

MUSCLE RELAXANTS > PERIPHERALLY ACTING > NEUROTOXINS (BOTULINUM TOXINS)

Botulinum toxin type A

24-Apr-2017

● INDICATIONS AND DOSE

Dynamic equinus foot deformity caused by spasticity in ambulant paediatric cerebral palsy

- ▶ Child 2-17 years: (consult product literature)

DOSE EQUIVALENCE AND CONVERSION

- ▶ **Important:** information is specific to each individual preparation.

- **CONTRA-INDICATIONS** Generalised disorders of muscle activity · infection at injection site · myasthenia gravis
- **CAUTIONS** Atrophy in target muscle · chronic respiratory disorder · excessive weakness in target muscle · history of aspiration · history of dysphagia · inflammation in target muscle · neurological disorders · neuromuscular disorders · off-label use (fatal adverse events reported)
- CAUTIONS, FURTHER INFORMATION** Neuromuscular or neurological disorders can lead to increased sensitivity and exaggerated muscle weakness including dysphagia and respiratory compromise.
- **INTERACTIONS** → Appendix 1: botulinum toxin type A
- **SIDE-EFFECTS**
 - ▶ **Common or very common** Alopecia · asthenia · autonomic dysreflexia · bladder diverticulum · constipation · dizziness · drowsiness · dry eye · dry mouth · dysphagia (most common after injection into sternomastoid muscle) · ecchymosis (minimised by applying gentle pressure at injection site immediately after injection) · eye discomfort · eye disorders · eye inflammation · fall · fever · gait abnormal · haematuria · headaches · hot flush · increased risk of infection · influenza like illness · insomnia · joint disorders · leukocyturia · malaise · muscle complaints · muscle weakness · musculoskeletal stiffness · nausea · neuromuscular dysfunction · oedema · pain · paresis · sensation abnormal · skin reactions · subcutaneous nodule · urinary disorders · vision disorders
 - ▶ **Uncommon** Anxiety · coordination abnormal · depression · dysphonia · dyspnoea · facial paralysis · memory loss · oral paraesthesia · photosensitivity reaction · postural hypotension · vertigo
 - ▶ **Frequency not known** Abdominal pain · angioedema · angle closure glaucoma · appetite decreased · arrhythmia · diarrhoea · dysarthria · hearing impairment · hypersensitivity · myocardial infarction · myopathy · nerve disorders · respiratory disorders · seizure · syncope · tinnitus · vomiting
- **CONCEPTION AND CONTRACEPTION** Avoid in women of child-bearing age unless using effective contraception.
- **PREGNANCY** Avoid unless essential—toxicity in *animal* studies (manufacturer of *Botox*® advise avoid).
- **BREAST FEEDING** Low risk of systemic absorption but avoid unless essential.
- **PRESCRIBING AND DISPENSING INFORMATION** Preparations are not interchangeable.
- **PATIENT AND CARER ADVICE** Patients and carers should be warned of the signs and symptoms of toxin spread, such as muscle weakness and breathing difficulties; they should be advised to seek immediate medical attention if swallowing, speech or breathing difficulties occur.
Medicines for Children leaflet: Botulinum toxin for muscle spasticity www.medicinesforchildren.org.uk/botulinum-toxin-muscle-spasticity-0

- **MEDICINAL FORMS** There can be variation in the licensing of different medicines containing the same drug.

Powder for solution for injection

- ▶ **Azzalure** (Galderma (UK) Ltd)
Botulinum toxin type A 125 unit Azzalure 125unit powder for solution for injection vials | 1 vial [PoM] £64.00 | 2 vial [PoM] £128.00
- ▶ **Bocouture** (Merz Pharma UK Ltd)
Botulinum toxin type A 50 unit Bocouture 50unit powder for solution for injection vials | 1 vial [PoM] £72.00
Botulinum toxin type A 100 unit Bocouture 100unit powder for solution for injection vials | 1 vial [PoM] £229.90
- ▶ **Botox** (Allergan Ltd)
Botulinum toxin type A 50 unit Botox 50unit powder for solution for injection vials | 1 vial [PoM] £77.50
Botulinum toxin type A 100 unit Botox 100unit powder for solution for injection vials | 1 vial [PoM] £138.20
Botulinum toxin type A 200 unit Botox 200unit powder for solution for injection vials | 1 vial [PoM] £276.40
- ▶ **Dysport** (Ipsen Ltd)
Botulinum toxin type A 300 unit Dysport 300unit powder for solution for injection vials | 1 vial [PoM] £92.40
Botulinum toxin type A 500 unit Dysport 500unit powder for solution for injection vials | 2 vial [PoM] £308.00
- ▶ **Xeomin** (Merz Pharma UK Ltd)
Botulinum toxin type A 50 unit Xeomin 50unit powder for solution for injection vials | 1 vial [PoM] £72.00
Botulinum toxin type A 100 unit Xeomin 100unit powder for solution for injection vials | 1 vial [PoM] £129.90
Botulinum toxin type A 200 unit Xeomin 200unit powder for solution for injection vials | 1 vial [PoM] £259.80 (Hospital only)

4 Nausea and labyrinth disorders

Nausea and labyrinth disorders

Drug treatment

Antiemetics should be prescribed only when the cause of vomiting is known because otherwise they may delay diagnosis, particularly in children. Antiemetics are unnecessary and sometimes harmful when the cause can be treated, such as in diabetic ketoacidosis, or in digoxin p. 82 or antiepileptic overdose.

If antiemetic drug treatment is indicated, the drug is chosen according to the aetiology of vomiting.

Antihistamines are effective against nausea and vomiting resulting from many underlying conditions. There is no evidence that any one antihistamine is superior to another but their duration of action and incidence of adverse effects (drowsiness and antimuscarinic effects) differ.

The **phenothiazines** are dopamine antagonists and act centrally by blocking the chemoreceptor trigger zone. They are of considerable value for the prophylaxis and treatment of nausea and vomiting associated with diffuse neoplastic disease, radiation sickness, and the emesis caused by drugs such as opioids, general anaesthetics, and cytotoxics. Prochlorperazine p. 275, perphenazine, and trifluoperazine p. 254 are less sedating than chlorpromazine hydrochloride p. 251; severe dystonic reactions sometimes occur with phenothiazines. Some phenothiazines are available as rectal suppositories, which can be useful in children with persistent vomiting or with severe nausea; for children over 12 years prochlorperazine can also be administered as a buccal tablet which is placed between the upper lip and the gum.

Other antipsychotic drugs including haloperidol p. 252 and levomepromazine p. 275 are used for the relief of nausea in palliative care.

Metoclopramide hydrochloride p. 269 is an effective antiemetic and its activity closely resembles that of the