SIEOG	***INFORMATION AND CONSENT TO THE SCREENING ULTRASOUND EXAMINATION OF THE II QUARTER OF PREGNANCY***

What is ultrasound?

Ultrasound is a technique that allows us to see the organs of our body with the use of high-frequency sound waves (ultrasound, inaudible to the human ear) that they pass through the tissues: when they reach the fetus they produce echoes which are transformed into images on the ultrasound monitor.

When and why to do II trimester screening ultrasound?

It is suggested to carry out this survey between 19 and 21 completed weeks of gestational age. The purposes for which this assessment is proposed and carried out are the control of the viability of the fetus, of the anatomy and of its development. The examination also allows the assessment of the amount of amniotic fluid and placental location. It is emphasized that this ultrasound examination is recommended but not mandatory and the assisted person, after having been informed by the attending physician, will be able to decide whether to carry out it or not.

What is seen with ultrasound in the second trimester of pregnancy?

This examination allows to obtain the measurement of some parts of the fetus's body and the values of these measurements are compared with those of the reference curves to assess whether the dimensions correspond to those expected for the time of pregnancy. In the same examination, the site of placental insertion, the quantity of amniotic fluid and the structure of the main organs and anatomical areas of the fetus are visualized.

How is the ultrasound examination of the second trimester of pregnancy carried out?

After applying a small amount of gel, the doctor carries out the examination by placing a probe on the abdomen. Sometimes it is necessary to apply some pressure to get sharp images. Sometimes the examination cannot be carried out comprehensively due to persistently unfavorable fetal position or poor visualization of some organs (e.g. empty stomach or bladder). In these cases it is necessary to repeat the ultrasound after a few hours or days to complete the study of the fetus. In the event that a suspicious finding is highlighted, the examining physician will discuss its clinical significance with the assisted person. It is possible that a further evaluation at a reference center for the study of fetal anomalies (diagnostic ultrasound) is appropriate. Moreover, in a good number of cases a suspicious finding on screening ultrasound may turn out to be non-pathological on in-depth examination.

Is it possible to detect fetal malformations with ultrasound?

Apart from rare exceptions, there are no fetal anomalies that are always identifiable and with certainty. The experience acquired so far suggests that the ultrasound examination carried out for the screening of fetal anomalies between 19 and 21 weeks allows the identification of 20 to 50% of the most relevant malformations. European data show an average ability to identify fetal anomalies of 31%. Therefore, due to the intrinsic limitations of the method, it is possible that some fetal anomalies, even serious ones, are not identified in the prenatal period. The possibility of identifying an anomaly does not necessarily depend on the severity of the defect but on its size and on the more or less evident alteration of the resulting ultrasound image; the accuracy of the ultrasound study in identifying fetal abnormalities may be limited by the unfavorable position of the fetus in uterus, the reduced amount of amniotic fluid and the presence of other factors such as abdominal scars, twins, myoma nodes and poor ultrasound penetration through the maternal abdominal wall (common condition in obese pregnant women). In addition, a group of malformations affecting each anatomical district of the fetus (so-called evolutionary) may appear only in late pregnancy or even after childbirth and therefore not be detectable during the screening ultrasound examination carried out in the second trimester. For all these reasons, even if a screening ultrasound examination of the fetus in the second trimester ends with a normal outcome (which occurs in most cases) it is not possible to be completely sure that there will be no congenital malformations in that newborn.

Is it possible with ultrasound to suspect genetic abnormalities?

The identification of genetic anomalies (chromosomal and otherwise) is not the task of the II trimester screening ultrasound; The so-called *soft markers* ultrasound of chromosomopathy are not the object of research in the ultrasound examination carried out for malformative screening in the second trimester. Furthermore, not all genetic diseases have significant malformations that can be seen on ultrasound examination.

Is ultrasound harmless to the fetus?

Ultrasounds have been used in obstetric practice for over thirty years and no harmful effects have been reported, even in the long term, on the fetus. For this reason, with the procedures adopted today, the diagnostic use of ultrasound is considered risk-free.