Technology Guidance

Botulinum toxin A

for the management of focal spasticity of the lower limbs associated with stroke in adults

Technology Guidance from the MOH Drug Advisory Committee

Guidance Recommendations

The Ministry of Health's Drug Advisory Committee has recommended:

- ✓ *Clostridium botulinum* toxin type A neurotoxin complex (Botox) 50 U and 100 U injection vials, and
- ✓ *Clostridium botulinum* type A toxin-haemagglutinin complex (Dysport) 300 U and 500 U injection vials

for the management of focal spasticity of the lower limbs associated with stroke in adults who:

- have a score of 3 or more on the Modified Ashworth Scale at the target muscle intended for botulinum toxin A treatment;
- do not have the affected joint permanently fixed in position due to fibrotic shortening of the target muscle; and
- are concurrently receiving physiotherapy.

Botulinum toxin A must be administered by either a neurologist trained in movement disorder or a rehabilitation physician who has undergone training to administer botulinum toxin A.

Funding status

Clostridium botulinum toxin type A neurotoxin complex (Botox) 50 U and 100 U injection vials are recommended for inclusion on the Medication Assistance Fund (MAF) for the abovementioned indication from 1 August 2023.

Clostridium botulinum type A toxin-haemagglutinin complex (Dysport) 300 U and 500 U injection vials are recommended for inclusion on the MAF for the abovementioned indication from 1 November 2025.

MAF assistance **does not** apply to Botox 200 U injection vial or other brands of botulinum toxin A.

Updated: 16 September 2025

Technology evaluation

1.1. The MOH Drug Advisory Committee ("the Committee") considered the evidence presented for the technology evaluation of botulinum toxin A (Botox) for the management of focal spasticity of the lower limbs associated with stroke in adults in March 2023. The Agency for Care Effectiveness (ACE) conducted the evaluation in consultation with clinical and patient experts from public healthcare institutions and a local patient organisation, respectively. Published clinical and economic evidence for Botox was considered in line with its registered indication.

1.2. The evidence was used to inform the Committee's deliberations around four core decision-making criteria:

- Clinical need of patients and nature of the condition;
- Clinical effectiveness and safety of the technology;
- Cost-effectiveness (value for money) – the incremental benefit and cost of the technology compared to existing alternatives; and
- Estimated annual technology cost and the number of patients likely to benefit from the technology.

1.3. Additional factors, including social and value judgments, may also inform the Committee's funding considerations.

1.4. The Committee considered a revised price proposal for Dysport in July 2025.

Clinical need

2.1. In local clinical practice, botulinum toxin A injection is used concurrently with physiotherapy for managing post-stroke focal spasticity of the upper and lower limbs, in line with international clinical guidelines.

2.2. The Committee recalled that Botox is currently listed on the MAF for treating upper limb spasticity, as it was the most cost-effective treatment option compared to alternative brands of botulinum toxin A based on a cost-minimisation approach. The Committee acknowledged the clinical need to extend subsidy for Botox to treat lower limb spasticity to ensure appropriate care and improve treatment affordability.

2.3. The Committee considered testimonials from local patient experts about what it is like living with spasticity of the lower limbs due to stroke and their experience with different treatments. The Committee heard that the condition had a significant negative impact on daily activities and led to problems with balance, fatigue, pain, reduced mobility, and depressed mood. The Committee heard that most patients who provided input into the evaluation were not receiving any treatment apart from exercise and physiotherapy. Three patients who had been treated with botulinum toxin A shared that it was well tolerated, and one patient felt that it worked well. Overall, patients considered that any new treatments for focal spasticity should reduce spasticity, improve mobility, and be more affordable than their current treatment.

Clinical effectiveness and safety

3.1. The Committee reviewed published clinical evidence from two randomised controlled trials (REFLEX and Trial 512) comparing Botox with placebo in patients who had post-stroke lower limb focal spasticity and a baseline score of 3 or more on the Modified Ashworth Scale (MAS) for ankle flexors.

