NATIONAL INSTITUTE FOR HEALTH AND CLINICAL EXCELLENCE

INTERVENTIONAL PROCEDURES PROGRAMME

Interventional procedure overview of occipital nerve stimulation for intractable chronic migraine – additional information

Specialist societies

- British Association for the Study of Headache
- Society of British Neurological Surgeons.

Specialist Advisers' opinions

Specialist advice was sought from consultants who have been nominated or ratified by their Specialist Society or Royal College. The advice received is their individual opinion and does not represent the view of the society.

Dr Paul Davies (British Association for the Study of Headache); Mr Alex Green and Mr Nicholas Park (Society of British Neurological Surgeons).

- One Specialist Adviser noted that occipital nerve stimulation is also used for other conditions such as cluster headache and occipital neuralgia
- Two Specialist Advisers have performed this procedure at least once.
- Two Specialist Advisers consider the procedure to be definitely novel and of uncertain safety and efficacy; one of the Specialist Advisers noted that safety does not appear to be an issue but efficacy is.
- One Specialist Adviser considers the procedure to be a minor variation on an existing procedure, which is unlikely to alter that procedure's safety and efficacy. He added that several case series have previously documented the efficacy of occipital neurostimulation for intractable occipital neuralgia.
- The comparators are pharmacological therapies or botulinum toxin type A injections but 1 Specialist Adviser noted that patients are generally refractory to conventional drug treatment while the other Specialist Adviser stated that there is no other equivalent or comparator surgical procedure.
- Theoretical adverse events include infection, lead fracture, electrode migration, nerve damage and haemorrhage.
- Anecdotal adverse events include lead misplacement and lead migration.

- Adverse events reported in the literature include lead misplacement, lead migration (leading to lack of effect), infection and numbness/paraesthesia related to stimulation.
- Key efficacy outcomes include migraine/headache days, headache severity, frequency and duration, reductions in disability (as measured by Migraine Disability Index, MIDAS), quality of life outcomes (SF-36) and medication usage.
- One Specialist Adviser noted that a feasibility trial has been published but the full efficacy (in terms of large RCT) has not been demonstrated. He added that there is some conflict in the literature but most trials show significant improvement, even if the endpoint has not been met. One Specialist Adviser stated that only a relatively small number of patients have been implanted so far in the world literature and that there remains a lack of long-term data and a paucity of evidence of efficacy from RCTs. Another Specialist Adviser stated that it is very difficult/impossible to do placebo controlled trials.
- One Specialist Adviser stated that visit to a centre that regularly performs the procedure required. If the operator already performs peripheral nerve stimulation, training is less of an issue. If not, the operator is advised to perform 1 or 2 procedures with an expert assisting. One Specialist Adviser noted that a multidisciplinary team approach to patient selection is required involving a complex headache neurologist and a neurosurgeon, adding that training for electrode placement would be advantageous.
- Facilities should include those associated with neuromodulation i.e. specialist nurses, neuropsychology, pain physicians/neurologist with an interest in migraine. One Specialist Adviser noted that implantation of the hardware is very similar to that of spinal cord stimulation hardware.
- One Specialist Adviser thought that the procedure will have a major impact on the NHS, one Specialist Adviser thought that the impact would be moderate while one Specialist Adviser thought that the impact would be minor.
- One Specialist Adviser thought that the diffusion of the procedure would be fairly slow as it would be initially performed in only a few specialist units nationwide but he added that use if likely to increase over time as intractable migraine is common.
- Two Specialist Advisers noted the cost/funding difficulty involved.
- One Specialist Adviser thought that the procedure is clinically relevant to specially selected, end of the road, chronic migraine sufferers.

Patient Commentators' opinions

NICE's Patient and Public Involvement Programme was unable to gather patient commentary for this procedure.