

Neurostimulation

Date:	March 2018	Date of Last Review:	November 2015
Policy:			
<p>Neurostimulation is a low priority treatment and is not routinely funded.</p> <p>This policy includes Functional Electrical Stimulation (FES) for the treatment of dropped foot in patients with neurological conditions. This policy does not apply to neurostimulation for indications commissioned by NHS England*.</p> <p>Spinal cord stimulation for chronic neuropathic pain taking place outside of NHSE commissioned specialist pain management services will only be funded where there is evidence that patients meet the NICE Technology Appraisal TA159 criteria.</p> <p>Individuals with exceptional circumstances may be considered on a case-by-case basis by the Exceptional and Individual Funding Requests Panel. The requesting clinician has to demonstrate exceptional circumstances in that there must be 'some unusual or unique factor about the patient's clinical circumstances which suggests that the presentation/effect of the condition in the patient differs significantly from that found in the general population of patients with the condition and as a result the patient is likely to gain significantly more benefit from that treatment than might generally be expected for these patients'.</p> <p>It is the responsibility of referring and treating clinicians to ensure compliance with this policy. Clinicians are required to apply to the Exceptional Cases Panel for approval of funding by completing the Exceptional/IFR Funding Request Form – click here to access the form.</p>			

* Some indications are funded in certain circumstances by NHS England in approved centres. Currently, these are vagus nerve stimulation for epilepsy, sacral nerve stimulation for intractable faecal incontinence and urinary incontinence, gastro-electrical stimulation for intractable gastroparesis and neuromodulation/spinal cord stimulation in highly specialist pain management services. Click [here](#) to access the NHSE service specification for pain management (adult).

Background to the condition and treatment:

Neurostimulation is the alteration of neural pathways by the application of a stimulus (electrical or chemical) to a targeted site of the body¹. Neurostimulation is proposed to be a safe and effective treatment for many conditions and, while it is not a treatment used in common practice, it is recommended by NICE in certain circumstances for some indications: dysmenorrhoea², gastroparesis³, faecal incontinence⁴, urinary incontinence⁵, urinary retention⁶, epilepsy⁷, drop foot of central neurological origin⁸ and neuropathic pain⁹. NICE do not recommend the use of neurostimulation for chronic migraine¹⁰, back pain¹¹, stable angina¹², or oropharyngeal dysphagia¹³. For most of these indications, conventional treatment involves medication and, in some cases, surgery may be considered.

Scope:

This policy covers all applications of neurostimulation that are not funded by NHS England, including (but not exclusively) transcutaneous electrical nerve stimulation (TENS) for dysmenorrhoea, back pain and stable angina; percutaneous electrical nerve stimulation (PENS) for neuropathic pain; TENS or PENS for faecal or urinary incontinence; optical nerve stimulation (ONS) for chronic migraine; transcutaneous neuromuscular electrical stimulation (NMES) for oropharyngeal dysphagia; functional electrical stimulation (FES) for neurological foot drop and spinal cord stimulation for neuropathic pain (outside of NHSE commissioned specialised pain management services).

Scope cont'd:	<p>NICE TA 159¹⁴ states that spinal cord stimulation is recommended as a possible treatment for adults with chronic pain of neuropathic origin if they:</p> <ul style="list-style-type: none"> • continue to experience chronic pain (measuring at least 50 mm on a 0–100 mm visual analogue scale) for at least 6 months despite standard treatments, and have had a successful trial of spinal cord stimulation as part of an assessment by a specialist team. • Treatment with spinal cord stimulation should only be given after the person has been assessed by a specialist team experienced in assessing and managing people receiving treatment with spinal cord stimulation.
Rationale behind policy decision:	<p>The evidence for NICE recommended interventions was reviewed. There was a lack of recent trials and those published were small in size and poor quality, predominantly due to the high risk of placebo effect.</p> <p>For primary dysmenorrhoea, three trials of TENS showed inconsistent results and had largely un-blinded outcome assessment¹⁵⁻¹⁷. For gastroparesis, two small cross-over trials of GES showed inconsistent results^{18, 19}. For refractory neuropathic pain, there was evidence of favourable effects of PENS in three RCTs, but these were for different neuropathic pain indications: sciatica²⁰, diabetic neuropathic leg pain²¹ and surface hyperalgesia²² and were all small and crossover trials, making patient blinding unlikely. For faecal incontinence, two RCTs of transcutaneous tibial nerve stimulation (TTNS)^{23, 24} did not show a beneficial effect. One trial of percutaneous tibial nerve stimulation (PTNS) showed positive effects²³, but there was a high risk of placebo effect as sham patients were treated with transcutaneous (skin surface), rather than percutaneous, electrodes. For foot drop, trial results vary, but although some have shown positive effects on walking speed, all compare FES with no treatment/activity training²⁵ or orthoses²⁶⁻²⁸ and all are unblinded and subject to bias. For urinary retention, one trial of sacral nerve stimulation²⁹ showed an advantage over control but this control was delayed treatment and, again, results are highly subject to bias.</p>
Priority:	In the absence of robust evidence from high quality research, neurostimulation is considered as low priority procedure and is not routinely funded by the CCG.

GLOSSARY

Dysmenorrhoea:	Painful menstrual cramps of the uterus.
Functional Electrical Stimulation (FES)	Stimulation of the peripheral nerves that supply the paralysed muscle using electrodes that may be implanted or placed on the surface of the skin.
Gastroparesis:	Chronic disorder where the stomach empties more slowly than normal in the absence of any type of mechanical obstruction.
Intractable:	Difficult to treat or cure.
Neuropathic pain:	Pain that comes from problems with signals from the nerves.
Neurostimulation:	Therapeutic activation of part of the nervous system using small electrodes.
Percutaneous Electrical Nerve Stimulation (PENS):	The use of mild electrical pulses applied via needle-puncture of the skin to stimulate a nerve.
Percutaneous Tibial Nerve Stimulation (PTNS):	The use of mild electrical pulses applied via needle-puncture of the skin to stimulate the tibial nerve.
Sacral Nerve Stimulation (SNS):	The use of mild electrical pulses to stimulate the sacral nerve (applied via needle-puncture of the skin).
Transcutaneous Electrical Nerve Stimulation (TENS):	The use of mild electrical pulses applied across the intact skin to stimulate a nerve.
Transcutaneous Tibial Nerve Stimulation (TTNS):	The use of mild electrical pulses applied across the intact skin to stimulate the tibial nerve.

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