





Chapter 19

Multiples: When It's Twins, Triplets, or More

When a woman is carrying more than one baby, it is called a **multiple pregnancy**. In the past 20 years, multiple pregnancies have become more common in the United States. In 2012, 1 in every 30 babies born in the United States was a twin, compared with 1 in every 53 babies in 1980. According to the National Center for Health Statistics, between 1980 and 2009, the number of twin births increased more than 75%. The number of triplet and higher-order multiple births (four or more babies) increased 400% between 1980 and 2000, but it has declined by about 30% in the past decade.

Some of the increase in multiple pregnancies is because more women older than 35 years are having babies; women in this age group are at higher risk of having twins. Another reason for the increase is that more women are undergoing fertility treatments to become pregnant. These treatments increase the risk of multiple pregnancy. It is important to discuss the risks of multiple pregnancy, and possible ways to prevent it, with your health care provider if you are having fertility treatments (see box “Fertility Treatments and Multiple Pregnancy”).

Making Multiples

Multiple births occur when more than one **embryo** grows in the uterus. This process can occur naturally, or it can occur artificially during fertility treatments.

Fertility Treatments and Multiple Pregnancy

Fertility treatments are a major factor in the increase in multiple pregnancies over the past 20 years. Although all fertility treatments increase the risk of multiple pregnancy, it is most common in women who use fertility drugs to induce **ovulation**. Several drugs can be used to stimulate ovulation. When a drug called clomiphene citrate is used, about 10% of the pregnancies that are achieved are twins and less than 1% are triplets or greater. When drugs called gonadotropins are used, 30% of the pregnancies achieved are multiple pregnancies. Most of these are twin pregnancies, but up to one third are triplets or greater.

With **assisted reproductive technologies (ART)**, **eggs** are fertilized outside of the body. The eggs can be from a donor, or they can be generated by the woman herself with fertility drugs. The resulting embryo or embryos are transferred to a woman's uterus. The risk of multiple pregnancy increases as the number of transferred embryos increases. About 45% percent of pregnancies aided by ART result in twins and about 7% in triplets or more when two embryos are transferred.

Because of the risks associated with multiple pregnancy, the American Society for Reproductive Medicine recommends taking a preventive approach when fertility treatments are used. If you and your partner are considering fertility treatments, your fertility specialist will talk with you about the risks of having a multiple pregnancy and how you may avoid having more than one baby. For example, with ART you may choose to limit the number of embryos that are transferred to the uterus. The chance for a successful outcome with transferring a single embryo is increased for women who meet certain criteria, such as those who are younger than 35 years, are participating in their first ART cycle, and have generated a relatively large number of high-quality embryos.

With ovulation induction, **ultrasound exams** can be used to monitor the number of eggs that are developing in the **ovaries**, and blood tests can measure hormone levels. If an ultrasound exam reveals a large number of developing eggs, or if the blood test results show a high level of hormones, it may be recommended that you do not attempt pregnancy during that cycle to avoid the risk of multiple pregnancy.

If a triplet or higher-order pregnancy occurs, a procedure called **multifetal pregnancy reduction** may be considered. This procedure reduces by one or more the total number of babies in a multifetal pregnancy. There are risks associated with this procedure, including the risk of loss of all of the babies. However, with higher-order multiple pregnancies, these risks are generally believed to be outweighed by the potential benefits of this procedure, including a decrease in the risks associated with **preterm** delivery. Reducing a pregnancy also decreases maternal risks, including **hypertension**, **preeclampsia**, and **gestational diabetes mellitus**.

