Stay at Good Samaritan Hospital

Your insurance will allow you to stay in the hospital for 48 hours after a vaginal delivery and 96 hours (4 days) after a cesarean section. If you are feeling good, the baby is doing well and you have help at home, you may request an earlier discharge from the hospital. To be discharged after a cesarean section, you must be tolerating a normal diet, taking oral medications and walking. It is not necessary to have a bowel movement before discharge.

Postpartum Information

Postpartum Instructions

Appointments

If you have had a cesarean section, schedule an appointment 2 to 3 weeks after surgery. Your doctor will advise you if you need additional appointments. If you have had a vaginal delivery, schedule an appointment 6 weeks after delivery, unless otherwise instructed by physician. Be prepared to discuss birth control options at your postpartum appointment.

Activity

Rest as much as possible. During your first weeks at home, restrict your activities to caring for the baby. You will heal faster and be at less risk for depression. Take frequent naps. Limit your visitors. You may begin light exercise when you feel like it. Do not push yourself. Walking is better for you than running or lifting weights the first six weeks after birth. After six weeks, you may slowly build back up to your normal exercise routine.

If you had a cesarean section, walking up and down stairs will not harm you. You probably should not carry anything heavier than the baby for the first week or two. Use common sense – if it hurts, don't continue with that activity.

You may drive when you feel comfortable and have stopped taking pain medications. Wait two weeks or more if you have had a cesarean section. Sitz baths, showers, and baths are safe after vaginal delivery. Do not use a Jacuzzi until the vaginal discharge stops or bathe after a cesarean section until the incision is healed (usually 5-7 days).

Intercourse is permissible after the vaginal discharge and bleeding stop, usually at three to four weeks. If you have had vaginal stitches, you should wait six weeks. Condoms should be used with a water-soluble lubricant such as K-Y jelly or Astroglide.

Vaginal Delivery

After delivery, you will experience bleeding and a discharge for 4 to 6 weeks. It may last longer. The discharge is called lochia. It may be any color, and often has an odor. This continues until the uterus has healed. If you had a vaginal tear or episiotomy, your vaginal area may be swollen or sore. Urination may cause external stinging and should resolve after several days. Taking sitz baths or a warm bath 2 to 3 times a day will help with the discomfort and promote healing. You may use Tucks on stitches or hemorrhoids for comfort. These may be bought without a prescription. The stitches will dissolve by themselves, and do not need to be removed. Do not worry if you see a stitch or knot fall off.

Cesarean Section

Cesarean section incisions have many layers that heal at the same time. There are strong stitches below the skin. Glue and steri-strips should be removed one to two weeks after cesarean section, if they have not already fallen off. It is not necessary to cover your incision while showering. Use a blow dryer to keep the incision dry if your skin folds over the incision. Your incision may ooze slightly as the skin heals. Call the office for an appointment if your incision opens, has a large amount of discharge or bleeding, or if it becomes red or painful.

Diet, Bowel and Bladder Care

You may return to your regular diet at home. If you are breast-feeding and took prenatal vitamins during your pregnancy, continue them while nursing. Increase your diet by 500 calories, and drink 8 to 10 glasses of water each day. Consume more fruits and vegetables.

After delivery, you may become constipated. Fiber supplements and stool softeners (Colace) are available without a prescription. Citrucel, Benefiber, and Fibercon are effective fiber supplements. Drinking water is very important for the stool softeners to work. If you become constipated with no bowel movement for a few days, you may need a laxative such as Ducolax or Senakot. If still no bowel movement, Miralax or a Fleets enema may be effective.

To prevent a bladder infection, drink plenty of water and urinate frequently. If you develop burning or pain with urination, call the office.

Medications

You may also continue to use the same medications used during your pregnancy. If you have any questions about medication, call your doctor.

- Ibuprofen and Naprosyn are nonprescription pain relievers that reduce cramping, bleeding and discomfort. The usual dose of Ibuprofen (Advil, Nuprin, Motrin) is 600 mg every 6 hours, not to exceed 2400 mg in 24 hours and Naprosyn (Aleve) is 220 mg, 2 initially, then 1 every 6-8 hours, not to exceed 1100 mg in 24 hours. Tylenol is also useful for pain relief and can be taken with Ibuprofen and Naprosyn as they work differently.
- Percocet, Vicodin, or Tylenol #3 are narcotics that may be prescribed by your physician if you have had a cesarean section. Narcotics may cause drowsiness, fatigue, nausea and constipation in the mother. They can be used while breast-feeding. Ibuprofen and Naprosyn work synergistically with the narcotic so that you need less of it. You may use Ibuprofen 2400 mg/24 hours or Naprosyn 1100 mg/day. Continue the anti-inflammatory medication after you stop taking the narcotic to continue with pain relief.

