

Bryan S. Jick, MD, FACOG
Jennifer Y. Park, MD, FACOG
Della J. Fong, MD, FACOG
Michael S. Mitri, MD
Diane K. Guerrero, RNC, WHNP
625 South Fair Oaks Avenue
Suite 255, South Lobby
Pasadena, CA 91105



drjick@fowh.com
drpark@fowh.com
drfong@fowh.com
drmitri@fowh.com
www.fowh.com

Voicemail 626.696.2688
Facsimile 626.585.0695
Telephone 626.304.2626

MULTIPLE GESTATION

Congratulations on being pregnant with multiples! The road ahead will be exciting, but probably a bit scary as well. Our practice has developed special expertise and protocols for the management of twins and triplets, which are discussed in this booklet.

Our Philosophy

To us, a twin or triplet pregnancy is completely different than a normal (we call it a singleton) pregnancy, and so we manage our multiples differently from the beginning and throughout the entire pregnancy. We do more office visits, more ultrasounds, require more supplements and require more restrictions and limitations, all in order to achieve the goal of the best possible outcome for you and your babies.

Statistics

TWINS

Due to the success of fertility clinics nationwide, the birth rate of twins in the U.S. is growing rapidly. In 2001, the birth rate for twins reached 3% for the first time. This is a 77% increase compared to 1980.

Twins can be either fraternal or identical. When pregnancy is conceived the normal way, there is a 1/100 chance (1%) of having a spontaneous twin gestation. Two-thirds of the time, this will be spontaneous fraternal twins, and one-third of the time it will be spontaneous identical twins. Thus the rate of naturally occurring identical twin pregnancies is 1/300 births. Interestingly, this rate increases to 3% (about 3/100) when in-vitro fertilization (IVF) is done. Thus, the majority of twins are fraternal. We have seen one set of identical triplets in our practice, and this is likely a 1 in a million occurrence

More than half of all twins are born weighing under 2,500 grams (5 ½ lbs.) compared to 6% of all singletons. On average, twins deliver at 35 1/2 weeks, weigh about 2,350 grams (5 lbs., 3 oz.), and 1/4 are admitted to the NICU with an average stay of 18 days¹. Twins have a 4-fold increase in the risk of Cerebral Palsy compared to singletons. Women with multifetal gestations are six times more likely to give birth preterm and 13 times more likely to give birth before 32 weeks of gestation than women with singleton gestations²

TRIPLETS

The rate of spontaneous triplets is approximately 1 in 8000 pregnancies. However, in the U.S. 75% of all triplet pregnancies are the result of assisted reproduction techniques³.

On average, triplets deliver at 32 ½ weeks gestation, weigh about 1,700 grams (3 lbs., 12 oz.), and 3/4 are admitted to the NICU. Their average length of stay in the NICU is 30 days⁴. Triplets

have a 17-fold increase in the risk of Cerebral Palsy compared to singletons.

Possible Complications

Multiple gestation pregnancies are at a much higher risk of premature labor and/or premature delivery. They are also at risk for low birth weight, gestational diabetes, high blood pressure, toxemia of pregnancy (pre-eclampsia), pregnancy anemia, and complications of delivery such as postpartum hemorrhage. Efforts must be directed at prevention and early detection, which is the goal of prenatal care customized for multiple gestation pregnancies.

Office Visits

Normally, low-risk patients are seen every 4 weeks until the 7th month, then every 2 weeks for a while, then weekly for 2-4 weeks at the end, totaling about 12-15 visits for the pregnancy.

Our practice sees twins every 2 weeks from the beginning, and then weekly starting about 32 weeks, or earlier if need be, totaling about 18-20 visits. For our triplets patients, we see you every week for the entire pregnancy.

Each visit is an opportunity to evaluate for possible complications, emphasize preventive measures, discuss your symptoms, expectations, weight gain and nutrition and also to listen to the stories patients have invariably heard from others in order to defuse unnecessary worry and concern.

