

Pregnancy Ultrasound

Pregnancy ultrasound is a method of seeing the fetus and female pelvic organs during pregnancy. An ultrasound machine sends out high-frequency sound waves that bounce off dense body structures, such as the fetus and uterus wall, to create an image.

During the procedure, the patient lies down and a clear, water-based conducting gel is applied to her skin over the abdomen and pelvis area. This gel helps transmit the non-harmful sound waves. A technician moves a hand-held probe over the gelled area. The resulting black and white visual images appear on a computer screen.

To get good ultrasound images, a full bladder is necessary. Therefore, the patient may be asked to drink two to three glasses of liquid an hour before the test, without urinating. This may create some discomfort from full bladder pressure. Also, the conducting gel may feel slightly cold and wet. However, the patient does not feel the ultrasound waves.

Some physicians suggest an ultrasound be conducted when an abnormality is suspected, while others advocate screening ultrasounds (procedures meant to rule out abnormalities, even when none are suspected). Scans may be performed in the first trimester to:

- Confirm a normal pregnancy
- Assess the baby's age
- Rule out abnormalities, such as ectopic pregnancies or potential for miscarriage
- Assess the baby's heart
- See if there are multiple pregnancies (such as twins or triplets)
- Identify abnormalities of the placenta, uterus and other pelvic structures

Scans may also be obtained in the second and third trimesters to:

- Assess the baby's age, growth, position and, sometimes, gender
- Identify any developmental problems
- Rule out multiple pregnancies
- Evaluate the placenta, amniotic fluid and remaining structures of the pelvis

Some medical centers perform scans at around week 13-14 of pregnancy to look for fetal risks for Down syndrome (which causes mental retardation) or other developmental abnormalities.

The total number of scans varies, depending on whether a previous scan or blood tests have detected abnormalities that require follow-up assessment.

In looking at the scans, normal values are when the fetus and associated pelvic structures are normal in appearance and appropriate for the gestational age. Abnormal ultrasound results may be due to some of the following conditions:

- Ectopic pregnancy
- Multiple pregnancies
- Fetal death
- Abnormalities of fetal position
- Congenital malformations
- Amniotic fluid problems, including oligohydramnios (not enough fluid) and polyhydramnios (too much fluid)
- Placental abnormalities, including placenta previa and placental abruption

- Intrauterine growth retardation
- Tumors of pregnancy, including gestational trophoblastic disease
- Additional abnormalities of the ovaries, uterus and remaining pelvic structures

There is no documented effect on patients and their fetuses with the use of current ultrasound techniques. No ionizing radiation is involved.

Your tasks for this activity are:

- Review the vocabulary handout to familiarize yourself with any unknown vocabulary words used in this description of pregnancy ultrasound.
- Decide how to communicate this information to your class in an effective way. You may include all information or only the relevant highlights from what you learned in this handout.
- In your presentation, communicate the advantages and disadvantages of this technology. You will want to discuss this as a group. Mention your suggestions for further improvements to the technology.
- Your presentation must include at least one visual element (more than just reading / lecturing to the class), such as a drawing, graphic, picture, table, graph, chart, skit, song, poem, demo.

Source: Grossman, Neil. Pregnancy Ultrasound. Medical Encyclopedia. Updated January 29, 2009. Medline Plus, U.S. National Library of Medicine and the U.S. National Institutes of Health. Accessed February 17, 2009.
<http://www.nlm.nih.gov/medlineplus/ency/article/003778.htm>