Breast Care and Breastfeeding

If you are breast-feeding your milk should come in within 3 to 5 days after delivery. Breast-feeding on demand will help reduce engorgement and increase the milk supply. Use warm water, without soap, to keep your breasts clean. Soap may dry and crack your nipples. If your nipples crack, expose them to air for 15 minutes after breast-feeding. Lanolin ointment may be applied after this. Most babies eat about eight times each day. Try to nurse your baby for at least 15 minutes on one breast and for about 10 minutes on the other breast. It is normal to have more bleeding and/or cramping when breastfeeding. This is a hormonal response to the breast stimulation.

If you have difficulty nursing, contact Women and Children's services at GSH (559-2229), Nursing Mother's Council (272-1448), Nursing Mother's Resource (377-5350), or Mother's Milk Bank (998-4550). Pump rentals may also be arranged for at the above numbers. Breast milk can be stored in a sterile container in the refrigerator for up to 72 hours or in a standard freezer for 1-2 weeks.

Mastitis (breast infection)

You may be developing mastitis if you have a high fever associated with a painful, red breast. Other signs of a breast infection include increased pulse rate, chills, malaise, headaches and an area on the breast that is red, tender and hard. Treatment involves antibiotics, rest, frequent breastfeeding or pumping, and analgesics for pain and fever. Please call if you suspect mastitis.

If you are not nursing the baby

Wear a tight fitting bra to reduce engorgement. Cold compresses may help, and consider Tylenol or Ibuprofen for the discomfort. There is no medication approved by the Food and Drug Administration to prevent engorgement.

Medication use while nursing

Safety of commonly used medications while nursing can be accessed at <http://health.ucsd.edu/healthinfo/info.aspx?docid=/library/healthguide/drugguide/> or contact your pediatrician.

Symptoms to Report

- Excessive bleeding, soaking a pad in one hour with bright red blood, or passing large clots (call immediately).
- Chills or fever over 100.4 degrees.
- Severe pain.
- Persistent headache, changes in vision, rapid swelling of face, feet, hands or overall body.
- Increased pain, redness, swelling odor or discharge from episiotomy site or cesarean incision.
- Depression lasting more than 2-4 weeks.
- Breast infection - fever in association with red, painful breast.
- Bladder infection - frequency, urgency, or pain with urination.

Common Postpartum Discomforts

Bleeding

You may stop bleeding and then restart bright red bleeding several times during the first six weeks after delivery. Called "lochia," bleeding and discharge can occur in 3 stages. The first stage is red, lasting for about 3 days. The second is watery-pink, lasting for 1-3 weeks, and the third is yellowish-white, lasting another 3-6 weeks. Change sanitary pads frequently. Passing clots is also common during the postpartum period. Clots can be bright red, dark red, small or large and are frequently associated with severe cramping. Ibuprofen helps with the pain. Call for excessive bleeding, soaking one pad per hour with bright red blood or continuing to pass large clots.

Cesarean Incision

Your scar may pucker and be tender for 2-3 months as it heals. It is common to feel numbness up to the umbilicus for 6 months. The edges of the incision may be more swollen than the center because of knots used to close the layers located at the sides of the incision. It is normal for the pain to be worse on one side than the other. The top of the incision frequently hangs over the lower edge during the healing process until the lymphatic system begins to function normally. Call the office if the incision becomes red, more inflamed, more tender, or begins to leak fluid. Please remove steri-strips or glue from the incision one week after delivery. They are easiest to remove after a shower or bath.

Constipation

Hormonal changes, dehydration, breast-feeding and inactivity cause constipation. Try increasing the fiber in your diet, drinking more water, and using stool softeners.

Cramping

These are due to the uterus contracting as it returns to normal size. These may be increased with breastfeeding. We recommend changing your position often, emptying your bladder often, using a heating pad, and taking ibuprofen to help with the contractions.

Depression and Emotional Changes

It is normal to feel overwhelmed, exhausted and sleep deprived. The lifestyle changes, exhaustion, and fluctuating hormones frequently cause anxiety and feelings of helplessness. After delivery, your body will undergo many changes. The demands of a new baby and inadequate sleep may lead to feelings of depression. For most women, these feelings may only last 4-7 days. Resting, maintaining a good diet, and planning time for you away from baby are important. Ask for help from your family and friends. If depression persists longer, or seems more severe, schedule an appointment with your doctor. Good Samaritan Hospital has an excellent support group (559-2508).

Episiotomy

Use ice packs the first 1-2 days and Ibuprofen as needed for swelling and discomfort. Taking a warm bath, using a sitz bath, a spray bottle, or a rubber ring may also help. As you heal, you may notice the stitches beginning to pull and itch. Swelling decreases so the stitches begin to loosen. The body absorbs sutures used in repairing an episiotomy over the next 6 weeks.

