

DORSAL COLUMN STIMULATORS

I. BACKGROUND:

The Dorsal Column Stimulator (DCS) is a device that allows for electrical stimulation of the dorsal aspect of the spinal cord in an effort to relieve pain. Stimulation in this area interferes with the conduction of pain impulses through adjacent sensory pathways. The technique does not alter the underlying pathological process. However, in selective patients with persistent and intractable pain of nerve origin, approximately 50 percent of patients will have pain relief, thereby decreasing the need for analgesic medication and at times obviating the need for further surgical procedures.

II. PROCEDURE:

One or more epidural electrodes are inserted into the spinal canal over the dorsal aspect of the spinal cord. The locus of the electrode placement - cervical, thoracic, or lumbar - depends on the location of the patient's pain. The electrode is usually placed by a percutaneous technique, but on occasion (usually in a post-surgical patient) surgical placement (laminotomy) is required.

The procedure is done in two stages. In the trial stage the electrode is implanted, and a wire is located outside of the body. A hospital stay of one to two days is usual. The trial usually lasts from three to five days, and if successful in relieving pain, permanent placement of the DCS is undertaken. The procedures are generally safe, but on occasion, local or epidural infection occurs.

III. CONDITIONS FOR WHICH DCS PLACEMENT IS APPROPRIATE:

1. The "failed back syndrome" with persistent, intractable disabling pain of nerve origin (Perineural fibrosis, arachnoiditis, etc.) in spite of maximum medical,

surgical, or other therapies, (approximately 75 percent of cases).

2. Chronic and intractable pain following spinal cord injury (approximately 5 to 10 percent of cases).

3. Nerve disorders including nerve injuries, reflex sympathetic dystrophy, post-amputation or phantom limb pain, post herpetic neuralgia which have failed to respond to the generally acceptable alternative modalities of therapy.

IV. CRITERIA GUIDING PATIENT SELECTION FOR DCS:

1. DCS implantation is restricted to those patients with an objective organic basis for neurogenic pain for whom conventional medical, surgical, or other therapeutic modalities and behavioral therapy have been unsuccessful in providing adequate pain relief. Patient's problem must have been previously evaluated by at least two prior consultants (neurosurgeon, neurologist, physiatrist, or orthopedic surgeon).

2. Patients must have an evaluation by a psychologist or psychiatrist with specific experience in the evaluation of chronic pain problems.

3. A satisfactory response to trial of DCS with the temporary insertion of an epidural electrode is required prior to permanent placement of a DCS.

4. Implantation treatment is limited to those physicians with training and experience in the area of pain management and specifically DCS use.

V. CONTRAINDICATIONS TO USE OF DCS IMPLANTATION:

1. Patients with significant drug-seeking behavior, including substantial drug and alcohol abuse.

2. Patients with substantial psychological instability, psychosis, etc. need to be carefully evaluated or excluded.

3. Patients in whom secondary gain (compensation, litigation, etc.) may play an important role, need careful evaluation and/or exclusion.

4. Patients of advanced age or with terminal illness are generally not considered appropriate for DCS treatment.

5. Patients on chronic anti-coagulation treatment.

PROTOCOL HISTORY
Passed: 6/9/1998