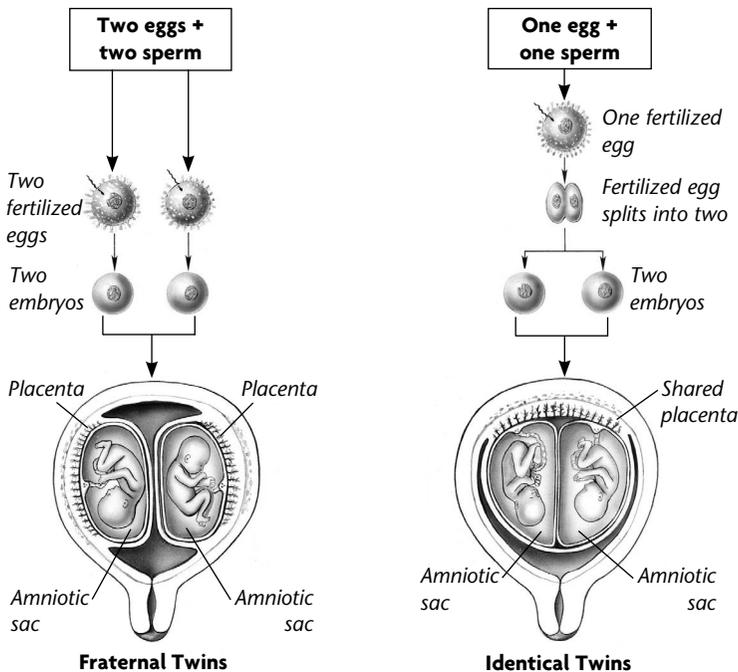
Fraternal or Identical Twins?

The most common kind of multiple pregnancy is twins, and twins come in two types—fraternal and identical:

- ***Fraternal twins***—Most twins are fraternal. Each fraternal twin grows from a separate fertilized egg and **sperm**. Because each twin grows from the union of a different egg and a different sperm, these twins are similar only in the way any siblings are similar. The twins can be both boys, both girls, or one of each.
- ***Identical twins***—When one fertilized egg splits early in pregnancy and grows into two embryos, identical twins are formed. Identical twins are the same sex and have the same blood type, hair color, and eye color. They usually look very much alike.

Three or More Babies

A pregnancy with three or more babies can be formed by more than one egg being fertilized, a single fertilized egg splitting, or both processes occurring



Types of twins. Fraternal twins are formed from two eggs and each has a placenta. Identical twins are formed from one egg that splits into two.

in the same pregnancy. This higher-order pregnancy rarely happens naturally and is most often the result of fertility treatments.

How to Know When It's More Than One Baby

There are signs that can indicate to your health care provider that you are pregnant with more than one baby:

- Rapid weight gain during the first trimester
- Severe morning sickness
- Hearing more than one heartbeat during a prenatal exam
- Your uterus being larger than expected during a prenatal exam

Most women learn they're carrying multiples fairly early in their pregnancies. An ultrasound exam can detect most multiples by week 12 of pregnancy. When a twin or higher-order multiple pregnancy is diagnosed, the **chorionicity** (whether the babies share a **chorion** and **placenta**) and **amnioticity** (the number of **amniotic sacs**) also are determined with an ultrasound exam.

Risks

A multiple pregnancy can affect your health as well as your babies' health. However, with proper **prenatal care**, your health care provider can diagnose and manage any complications that may arise and help protect you and the babies from more serious problems (see box "What Kind of Health Care Provider Should You See?"). You should be aware of the complications that are more likely with a multiple pregnancy.

The risk of problems during pregnancy increases with the number of babies. This means that there is a higher risk of problems with twins than with a single baby and a higher risk of problems with triplets than with twins.

Preterm Birth

Preterm birth—birth before 37 weeks of gestation—is the most common problem of multiple pregnancies. More than 50% of twins and more than 90% of triplets are born preterm. The number of weeks at which you are likely to give birth decreases with each additional baby (see Table 19-1).

Preterm babies are more likely to have health problems than babies born at term because they may not have finished growing and developing. They

What Kind of Health Care Provider Should You See?

Many women who are expecting multiples wonder if they need to see a **maternal–fetal medicine subspecialist** during pregnancy. These subspecialists, also called perinatologists, are obstetricians who specialize in caring for pregnant women who may be at high risk of special health problems. But having a multiple pregnancy does not necessarily mean you need a subspecialist. If you are healthy, you can choose to see an obstetrician who has experience caring for women with multiple pregnancies. If you have other conditions that put you at risk of complications or if you have a history of pregnancy problems, your obstetrician may refer you to a subspecialist. The maternal–fetal medicine subspecialist usually will help take care of you and your babies along with your regular obstetrician.