Hair Loss

Thinning hair is normal postpartum, with the most noticeable change 5-6 months after delivery.

Hemorrhoids

Keep your stools soft by using a stool softener. Try Preparation H, Anusol creams, and using a spray bottle after bowel movements. Do not over wipe. Consider Tucks pads and baby wipes.

Hormonal Changes

It is common after delivery to experience hot flashes, night sweats, mood swings and vaginal dryness similar to what women experience in early menopause. Your estrogen level drops with delivery and is reduced until you finish nursing and your regular menses resumes. If the symptoms are troublesome, you can discuss estrogen replacement with your physician. A small dose of oral or transdermal (patch) estrogen will reduce the vasomotor symptoms of hot flashes and night sweats. If vaginal dryness is the only symptom, vaginal estrogen cream can be prescribed.

Hot Flashes

Hot flashes occur frequently when nursing. The body treats nursing like menopause with all the same symptoms due to lack of estrogen. Hot flashes, depression, and vaginal dryness all increase during breast-feeding. Starting a combination oral contraceptive pill or using an estrogen patch usually helps decrease the symptoms. If you are nursing, the estrogen in the pill may decrease milk supply. Vaginal estrogen does not affect nursing.

Leg Swelling

It is normal for your legs to swell after the delivery. There are large fluid shifts after delivery. This usually resolves by your 6-week postpartum check.

Sex

If you had a cesarean section or a vaginal delivery without an episiotomy, you may attempt intercourse four weeks after delivery. If you had a vaginal delivery with an episiotomy or laceration, wait until after your postpartum visit. You may need to use lubrication (Astroglide or K-Y Jelly), especially if you are breastfeeding. If vaginal dryness persists, vaginal estrogen cream can be prescribed by your physician.

Engorged Breasts

Try using ice packs and wearing a sports bra or nursing bra all the time. If you are nursing, your body should regulate the engorgement within the first few weeks. Nursing is supply and demand. If you are not breastfeeding, avoid stimulation of the breasts.

Urinary Leakage

Urinary stress incontinence is caused by decreased perineal muscle tone and lack of estrogen. Do Kegel exercises to reverse the process. Using estrogen vaginally (prescription) can also help restore the tissue if dryness is an issue.

Vaginal Dryness

Breast-feeding causes vaginal dryness. Lubrication may help the symptoms. It can be treated with prescription estrogen products that are placed vaginally.

Contraceptive Options

More comprehensive information is available at http://www.lowmg.com/info/medinfo/ob/ob_book/contraceptive_options.pdf

- **Withdrawal Method** - removal of the penis from the vagina before ejaculation. Success rate is about 72%.
- **Rhythm** - determining probable fertile period during a menstrual cycle, using body temperatures and graphs, and avoiding intercourse during these fertile times. Success rate is about 70%.
- **Vaginal Spermicide** - foams, suppositories, tablets, or jellies inserted into the vagina before intercourse. Success rate is about 79-95%.
- **Condom** - a rubber sheath worn over the penis during genital contact. It acts as a barrier to transmission of semen and/or organisms that may cause sexually transmitted diseases (non-latex condoms do not act as a barrier for HIV). Success rate is about 88-98%.
- **Diaphragm** - a vaginal barrier method used in combination with spermicidal cream or jelly. Success rate is about 82-94%.
- **IUD** (intrauterine device) - a small device placed in the uterus. Success rate is about 98%. Two IUD's are available. The Mirena IUD lasts 5 years and the Paragard lasts 10 years. Both IUDs are as effective as the birth control pill or tubal ligation. See www.mirena-us.com or www.ParaGard.com.
- **Implanon** - a small, thin, implantable progesterone contraceptive that is effective for up to three years. The success rate is 99%.
- **Minipill** - progesterone only oral contraceptive - Used frequently while nursing because it does not decrease the quantity of breast milk. The success rate is 97%.
- **Oral contraceptive pill (OCP)** - A cyclic pill of both estrogen and progestin. It suppresses ovulation, diminishes growth of the endometrium, and increases the thickness of mucus around the cervix, preventing the passage of sperm through the cervix. Success rate is 98-99.5%.
- **Depo Provera** (Contraceptive Injection) - a hormonal injection that stops ovulation and prevents sperm from entering the uterus. It is given every 12 weeks (3 months) and starts working within 24 hours after injection. Success rate is 99.5%.
- **Nuvaring** - a vaginal ring that secretes both estrogen and progesterone locally into the uterus and vagina to prevent ovulation and implantation. It is as effective as the OCP.
- **OrthoEvra** (Contraceptive patch) - a weekly combination patch of estrogen and progesterone that works like the OCP. The success rate is 98%.
- **Vasectomy** (Male) - an incision is made over the vas deferens on each side of the scrotum. The ducts are cut and tied. The procedure is usually performed by a Urologist in his office under local anesthesia. A sperm count is necessary after the procedure to confirm its success.
- **Tubal Ligation** (Female) - a surgical procedure to sever the fallopian tubes. This procedure can be performed at the time of cesarean section, the time of delivery or later as an outpatient surgery. An anesthetic is required for the surgery.

