

3D and 4D  
**ULTRASOUND**

WAIKATO  
**Radiology** **WR**

# What is 3D and 4D Ultrasound used for?

3D and 4D ultrasound can be used to further assess the internal body parts and also the external (surface) features of the baby. 3D and 4D views of the external features of the baby can be easier to understand than 2D slices. Amazing life-like images of the baby can often be obtained and the baby can also be viewed in motion. 3D is a wonderful way of seeing your developing baby. You are welcome to take the 3D pictures home with you on a picture CD. All of the pictures below were obtained by sonographers working in our practice.



# What is 3D and 4D Ultrasound?

Normal ultrasound uses a row of sound waves to create a 2 dimensional (2D) picture of the mother's and baby's body. The resultant picture can be thought of as a thin slice.



2D picture of baby's profile

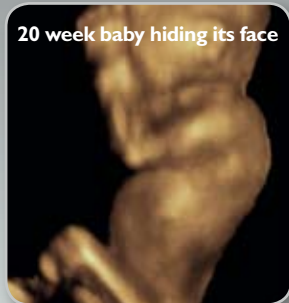
Three dimensional (3D) ultrasound uses the same technology as 2D, but instead of displaying a single slice many 2D slices are put together to form a 3D picture. Modern ultrasound scanners allow rapid acquisition of 3D pictures so that a moving 3D image is displayed and this is called 4 dimensional (4D) ultrasound.



Many 2D slices are put together to create a 3D image



**Tiny 10 week embryo**



**20 week baby hiding its face**



**Nice view of baby's face at 28 weeks**



**Chubby baby with double chin**

## What are the limitations?

As with any type of ultrasound scanning, there are limitations as to the quality of images that can be obtained and these depend on many factors such as: baby's position, baby's size and age, depth from the mother's skin to the baby and other factors. For example, views of the baby's face can not be obtained with 2D, 3D or 4D ultrasound if the baby is facing away. Usually, meaningful images can be obtained from 18 weeks onwards with 26-32 weeks being ideal for 3D ultrasound.

## Is it safe?

3D ultrasound is no different to conventional ultrasound. The only difference is in the computer processing of the pictures. Ultrasound has an unprecedented safety record. To date, hundreds of millions of ultrasound scans have been done on babies world wide with no reports of ultrasound causing harm to the baby, the mother or the operator. In our practice, ultrasound is only performed by qualified and registered ultrasound practitioners who are experts at the clinical and safety aspects of ultrasound. We believe ultrasound to be perfectly safe for your baby.



## Can I have a 3D ultrasound?

Yes, you can request a 3D ultrasound at the time of your normal scheduled ultrasound scans, such as your 20 week (anatomy) scan or any later scans. We will typically complete a detailed examination of your baby first and spend the last 5-10 minutes of the scan showing you your baby on 3D ultrasound. A co-payment applies for the additional time and cost of our advanced 3D equipment. Sometimes a baby may be in a position which is unfavourable for 3D scanning. If we cannot get views of your baby, no charge would apply.

## Can I request a 3D ultrasound myself without having a doctor's or midwife's referral?

No. International professional ultrasound societies such as the Australasian Society for Ultrasound in Medicine and American Institute of Ultrasound in Medicine do not recommend performing 3D scans when it is not necessary (not a part of a diagnostic scan). While ultrasound appears perfectly safe, we believe unnecessary scans are not a good idea. However, we would be happy to show you a 3D scan when you book for your regular appointments around 20 weeks or at any other later scans that your doctor or midwife requests, provided that the conditions mentioned earlier, are favourable to undertake a 3D scan of your baby.

**If you have any questions, please ask one of our staff.**

Location



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