Keep in mind that being referred to a maternal–fetal medicine subspecialist does not mean that your pregnancy is expected to be difficult. Usually, the referral is done to give extra protection for you and the babies and to put your mind at ease.

Table 19-1 Duration of Multiple Pregnancies

Type of Pregnancy	Average Gestational Age at Time of Delivery	Average Birth Weight
Singleton	38.6 weeks	7.3 lb (3,300 grams)
Twin	35.0 weeks	5.1 lb (2,300 grams)
Triplet	32.0 weeks	3.7 lb (1,660 grams)
Quadruplet	30.0 weeks	2.9 lb (1,300 grams)

Data from Multiple pregnancy and birth: twins, triplets, and higher order multiples: a guide for patients. Patient Information Series. Birmingham, AL: American Society for Reproductive Medicine; 2004.

may be born with serious health problems, some of which can last a lifetime. Some problems, such as learning disabilities, appear later in childhood or even in adulthood. Preterm multiples are at increased risk of brain damage and bleeding in the brain than preterm single babies. **Cerebral palsy** is more prevalent in preterm multiples than in preterm single babies.

There is no treatment that can be given to prevent preterm birth from happening in multiple pregnancies. Because prematurity is so common in multiple pregnancies, the best thing is to be prepared for the possibility that your babies may be born preterm. If your labor does start early, certain things can be done to prolong the pregnancy for a short time. If you go into labor and are likely to give birth between 24 weeks and 34 weeks of pregnancy,

you may be given **corticosteroids**. These medications help the babies' lungs and other organs mature. In many cases, you also may be given a medication called a **tocolytic**. Tocolytics are drugs used to delay delivery for a short time (up to 48 hours). They are given to allow time for corticosteroids to do their job or to transport you to a hospital that offers high-level care for infants who are born preterm or with other complications. A tocolytic called **magnesium sulfate** may be given. In addition to delaying preterm birth, it has been shown to reduce the risk and severity of cerebral palsy in preterm infants if it is given before 32 weeks of pregnancy.

Tocolytics can have side effects for the mother, some of which can be serious and life threatening. The risk of these side effects occurring is greater in women with multiple pregnancies than in women with single pregnancies. For this reason, they are not recommended to prevent preterm labor. Tocolytics and corticosteroids are given to a woman with a multiple pregnancy only when preterm labor is diagnosed.

It's important to be able to recognize preterm labor if you are pregnant with more than one baby and to call your health care provider if you have any of these signs or symptoms:

- Change in vaginal discharge (becomes watery, mucus-like, or bloody)
- Increase in amount of vaginal discharge
- Pelvic or lower-abdominal pressure
- Constant low, dull backache
- Mild abdominal cramps, with or without diarrhea
- Regular or frequent contractions or uterine tightening, often painless (four times every 20 minutes or eight times an hour for more than 1 hour)
- Ruptured membranes (your water breaks, with a gush or a trickle of fluid)

For more information about preterm birth, see Chapter 27, “Preterm Labor, Premature Rupture of Membranes, and Preterm Birth.”

Chorionicity and Amnionicity

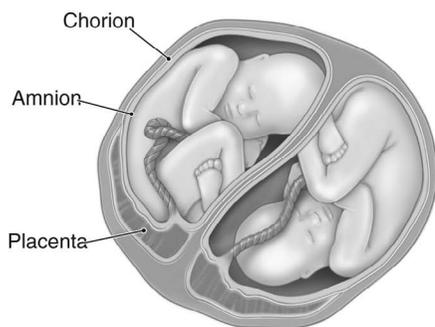
Early in a multiple pregnancy, an ultrasound exam is done to find out whether each baby has its own placenta, amniotic sac, and chorion (the outermost membrane that surrounds the developing babies). Types of twins are as follows:

- ***Diamniotic–dichorionic***—Twins who have their own chorions and amniotic sacs. They may or may not share a placenta.

- **Diamniotic–monochorionic**—Twins who share a chorion and placenta but have separate amniotic sacs
- **Monoamniotic–monochorionic**—Twins who share a chorion, placenta, and amniotic sac

Triplets can all have their own placentas and amniotic sacs or two of the triplets may share a sac, a placenta, or both. Rarely, triplets may share one placenta and one amniotic sac.