Pediatricians at Good Samaritan Hospital

Please let your obstetrician know which pediatrician you have chosen for your baby. The pediatrician is the physician who will discuss baby care with you and take care of your child. If you wish to have your son circumcised, the pediatrician performs this.

Keith Ahmann, MD
Joseph Cirone, MD
Julie Kim, MD
Andrew Lan, MD
Michelle Loftus, MD
Jeffrey Min, MD
Kim Pitts, MD
Pam Silverman, MD
David Trager, MD

RAMBLC Pediatrics
14880 Los Gatos Blvd.
Los Gatos, CA 95032
371-7777
www.ramblc.com

Patricia Ferrari, MD
Mary Beth Hughes, MD
Christianne Strickland, MD

14601 South Bascom Ave.
Suite 220
Los Gatos, CA 95032
356-7770

Donald Stemmler, MD
Laura Stemmler, MD
Katherine Rose, MD
Parez Ahmed, MD

Alta Vista Pediatrics
2577 Samaritan Dr. #840
San Jose, CA 95124
358-2755

David Safir, MD
Joseph Gali, MD

2577 Samaritan Dr. #720
San Jose, CA 95124
356-5105

Lewis Osofsky, MD
Atul Khanna, MD
Arti Jain, MD

777 Knowles Dr. #2
Los Gatos, CA 95030
378-6171

Bryan Drucker, MD
Jerina Kapoor, MD
Jenny Griswold, MD
Rita Zorian, MD
Toby Hays, MD
Nadereh Varamini, MD

2577 Samaritan Drive #830
San Jose, CA 95124
356-1319
6475 Camden Ave. #107
San Jose, CA 95124
268-4900

Peter Contini, MD
Michelle Record Contini, MD

Almaden Pediatrics
6489 Camden Avenue #102
San Jose, CA 95120
268-1122

K.J. Armann, MD

340 Dardanelli Lane #25
Los Gatos, CA 95030
374-5440

Michael Triantos, MD Belinda Milford, MD	15000 Los Gatos Blvd. #2 Los Gatos, CA 95032 358-2624
Paul Andrade, MD Jacquelin Tsu, MD	2101 Forest Ave. #128 San Jose, CA 95128 295-9151
Dagmar Horvath, MD Mina Sehhat, MD	2101 Forest Ave. #130 San Jose, CA 95128 295-8988
Margaret Develliers, MD James Melina, MD Menial Labara, MD	812 Pollard Road #1 Los Gatos, CA 95030 374-1212
Tahira Malik, MD	2585 Samaritan Dr. San Jose, CA 95124 357-1030
Mohammad Badri, MD	135 N. Jackson Ave #202 San Jose, CA 95116 926-9600
Susan Bezecny, MD Sanjavini Keswani, MD Stuart Pearlman, MD	320 Dardanelli Lane #16 Los Gatos, CA 95032 866-7830
Claire Del Signore, MD Lauren Farash, MD Christine Halaburka, MD Latha Vrittamani, MD	2505 Samaritan Dr. #607 San Jose, CA 95124 356-9900
Robert Kwok, MD	12297 Saratoga-Sunnyvale Rd #100 Saratoga, CA 95070 777-9959
Fred Mansubi, MD	2577 Samaritan Dr #860 San Jose, CA 95124 358-2627
Neela Parekh, MD	15000 Los Gatos Blvd #3 Los Gatos, CA 95032 356-6167
Susan Sombatpanit, MD	700 W. Parr Ave. #A-1 Los Gatos, CA 95032 370-2325

Appendix

Glossary of Pregnancy Terms

Abdominal Wall Defects (AWD) – Developmental defects involving the intestines and other organs that form outside the body.

Anencephaly – Anencephaly refers to an incomplete development of the brain that usually results in death.

Amniocentesis – A small amount of amniotic fluid is removed by a needle and is sent to test for chromosomal abnormalities such as Down syndrome and Trisomy 18. Amniotic fluid also screens for neural tube defects such as spina bifida.

Chorionic Villus Sampling (CVS) – This test may be offered at 10-14 weeks of pregnancy. A small number of cells are taken from the placenta and are diagnostic for Down syndrome and Trisomy 18. The advantage over amniocentesis is that it is performed earlier in pregnancy. On the negative side, CVS does not detect neural tube defects.

Detailed or Level II Ultrasound – A specialized ultrasound that includes basic information as well as detailed anatomical information about the fetus in the second trimester. It is recommended for women who will be 35 years or older at delivery, Screen Positive with the Full Integrated or Serum Integrated Screen or who have other high-risk indications. A Level II ultrasound is always performed with an amniocentesis and is performed at a Prenatal Diagnosis Center.