We invite patients to keep us as fully informed as possible. There is often a tendency to minimize complaints to the doctor until problems become bad. We would rather hear earlier about minor problems, instead of taking a chance that we may be too late to intervene because our patient thought that we did not want to be bothered. It's okay to bother us!

Ultrasounds

Early ultrasound with multiples is of vital importance. This ultrasound can accurately establish the due date and can assess the membranes and the placenta. It is important with twins and triplets to know that they are developing in separate amniotic sacs. If they share the same sac, it is called a monoamniotic pregnancy and the risk of complications due to umbilical cord entanglement is high. Fortunately, this is a rare occurrence with twins, only about 1% of all identical twin pregnancies, and almost never seen with triplets.

Fetal growth with twins and triplets tends to slow down during the last part of the pregnancy compared to a singleton pregnancy. Ultrasounds are important to monitor the interval growth of each fetus. We compare their growth at each ultrasound to the previous growth scan and we also compare their growth to the expected growth for a singleton in order to identify when this slowdown is beginning.

Identical twin pregnancies are also uniquely at risk for a rare but potentially serious complication where one twin "steals" blood flow from the other, called a twin-to-twin transfusion (TTTS). This can not occur with fraternal twins since they have separate placentas. Ultrasound is an excellent way to monitor for this condition by comparing the size of one fetus and the amount of its amniotic fluid to the other each time. Our expectation is that one fetus may be slightly larger but not significantly different than the other (we would not expect both babies to be exactly the same size). If this difference is too great, there might be a problem.

We usually perform some type of ultrasound at every visit. Most of them are for a quick reassurance that all is well. We check the fetal position, the movements, the heartbeats and the amniotic fluid at a minimum, and often perform a cervical length as well. Then, at specific times during the pregnancy (usually at weeks 20, 24, 28, 32, 34 and 36) we conduct ultrasounds for growth and for assessment of fetal normality and well-being. Cervical length ultrasounds usually begin at 16 weeks, and are then done every 2 weeks until the 3rd trimester. Additional ultrasounds may be performed for specific indications.

Pregnancy nutrition and weight gain

Expected weight gain is about 1 to 1½ pounds per week, or about 40 pounds for a twins pregnancy and 40 to 50 pounds for triplets. The diet should be high in protein. There is evidence that more pregnancy weight should be gained earlier, and that a gain of 24 pounds by 24 weeks may reduce the risk of premature birth and help maximize placental growth and function.

A good rule for calorie intake is that the diet should increase by 300 calories per day for each baby compared to a non-pregnant diet.

Additionally, all of our patients are advised to take the following supplements:

- prenatal vitamin once a day
- DHA or omega-3 supplement (usually in the prenatal vitamin)
- Extra folic acid or folate, about 1 milligram a day
- calcium supplement with Vitamin D, 1-2 per day (we like CitraCal)
- iron supplement – once a day or every other day (we like Slow Fe)
- stool softener and/or fiber supplement—optional as needed
- Miralax laxative as needed for constipation (a common condition with multiples!)

Pregnancy Lifestyle and Restrictions

We believe strongly that multiple gestation pregnancies should managed differently throughout the pregnancy to minimize the risk of premature labor, fetal growth problems, high blood pressure and other possible complications.

Here are some of our standard restrictions for multiples:

- Normal pregnancy restrictions as listed in our main Pregnancy Booklet with additional restrictions below
- No voluntary exercise during pregnancy other than walking. (exceptions are made for very fit patients)
- TWINS: Disability from work no later than 32 weeks, usually about 28-30 weeks or sooner for medical indications.
- TRIPLETS: Disability from work no later than 28 weeks, and often as early as 24 weeks or sooner (about 3 months before the due date). Ideally, triplets patients should be off work the entire pregnancy if carrying triplets.
- Sexual intercourse is allowed, but we advise condoms to prevent uterine contractions due to prostaglandin hormones present in male ejaculatory fluid
- One hour per day of daily bed rest (or two 30-minute sessions) starting about 24-28 weeks gestational age. After the patient is off work, a minimum of 2 hours per day of rest (1 hour twice day) is our goal
- No plane travel after 24-28 weeks. Try to stay within 1-2 hours drive from the hospital after 24-28 weeks

- Avoid salad dressing with balsamic vinegar. This is the dressing used by full term patients to help them go into labor.

