

## Spinal Cord Monitoring

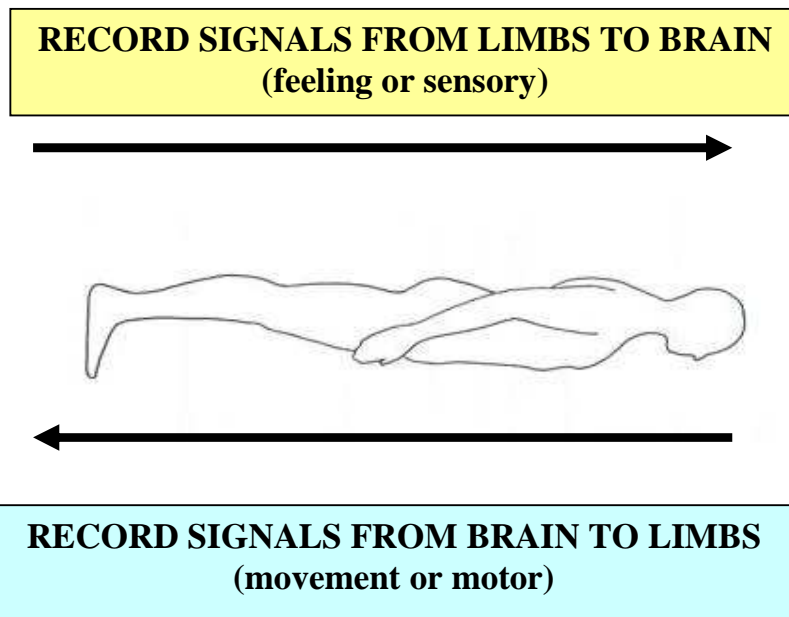
Patients undergoing surgery for spine deformity usually have Spinal Cord Monitoring (SCM) performed during the operation. The purpose of SCM is to give an early warning of potential spinal cord and nerve injury during spinal surgery. This aims to prevent and reduce the risk of spinal cord and nerve injury during surgery.

### What is SCM?

Spinal cord monitoring (SCM) refers to electrical signals being sent and recorded across the patients' spinal cord and nerves during spinal surgery. A team of clinical physiologists collects these signals. The clinical physiologists analyse the signals at the time and advise the spine surgeons throughout the operation. If there is a change in the spinal cord and nerve signals the surgeons can modify the surgery. Modifying the surgery usually means the correction of the spine deformity is much the same but there is no spinal cord or nerve damage.

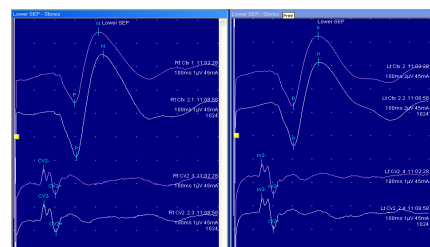
### How is it performed?

Once the patient is asleep under a general anaesthetic, very small needles are attached to the top of the head (scalp) and in the hands and legs. The needles are attached by wires to a computer system running a recording programme. Small electrical signals are triggered in both directions with recordings taken and measured.



The responses to these electrical signals are seen on a computer screen as “waves” shown on the right here.

A change in the waves alerts the physiologist that the nerve in the area could be at risk of damage. The surgeon can then take the appropriate action to prevent permanent damage.



**Who performs SCM?**

During surgery, highly qualified and experienced physiologists are in the operating theatre exclusively to monitor and analyze the electrical signals. The monitoring team's job is to let the surgeon know exactly what is happening in the patient's nervous system on a second-by-second basis.

**Can SCM be performed on every patient?**

No. There are certain patients whose age or medical condition may prevent spinal cord monitoring from being performed. The clinical physiologist and surgeons discuss to decide if it is appropriate for the surgery and what type of SCM is possible. There are also neurologists who can advise in more complicated situations.

**Are there any after-effects of SCM?**

There is an extremely small risk of the patient biting their tongue during spinal cord monitoring. Very rarely, a small amount of hair loss may occur around the needle sites on the scalp. Tiny scabs and mild tenderness may be felt where the needles were placed.

If you have any questions, then please do not hesitate to ask the Spinal Cord Monitoring Team.