NHS
Greater Glasgow and Clyde

CLINICAL GUIDELINE

Injectional Botulism in Adults, Management Guideline

A guideline is intended to assist healthcare professionals in the choice of disease-specific treatments.

Clinical judgement should be exercised on the applicability of any guideline, influenced by individual patient characteristics. Clinicians should be mindful of the potential for harmful polypharmacy and increased susceptibility to adverse drug reactions in patients with multiple morbidities or frailty.

If, after discussion with the patient or carer, there are good reasons for not following a guideline, it is good practice to record these and communicate them to others involved in the care of the patient.

Version Number:	4
Does this version include changes to clinical advice:	Yes
Date Approved:	24th August 2022
Date of Next Review:	31st August 2025
Lead Author:	Erica Peters
Approval Group:	Antimicrobial Utilisation Committee

Important Note:

The Intranet version of this document is the only version that is maintained.
Any printed copies should therefore be viewed as 'Uncontrolled' and as such, may not necessarily contain the latest updates and amendments.

MANAGEMENT of INJECTIONAL BOTULISM in ADULTS

Introduction
Botulism is rare, but most commonly seen associated with injectional drug use in GGC. This guideline refers to Adult Injectional Botulism only. Advice around any form of suspected botulism including infant and gastrointestinal can be obtained from Infectious Diseases or Microbiology on call.

Clinical presentation
Descending symmetrical paralysis, typically starting with diplopia, dysarthria and ptosis. There is an absence of fever, meningism, confusion, impaired conscious level and sensory signs. Rapid progression to respiratory failure can occur with autonomic dysfunction. Injectional botulism typically occurs following injection of contaminated heroin into muscle or skin, with an incubation period of around 7 days. **Botulism is a clinical diagnosis**, EMG studies can assist, microbiology results may be negative.

Microbiological diagnosis
Testing for botulism takes several days in a reference lab. Treatment should **not** be deferred pending results. Samples should be sent **urgently** to the microbiology lab following discussion with the microbiologist. Clinical information section must be completed on Gastrointestinal bacteria culture referral form (L4) (publishing.service.gov.uk). Whenever possible, samples should be taken prior to administration of botulinum antitoxin.

- Serum for botulinum toxin, **at least 10ml** in gold topped serum gel tube (must be taken before botulinum anti-toxin is given)
- Pus or debrided tissue for culture and PCR in a plain universal container. Do not send swabs of pus.

Antibiotic treatment – kills viable *C. botulinum*

- IV benzylpenicillin 2.4g 6 hourly and IV metronidazole 500mg 8 hourly
- IV Vancomycin (See GG&C vancomycin dose calculator) plus IV metronidazole 500mg 8 hourly, if allergic to penicillin
- Try to **avoid** gentamicin and clindamycin as this may increase neuromuscular blockade
- Seek advice from Infectious Disease or Microbiologist re duration.

Other antibiotics may be needed to treat co-existing soft tissue infection.

Botulinum Anti-toxin - binds free botulinum toxin.
IV Anti-toxin should be administered **as soon as possible**. For supplies contact GRI pharmacy or GRI pharmacist on-call. The dosing schedule is summarised below but please check product information leaflet.
Emergent Biosolutions: Adult dose – contents of 1 vial after dilution 1:10 in normal saline. Administer by slow IV infusion, initially 0.5ml/min, doubling the rate if tolerated every 30min to a maximum 2ml/min. Monitor for infusion reactions.

Debridement - removes source of *C. botulinum*
Any injection sites should be urgently debrided to remove the source of further toxin production, even if there is no evidence of serious infection.

Critical care review
Respiratory failure can occur rapidly. ITU should be informed of any suspected cases.

Author, Dr Erica Peters Infectious Diseases, QEUH, Public Health
Approved by Antimicrobial Utilisation Committee Aug 2022. Review Date Aug 2025

Public Health notification

Botulism is a notifiable disease. It should be notified on basis of clinical suspicion, and notification should not wait for test results. Inform the on-call Public Health consultant on
Phone: 0141 201 4917 option 3 Out of hours: 0141 201 3600

Infection Control

Patients with suspected *C. botulinum* require no special infection control measures.

Author, Dr Erica Peters Infectious Diseases, QEUH, Public Health
Approved by Antimicrobial Utilisation Committee Aug 2022. Review Date Aug 2025