Fetal genetic testing

Nuchal translucency testing is possible with multiple gestation, however, the blood chemistry results have not been standardized. Therefore, the lab does not provide a separate result for each fetus. We can still obtain some useful information, so this test is worth considering.

Alpha fetoprotein (afp) blood testing is available with twins, but not for triplets. This can help identify increased risks for spina bifida or Down Syndrome. This test can not be done if a selective reduction (see below) has been performed.

The newest test is called NIPT (non-invasive prenatal testing). For patients over 33 carrying twins, a blood draw on the patient can provide highly accurate information about the DNA of the fetuses. If the test is Negative, there is a 99% assurance that all is well. If the result is Positive, then one fetus might be affected (or both of this is identical twins). The test also checks for X or Y DNA. If Y is not found, both babies are presumed female. If Y DNA is found then one, or both, could be male.

Amniocentesis for advanced maternal age is available as well. This can be a difficult decision when there are multiples. When the mother is age 35 with a singleton, amniocentesis can be an option. The risk of Down Syndrome at this age is about 1 in 300. When there are 2 babies, the risk of Down's at age 35 is doubled or about 1 in 150 and with triplets, the risk that at least one of the babies has Down Syndrome is 1/100. Therefore, some experts advise patients pregnant with twins to consider amniocentesis a bit earlier, perhaps at age 33, and with triplets, at age 31 to 32.

CVS (chorionic villous sampling) can also be done with twins and triplets, usually about 10-12 weeks gestational age.

Multifetal Pregnancy reduction

When a patient becomes pregnant with triplets (or more), there is legitimate fear and concern that the pregnancy may end before the babies are big enough to survive. Premature birth before 24 weeks rarely results in a "take-home baby" and this can occur with triplets or higher. One option, which for many people is an ethical and moral dilemma, is to reduce the number of fetuses. This has been proven to increase the chances of prolonging the pregnancy and being able to deliver "take-home" babies.

Pregnancy loss rates of reducing triplets to twins are reported to be about 5%⁵. Studies show that the outcome for triplets reducing to twins is better than that for triplets unreduced, but is a bit worse than twins without a reduction having been performed.

The outcomes for a triplet pregnancy, a triplets reduced to twins pregnancy, and a twin pregnancy are listed below:

| | Twins | Triplets Reduced to Twins | Triplets |
|-------------------------------------|--------------------------|---------------------------|------------------------|
| Average Gestational Age at Delivery | 35 weeks | 33 weeks | 32 weeks |
| Average Birth Weight | 2500 grams 5 ½ pounds | 2250 grams 5 pounds | 1800 grams 4 pounds |
| “Take Home” Baby | 98% chance | 90% chance | 87% chance |

Premature Labor and Premature Birth

More than 60% of all twins will deliver prematurely, defined as delivery prior to 37 completed weeks of gestation. 100% of triplets will deliver prematurely, because even without complications, triplets should not go past 36 weeks pregnant.

Fortunately, most of these premature deliveries occur after 32 weeks, in which case the overall long-term risks to the babies are quite rare, other than spending some time in the Neonatal ICU (NICU).

Deliveries before 32 weeks can result in low birth weight (under 2500 grams) or very low birth weight (under 1500 grams) babies, who are at increased risk of permanent disabilities such as cerebral palsy, mental retardation, and lung, hearing or vision problems.

Despite modern medical advances, there are few if any treatments unequivocally proven to prevent or reduce the incidence of premature birth in women with twins. This does not stop us from trying!

