

### **4D foetal poster illustrates the different stages of development**

#### **Superior clinical images drawn from ACUSON S2000 ultrasound system**

A 4D foetal imaging poster that details real life images of the various stages of pregnancy is now available to Obstetrics and Gynaecology departments. It is an interesting education tool for junior staff and expectant patients. The poster uses images obtained from Siemens' ACUSON S2000™ ultrasound system to illustrate the developments of the foetus from the first to the third trimester.

Images captured from early stages of pregnancy detail the formation of the skeleton, umbilical cord and eyelids. The diagnosis of an embryo in the chorionic cavity is also shown. Images are obtained via 'Amnioscopic Rendering' imaging technology, which carries out a unique method of surface rendering to provide detailed views.

The major developments displayed by the poster in the second trimester include the foetus making facial expressions and sucking its thumb.

Images from the final stage of pregnancy include a full profile of the head and realistic outlines of facial features. At this stage the foetus is 29-50 cm, the lungs are developed and digestive system is formed.

To obtain a copy of the poster please email Sarah Cowan : [sarah.cowan@siemens.com](mailto:sarah.cowan@siemens.com)

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Approximately 196 words

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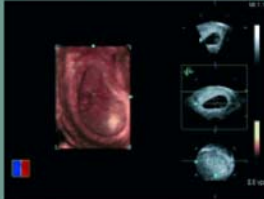
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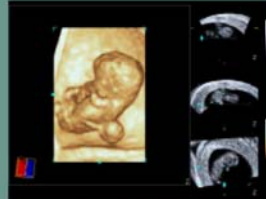
**Picture caption:** 4D foetal imaging poster illustrating real life images of gestation from the ACUSON S2000.

## 1<sup>st</sup> Trimester

Foetus size: from 4 mm to 5 cm. The most important developments in this period include the formation of the skeleton, the umbilical cord and of the more delicate parts of the head such as the eyelids, the tip of the nose, the upper lip and the ears, but also of the brain and the corpus callosum. First movements occur: the foetus starts to move the arms and the legs and can open the mouth.



**7<sup>th</sup> week of gestation.**  
Early diagnosis of an embryo in the chorionic cavity with "Amnioscopic Resonance" imaging technology.



**9<sup>th</sup> week of gestation.**  
The embryo is suspended in the chorionic cavity. The yolk sac is clearly visible on the lower end of the back.



**10<sup>th</sup> week of gestation.**  
The embryo is crouching in the uterus. The back is lying on the left, above it the head. The limbs can be easily identified.



**12<sup>th</sup> week of gestation.**  
The face with the forehead, the nose and both eye sockets is clearly outlined. The leg is bent and on the right the placenta can already be easily identified.

## 2<sup>nd</sup> Trimester

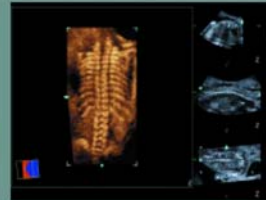
Foetus size: from 6 cm to 28 cm, weight at the end of the 2<sup>nd</sup> trimester: ca. 500g. At this time the intestinal tract develops significantly and organs such as the bladder are developed. The movements of the foetus are more distinct: the foetus begins to make facial expressions, e.g. smiles, sucks its thumb and yawns. It can also hear and reacts sensitively to loud noises.



**18<sup>th</sup> week of gestation.**  
The foetus is sitting in the womb. Both arms are brought together near the abdominal wall and it is lying with its legs crossed.



**20<sup>th</sup> week of gestation.**  
The limbs are lying close together, chest to back. Clearly visible are their right arm and the hand of the left foot is at his temple.



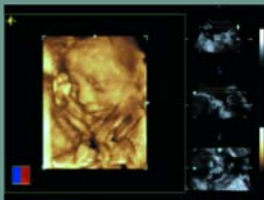
**21<sup>st</sup> week of gestation.**  
Here the foetal back is 3-dimensionally displayed from behind. Each costal arch and the pelvic bones are precisely defined.



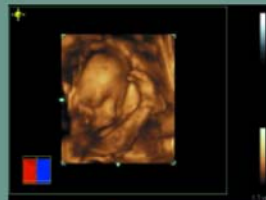
**24<sup>th</sup> week of gestation.**  
The foetus is sucking its thumb. Its facial expression shows that it is obviously in a good mood. The mouth, the right half of the face and the bridge of the nose are clearly displayed.

## 3<sup>rd</sup> Trimester

Foetus size: 29 cm to 50 cm. The lungs are distinctively developed, the brain develops rapidly and the digestive system is formed. The foetus can now open and close its eyes and blink, and proves to be sensitive to light. The foetus gains weight and puts on fat to prepare for the birth. At the end of the 3<sup>rd</sup> trimester the head should be positioned towards the birth canal.



**27<sup>th</sup> week of gestation.**  
A side view of the baby's head with 3-dimensional depiction of the mouth, the nose and the eyes, which are for the most part closed. The left hand and the face are nestled to the placenta.



**28<sup>th</sup> week of gestation.**  
This view is an image taken out of a series of pictures, which are showing how active the foetus is moving its legs at this stage. Clearly visible is the anatomy of the right foot and leg.



**34<sup>th</sup> week of gestation.**  
The baby's head is shown in profile. A very exact and realistic outline of the forehead, the nose and the mouth. Babies in the womb do not yet smile. They learn it by imitating others after they are born.



**37<sup>th</sup> week of gestation.**  
Here the face offers a very good 3-dimensional view. The slightly protruding tongue, the closed eyes and the forehead are clearly visible. The baby is pushing its thumb against the tip of the nose.

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