

### Recording Infant EEG Activity

For the past twelve years, researchers at the Centre for Brain and Cognitive Development have been carrying out research using equipment that allows us to measure the naturally occurring electrical activity of the human brain. Such research is very important as it can teach us how and when the brain develops. It will also enable us to learn which areas of the brain are involved in different behaviours.

Our brain cells communicate with each other using faint electric signals. We can eavesdrop on this communication by placing an array of sensors on the head that can pick up the natural activity of the person's brain (called electroencephalogram). The equipment we use is known as the Geodesic Sensor Net, specifically designed for babies. Using this net, researchers are able to achieve a detailed "map" of the working human brain.

This technique is completely safe and has been used for studying how the brain works for many years without using expensive equipment. Although the sensor net may look like something from a science fiction film, there is no risk associated with measuring brain activity. Nothing comes out of the sensors. It is like a thermometer that takes your temperature but cannot change it.

If you are happy for us to proceed with the net study, this is what will happen:

- You will be with your baby at all times during the study.
- First we measure your baby's head circumference with a soft tape measure so we can choose the correct net size for your baby.
- Then we soak the net in warm, salty water with a bit of baby shampoo. This enables us to receive a good recording and also makes the sensors softer.
- Placing the net on a baby's head is quick and simple as it goes on just like a swimming cap. While we are putting the net on we will play with your baby to keep him/her from focusing on the net. Generally babies are quite happy having the net on (it's just like wearing a hat), but if your baby becomes fussy at any point, we can take the net off straight away.
- The net will be connected to a computer that records the brain's activity during the study. The net may leave pressure marks on your baby's head, which will go away in a couple of minutes after taking it off.
- We will also give you a Polaroid photograph of your baby wearing the net as a souvenir to take home.



