TITLE: Sacral Nerve Stimulation for Urinary and/or Bowel Incontinence: Clinical and Cost-Effectiveness and Guidelines

DATE: 22 December 2016

RESEARCH QUESTIONS

1. What is the clinical effectiveness of InterStim neuromodulation therapy for patients with urinary and/or bowel incontinence?

2. What is the cost-effectiveness of InterStim neuromodulation therapy for patients with urinary and/or bowel incontinence?

3. What are the evidence-based guidelines associated with use of sacral nerve stimulation for patients with urinary and/or bowel incontinence?

KEY FINDINGS

Four evidence-based guidelines were identified regarding the use of sacral nerve stimulation for adult patients with urinary incontinence.

METHODS

A limited literature search was conducted on key resources including PubMed, The Cochrane Library, University of York Centre for Reviews and Dissemination (CRD) databases, Canadian and major international health technology agencies, as well as a focused Internet search. Methodological filters were applied to limit retrieval to health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, economic studies and guidelines. Where possible, retrieval was limited to the human population. The search was also limited to English language documents published between January 1, 2011 and December 6, 2016. Internet links were provided, where available.

The summary of findings was prepared from the abstracts of the relevant information. Please note that data contained in abstracts may not always be an accurate reflection of the data contained within the full article.
SELECTION CRITERIA

One reviewer screened citations and selected studies based on the inclusion criteria presented in Table 1.

Table 1: Selection Criteria

<table>
<thead>
<tr>
<th>Population</th>
<th>Adult and pediatric patients with urinary and/or bowel incontinence</th>
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</thead>
<tbody>
<tr>
<td>Intervention</td>
<td>The Medtronic InterStim neuromodulation therapy (sacral nerve stimulation for urinary and/or bowel incontinence)</td>
</tr>
<tr>
<td>Comparator</td>
<td>Q1 and Q2: biofeedback; other methods of neuromodulation (e.g., sacral nerve stimulation devices from other vendors) Q3: no comparator</td>
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<tr>
<td>Outcomes</td>
<td>Q1: clinical effectiveness, clinical benefit or harm, safety Q2: cost-effectiveness (e.g., increase in QALYs, etc.) Q3: guidelines</td>
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<tr>
<td>Study Designs</td>
<td>Health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, economic evaluations, and guidelines</td>
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RESULTS

Rapid Response reports are organized so that the higher quality evidence is presented first. Therefore, health technology assessment reports, systematic reviews, and meta-analyses are presented first. These are followed by randomized controlled trials, economic evaluations, and evidence-based guidelines.

Four evidence-based guidelines were identified regarding the use of sacral nerve stimulation (SNS) for adult patients with urinary incontinence. No guidelines were identified regarding the use of SNS for bowel incontinence. No health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, or economic evaluations specific to the InterStim device were identified.

Additional references of potential interest are provided in the appendix.

OVERALL SUMMARY OF FINDINGS

Four evidence-based guidelines were identified regarding the use of sacral nerve stimulation (SNS) for adult patients with urinary incontinence.

Two guidelines\(^1,2\) are directed to any adult patients with overactive bladder syndrome (OAB) or urgency urinary incontinence. The guideline produced by the European Association for Urology (EAU)\(^1\) recommends SNS for patients who have failed antimuscarinic therapy, and the guideline published jointly by the American Urology Association (AUA) and the Society of Urodynamics, Female Pelvic Medicine & Urogenital Reconstruction (SUFU)\(^2\) recommends SNS for patients as third-line treatment, following failure of behavioural and pharmacological treatment.

Two guidelines are specific to women with OAB.\(^3,4\) The National Institute for Health and Care Excellence (NICE)\(^3\) recommends percutaneous SNS for women with OAB, following failed conservative treatment including drug therapy. The Society of Obstetricians and Gynecologists
of Canada (SOGC)\textsuperscript{4} states that SNS is an effective option for women with OAB who are unresponsive to conservative options or pharmacological treatment.
REFERENCES SUMMARIZED

**Health Technology Assessments**
No literature was identified.

**Systematic Reviews and Meta-analyses**
No literature was identified.

**Randomized Controlled Trials**
No literature was identified.

**Economic Evaluations**
No literature was identified.

**Guidelines and Recommendations**


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APPENDIX – FURTHER INFORMATION:

Systematic Reviews

InterStim not mentioned in abstract


Alternate Comparators


Randomized Controlled Trials

InterStim not mentioned in abstract


Alternate Comparators


Non-Randomized Studies

InterStim not mentioned in abstract


Economic Evaluations

InterStim not mentioned in abstract


Alternate comparators


**Guidelines and Recommendations – Systematic Methodology Uncertain**


**Review Articles**
