NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

Interventional procedures consultation document

Transcutaneous neuromuscular electrical stimulation for oropharyngeal dysphagia in adults

Oropharyngeal dysphagia is when people have difficulty starting to swallow. It can cause coughing, choking and a sense of food being stuck. This procedure involves electrically stimulating nerves in the throat or neck using electrodes placed on the skin, while the person swallows. The aim is to strengthen the muscles involved in swallowing.

The National Institute for Health and Care Excellence (NICE) is looking at transcutaneous neuromuscular electrical stimulation for oropharyngeal dysphagia in adults. NICE's interventional procedures advisory committee has considered the evidence and the views of specialist advisers, who are consultants with knowledge of the procedure.

The committee has made draft recommendations and we now want to hear your views. The committee particularly welcomes:

- comments on the draft recommendations
- information about factual inaccuracies
- additional relevant evidence, with references if possible.

This is not our final guidance on this procedure. The recommendations may change after this consultation.

After consultation ends:

- The committee will meet again to consider the original evidence and its draft recommendations in the light of the consultation comments.
- The committee will prepare a second draft, which will be the basis for NICE's guidance on using the procedure in the NHS.

For further details, see the Interventional Procedures Programme process guide.

Through our guidance, we are committed to promoting race and disability equality, equality between men and women, and to eliminating all forms of

Issue date: [August 2018]

© NICE [2018]. All rights reserved. Subject to Notice of rights.

discrimination. One of the ways we do this is by trying to involve as wide a range of people and interest groups as possible in developing our interventional procedures guidance. In particular, we encourage people and organisations from groups who might not normally comment on our guidance to do so.

To help us promote equality through our guidance, please consider the following question:

Are there any issues that require special attention in light of NICE's duties to have due regard to the need to eliminate unlawful discrimination, advance equality of opportunity, and foster good relations between people with a characteristic protected by the equalities legislation and others?

Please note that we reserve the right to summarise and edit comments received during consultations or not to publish them at all if in the reasonable opinion of NICE, there are a lot of comments, of if publishing the comments would be unlawful or otherwise inappropriate.

Closing date for comments: 28 September 2018

Target date for publication of guidance: December 2018

1 Draft recommendations

1.1 Current evidence on transcutaneous neuromuscular electrical stimulation for oropharyngeal dysphagia in adults shows there are no major safety concerns.

- For adults with dysphagia after a stroke, the evidence on efficacy suggests a potential benefit, but is limited in quality and quantity. Therefore, this procedure should only be used with special arrangements for clinical governance, consent, and audit or research.
- For adults with dysphagia not caused by a stroke, there is insufficient evidence on efficacy to support the use of this procedure. Therefore, this procedure should only be used in the context of research.

© NICE [2018]. All rights reserved. Subject to Notice of rights.

1.2 Clinicians wishing to do transcutaneous neuromuscular electrical stimulation for adults with oropharyngeal dysphagia after a stroke should:

- Inform the clinical governance leads in their NHS trusts.
- Ensure that patients understand the procedure's safety and efficacy, as well as any uncertainties about these. Provide them with clear written information to support shared decision-making. In addition, the use of NICE's information for the public [URL to be added at publication] is recommended.
- Audit and review clinical outcomes of all patients having transcutaneous neuromuscular electrical stimulation for oropharyngeal dysphagia. NICE has identified relevant audit criteria and is developing an audit tool (which is for use at local discretion), which will be available when the guidance is published.

1.3 Further research in adults with dysphagia not caused by a stroke should address patient selection, variations in technique, the need for retreatments and long-term outcomes.

2 The condition, current treatments and procedure

The condition

2.1 Difficulty in swallowing (dysphagia) can be caused by neurological impairment affecting the muscles of the oropharynx. It can happen because of a stroke, traumatic brain injury, disorders of cerebral development, neurodegenerative conditions and major head and neck surgery (for example, to remove cancer). Dysphagia may lead to malnutrition, dehydration and aspiration pneumonia.

© NICE [2018]. All rights reserved. Subject to Notice of rights.

Current treatments

2.2 Treatment options depend on the cause and severity of the dysphagia. Conservative treatments involve swallowing therapy to help the patient relearn swallowing techniques and strengthen oropharyngeal muscles. In severe cases, nasogastric tubes or percutaneous endoscopic gastrostomy tubes may be used to provide nutritional support.

The procedure

2.3 Transcutaneous neuromuscular electrical stimulation (NMES) is usually used as well as traditional swallowing therapy for treating oropharyngeal dysphagia. Swallowing therapy uses exercises to improve muscle function. The aim of NMES is to increase the effectiveness of swallowing therapy by strengthening the muscles involved in swallowing. It also promotes recovery of cortical control of swallowing.

2.4 NMES is usually done by a speech and language therapist after appropriate diagnosis and patient selection. Therapists need appropriate training to use the procedure. The speech and language therapist places electrodes in selected positions on the patient's neck. Small electrical currents are then passed through the electrodes to stimulate the peripheral nerve supply of the pharyngeal or laryngeal muscles. Stimulus intensity may be at a low sensory level, or at a higher motor level to trigger muscle contractions. Under the supervision of the therapist, the patient exercises their swallowing muscles while having concurrent electrical stimulation. Treatment duration recommendations vary by device, but can be up to 1 hour. The mild electrical stimulation can produce feelings ranging from tingling and warmth, to a 'grabbing' sensation.

© NICE [2018]. All rights reserved. Subject to Notice of rights.

2.5 The position of the electrodes and levels of current used vary from patient to patient. There is a range of NMES devices that use different electrode designs, positions and stimulus intensities. At an initial assessment, videofluoroscopy or clinical observation may be used to optimise the placement of treatment electrodes and to determine an appropriate stimulus intensity.

3 Committee considerations

The evidence

3.1 To inform the committee, NICE did a rapid review of the published literature on the efficacy and safety of this procedure. This comprised a comprehensive literature search and detailed review of the evidence from 10 sources, which was discussed by the committee. The evidence included 1 systematic review and meta-analysis, 6 randomised controlled trials, 1 comparative study and 2 case series, and is presented in table 2 of the interventional procedures overview ***[add URL]***. Other relevant literature is in the appendix of the overview.

3.2 The specialist advisers and the committee considered the key efficacy outcomes to be: improvement in swallowing and oral intake, and improved quality of life.

3.3 The specialist advisers and the committee considered the key safety outcomes to be: skin burn and aspiration.

3.4 This guidance is a review of NICE's interventional procedures guidance on transcutaneous neuromuscular electrical stimulation for oropharyngeal dysphagia.

© NICE [2018]. All rights reserved. Subject to Notice of rights.

Committee comments

3.5 There are variations in technique with different devices, electrode placement, and treatment durations. The procedure has sometimes been used when the patient is swallowing food.

3.6 The committee was informed that this procedure is not currently used in children.

Tom Clutton-Brock

Chairman, interventional procedures advisory committee
August, 2018

© NICE [2018]. All rights reserved. Subject to Notice of rights.

ISBN:

© NICE [2018]. All rights reserved. Subject to Notice of rights.