

INFORMATION LEAFLET FOR THE TWIN PREGNANCY SCAN

Dear patient,

Yours is a twin pregnancy, meaning that you have a pregnancy with the simultaneous development of two fetuses in utero. This is an event that occurs with a frequency of 1 case out of 80 pregnancies, but with a greater frequency following assisted reproduction techniques or after 35 years of age.

In your case, you have a twin pregnancy of which type:

- ☐ dichorionic/diamniotic
- ☐ monochorionic/diamniotic
- ☐ monochorionic/monoamniotic
- ☐ uncertain chorionicity/amnionicity
- ☐ multiple pregnancy with three or more twins

In this information leaflet you can find some information on twin pregnancies.

- *Are all twin pregnancies the same?*

No, twin pregnancies can be of two types:

- dizygotic, with non-identical twins like two brothers born in different years. They may have the same or different sex, but each will have their own sac and placenta;
- monozygotic, with identical twins of the same sex.

- *How many placentas and sacs are there in monozygotic pregnancies?*

This depends on when the separation of the fertilized egg took place:

- if the egg has separated early, two placentas and two amniotic sacs will form resulting in a **diamniotic dichorionic pregnancy**;
- if the separation occurred later the embryos will each be in their own amniotic sac, but will share the same placenta, resulting in a **monochorionic diamniotic pregnancy**;
- if the separation occurred after the 8th day, the babies will have both the amniotic sac and the placenta in common, resulting in a **monochorionic monoamniotic pregnancy** (very rare).

In case of uncertain chorionicity/amnionicity it is difficult to assess the type of twin pregnancy and therefore you should be referred for evaluation to a secondary center dedicated to the diagnosis and management of such pregnancies.

What are the risks of a twin pregnancy?

Regardless of the type of twin pregnancy, there is a greater risk of developing hypertension and gestational diabetes than for singleton pregnancies, and common pregnancy disorders are more pronounced (nausea, heartburn, back pain, etc. .). Delivery often occurs before term (50% of cases).

METODOLOGIE BIOFISICHE

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Dichorionic/diamniotic twin pregnancy

In this pregnancy each twin has its own placenta and amniotic sac, and in the majority of the cases they are approximately two individuals with distinct genetic makeup. Screening tests for chromosomal abnormalities performed in the first trimester are similar to those performed in singleton pregnancies. If the outcome of the first trimester screening indicates an increased risk of aneuploidy for one or both twins, it is advisable to perform an evaluation in a center dedicated to the management of twin pregnancies.

After performing the second trimester screening ultrasound between 19-21 weeks, a follow-up scan is indicated at 24 weeks and then every 4-6 weeks.

If a structural anomaly in one or both twins is diagnosed or if a growth discrepancy equal to or greater than 25% between the two twins is found, it is recommended a referral to a center with expertise in the management of twin pregnancies.

Monochorionic/monoamniotic pregnancies

In this pregnancy, the twins share the same placenta while each twin has his own amniotic sac. This implies that there is a continuous exchange of blood between them through points of contact between the placental vessels, the so-called anastomoses.

In 10% of cases, a complication called "twin-to-twin transfusion syndrome" (TTTS) can develop: this is a condition in which there is a circulatory imbalance between the twins whereby one twin, defined as "donor", gives his blood to the other, defined as "recipient". This represents a serious complication, which may require *in-utero* surgery and which can lead to the loss of one or both twins, if left untreated.

One of the maternal symptoms that most frequently accompanies the onset of TTTS is the sudden increase in the volume of the abdomen. If this complication appears, it is necessary to contact a center dedicated to the management and treatment of these conditions.

The onset of TTTS can be acute or chronic and, as it is unpredictable, it is recommended to perform ultrasound checks starting at 16 weeks and then every two weeks up to the time of delivery. With this type of monitoring, it may be possible to identify and treat chronic forms of TTTS, while the acute forms sometimes do not give time to be identified and treated.

In 99% of cases, the monochorionic twins have an identical genetic heritage; screening tests for major chromosomal abnormalities are similar to those used for singleton pregnancies but in the case of an increased risk outcome, an evaluation in a center dedicated to the management of twin pregnancies is indicated.

In 15% of cases the twins have an unequal distribution of the shared placenta and therefore may manifest a growth discrepancy of more than 25%: in these cases, referral to a center with experience is indicated in order to evaluate the correct management which can vary according to the weeks of pregnancy and the health of the fetuses.

Furthermore, monochorionic twins are more likely than singleton to have cardiac anomalies, therefore a fetal echocardiography is recommended.

There are also rarer complications (less than 5% of cases) and more difficult to diagnose which, when identified, require a referral to a second level center: they are the "twin anemia polycythemia sequence" (TAPS) and the "twin reversed arterial perfusion" (TRAP). They can both lead to pregnancy loss but, if identified, can be treated with *in utero* surgery with favorable outcomes in most cases.

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Monochorionic/monoamniotic twin pregnancy

In this pregnancy, the twins share both the placenta and the amniotic sac. It is a very rare condition that must be confirmed and taken care of by a reference center.

These twins have a greater risk of structural abnormalities and therefore an evaluation of the fetal anatomy in a reference center is indicated.

At more advanced gestational times, it is appropriate to intensify monitoring according to methods and times agreed with the center that is in charge of the pregnancy until the time of delivery.

Multiple pregnancy with three or more twins

Multiple pregnancies with three or more twins have a higher probability of maternal and fetal complications, determined by the number of fetuses, chorionicity and amnionicity.

Prematurity and low birth weight are the elements that mostly affect the survival and health of newborns while the likelihood of preterm birth increases in proportion to the number of fetuses.

Due to its complexity, therefore, multiple pregnancy requires assistance from structures and operators with specific expertise in monitoring and managing such pregnancies.

NB: in all types of twin pregnancy, if the unexpected and sudden loss of a twin is observed referral to a reference center for the assessment of case management is recommended.

Diagnosis:

Twin pregnancy

.....

atweeks of gestation

complicated no ☐ yes ☐

by whom.....

INFORMED CONSENT TO ULTRASOUND IN TWIN PREGNANCY

I hereby_____ ***declare:***

- to have been informed in detail about ultrasound in twin pregnancies and to have understood the contents of the information.
- To have had the opportunity to ask the doctor questions and to have obtained satisfactory answers.

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- aware of the fact that such an assessment is recommended but not mandatory, to want to perform it knowing that ultrasound in twin pregnancies may result in pathological pictures that require multi-specialist consultations and additional diagnostic investigations.

DATE

PATIENT'S SIGNATURE