

## Treatment algorithm for the management of adult patients with disabling spasticity

“European expert consensus on improving patient selection for the management of disabling spasticity with intrathecal baclofen and/or botulinum toxin type A”.

Bo BIERING-SØRENSEN, MD, MPG, Valerie L. STEVENSON MBBS, MD et al.<sup>1</sup>



### Background

Involuntary muscle overactivity or spasticity is the increase in muscle tone caused by a brain or spine lesion. The muscle overactivity can become disabling spasticity and adequate treatment, or combination of treatments are essential to reduce or eliminate the problems and disability caused by the involuntary muscle overactivity.

Whilst physiotherapy and an effective physical management programme remain pivotal to effective management, pharmacological agents are often required, and oral medication is frequently utilized first line, where side-effects or poor efficacy are commonly reported.

Other treatment options may then be considered, including intrathecal baclofen (ITB) or botulinum toxin type A (BoNT A).

When faced with a patient with disabling spasticity, there remains uncertainty in how to select the most appropriate treatment.

### Study objective

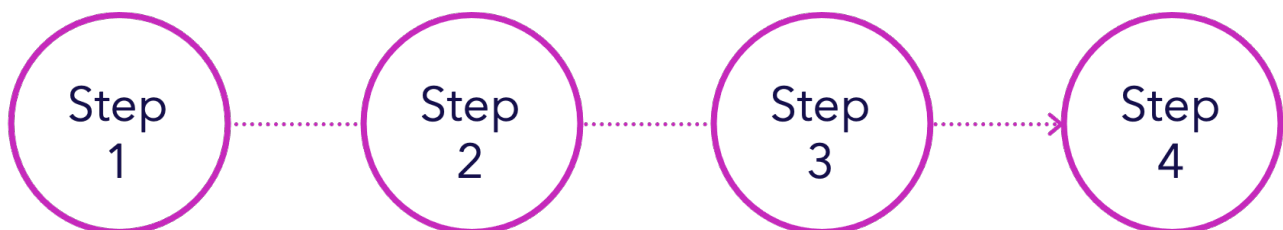
To develop an algorithm to aid clinicians in the management of adult patients with disabling spasticity who are potential candidates for treatment with intrathecal baclofen (ITB), botulinum toxin type A (BoNT A) or both in combination.

### Methods

An Advisory Board of 8 specialists (4 neurologists and 4 rehabilitation specialists) from 8 European countries, with experience in spasticity management, were assembled to evaluate current knowledge and to share experience on patient selection and the optimal treatment pathway for patients with disabling spasticity. A 4-step approach was implemented:

### Highlights:

1. Algorithm that supports the management of adult patients with disabling spasticity who are potential candidates for ITB and/or BoNT A treatment.
2. European Advisory Board of 8 experts in spasticity management from 8 countries.
3. Online survey completed by 77 experts from 17 European countries.



A **literature review** on recent evidence of ITB and BoNT A treatments for patients with disabling spasticity was conducted.

A **survey** was designed and finalized after debating the results of the literature review. Furthermore, **an algorithm** for the management of adult patients with disabling spasticity was proposed based on the evidence and on the expert opinion of the advisory board.

The survey was sent to 138 **external experts** in total (125 European physicians and 13 non physician specialists) via Qualtrics electronic platform. **Consensus** was reached when **≥75%** of respondents **agreed with or were neutral** on the question response (<25% disagreed).

The results of the survey were presented and discussed by the advisory board, who then **revised the algorithm based on external expert responses**.

## Results

From 555 abstracts found, a final total of 29 ITB papers, 29 BoNT papers, and 6 guidelines on patient selection criteria were selected and summarized as pre-reading material.

Final algorithm developed by the expert panel for the management of adult patients with disabling spasticity who are potential candidates for intrathecal baclofen (ITB) or botulinum toxin (BoNT A).

