Botulinum toxin type A

General principles

Consider botulinum toxin type A treatment in children and young people in whom focal spasticity of the upper limb is:

- impeding fine motor function
- compromising care and hygiene
- causing pain
- impeding tolerance of other treatments, such as orthoses
- causing cosmetic concerns to the child or young person.

Consider botulinum toxin type A treatment where focal spasticity of the lower limb is:

- impeding gross motor function
- compromising care and hygiene
- causing pain
- disturbing sleep
- impeding tolerance of other treatments, such as orthoses and use of equipment to support posture
- causing cosmetic concerns to the child or young person.

Consider botulinum toxin type A treatment after an acquired non-progressive brain injury if rapid-onset spasticity is causing postural or functional difficulties.

Consider a trial of botulinum toxin type A treatment in children and young people with spasticity in whom focal dystonia is causing serious problems, such as postural or functional difficulties or pain.

Do not offer botulinum toxin type A treatment if the child or young person:

- has severe muscle weakness
- had a previous adverse reaction or allergy to botulinum toxin type A
- is receiving aminoglycoside treatment.

Be cautious when considering botulinum toxin type A treatment if:

- the child or young person has any of the following
    - a bleeding disorder, for example due to anti-coagulant therapy
    - generalised spasticity
    - fixed muscle contractures
    - marked bony deformity **or**
- there are concerns about the child or young person's likelihood of engaging with the post-treatment adapted physical therapy programme.

When considering botulinum toxin type A treatment, perform a careful assessment of muscle tone, range of movement and motor function to:

- inform the decision as to whether the treatment is appropriate
- provide a baseline against which the response to treatment can be measured.

A physiotherapist or an occupational therapist should be involved in the assessment.

When considering botulinum toxin type A treatment, give the child or young person and their parents or carers information about:

- the possible benefits and the likelihood of achieving the treatment goals
- what the treatment entails, including:
    - the need for assessments before and after the treatment
    - the need to inject the drug into the affected muscles
    - the possible need for repeat injections
    - the benefits, where necessary, of analgesia, sedation or general anaesthesia
    - the need to use serial casting or an orthosis after the treatment in some cases
- possible important adverse effects.

Botulinum toxin type A treatment (including assessment and administration) should be provided by healthcare professionals within the network team who have expertise in child neurology and musculoskeletal anatomy.

Delivering treatment

Before starting treatment with botulinum toxin type A, tell children and young people and their parents or carers:

- to be aware of the following rare but serious complications of botulinum toxin type A treatment:
    - swallowing difficulties
    - breathing difficulties
- how to recognise signs suggesting these complications are present
- that these complications may occur at any time during the first week after the treatment and
- that if these complications occur the child or young person should return to hospital immediately.

To avoid distress to the child or young person undergoing treatment with botulinum toxin type A, think about the need for:

- topical or systemic analgesia or anaesthesia
- sedation (see 'Sedation in children and young people', NICE clinical guideline 112).

Consider ultrasound or electrical muscle stimulation to guide the injection of botulinum toxin type A.

Consider injecting botulinum toxin type A into more than one muscle if this is appropriate to the treatment goal, but ensure that maximum dosages are not exceeded.

After treatment with botulinum toxin type A, consider an orthosis to:

- enhance stretching of the temporarily weakened muscle and
- enable the child or young person to practice functional skills.

If an orthosis is indicated after botulinum toxin type A, but limited passive range of movement would make this difficult, consider first using serial casting to stretch the muscle. To improve the child or young person's ability to tolerate the cast, and to improve muscle stretching, delay casting until 2–4 weeks after the botulinum toxin type A treatment.

Ensure that children and young people who receive treatment with botulinum toxin type A are offered timely access to orthotic services.

Continuing assessment

Perform an assessment of muscle tone, range of movement and motor function:

- 6–12 weeks after injections to assess the response
- 12–26 weeks after injections to inform decisions about further injections.

These assessments should preferably be performed by the same healthcare professionals who undertook the baseline assessment.

Consider repeat injections of botulinum toxin type A if:

- the response in relation to the child or young person's treatment goal was satisfactory, and the treatment effect has worn off
- new goals amenable to this treatment are identified.