
EFSUMB – European Federation of Societies for Ultrasound in Medicine and Biology

Obstetric Patient Information Leaflet

The Safety Committee members in the federation have prepared this text of an information leaflet for obstetric patients. The text has been translated into other EFSUMB society languages, too and can be downloaded from the website (www.efsumb.org).

WHAT IS ULTRASOUND?

INTRODUCTION

Ultrasound allows us to make pictures of the womb, the baby and the placenta. It enables us to watch the development of your pregnancy, and gives us valuable information which allows us to care for you and your baby at this time. Your ultrasound scan allows us to assess the gestational age and growth of your baby, to determine the position of the placenta, and to diagnose multiple pregnancies. The baby is studied very carefully in order to detect any problems. The ultrasound scan is painless, and no harmful effects from ultrasound imaging have ever been found.

Ultrasound allows us to make pictures of what is happening beneath the skin by using small, inaudible vibrations. Very brief, staccato, sounds, higher in pitch than the ear can hear, are produced by a device called a transducer. In order to send ultrasound into the body, the transducer must touch the skin with no air in the way, and so oil or gel is always put on the skin before scanning. The same transducer can also pick up the vibrations which echo back from inside the body. These echoes are processed by the complex electronics in the ultrasound scanner in order to produce a real-time picture which appears on the screen.

SOME OF YOUR QUESTIONS ANSWERED

Can it harm my baby? – NO

There are no known harmful effects associated with the medical use of ultrasound. There is no such thing as zero risk, but widespread clinical use over 40 years, and studies in animals and in humans have shown no link between the use of diagnostic ultrasound and any adverse fetal outcomes. There is presently no scientific basis for believing that the low levels of ultrasound used in obstetrical imaging can produce any damage in mothers or babies. If 3D (3-dimensional) or 4D ultrasound (four-dimensional = real-time 3D imaging) is needed for diagnostic reasons there are no additional safety considerations; this involves continuous exposure, but doctors and sonographers are trained to keep examination times as short as is necessary to get the information they need.

Doesn't ultrasound warm tissue? - NOT at the levels used for imaging

The effectiveness of physiotherapy ultrasound probably arises in part from local warming of tissue, but the sort of ultrasound used to make these pictures of you and your baby is very different. It is not powerful enough to warm you or your baby. Some special equipment (called Doppler ultrasound) used for measuring blood flow in your baby is capable of warming tissue. However, your doctor or sonographer is trained only to use ultrasound in situations for which this does not become a problem and to use such special methods only where and when they are needed.

Will it hurt? – NO

The procedure is painless, but occasionally the ideal image can only be obtained by applying some pressure on the skin, or by angling the probe in an unusual direction. The contact gel applied to the surface of the skin before the probe is applied is non-allergenic, and well tolerated. Sometimes a better image can be obtained by using a probe that is placed in the vagina. Most women do not find this uncomfortable.

Can it cause a miscarriage? - NO

Neither the pressure of the probe on the skin of the lower abdomen, nor the use of a probe inside the vagina have ever been associated with miscarriage, even when the patient is experiencing vaginal bleeding before the ultrasound examination.

Should all women have a scan during pregnancy?

This question has been scientifically disputed, and there is still no agreement among the experts. There is no doubt that ultrasound is a valuable diagnostic tool if the pregnancy is abnormal. Today most experts argue that "routine" scans during pregnancy are valuable. There is no reason why several scans should not be carried out if there are good medical reasons. However, an ultrasound scan should not be done "Just to watch the baby on the screen".

Who will perform my ultrasound scan?

Interpreting ultrasound scans is a skilled job. The person conducting your scan will have been specially trained in the techniques involved in maximising the useful information obtained from a scan, and in minimising the sound exposure you receive. This person may be a radiographer with extra ultrasound qualifications (a sonographer), a midwife or a doctor who has been trained in obstetric ultrasound.

What about 3D/4D souvenir pictures?

There is no safety issue if your doctor or sonographer obtains a few 3D pictures or a short 4D-movie during the clinical diagnosis. Commercially offered or extra arranged scans -solely to create these kind of pictures- have no benefit for the developing fetus, and represent an additional uncontrolled use of ultrasound exposure without medical indication and must be avoided.

To whom should I turn if I am concerned?

If you have concerns about your ultrasound scan, you should first discuss them with your doctor or sonographer. If they are unable to answer your queries, or unable to find the answer for you, the European Federation of Societies for Ultrasound in Medicine and Biology (EFSUMB) has a Safety Committee that has been set up to address any safety concerns that may arise. The members of this committee are from several countries in Europe, and have expertise ranging from basic science to clinical obstetrics.

Their advice can be obtained by contacting EFSUMB (email: efsumb@efsumb.org)