

## Your Fetal Surgery

### Hospital Admission

You may be expected to arrive at UC Medical Center the evening before surgery for admission to the Perinatal Service on the 3rd floor of the Betty Irene Moore Women's Hospital at Mission Bay. An obstetrical nurse will obtain a nursing history, perform a physical examination and will assess your baby's heart rate using an electronic fetal monitor. A uterine monitor will also be worn for a brief period, the evening before and the morning of surgery. The purpose of fetal uterine monitoring is to detect any uterine contractions that may already be present and to determine the baby's usual heart rate pattern.

### The Preoperative Period

Routine preoperative care may include:

- Urine and blood samples
- Type and cross match for blood in case of a blood transfusion
- IV infusion to provide water and electrolytes
- Sleeping medication
- NPO (nothing to eat after midnight)
- Signing of surgical consent
- Shaving of abdomen
- TEDS (thick elastic stockings)
- Alkagold to decrease stomach acids

### Betamethasone

Some fetal surgery patients will be given this drug prior to their operation. This is a steroid, which is given to the mother in two intramuscular doses 12-24 hours apart. Its purpose is to accelerate lung maturity of the baby. It crosses the placenta to get to the baby. You may be given this medicine a few days before surgery. It may be given again as you get closer to the time of delivery. It has beneficial effects on the baby, but will increase the sugar in your blood stream and can make you a little more susceptible to infections.

### Blood Transfusions

Although you will be undergoing major surgery, it is highly unlikely that you will need a blood transfusion. In the State of California, there is a law requiring physicians to inform patients undergoing surgery that they have a risk (small as it may be) of needing a blood transfusion. The patient is then entitled to obtain either designated donor blood (from a source chosen by the patient) or blood from a blood bank. Your doctor will further discuss this with you, but you must make arrangements for designated donor blood several days in advance of your

procedure.

Another blood product, which you may need, is fibrin glue. This substance is used to strengthen the closure of your uterus after the Fetal intervention. It is made out of a clotting substance in blood. Your partner may not donate blood for your transfusion, but he may donate blood to make fibrin glue.

## **The Intraoperative Period**

The operating room (OR) nurse will escort you to the operating room. Many of the health care providers previously mentioned will be present to assist in the management of your care. During the surgery, the anesthesiologist will monitor your heart and will control your breathing through a tube in your throat and airway. In many cases, general anesthesia is not required. The anesthesiologist will manage your pain during the procedure. He/she may also monitor your baby's heart rate during the surgery. The OR and scrub nurses manage and coordinate all aspects of the operative procedure. The perinatologist will assist in monitoring you and your baby during the operative procedure and will recommend tocolytic (medicines that prevent contractions and preterm labor).

## **The Postoperative Recovery Period**

After surgery you will be cared for on the obstetrical ward on the 3rd floor of the hospital. When you awaken from anesthesia you will notice a variety of tubes and medical devices used to monitor and/or treat you and your baby. They may include a:

- Intravenous (IV) catheter
- Oxygen mask to provide extra oxygen after surgery
- Fetal heart rate monitor to check on the baby and show uterine response to tocolytics (preterm labor medications)
- Foley catheter to collect urine from the bladder so it is not necessary for you to use the bathroom
- Epidural catheter in your back to deliver continuous pain medication
- Sequential Compressive Device (SCD) help maintain circulation in your legs while on bed rest

Your abdominal incision will be covered by a transparent dressing so that your baby can be monitored more easily and the site can be observed without removing the dressing.

## **How long will I remain in the hospital?**

The amount of time you will spend in the hospital is dependent on the type of procedure you undergo. If the operation is done with small incisions through telescopes, you may only be in the hospital overnight. If the operation requires a large incision in your lower abdomen, you may be in the hospital between 2-7 days. Regardless of the type of surgical procedure you will receive care in our antepartum obstetric unit.

# Monitoring for the Possible Complications of Preterm Labor

Preterm labor is the most common complication in fetal procedures. The electronic fetal/uterine monitor will be worn continuously to assess your baby's heart rate and preterm contractions.

## Signs of Preterm Labor

- abdominal tightening
- Cramping
- Backache
- Pelvic pressure
- Change in vaginal discharge
- Leakage of vaginal fluid
- Bleeding
- Gas Pain

## Medications

### Medications for Preterm Labor (Tocolytics)

You may receive one or more of the following tocolytics to prevent uterine contractions (preterm labor).