Diagnostic Test – CVS and amniocentesis are invasive tests that obtain amniotic fluid or placental tissue to grow chromosomes from the fetus. The test can tell if the fetus actually has a specific birth defect. Screening tests estimate the risk of certain birth defects.

Down Syndrome – Down syndrome is a chromosome abnormality that causes mental retardation and certain types of birth defects. It is due to an extra copy of chromosome 21, so that, three copies (trisomy) versus the normal two copies of this particular chromosome are present. Down syndrome affects approximately one in every 800 newborns. The chance of having a pregnancy affected with Down syndrome increases with increased maternal age. Women age 35 years and older are more likely to have a child affected with Down syndrome.

First Trimester Testing or Preliminary Risk Assessment – A blood test is drawn between 10 weeks and 13 weeks and 6 days of pregnancy and combined with a nuchal translucency (NT). A positive test results in referral to a Prenatal Diagnosis Center. Another option is having the second blood test at 15-20 weeks to complete the Full Integrated Screen.

Full Integrated Screen – This combines the First Trimester Screening (blood test and NT) with a second trimester blood test to detect 90 out of 100 with Down syndrome, 81 out of 100 with Trisomy 18, 97 out of 100 with anencephaly, 80 out of 100 with open spina bifida, 85 out of 100 with abdominal wall defects and 60 out of 100 with SLOS.

Genetic Counseling – A genetic counselor reviews test results and family medical history. The counselor explains diagnostic tests, which may be offered.

Neural Tube Defects (NTD) – During the first 5 weeks of fetal development, the neural tube develops into the brain and spinal cord. Abnormalities in development may cause spina bifida or anencephaly.

Nuchal Translucency (NT) – An ultrasound performed between 11 weeks 2 days and 14 weeks by a perinatologist to measure the back of the fetus' neck. This measurement helps screen for Down syndrome and Trisomy 18. It is used in conjunction with two blood tests to complete the California Full Integrated Screening. Check with your insurance company to determine your benefits.

Prenatal Diagnosis Center – A center that offers genetic counseling, diagnostic testing and detailed ultrasound for screen positive results. Obstetrix Medical Group (408) 371-7111 is the local diagnosis center.

Prenatal Screening Program – The California screening program offers Serum Integrated Screening. With a Screen Positive result, the California Prenatal Screening Program includes referral to a Prenatal Diagnosis Center for the same fee.

Prenatal Screening Test – Screening tests offer risk assessment to determine whether further diagnostic tests should be done. These tests cannot detect 100% of birth defects.

Quad Marker Screen – One blood specimen drawn between 15 and 20 weeks of pregnancy that gives a risk assessment for detection of 80 out of 100 Down syndrome, 67 out of 100 Trisomy 18, 97 out of 100 anencephaly, 80 out of 100 open spina bifida, 85 out of 100 abdominal wall defects and 60 out of 100 SLOS.

Rh Incompatibility – This is due to the mother having Rh negative antibody in the blood and the father of the baby having Rh positive antibody in his blood. If the baby has Rh positive blood type from the father, it can cause the mother to produce an antibody response against the baby. This is prevented by the mother receiving Rhogam after amniocentesis, at 28 weeks and again after delivery.

Rhogam – Rhogam is a shot given to Rh-negative mothers to prevent Rhesus disease in the newborn. IgG antibody (Rhogam) binds to fetal cells in the maternal circulation to prevent the mother from producing antibodies that could harm subsequent pregnancies.

Risk Assessment – An estimate of certain birth defects obtained with the Prenatal Screening Program.

Serum Integrated Screen – Two blood specimens drawn (first and second trimester) to detect 85 out of 100 with Down syndrome, 79 out of 100 with Trisomy 18, 97 out of 100 with anencephaly, 80 out of 100 with open spina bifida, 85 out of 100 with abdominal wall defects and 60 out of 100 with SLOS.

Screen Negative – The screening result shows that the screen for abnormality is unlikely. California reports risk of 1 in 100 or less to be negative. This does not guarantee that there are no birth defects.

Screen Positive – If the test shows a “positive” of 1 in 200 chance of having a baby with Down syndrome, the program authorizes follow-up services at a Prenatal Diagnosis Center which includes genetic counseling, a detailed ultrasound, CVS and amniocentesis.

Obstetrix Medical Group offers genetic counseling and diagnostic testing (CVS or amniocentesis) to anyone who screens less than 1 in 1000 chance of Down syndrome or Trisomy 18. A positive screen does not always mean that there is a birth defect. Most women will have normal follow-up diagnostic tests.