Possible symptoms of premature labor (primarily after 20 weeks gestation) include:

- uterine cramps, contractions, menstrual pains, increasing pelvic or vaginal pressure, increasing low back pain, heavy vaginal discharge, vaginal spotting or bleeding, steady rectal, vaginal or pelvic pressure

Preventive Measures would be:

- Daily bed rest as discussed above (after 24 weeks, sooner if necessary).
- Good hydration, 4-6 glasses of liquid per day, is helpful.
- Empty the bladder frequently, especially when cramping.
- Recognize whenever an activity is associated with the above symptoms, and then stop or reduce that particular activity.

For any pattern of symptoms suggestive of preterm labor that does not resolve with 1-2 hours of bed rest, please contact the office or the after-hours on-call ob/gyn doctor.

High Risk Interventions Available as Needed

Even without hospitalization, additional services are available for prevention and/or treatment of pregnancy complications. These include:

- fetal fibronectin testing to check for increased risk of premature labor
- vaginal ultrasound of the cervix to monitor cervix length (a risk factor for preterm birth)
- progesterone supplementation for prevention of premature birth (controversial in twins)
- use of labor-suppressing medication such as oral Procardia (nifedipine), or Indocin (indomethacin)
- in-office non-stress testing (fetal monitoring) for fetal well-being and/or uterine contractions
- use of steroids to improve fetal lung function if premature birth is likely
- placement of a stitch in the cervix (called a cerclage) for prevention of preterm birth (useful in triplets but not proven useful in twins)
- referral to a perinatologist for consultations and/or ultrasounds
- specialty center for assistance with the management of gestational diabetes if present
- possible admission to the hospital for prolonged bedrest and fetal monitoring or for treatment of complications such as preterm labor

Route of Delivery

Dr. Jick's opinion is that all twins, and certainly all triplets, should be delivered by Cesarean Section. This type of delivery is very predictable. The time and date can be chosen and appropriate personnel will be in attendance. Most labor or vaginal-delivery related complications are therefore avoided.

When delivered vaginally, second twins are at a higher risk of perinatal mortality. In one study of 2400 twin pregnancies delivering after 36 weeks of gestation there were 9 deaths of second twins and a 25% chance of emergency C/S for the second twin. Seven of the nine deaths were due to hypoxia (oxygen deprivation)⁶

Vaginal birth is possible with twins, but certain conditions must be present for this to be considered as a safe option. Both babies need to be head down (vertex), both should weigh more than 4 pounds and be more than 32 weeks gestation. They should be similar size to each other, preferably with baby A a little larger than baby B. No other pregnancy complications should be present such as high blood pressure or placenta previa. In our hospital, twin deliveries occur in the operating room, with personnel standing by prepared for an emergency Cesarean section.

There is controversy as to whether or not vaginal delivery should be attempted if the first twin is head down and the second twin is not (might be breech for example, or sideways). After the first baby is born, the uterus undergoes a rapid shrinking in size. This can affect the placental attachment of baby B. It can also shift baby B's position, and also can lead to Baby B's cord coming down in front of the baby if B is not head down (this is called a cord prolapse). The next few moments are critical. The options are to perform an emergency C/S at this time, or the doctor places his/her hand and arm through the vagina and cervix and tries to grasp the feet of baby B and pull baby B out -- a technique referred to as a breech extraction. This method of birth has more risk due to the possibility of baby B's head being trapped in the birth canal since the head is the largest part of the baby's body and it is the last part being delivered when the baby is pulled out by its feet.

When baby B is not vertex, and baby A has just delivered vaginally, Dr. Jick's opinion (backed up by the literature) is that an attempt should be made to turn baby B to head down (called an external version), and if this fails, then an immediate C/S should be performed to deliver Baby B.

Attempting vaginal delivery with twins increases the chance for unexpected emergencies, such as fetal distress during labor, emergency Cesarean for the second twin, hemorrhage with delivery, or Cesarean for a failed labor, all of which we have seen in our practice.

