

Intraoperative Spinal Cord Monitoring during Spinal Surgery



- **What is spinal cord monitoring?**

The Spinal cord transfers nerve signals from, and to, the brain. During surgery these nerve transmissions are continuously monitored.

Surgeons work very close to the spinal cord so any changes to the signals are relayed to the surgeon .

This is to ensure protection of the spinal cord and help to prevent, or minimise postoperative neurological deficit.

- **How is spinal cord monitoring performed?**

The nerve behind the knee or at the ankle is stimulated with a tiny electric current

The signal is transmitted along the spinal cord and is recorded from the head , neck or the epidural space. This is called Somatosensory Evoked Potential (**SSEP**) or Sensory Monitoring.

The Brain is also stimulated and the signal is recorded from the muscles in the hand, legs and feet. This is called Motor Evoked Potential (**MEP**) or motor monitoring.



- **How is spinal cord monitoring set up?**

Once you are under general anaesthesia (asleep), technologists will measure and place the SSEP recording and MEP stimulating electrodes on your head.

The technologist will also place a number of electrodes on your hand, feet and legs.

Before positioning the electrodes your skin will be cleaned with some gel and alcohol wipes.

Combinations of adhesive and fine needle electrodes will be used

- **What happens after the Monitoring?**

Immediately after the surgery is complete all the electrodes are removed.

Occasionally, you will see tiny marks where the needles have been.

SPINAL CORD MONITORING



INFORMATION FOR THE PATIENT

Spinal Cord Monitoring is performed at your surgeon's request. Since your surgeon and anaesthetist are aware of your medical history, contraindications to performing spinal cord monitoring will be carefully discussed.

We are happy to help if you wish to find out more about Intraoperative Spinal Cord Monitoring please contact us via your consultant.



- **Are there any risks during surgery with the monitoring?**

During the MEP monitoring, if you have had epileptic seizures in the past, there is a small risk of a seizure occurring. This should be discussed with your consultant before the operation.

The anaesthetist will insert a soft bite guard in your mouth to protect your jaw and mouth.

- **Are there any contraindications to Spinal Cord Monitoring?**

There are some patients who may not be suitable for MEP monitoring. This includes patients who have:

- A cardiac pacemaker
- A cochlear implant
- A history of significant head injury
- Metal inside their head
- A history of seizures
- A history of stroke
- Skull abnormalities