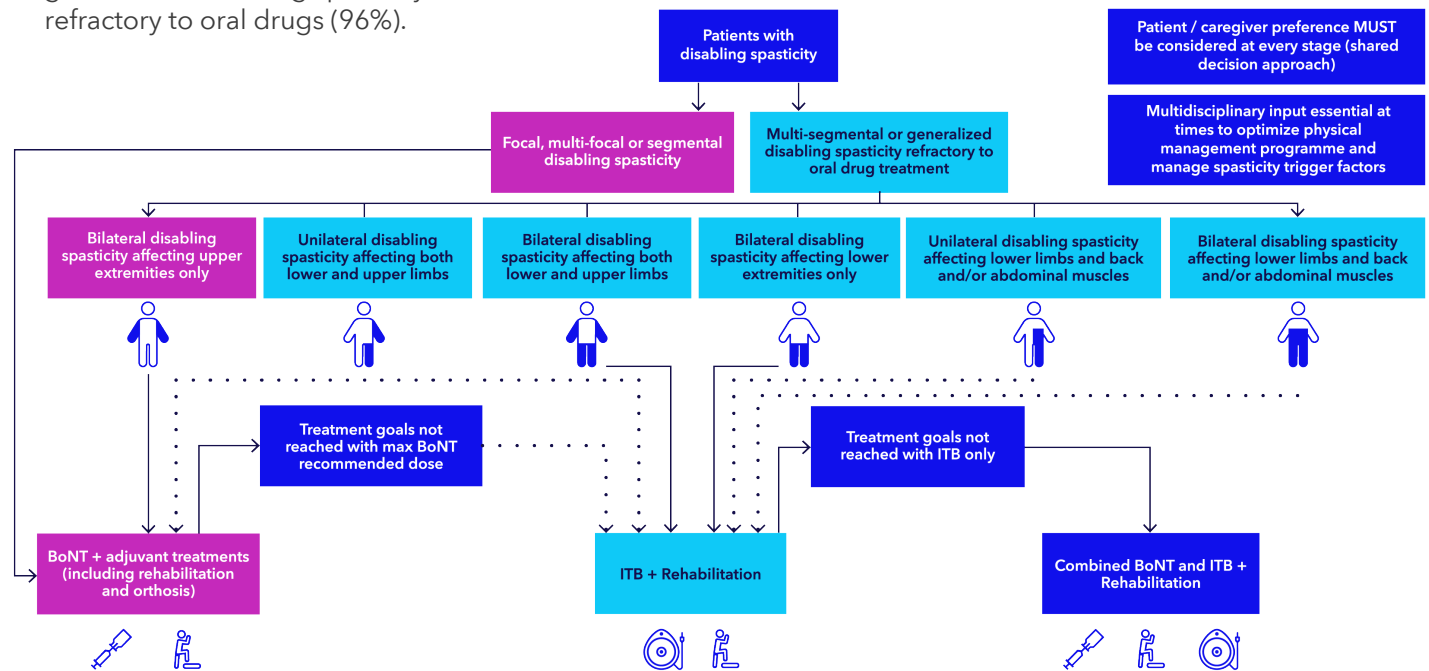
A total of 105 of 138 surveys were received, of which 77 contributed to the development of the algorithm (56% response rate).

Agreement was reached (% consensus):

- The best candidates for ITB are patients with multi-segmental or generalized disabling spasticity refractory to oral drugs (96%).

- Good candidates for ITB are patients with bilateral disabling spasticity affecting lower limbs only (97.4%), bilateral (100%) or unilateral (90.9%) disabling spasticity affecting lower limbs and trunk, and unilateral or bilateral disabling spasticity affecting upper and lower extremities (96.1%).
- ITB should be the treatment of choice for multi-segmental unilateral disabling spasticity affecting both upper and lower limbs, which is in line with current guidelines.
- The ideal candidates for BoNT A are patients with focal/segmental disabling spasticity (98.7%).

- Moreover, the Advisory Board agreed that if treatment goals for the upper extremities are not reached after initiating ITB treatment, BoNT should be considered early for management of upper limb spasticity.
- A “shared decision approach” in the patient management strategy, where patient’s and caregiver’s preferences are taken into consideration at every stage of the treatment decision process, is very important (96.1%).



Straight line: strong consensus - Dotted line: weak consensus (includes neutral answers to reach >75% consensus)

## Conclusions

Based on the current literature, a comprehensive survey and the consensus process, this study provides an algorithm for the management of adult patients with disabling spasticity who are potential candidates for treatment with ITB and/or BoNT A treatments. Moreover, this study revealed that parameters such as QoL and goal attainment are underutilized in clinical practice.

<sup>1</sup>Bo BIERING-SØRENSEN, MD, MPG, Valerie L. STEVENSON MBBS, MD et al, “European expert consensus on improving patient selection for the management of disabling spasticity with intrathecal baclofen and/or botulinum toxin type A”. J Rehabil Med 2021; 53: jrm00236

## Medtronic

Europe  
Medtronic International Trading Sàrl.  
Route du Molliau 31  
Case postale  
CH-1131 Tolochenaz  
Tel: +41 (0)21 802 70 00  
Fax: +41 (0)21 802 79 00

UC202301612EE © Medtronic 2022.  
All rights reserved.

When ITB is mentioned, we are considering Intrathecal baclofen (an antispasmodic) administered by an intrathecal drug delivery pump therapy. Medtronic provides only the intrathecal drug delivery pump and the catheter; the baclofen is provided by an external company.

medtronic.eu