#### Indocin Suppositories

Indocin helps stop production of prostaglandin, substances released from your uterus and cervix, which cause uterine activity. It is given by rectal suppository before and for up to 48 hours after surgery. The most common side effects are maternal stomach upset and a decrease in fetal amniotic fluid. These side effects will be monitored daily. An uncommon side effect includes narrowing of a blood vessel in the fetal heart called the ductus. This is monitored by fetal echocardiography.

#### Magnesium Sulfate (MgSO<sub>4</sub>)

MgSO<sub>4</sub> acts to relax body muscles. Since your uterus is a muscle, the frequency and strength of a contractions is decreased by MgSO<sub>4</sub>. Your health care team will monitor you closely to determine your response to MgSO<sub>4</sub>. Since it is excreted in your urine, an accurate record of your fluid intake and urinary output will be kept. Daily weights will be obtained and blood levels will be drawn to insure that side effects are limited and not severe.

The following are side effects of intravenous MgSO<sub>4</sub>:

- Flushing
- Sweating
- Muscle weakness (wet dishrag feeling)

- Nausea and vomiting
- Feeling sleepy and tired
- Blurred vision
- Fluid in the lungs (pulmonary edema)

After one to three days, you will be weaned from the MgSO<sub>4</sub> to another tocolytic taken orally in pill form, which will control uterine activity.

## **Nifedipine**

Nifedipine is a drug given for preterm labor in a pill form.

Side effects of Nifedipine include:

- Low blood pressure
- Flushing
- Rash
- Headache

## **Terbutaline**

Terbutaline relaxes your uterus. It can be delivered at very low but effective doses in a pill form or can be administered by a skin injection.

The following are side effects of Terbutaline:

- Heart rate is faster than normal, usually 90-110 beats per minute
- Increased sugar in the bloodstream
- Shaky feeling
- Nausea
- Constipation
- Feeling of warmth
- Headache

Some of these side effects subside as your body becomes used to terbutaline. Stool softeners may be prescribed as needed. You should notify your physician of a persistent headache. You will need to be tested for gestational diabetes so we know how well you will tolerate this drug.

## **Pain Management**

A continuous infusion of morphine is the most commonly used method of pain management. This infusion is done through an epidural catheter that stays in your back for a few days. Often a numbing medicine called Narcaine is added for improved pain relief. After this epidural catheter is removed you will receive oral pain medications.

Possible side effects of Morphine include:

- Itching
- Grogginess
- Slow breathing
- Nausea and vomiting

This medication will cross through the placenta and a very small amount will go to your baby. This will not harm your baby and may in fact help your baby be comfortable.

## **Antibiotics**

Since infection is a possibility with any surgery, you will be given antibiotics in your IV for up to 48 hours and you will be observed for signs and symptoms of infection. Please let your doctor know if you are allergic to any antibiotics.

## **Recovery & Bed Rest Requirements**

The amount of time you will spend in the hospital is dependent on the type of procedure you undergo. If the operation is done with small incisions through telescopes, you may only be in the hospital overnight. If the operation requires a large incision in your lower abdomen, you may be in the hospital between 2-7 days. Regardless of the type of surgical procedure you will receive care in our antepartum obstetric unit on the 3rd floor.

### **Recovery From Minimally Invasive Surgery**

Fetal procedures performed with small telescopes usually require an overnight stay in the hospital. You will undergo an ultrasound examination prior to your hospital discharge. Your doctor will determine whether or not you will need to be on tocolytic medications to stop preterm labor. If you are from out of town we generally like you to see your home obstetrician within a week of hospital discharge. Your UCSF doctor will call your referring doctor to see that this is arranged.

### **Recovery From Open Surgery**

If you undergo an open fetal surgery procedure you will be expected to remain in bed, resting on your side. This position is best for blood flow to your baby and uterus and helps decrease uterine contractions. The urinary catheter will remain in place for about 48 to 72 hours. Bedpans must be used for bowel movements and urination until your catheter is removed. As your condition improves and uterine activity is controlled, you will be allowed to go to the bathroom and to shower. Depending on your condition, you will be able to get up to go to the bathroom by approximately the third postoperative day. By the fifth postoperative day, you may walk to the nurses station or down the hall once or twice a day. Again, this depends on your condition. Your perinatologist will determine your activity level during your recovery period.

You will be expected to do a few things after surgery to prevent or treat lung and circulation complications from surgery and bed rest:

#### **Incentive spirometer**

A small, simple piece of equipment that helps you breathe in deeply and open your lungs as much as possible. This exercise should be repeated 5 times each hour that you are awake. Your nurse will instruct you on how to use this device.