SLOS or Smith-Lemli-Opitz Syndrome – A very rare metabolic defect in which babies cannot make cholesterol normally and results in mental retardation and physical defects. Screen positive results for SLOS can also indicate increased chances of other congenital abnormalities and fetal demise.

Spina Bifida – When there is an opening in the spine, it is called spina bifida and can cause paralysis in the lower extremities as well as loss of bowel and bladder function.

Trisomy 18 – Trisomy 18 is a fatal chromosome abnormality that causes multiple birth defects and profound mental retardation. Few Trisomy 18 infants survive into childhood. Trisomy 18 results when the fetus has three, instead of the normal two, copies of chromosome 18. Like Down syndrome, the chance of an increased risk for fetal abnormality is determined by the test and then genetic counseling, ultrasound examination, and when needed, amniocentesis will aid in the diagnosis. Having a pregnancy affected with Trisomy 18 increases with increased maternal age.

Ultrasound – A device known as a transducer is used to direct high frequency sound waves to visualize the developing baby. The sound waves create an image of the baby's features and can determine growth and development of the baby.

Carrier Testing for Genetic Diseases

The purpose of genetic screening tests is to determine the carrier status of common genetic abnormalities. These common inherited diseases can occur even without a family history. The tests do not detect all carriers of the diseases. If you screen positive as a carrier for any of the conditions, it is recommended that your partner be tested. If your partner is also a carrier, genetic counseling and further diagnostic testing is recommended. If you have already been screened, it is not necessary to test again. These tests are optional.

Cystic Fibrosis

What is Cystic Fibrosis?

Cystic fibrosis (CF) is one of the most common genetic disorders in the Caucasian population, affecting approximately 1 in 3,000 people. The most common problems are chronic lung infection and poor absorption of nutrients due to the accumulation of thick mucus in the lungs and pancreas of patients with CF. While much progress has been made in the understanding and treatment of the disease, there is no cure. Symptoms of the disease range from mild to severe. Typical lifespan of an affected person is 37 years, though some may live longer.

What causes Cystic Fibrosis?

CF is an autosomal recessive disorder. If both parents are carriers, there is a 1 in 4 (25%) chance to have a child with cystic fibrosis. For an individual to be affected with CF, he or she must inherit one copy of the mutated CF gene from each parent. Individuals having one copy of the mutated gene and one copy of the normal gene are known as carriers. Carriers do not have any symptoms of the disorder. The CF carrier frequency differs among different ethnic groups. The frequency is approximately 1 in 25-30 in individuals of Northern European or Ashkenazi Jewish ancestry, 1 in 50 in Hispanics, 1 in 65 in African Americans and 1 in 50 in Asians.

How can Cystic Fibrosis be detected?

A DNA blood test for some of the mutations causing CF is available. The test can be performed on blood specimens or amniotic fluid to detect carriers or affected individuals. Since there are over 900 different mutations within the CF gene, this test cannot detect all the mutations. The detection rate varies among different ethnic groups, with 97% for Ashkenazi Jews, 90% for Caucasians, 68% for Hispanics, 45% for African Americans and 30% for Asians. If you are a carrier of CF and your partner has a negative test and no family history of CF, the chance that your baby will have CF is less than 1%.

Who should be tested for Cystic Fibrosis?

Because it is becoming increasingly difficult to assign a single ethnicity, it is reasonable to offer cystic fibrosis carrier screening to all pregnant patients, provided that women are aware of their carrier risk and of the test limitations. CF carrier testing is strongly recommended for individuals with a family history of CF, spouses of CF carriers and pregnant couples who are of Northern European or Ashkenazi Jewish ancestry. Prenatal diagnosis is recommended when both parents have been found to be carriers, there is a family history of CF and one parent is found to be a carrier, a previous child has been diagnosed with CF or certain ultrasound abnormalities are seen in the fetus.

Thalassemia

Thalassemia includes several different types of anemia. Alpha and beta thalassemias are named for the part of the oxygen carrying protein that is lacking in the hemoglobin of the red blood cells. Thalassemia occurs most frequently in people of Italian, Greek, Middle Eastern, Asian and African descent. The disease can cause the child to have frequent infections and an enlarged spleen, liver and heart. A hemoglobin electrophoresis to diagnose thalassemia is indicated if the MCV value on the routine blood count (CBC) is less than 80.

Ashkenazi Jewish Genetic Screening

What is an Ashkenazi Jewish Disease?

Ashkenazi is the term used to describe Jewish individuals who have ancestors from Eastern Europe. Roughly 90% of the six million Jewish individuals in the United States are of Ashkenazi descent. Similar to most ethnic populations, the Ashkenazi Jewish population has a higher prevalence of certain genetic disorders. Individuals of Jewish descent should be screened for Tay-Sachs disease, Canavan disease and Gaucher's disease.

What is Tay-Sachs Disease?

