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SPINAL CORD STIMULATION

The procedure which has been suggested for management of your chronic pain is a product of modern technology, and one which has proven very effective in the management of a variety of conditions, including pain in the arms and legs, neck, lower back and certain other types of disorder, including facial pain and abnormal movements.

The technique has been in use for some 25 years and recent results show that at least 70% of patients experience very good long-term relief from pain, which has often been present for many years.

THE IMPLANT

The apparatus is expensive and has been manufactured to a very high standard to withstand the attack of body fluids, so that the electrical components will work satisfactorily for longer periods of time. Never the less, technical failure can occur and will require repair of the system.

The equipment must be purchased prior to implantation and this will be negotiated through the supplier of the device. The electrodes cost up to \$8000 each and often two will be required. The radio receiver and transmitter are more costly and current prices will bring the total to approximately \$30,000 or more, if a more sophisticated system is used.

THE OPERATION

The first stage of the operation is usually conducted under local anaesthetic and a form of sedation, which should allow you to be relaxed, but able to co-operate. This aspect of the procedure is uncomfortable, but rarely is it unduly painful. You will be able to tell Prof. D'Urso and the anaesthetist if you are in pain and measures will be taken to make you more comfortable. It is essential that you remain awake during this part of the operation, so that you can identify in which areas you are experiencing the sensations, which will result from the trial stimulation. These are usually in the form of tingling and vibration, but sometimes can produce pain. Prof. D'Urso will need to know where you are feeling these sensations and whether or not they are in the area of your usual pain.

A small cut is made in the back and a needle directed into the spinal canal. A fine wire is threaded up through this needle and when it has reached a suitable point, as judged by the image on the xray screen, you will be tested with a trial stimulation. Pain is often experienced in the back during the passage of this wire, but should only be of brief duration.

When a suitable position for the electrodes has been achieved, the wire is then brought out through the skin at another point and the operation is terminated.

TRIAL STIMULATION

For the next few days, various combinations of stimulation will be tried in the ward and you will be able to move about freely during this time. The purpose of this trial is to determine whether or not the pain is relieved at all and if the stimulation is in the correct area. If pain relief is not felt to be adequate, then the wires will be withdrawn and no further surgery will be performed.

STAGE TWO

If the relief of pain has been satisfactory and there have been no other complications, then the system can be placed inside your body. This is usually done under a general anaesthetic and the

electrodes are joined to a small battery placed under the skin. The position of this device will vary, but may be just below the collar bone, on the ribs or on the abdominal wall.

Immediately after this operation, the stimulation will not be as good as that which was present when the wires were connected directly, but stimulation should improve over the next few weeks as healing takes place.

The stitches are removed after one (1) week and stimulation will continue as often as is necessary. It should be emphasized that the patient controls the stimulation by means of a remote control.

COMPLICATIONS

There are a number of potential complications, some of which are fairly common. It is frequently the case that minor adjustments to the system need to be made in the first few months, necessitating further adjustments of the electrodes, fixation of connections etc. This might require hospitalisation and further minor surgery, or may simply require adjustment of the controls of the transmitter.

Infection is a very real possibility when foreign material is introduced into the body. There is approximately a 5% incidence of infection and this will require removal of the system. If the infection is satisfactorily controlled, the system can be re-used, after a period of several months.

The risk of serious complications such as paralysis and haemorrhage is remote.

GENERAL INFORMATION

It is important that you be able to lie face down on an operating table for an hour or two during the first part of the procedure. Although some patients say they find this difficult, in practice, with the anaesthetist providing a level of relaxation and with plenty of local anaesthetic, few people find this a major problem. It will be possible to move around and wriggle a little during the operation and if at any time you find the procedure extremely painful, it can be stopped in a matter of minutes.

It is important that all narcotic drugs are reduced as much as possible before the operation. During the trial stimulation, relatively little will be provided in the way of painkillers, to enable us to determine whether or not the stimulation is useful in the relief of your pain.

Over all, the surgery involved is relatively minor and in no way comparable to major spinal surgery. Most patients are able to leave hospital after 7 days, and, if implantation has proceeded, more than 80% of patients have satisfactory pain relief after three months. Over the next few years, the number of people experiencing satisfactory pain relief does decrease, but after two years, about half the patients still express great satisfaction with the system.

Technical problems, such as movement of the electrode, breakage of the wire or other failure of the system, may require further minor operations, but it is usually the case that the system can be made to function satisfactorily once again.

At times the procedure is done at one sitting, if circumstances appear favourable, and at other times, the first stage may be prolonged over several days, the electrode removed and a definitive implant made a month or two later. It will be explained to you at the time of surgery exactly what sequence of events is likely to follow in your particular case.

For further information please consult Prof. Paul D'Urso's website: www.pauldurso.com. If you were to have any further questions please contact Prof. D'Urso's rooms directly.