3.2. During the double-blind phase of both trials, Botox was more effective than placebo in reducing spasticity as demonstrated by greater reductions in MAS scores from baseline. For both trials this treatment effect was sustained during the open-label phase (where all patients received up to three additional cycles of Botox), and clinically meaningful reductions in MAS of at least one point from baseline were reported.

3.3. The Committee noted that these improvements in MAS scores were also accompanied by other functional improvements as assessed by the Clinical Global Impression of Change (CGI-C) and Goal Attainment Scale (GAS).

3.4. The Committee heard that local clinical experts considered these trial results to be clinically meaningful and consistent with local clinical experience. In terms of safety, the Committee noted that Botox treatment was generally well tolerated and no new safety signals were identified in the trials.

3.5. In July 2025, the Committee noted Australia PBAC's assessment where they considered Dysport and Botox to be non-inferior to each other in terms of comparative efficacy and safety, with dose relativity between Botox and Dysport accepted to be 1:3.75.

Cost effectiveness

4.1. No local cost-effectiveness studies were identified for Botox in patients with post-stroke focal spasticity of the lower limbs. The Committee noted an evaluation by PBAC (Australia), which considered that the cost-effectiveness of Botox plus standard management such as physiotherapy was acceptable, at an incremental cost-effectiveness ratio (ICER) of less than AU$15,000 per QALY gained compared with standard management alone, for managing lower limb spasticity with MAS score of 3 or more.

4.2. The Committee considered that the price of Botox in Singapore was comparable to prices in overseas reference jurisdictions, thus Botox was likely to represent a cost-effective treatment for post-stroke lower limb spasticity in the local context.

4.3. In July 2025, following a revised price proposal for Dysport, the Committee agreed that the cost of Dysport was reasonable and could be considered an acceptable use of healthcare resources.

Estimated annual technology cost

5.1. The Committee noted that the annual cost impact to the public healthcare system was estimated to be less than SG$1 million in the first year of listing botulinum toxin A on the MAF for managing post-stroke focal spasticity of the lower limbs.

Additional considerations

6.1. The Committee noted that in local practice, different clinicians may prefer to initiate Botox treatment for lower limb focal spasticity when the baseline MAS score is either 2 or more, or 3 or more at the target muscle.

6.2. The Committee considered local expert opinions, clinical trial evidence and overseas reimbursement criteria, and agreed that it would be more appropriate to fund the use of Botox for patients who have lower limb spasticity with baseline MAS score of 3 or more.

Recommendations

7.1. Based on available evidence, the Committee recommended botulinum toxin type A (Botox) 50 U and 100 U injection vials be listed on the MAF for the management of post-stroke focal spasticity of the lower limbs in adults who have MAS score of 3 or more, in view of the clinical need and acceptable clinical and cost effectiveness.

7.2. In July 2025, the Committee recommended Dysport 300 U and 500 U injection vials for listing on the MAF in line with the same clinical criteria as Botox 50 U and 100 U injection vials, following an acceptable price reduction offered by the company.

VERSION HISTORY

Guidance on botulinum toxin A
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This Version History is provided to track any updates or changes to the guidance following the first publication date. It is not part of the guidance.

1. **Publication of guidance**
   Date of Publication 1 Jun 2023

2. **Guidance updated to extend MAF listing to Dysport 300 U and 500 U injection vials**
   Date of Publication 16 Sep 2025

Agency for Care Effectiveness - ACE Agency for Care Effectiveness (ACE)

About the Agency

The Agency for Care Effectiveness (ACE) was established by the Ministry of Health (Singapore) to drive better decision-making in healthcare through health technology assessment (HTA), clinical guidance, and education.

As the national HTA agency, ACE conducts evaluations to inform government funding decisions for treatments, diagnostic tests and vaccines, and produces guidance for public hospitals and institutions in Singapore.

The guidance is not, and should not be regarded as, a substitute for professional or medical advice. Please seek the advice of a qualified healthcare professional about any medical condition. The responsibility for making decisions appropriate to the circumstances of the individual patient remains with the healthcare professional.

Find out more about ACE at www.ace-hta.gov.sg/about

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