Monochorionic babies have a higher risk of complications than those with separate placentas. One problem that can occur in monochorionic–diamniotic babies is **twin–twin transfusion syndrome (TTTS)**. In TTTS, the blood flow between the twins becomes unbalanced because of a problem with the placenta. One twin donates blood to the other twin. The donor



Diamniotic–dichorionic, two placentas



Diamniotic–dichorionic, one placenta



Diamniotic–monochorionic, one placenta



Monoamniotic–monochorionic, one placenta

Chorionicity and amnionicity. Reproduced from Beckman RBC, Ling FW, Herbert WNP, Laube DW, Smith RP, Casanova R, et al. *Obstetrics and gynecology*. 7th ed. Philadelphia (PA): Lippincott Williams & Wilkins; 2014.

twin has too little blood, and the recipient twin has too much blood. This condition can lead to problems for both babies. Treatment is available for TTTS if it is diagnosed during pregnancy. One treatment that can be done is to periodically remove extra fluid from the recipient's twin amniotic sac. This needs to be done every few days or weekly. Severe cases of TTTS that are diagnosed early may be treated with laser surgery on the placenta. This surgery should be performed in a hospital by a health care provider with experience in performing these procedures.

Although monochorionic–monoamniotic babies are rare, this type of pregnancy is very risky. The most common problem is an **umbilical cord** complication. If the babies get tangled in their cords, they may not be able to move and grow. Women with a monoamniotic pregnancy are monitored more frequently and will need to have their babies by **cesarean delivery**.

Gestational Diabetes Mellitus

Women carrying multiple babies are at increased risk of gestational diabetes mellitus—a pregnancy-related form of **diabetes mellitus**. In a multiple pregnancy, gestational diabetes mellitus can increase the risk of breathing difficulties and other problems during the newborn period. Managing diabetes through diet, exercise, and sometimes medication can reduce the risk of these complications occurring (see Chapter 23, “Diabetes Mellitus,” for more information).

High Blood Pressure and Preeclampsia

Women with multiple pregnancies have a higher risk of developing **high blood pressure** conditions during pregnancy than women carrying singleton pregnancies. Preeclampsia is a blood pressure disorder that usually starts after 20 weeks of pregnancy. It also can occur in the postpartum period. It occurs more frequently in women pregnant with twins than in women pregnant with one baby. It also tends to occur earlier in multiple pregnancies. Preeclampsia can lead to long-term damage to the mother's **kidneys** and liver and can increase the risk of heart disease later in life. Preeclampsia that worsens and causes seizures in the woman is called **eclampsia**. When symptoms of preeclampsia become severe and if they occur during pregnancy, the babies may need to be delivered right away, even if they are not fully grown. Preeclampsia is discussed in greater detail in Chapter 22, “Hypertension and Preeclampsia.”

Growth Problems

Multiples generally grow at a slower rate during pregnancy than singletons. For example, about 25% of twins and 60% of triplets are born at a smaller-than-average size. One reason that multiples may be born smaller than average is that the placenta of one or more than one baby may not be in the best place or the umbilical cord may not be formed normally. These problems can limit the amount of **nutrients** the babies receive.

Twins are called **discordant** if one is much smaller than the other. Discordant twins are more likely to have problems during pregnancy and after birth. Twins may be discordant because of poor functioning of the placenta, genetic problems, or TTTS.

Beginning at about 24 weeks of pregnancy, ultrasound exams typically are used to check the growth of each baby and the amount of **amniotic fluid** every 4–6 weeks. If a growth problem is suspected, ultrasound exams are done more frequently. If a problem is found, special tests also may be done.

What to Expect

If you are carrying more than one baby, you may need to adjust your diet and exercise routine. You may see your health care provider more often than a woman carrying one baby. You also may need special care during pregnancy, labor, and delivery.

Nutritional Considerations

When pregnant with multiple babies, you will need to eat more than if you were carrying one baby. Eating well is important for your health and the health of your babies. If you are pregnant with twins, you need to eat about 600 extra calories per day—that's double the number of extra calories that's recommended for a single pregnancy. For triplets, you should triple the number of calories needed for a single pregnancy. These calories should come from healthy foods to meet your body's nutritional needs. Some women with twins may have more nausea and vomiting, which may make getting the right amount of calories difficult. It may be easier to eat smaller, more frequent meals.

