

Doppler ultrasound during pregnancy

Doppler Ultrasound gives doctors a visual or audible representation of blood movement through veins, arteries and blood vessels. A sound-wave is emitted and bounces off moving red blood cells. The reflected sound is received and analysed. The movement of these cells, either toward or away from the transmitted waves, results in a frequency shift that can be measured and which shows the speed rate at which the cells are moving.

Unlike ultrasound imaging used to give parents a picture of a baby in-utero, Doppler Ultrasound is used to measure the blood flow in various body parts such as the umbilical cord, the heart and the brain of the foetus.

Doppler Ultrasound tests are conducted with a handheld device known as a transducer. There are three main types of Doppler Ultrasound – Continuous, Duplex and Colour.

- Continuous Doppler Ultrasound – It uses reflected sound waves as an audible diagnostic tool. The doctor uses a small, portable unit to listen to the reflected sounds.
- Duplex Doppler Ultrasound – As sound waves bounce off blood vessels, an image is created. The sounds are also converted to graphs using a computer program to evaluate the direction of the blood flow and the speed at which the blood is moving.
- Colour Doppler Ultrasound – Instead of the sounds being converted into a graph, a colour picture of the blood flow speed and movement is created from the sounds, using different colours.

<http://www.babymed.com/ultrasound/doppler-ultrasound-during-pregnancy>

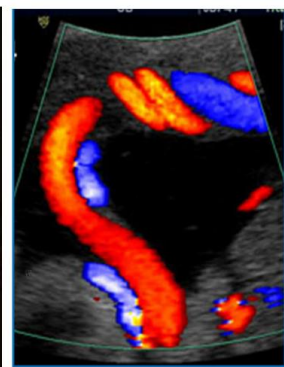
January 2013



Pregnancy ultrasound scan



Ultrasound imaging of a baby



Colour Doppler of an umbilical cord

*Which properties of waves are explained in this document?
In which other fields are these waves used?*