Timing of Delivery

The best timing for delivery of twins is earlier than the actual due date. Trying to "keep them in" until the due date would probably result in larger babies, but also increases the risks of placental complications, labor-related complications or delivery –related complications. Our ideal timing for delivery of twins is about 37 ½ to 38 weeks of pregnancy and for triplets about 35-36 weeks gestation, if we can! (Identical twins are best delivered at 37 weeks).

After Delivery

Breast-feeding

There are different ways to try and breast feed multiples. One way is to try and nurse all the babies most or all of the time. Because of the advantages of breast feeding, such as closeness, bonding, immunological and nutrition benefits, and portability, this might be a worthwhile goal even if it seems very difficult. If you really want to do this, don't give up without a fight! There are many experts out there who can help you. Lactation consultants, postpartum doulas, and yes, your ob/gyn doctor, all can be of great service. Ask for help if you need it.

One alternative is to try to breast and bottle feed using just breast milk. A breast pump can be used to increase milk supply. This means pumping right after a feeding to stimulate additional milk production. It is possible to produce enough breast milk for two babies, and maybe even three. Additionally, other people (your spouse, for example) can help with the feedings (and enjoy some bonding and closeness also) and while the babies all continue to receive breast milk. However, many moms with multiples will find that 100% nursing/pumping is just too tiring and time-consuming. Another approach is to try to alternate breast and bottle for each baby. Breast feed on a regular schedule similar to what someone would do for one baby, and then let each baby get a turn. Formula (or stored breast milk) can be used. This way the babies get breast milk, get their bonding and closeness, while allowing others to help with the feedings.

Middle of the Night

In the beginning, when one baby wakes up at night to feed, it can be efficient to wake the other one up as well so they all can be fed, burped and changed at more or less the same time. Some couples plan on mom and dad both getting up, mom does the feeding and hands the baby to dad to do the rest. Maybe this way you can go through the night only getting up once or twice rather than 3-4 times. For triplets, usually another adult is needed to help through the nights in the beginning, maybe for the first few weeks if possible.

Record-keeping

Sometimes when the babies are infants, it may be worthwhile to keep track of things like what time they last ate, urinated or had a bowel movement. It can be hard to remember these details for each baby. For example, infants should urinate at least 6 times per day indicating that they are getting enough liquids, or there may be a situation where the baby has not had a bowel movement for a few days or longer and then you're not sure when the last one was. Use a

clipboard for each baby, colored or otherwise easily identified so you don't chart on the wrong baby.

TWINS: Are They Identical?

- If the twins occurred due to a fertility clinic procedure, they are almost always fraternal, but IVF embryos do tend to occasionally divide into a set of identical twins.
- If this was a spontaneous conception of twins, the chance of identical is 1/3.
- If the twins are different sex, they are fraternal.
- If the twins share one placenta, even if they have separate sacs, they are identical.
- If the twins are the same sex and have 2 separate placentas, they can be fraternal or they can be identical. The next step would be to check their blood types. Different blood types means that they are fraternal, but the same blood type can also occur even if they are fraternal.
- The last step would be to consider DNA testing, now available relatively inexpensively. See Resources.

Resources

- Local Twins Club: Terrific Twosome Mothers of Multiples (www.ttmom.org or welcome@ttmom.org), affiliated with:
- National Mothers of Twins Club, (www.nomotc.org).
- March of Dimes: (www.marchofdimes.com)
- Twins Magazine: (www.twinsmagazine.com)
- The GENETICA DNA Test™ for Paternity, 1-800-433-6848, www.genetica.com
Here is a link to a home paternity test: <http://tinyurl.com/pswcnzw>

Footnotes

¹ Practice Bulletin, ACOG, Number 56, October 2004.

² Practice Bulletin, ACOG, Number 144, May 2014

³ Blondel, B. Seminars in perinatology 2002; 26:329.

⁴ Practice Bulletin, ACOG, Number 56, October 2004.

⁵ Committee Opinion, ACOG Number 369, June 2007.

⁶ Smith, GC, et al. British Medical Journal 2002; 325: 1004.

Revised August 2014