

## Overview

Monochorionic diamniotic (Mo-Di) twins are twins that share a placenta and therefore a blood supply. They occur in 3–4 per 1,000 pregnancies. They are not the type of twins that run in families. The only known risk factor is in vitro fertilization (IVF). About 4% of IVF pregnancies will have monochorionic twinning.

All monochorionic twins are identical twins as they share the same genetic material. Even though they are identical, they do not always express the genetic material the same way, so there may be some differences between the two fetuses, including the development of the anatomy and fetal growth.

This material is an overview of monochorionic twinning and some general management recommendations. As each woman's pregnancy is different, we suggest seeking out additional information and care plans from your obstetric provider or a Maternal Fetal Medicine physician to understand issues that may be unique to you.



For second opinions or to speak with a health care professional:

### Fetal Diagnosis and Treatment Center

(734) 763-4264  
[uofmhealth.org/fetalcenter](http://uofmhealth.org/fetalcenter)

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## Monochorionic Diamniotic Twin Gestation



## Monochorionic Diamniotic Twin Gestations

- Monochorionic diamniotic twins are identical twins who share a placenta (monochorionic) but each have their own inner sac (diamniotic). This type of twinning (or twin pregnancy) accounts for approximately 20% of all twins.
- Even though most monochorionic twins are healthy, they have a much higher risk of complications due to a shared blood supply. Because of this risk, it is important to monitor them closely.
- The most important first step is checking to see if twins share the placenta. This is best done with an ultrasound before 14 weeks gestation.
- If there is confirmation of monochorionicity, it is recommended to start close ultrasound monitoring at 16 weeks gestation.

## What Are the Increased Risks With Monochorionic Diamniotic Twins?

- A higher risk of birth defects makes thorough ultrasound evaluation of the fetal anatomy very important.
- Intrauterine growth restriction (IUGR) means the fetus is smaller than expected. Selective IUGR (sIUGR) indicates only one fetus is affected, and this occurs in 12–25% of monochorionic twins. This is most often caused by unequal placental sharing or abnormal umbilical cord insertions, such as velamentous cord insertion into the amniotic membranes instead of the placenta.
- Twin-to-twin transfusion syndrome (TTTS) occurs in 10–15% of monochorionic twins due to abnormal placental blood vessel connections. TTTS is caused by one twin (donor) sending excess blood to the other twin (recipient). Early stages are detected by ultrasound when the donor has low amniotic fluid (oligohydramnios) and recipient has too much amniotic fluid (polyhydramnios). If untreated, it is life-threatening for both twins.
- Twin anemia polycythemia syndrome (TAPS) is rare. In this condition, one fetus (donor) develops anemia (low blood count) and the other (recipient) has an abnormally high blood count (polycythemia).

## Monitoring

**Due to the unique complications associated with monochorionic twins, management includes:**

- Early scan at <14 weeks to confirm chorionicity
  - Ultrasounds every 2 weeks beginning at 16 weeks to evaluate for complications
  - Increasing frequency of ultrasound if either fetus has increased or decreased amniotic fluid or abnormal growth or Doppler blood flow
  - Twice weekly antenatal testing at 32 weeks gestation, if not started earlier
  - Delivery at 37 weeks gestation, or earlier if indicated
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