- Deep breathing - a lung exercise that will help keep your airways clear.

- Breathe in slowly allowing your abdomen to rise and lungs to fill with air.
- Hold the air for about 5 seconds.
- Exhale slowly through your nose and mouth.

## **Turning**

Turning should be done at least every 2 hours from side to side. You will be assisted as needed until you are able to accomplish this on your own.

Benefits of movement & turning:

- Increases circulation
- Promotes deep breathing
- Relieves pressure areas on skin
- Foot flexion exercises - improve circulation and help prevent blood clots. Your nurse will instruct you on how to perform them.

## **Diet**

No food or fluids will be allowed by mouth until digestive function returns in 1 to 2 days. You will receive IV fluids.

Frequent mouth rinses, tooth brushing, and moist swabs are used to relieve dry mouth. Your doctor will advance your diet as tolerated. Once you have been able to pass gas rectally, your diet will progress from clear liquids to solid food as tolerated.

## **Discharge Preparation**

Between the 2nd and 7th day after surgery, you will be ready to leave the hospital if the following goals are met:

- Premature labor is controlled so that there are less than 5 contractions in an hour and no cervical change.
- You have walked the halls at least once without increasing uterine activity.
- You have a good understanding of your medications and home care.
- Your amniotic fluid level is at least low normal.
- Some fetal procedures make it necessary for you to stay in San Francisco until the time of delivery. You will be informed of this prior to undergoing the procedure.

## **After Your Surgery**

Guidelines, restrictions, and medications will vary depending on the type of operation. The following is a rough outline of what to expect.

### **Activity**

Restrictions on your activity are dependent on the type of procedure you had, and your condition after surgery. You may have some limitations until 37 weeks' gestation. You are able to get up for meals, shower, use the bathroom, and go from one room to another. Your doctor

will be more specific about any alteration in this plan. Bedrest promotes blood flow to your uterus and baby, and decreases pressure placed on your cervix - these factors help decrease uterine contractions.

## **Medications**

You may be on tocolytics until 37 weeks' gestation. The most commonly used tocolytic is Nifedipine. If needed, pain medication will be provided. You should bring your prenatal vitamins and begin taking them again after discharge.

## **Diet**

Since your activity is decreased, you may not feel like eating. We will provide you with a bedrest diet and encourage you to eat 6 very small meals a day. Drinking 6-8 glasses of water a day will help with problems of constipation that can result from bedrest.

## **Exercise**

You will receive instructions for bedrest exercises, which will help keep some muscle tone. The most important exercise is flexing your foot towards your head and then pointing it. Do the bedrest exercises as often as you can. Also remember to change sides at least every two hours when you are lying down.

## **Managing at Bedrest**

Be sure to have help available especially if you have children. Make a schedule for yourself. Schedule a change of rooms to spend time in, take naps, make telephone time, plan project time and other diversional activities. Talk to other mothers who have had to stay in bed during their pregnancy.

## **Follow-up Appointments**

You will see the perinatologist once per week after discharge. You will have an ultrasound at least once per week, or more often, if deemed necessary by your doctor. Your baby and uterus will be monitored weekly in the Perinatal Testing Center on the 3rd floor in the Gateway Medical Building. Some patients do not need to stay in San Francisco after their surgical procedure. If you are able to return home after your fetal surgery, our Perinatologist will contact your Obstetrician to work out a plan for your future care. Your operative reports and hospital discharge summary will be sent to your doctor.

## **Important Telephone Numbers:**

Fetal Treatment Center **(800) RX-FETUS 1-800-793-3887**

24 Hr Pediatric Surgery **(415) 476-2538**

Labor & Delivery **(415) 353-1787**

Perinatal Testing Center **(415) 353-2722**

Perinatologist - Outpatient Clinic **(415) 353-2566 option #1**

Intensive Care Nursery **(415) 353-1565**

## **When to call the Doctor**

- If your incision (cut on the abdomen) is red, warm and tender to touch, or has anything draining from it
- If you have a temperature over 101°F (38.5°C)
- If fluid leaks from your vagina
- If you have vaginal bleeding
- If you don't feel the baby move everyday
- If you have persistent back pain, cramping, abdominal tightening, or pelvic pressure
- If you have chest pain or difficulty breathing

Contact Us

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UCSF Benioff Children's Hospital

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