All pregnant women need to get extra amounts of iron (27 mg a day) and **folic acid** (600 micrograms a day). Taking a prenatal multivitamin supplement will ensure you are getting these recommended amounts.

Weight Gain

Along with eating well, gaining the right amount of weight is very important for the health of your babies. You will need to gain more weight when carrying more than one baby than if you were carrying only one.

If you're expecting twins and you were a normal weight before pregnancy, it is suggested that you gain between 37 pounds and 54 pounds. If you were overweight before pregnancy, however, you should gain between 31 pounds and 50 pounds. If you were obese (a body mass index of 30 or greater), you should gain between 25 pounds and 42 pounds (see Table 19-2). Gaining the necessary pounds during your pregnancy should be done gradually. With twins, you should gain about 1 pound per week in the first half of pregnancy. In the second half of pregnancy, you should aim to gain a little more than 1 pound each week.

Exercise

Getting regular exercise is important in every pregnancy. When you're carrying multiple babies, however, most health care providers recommend some caution. Your health care provider may advise you to avoid strenuous activity and high-impact exercise, such as aerobics and running. Better choices for you to remain active during your pregnancy are sports that are lower impact, such as swimming, prenatal yoga, and walking.

Prenatal Genetic Screening and Diagnosis

Having a multiple pregnancy means that there are special considerations for routine screening and diagnosis of **birth defects**. Because each baby is at risk of having a birth defect, the chance of a birth defect in one or more babies is increased. The risk of a birth defect occurring is therefore higher in a multiple

Table 19-2 Weight Gain Recommendations for a Twin Pregnancy

Prepregnancy Body Mass Index	Category	Recommended Weight Gain for a Twin Pregnancy (in Pounds)
Less than 18.5	Underweight	Not known
18.5–24.9	Normal weight	37–54
25.0–29.9	Overweight	31–50
30.0 and above	Obese	25–42

Data from Institute of Medicine. Weight gain during pregnancy: reexamining the guidelines. Washington, DC: National Academies Press; 2009.

pregnancy. Standard **screening tests** for chromosomal disorders, such as **Down syndrome**, involve taking a sample of your blood and measuring the level of certain substances. If the results of a screening test indicate that there is a possibility of a disorder, it's not possible to tell from the test results how many of the babies are affected.

Another type of screening test uses **cell-free DNA** that circulates in the mother's blood. This test is used to screen for some chromosomal disorders. However, more information is needed about the use of this test in women with multiple pregnancies.

Because of the increased risk of birth defects and the limitations of screening tests in a multiple pregnancy, your health care provider may recommend **diagnostic testing** for birth defects. These tests include **chorionic villus sampling** and **amniocentesis**. These tests are invasive, meaning that a small amount of amniotic fluid or a piece of the placenta needs to be obtained. Before having one of these tests, you should know that

- a sample usually needs to be taken from each baby
- the risks of the procedures are increased with more than one baby
- results may show that one baby is normal and the other baby has a defect

In addition, these tests are more technically difficult to perform in multiple pregnancies. To reduce the risk of complications, it is recommended that only experienced health care providers perform these tests if you are carrying more than one baby.

Monitoring

You will need special prenatal care if you are pregnant with multiples. You will visit your health care provider more frequently if you are carrying twins. Your health care provider will monitor the health of your babies during your pregnancy with exams and special tests. Some tests are routine. Others may be done only when a problem is suspected. You may have some or all of these tests, depending on the status of your pregnancy:

- Assessment of the **cervix** for signs associated with preterm labor
- More frequent ultrasound exams to check the babies' growth
- **Nonstress test**, in which the babies' heart rates are measured
- **Biophysical profile**, which includes checking the babies' body movements, breathing movements, muscle tone, and the amount of amniotic fluid. The babies' heart rates may be checked as well.