Tay-Sachs disease is a fatal genetic disorder that occurs more frequently in the Ashkenazi (Eastern European) Jewish population. Approximately 1 in 27 Ashkenazi Jewish individuals are carriers of this disease. A baby with Tay-Sachs disease appears normal at birth, but after six months of age, the child progressively develops mental retardation followed by paralysis, blindness, and seizures. Death usually occurs by the age of five. Tay-Sachs disease is caused by a deficiency of an enzyme called Hexaminodase-A. As a result of this deficiency, there is an accumulation of certain substances which damage the nervous system.

What is Canavan Disease?

Canavan disease is a progressive disorder in which the brain and nervous system degenerate. Symptoms of Canavan disease include brain damage, mental retardation, feeding difficulties, blindness, and a large head. There is no treatment, and death usually occurs in the first decade of life.

What is Gaucher's Disease?

Gaucher's Disease is an inborn error of metabolism that results from a specific malfunction in one of the body's individual chemical processes. Although there are at least 34 mutations known to cause Gaucher's Disease, there are 4 genetic mutations, which account for 95% of the Gaucher Disease in the Ashkenazi Jewish population. The carrier rate is 1 in 14 Jewish people of Eastern European ancestry and 1 in 100 of the general population.

How are these diseases inherited?

All three diseases are inherited in an autosomal recessive pattern. For an individual to be affected, he or she must inherit one copy of the abnormal (mutated) gene from each parent. Individuals having one copy of the particular disease-causing gene and one copy of the normal gene are known as carriers. Carriers usually do not have any symptoms of the disorder. If both parents carry the same mutated gene, their child has a 25% chance of having the disease. If only one parent carries the disease gene, their child is not at risk

for having that disease but has a 50% chance of being a carrier. If both parents are carriers, the couple should undergo prenatal genetic counseling.

Fragile X Syndrome

What is Fragile X Syndrome?

It is the most common form of inherited mental retardation and accounts for approximately 40% of cases with X-linked mental retardation. Clinical characteristics include mild learning disabilities to severe mental retardation. Approximately one-third of all children diagnosed with fragile X syndrome also have autism and hyperactivity. Almost all males with full mutations have developmental delay or mental retardation. Approximately 50% of females with a full mutation have IQs in the borderline or mentally retarded range; of the remaining 50%, half have learning disabilities.

Who should be tested?

It is recommended that any person with unexplained mental retardation, developmental delay or autism be tested. The American College of Medical Genetics also recommended carrier testing on the basis of a family history of unexplained mental retardation.

How common is Fragile X Syndrome?

The incidence is 1 in 4,000 males and 1 in 8,000 females. The carrier frequency is 1 in 260 and occurs in all ethnic backgrounds. If the test shows that you are a carrier of fragile X, your partner does not need testing because this disease is inherited only through the woman. If a mother is a carrier, there is a 50% chance to have a child with fragile X syndrome. Therefore, the next step is for you to consider diagnostic testing by amniocentesis or chorionic villi sampling (CVS) to determine if your baby is affected.

Where can I find out more information?

For more information see: www.fragilex.org/ or http://www.cdc.gov/genomics/hugenet/factsheets/FS_FragileX.htm

Spinal Muscular Atrophy (SMA)

What is Spinal Muscular Atrophy (SMA)?

SMA is an autosomal recessive condition that causes progressive degeneration of the lower motor neurons, muscle weakness and, in the most common type, respiratory failure by age two. Muscles responsible for crawling, walking, swallowing and head and neck control are the most severely affected. It is variable in severity and age of onset and does not affect intelligence. There is no cure or treatment.

What is the carrier frequency?

The frequency varies by ethnicity and ranges from 1 in 35 to 1 in 117 in the United States. The incidence is 1 in 6,000 to 10,000

What is the carrier detection rate?

Caucasian: 95%, Ashkenazi Jewish: 90%, African American: 71%, Hispanic: 91%, Asian: 93%.

Sickle Cell Disease

What is Sickle Cell Anemia?

Sickle cell anemia is an inherited disorder that affects hemoglobin, a protein that enables red blood cells to carry oxygen to all parts of the body. The disorder produces abnormal hemoglobin, which causes the red blood cells to become crescent or sickle shaped.

Normal red blood cells are round and move through blood vessels in the body to deliver oxygen. Sickle red blood cells become hard, sticky and have difficulty passing through the small blood vessels. When these hard, pointed red cells go through capillaries, they clog the flow and break apart. This causes pain, damage and anemia.

What is Sickle Cell Trait?

Sickle cell trait is seen in a person who carries one sickle hemoglobin producing gene inherited from their parents and one normal hemoglobin gene. Normal hemoglobin is called type A. Sickle hemoglobin is called hemoglobin AS on the hemoglobin electrophoresis. This combination of one normal and one abnormal gene will NOT cause sickle cell disease.

