Drug Therapy Protocols: Box jellyfish antivenom

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Date	July, 2022
Purpose	To ensure a consistent procedural approach to box jellyfish antivenom administration.
Scope	Applies to Queensland Ambulance Service (QAS) clinical staff.
Health care setting	Pre-hospital assessment and treatment.
Population	Applies to all ages unless stated otherwise.
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Box jellyfish antivenom

Drug class[1,2]

Antivenom

Pharmacology

Box jellyfish antivenom contains concentrated immunoglobulin that acts to neutralise the toxins present in the venom of the box jellyfish (Chironex fleckeri).[1–2]

Metabolism

Hepatic and in muscle tissue.[1]

Indications[1–4]

- **Box jellyfish (Chironex fleckeri) envenomation** associated with any of the following:
  - a patient currently in cardiac arrest
  - decreased level of consciousness
  - cardiac AND/OR respiratory distress or collapse
  - total surface area affected greater than half the surface area of one limb
  - intractable pain unrelieved by icepacks, methoxyflurane AND/OR narcotic analgesia.

Contraindications

- Allergy AND/OR Adverse Drug Reaction

Precautions[1]

- The antivenom is a foreign protein, which can cause sensitisation, allergic reaction or anaphylaxis

Side effects[1,2,4]

- Allergic reaction including anaphylaxis and delayed serum sickness
- Intense stinging sensation on injection

Presentation

- Ampoule, 20,000 units/1.5 – 4 mL *box jellyfish antivenom*

Onset (IV)	Duration (IV)	Half-life
Not available	Not available	Not available

Box jellyfish antivenom

Schedule

- S4 (Restricted drugs).

Routes of administration

Intramuscular injection (IM)	AT, P, ACP1, ACP2, CCP
Intravenous injection (IV)	ACP2, CCP

Special notes

- Ambulance officers must only administer medications for the listed indications and dosing range. Any consideration for treatment outside the listed scope of practice requires mandatory approval via the *QAS Clinical Consultation and Advice Line*.
- Box jellyfish antivenom must be available at all coastal QAS stations from Rainbow Beach and north.
- The dose of antivenom is related to the dose of venom, not based on the size of the patient.[1]

Special notes *(cont.)*

- At all times during antivenom therapy adrenaline (epinephrine) must be available in case of an anaphylactic reaction. If reaction occurs, immediately cease the administration of box jellyfish antivenom and treat patient in accordance with *CPG: Anaphylaxis and allergy*.
- IV injection is the preferred route of administration for all indications.
- If a patient is in cardiac arrest due to box jellyfish envenomation, the box jellyfish antivenom is only to be administered following the commencement of effective CPR, advanced life support measures and administration of cardioactive drugs.
- Box jellyfish antivenom must be protected from light and stored between 2–8°C. DO NOT FREEZE.[1,2]

Adult/Paediatric dosages[1–4]

Box jellyfish (Chironex fleckeri) envenomation associated with any of the following:

- Decreased level of consciousness
- Cardiac AND/OR respiratory distress or collapse
- Total surface area affected greater than half the surface area of one limb
- Intractable pain unrelieved by icepacks, methoxyflurane AND/OR narcotic analgesia

AT P ACP1 ACP2 CCP	IM	**60,000 units** **Single dose only.**
ACP2 CCP	**IV INF**	**20,000 units** Infusion over 20 minutes. Administer via *SPRINGFUSOR®* 30 mL. **Single dose only.** ***Syringe preparation:*** *Mix 20,000 units of antivenom with sodium chloride 0.9% in a 30 mL SPRINGFUSOR® syringe to achieve a final concentration of 20,000 units/20 mL. Administer via SPRINGFUSOR® at a rate of 60 mL/hour (over 20 minutes).*

Adult/Paediatric dosages

Box jellyfish (Chironex fleckeri) envenomation associated with a patient currently in cardiac arrest

ACP2 CCP	IV	**20,000 units** Slow push over 2–5 minutes. **Repeated immediately up to 2 times.** **Total maximum dose 60,000 units.** ***Syringe preparation:*** *Mix 20,000 units of antivenom with sodium chloride 0.9% to achieve a final concentration of 20,000 units/20 mL.*