Bed Rest and Hospitalization

Bed rest with or without hospitalization has been commonly recommended to women pregnant with multiple babies. Recent studies, however, have concluded that routine hospitalization or bed rest for women with uncomplicated twin pregnancies does not result in healthier babies or healthier moms. In fact, bed rest can actually increase the risk of a woman developing **deep vein thrombosis**, a condition in which a blood clot forms in the deep veins in the body. For these reasons, routine bed rest and hospitalization are not recommended for women with multiple pregnancies.

Delivery

When and how your babies are born depends on certain factors, including the following:

- Position of each baby
- Weight of each baby
- Your health
- Health of the babies

You and your health care provider will discuss the best time for you to give birth to the babies. After about 38 weeks of pregnancy, the placenta does not function as efficiently in women carrying twins compared with women carrying one baby, and there is a slightly increased risk of **stillbirth**. However, delivering the babies too early may increase the risk of problems associated with being born preterm. Most experts agree that if there are no complications, twins can be delivered at 38 weeks of pregnancy.

The chance of needing a cesarean delivery is higher when you're pregnant with twins than when you're pregnant with one baby. However, you have a good chance of having a normal vaginal delivery if the presenting twin (the one nearest to the cervix) is in a head-down position, there are no other complications, and you are at least 32 weeks pregnant. If you're carrying three or more babies, a cesarean delivery is recommended because it is safer for the babies.

If you are able to give birth vaginally, be prepared for a longer labor. Labor, especially the pushing stage, may take longer with twins. Babies usually are born several minutes apart in a vaginal delivery, but it can take longer.

Getting Ready

Having more than one baby can be both exciting and overwhelming. It is important for you and your partner to be as prepared as possible for the coming adventure of being new parents to more than one baby. It may be helpful to talk with other parents who have multiple babies. Having help and support will make life with multiples go much smoother.

Although it's impossible to be prepared for every contingency, the following challenges are those that many families of multiple babies encounter:

- **High health care costs**—Because multiple babies often are born with health problems, they may require short-term and long-term specialized health care. Have a financial plan in place to deal with these health care costs. If you have health insurance, make sure that it will cover the costs of this specialized care.
- **Breastfeeding**—Many women wonder if they can breastfeed more than one baby. Breastfeeding any baby takes practice, and the same goes for multiples. Mother's milk has the right amount of all the nutrients the babies need and adapts as your babies' needs change. When you breastfeed, your milk supply will increase to the right amount. You will need to eat healthy foods and drink plenty of liquids. Lactation specialists, nurses, and your health care provider can help you get started and work out any problems you may have. If your babies are premature, you can express and store your milk until they are strong enough to feed from the breast. See Chapter 18, "Breastfeeding and Formula-Feeding Your Baby," for more information on breastfeeding multiples.
- **Extra help**—You will need some extra hands to help care for your babies, so be sure to line up your volunteers well before your due date. Also, make sure that at least some of your helpers are in for the long haul. You most likely will need helpers for several weeks or months, depending on how many babies you have.
- **Stress and fatigue**—Caring for multiples is stressful. Preterm babies need smaller, more frequent feedings, and sleep can be in short supply for the parents. One parent most likely will need to stay at home to care for multiple infants.
- **Postpartum depression**—The "baby blues" are very common after pregnancy. About 2–3 days after childbirth, some women begin to feel depressed, anxious, and upset. These feelings usually go away after a week or two. If they do not, or if they get worse, it may be a sign of a more

serious condition called postpartum depression. Having multiples might increase your risk of this condition. If you have intense feelings of sadness, anxiety, or despair that prevent you from being able to do your daily tasks, let your health care provider know.

It's a good idea to enroll in a childbirth class especially designed for parents expecting twins or more. Plan to take the classes during your fourth month to sixth month of pregnancy, when you are likely to be most comfortable. Your health care provider should be able to help you find a class.

RESOURCES

The following resources offer more information about multiple pregnancy:

Challenges of Parenting Multiples

American Society for Reproductive Medicine

www.asrm.org/FACTSHEET_Challenges_of_Parenting_Multiples/

Addresses the social, economic, and psychological issues of multiple pregnancy.

Mothers of Supertwins (MOST)

www.mostonline.org

Nonprofit national organization that provides information and support for parents of multiples. A comprehensive site that covers all aspects of having multiples—not just twins.