How do you get Sickle Cell Anemia or Trait?

You inherit the abnormal hemoglobin from your parents, who may be carriers with sickle cell trait or parents with sickle cell disease. You cannot catch it. You are born with the sickle cell hemoglobin and it is present for life. If you inherit only one sickle gene, you have sickle cell trait. If you inherit two sickle cell genes you have sickle cell disease.

How common is Sickle Cell Anemia?

It is most common in people whose ancestors come from sub-Saharan Africa, Spanish-speaking regions of Central and South America, Saudi Arabia, India and the Mediterranean. The disease occurs in approximately 1 in every 500 African American births and 1 in every 1,200 Hispanic-American births. One in 12 African Americans carries the sickle cell trait.

Additional Resources

Direct links are available at lowmg.com

Dietary Resources

USDA: <http://www.mypyramid.gov/mypyramidmoms/>

March of dimes: <http://www.marchofdimes.com/pnhec/pnhec.asp>

Food insight: <http://www.foodinsight.org/>

Body mass index: www.nhlbisupport.com/bmi

Patient education: <http://patienteducation.upmc.com/Pdf/NutritionPregnancy.pdf>

Food and Nutrition Service: www.fns.usda.gov/fns/

Weight guidelines: http://198.102.218.57/dietaryguidelines/dga2000/document/aim.htm#weight_top

Pregnancy and breastfeeding nutrition information reading list:

www.nal.usda.gov/fnic/pubs/bibs/topics/pregnancy/pregcon.html

National Women's Health Information Center (NWHIC): www.4woman.gov/pregnancy

Perinatal nutrition working group: www.hmhb.org/pnwg/health-and-nutrition.html

Toxic Matters: www.prhe.ucsf.edu/prhe/tmlinks.html

A Seafood Lover's Guide to Eating During Pregnancy: http://issuu.com/national_fisheries_institute/docs/seafood_lovers_guide?mode=embed&layout=http://skin.issuu.com/v/light/layout.xml&showFlipBtn=true

Expect the Best: Your Guide to Healthy Eating Before, During, and After Pregnancy by Elizabeth M. Ward, MS, RD

What to Expect When You're Expecting (4th ed) by Heidi Murkoff and Sharon Mazel.

Breastfeeding Resources

Women's Health (CDC): www.cdc.gov/women

La Leche League at (800) LA LECHE or www.llusa.org or www.lalecheleague.com.

Nursing Mothers Counsel at (415) 599-3669 or www.nursingmothers.org

Lactation Institute and Breastfeeding Clinic (818) 995-1913

Mead Johnson Nutritionals (800) BABY123. Request Delivery and Beyond (Publication LF63) and Breastfeeding: The Best Start for Your Baby (Publication LF808).

[http://www.mjn.com/app/iwp/hcp2/content2.do?](http://www.mjn.com/app/iwp/hcp2/content2.do?dm=mj&id=-12539&iwpst=MJN&ls=0&csred=1&r=3455533955)

[dm=mj&id=-12539&iwpst=MJN&ls=0&csred=1&r=3455533955](http://www.mjn.com/app/iwp/hcp2/content2.do?dm=mj&id=-12539&iwpst=MJN&ls=0&csred=1&r=3455533955)

Postpartum Depression Resources

http://www.lowmg.com/info/ob/ob_cond/pp_dep_resources.pdf

Postpartum Support International (805) 967-7637 www.postpartum.net

Postpartum Support line (888) 773-7090

PPD Support Online www.ppdsupportpage.com

Health and Human Services www.mchb.hrsa.gov/pregnancyandbeyond/depression Support for Dads

www.postpartumdads.org The National Women's Health Information Center [http://](http://www.womenshealth.gov/faq/depression-pregnancy.cfm)

[www.womenshealth.gov/faq/depression-](http://www.womenshealth.gov/faq/depression-pregnancy.cfm) pregnancy.cfm

Massachusetts General Hospital www.womensmentalhealth.com

The March of Dimes http://www.marchofdimes.com/pnhec/188_15755.asp Depression After Delivery, Inc. www.depressionafterdelivery.com/Home.asp

Maternal Child Health Bureau Hotline: (800) 311-2229; www.mchlibrary.info/KnowledgePaths/kp_postpartum.html

American Academy of Family Physicians <http://familydoctor.org/379.xml>

Beyond the Blues, A Guide to Understanding and Treating Prenatal and Postpartum Depression by S. Bennett and P. Indman, 2003 www.beyondtheblues.com (408) 255-1730

Conquering Postpartum Depression by Rosenberg, et al., 2003

This Isn't What I Expected by K. Kleiman and V. Raskin, 1994

The Postpartum Husband by K. Kleiman, 2000

Postpartum Depression for Dummies