

RCOG SIP paper on ultrasound from conception to 10 weeks gestation

Key messages

- Ultrasound in the early stages of pregnancy (up to 10 weeks of gestation) is important and necessary for many clinical reasons
- Ultrasound for clinical reasons is safe during the early stages of pregnancy and the benefits outweigh any potential risks
- During the first 10 weeks of pregnancy the fetus is most vulnerable because it is extremely small, the cells are dividing quickly and the placenta is not attached so there is limited blood flow.
- Ultrasound for non-medical reasons is not endorsed by the authors of the paper
- Certain types of ultrasound (colour and pulse waved Doppler) use a higher power output and shouldn't be recommended at all during the early stages of pregnancy
- Healthcare professionals should have a good knowledge of the safety principles of ultrasound

Q&A

What is the embryonic period?

The embryonic period is from conception up to 10 weeks and 0 days of gestation. This is the period when the embryo is most vulnerable.

What is a 'clinical reason' for having an ultrasound?

Ultrasound is very important in the management of the problems of early pregnancy. Clinical reasons can include; caring for women after assisted conception including IVF, those where miscarriage is feared and those in whom ectopic pregnancy is suspected.

Will ultrasound cause any harm?

Ultrasound is safe and extremely useful for many clinical reasons. However it is being used more and more without any medical justification.

The paper highlights that the embryo is at its most vulnerable during the early stages of pregnancy and any possible negative effects of ultrasound are most likely to affect the embryo at this stage.

The authors of the paper are adopting a precautionary approach by highlighting the possible risks to women and their babies.

Is 3D and 4D ultrasound safe?

4D ultrasound does use a higher energy output than 2D ultrasound, the advice is to delay such scans until the second half of pregnancy. The authors of the paper do not recommend the use of 4D ultrasound for souvenir images or video recordings in the embryonic period unless with a research setting.

3D ultrasound is very unlikely to be harmful as it involves the acquisition of a 'volume' of image data over a few seconds and therefore may reduce exposure time & power.

Can I have an ultrasound after 10 weeks to check the baby if I am worried?

On the NHS you will be offered an ultrasound scan around the 12 week period. The first 10 weeks of pregnancy are the most vulnerable and following this period, ultrasound may be requested.

I had an ultrasound at 9 weeks gestation, is my baby at risk

Ultrasound is considered a safe and invaluable resource. However the authors recommend that early scans are used only when there is a clinical reason as a precautionary approach.

Additional information

- NHS Choices: <http://www.nhs.uk/conditions/ultrasound-scan/pages/introduction.aspx>
- Patient.co.uk: <http://www.patient.co.uk/health/ultrasound-scan>