FLUCLOXACILLIN

Antibacterial — Penicillin

PREPARATIONS:

Trade name(s): Flucloxin (Douglas) [1].

Stock preparation(s): *Injection/Infusion:* Vial —250 mg, 500 mg, and 1 g powder for reconstitution. Each vial contains flucloxacillin sodium equivalent to 250 mg, 500 mg or 1 gram flucloxacillin.

Properties:

Physical description: White powder.

Excipients: No information.

pH: No information.

Sodium content: Contains sodium – amount not stated.

Storage:

Powder for reconstitution: Store at room temperature (below 25°C). Protect from light.

Reconstituted solution: Prepare immediately before use. However, solutions are stable (reconstituted with water for injection) when refrigerated (below 5°C) for up to 72 hours.

Diluted solution: Prepare immediately before use. However, diluted solution stability is dependent on IV fluid used and is stable when diluted:

- *with sodium chloride 0.9% and/or glucose 5%:* at room temperature (below 25°C) for up to 1 hour and when refrigerated (below 5°C) for up to 72 hours.
- *with Lactated Ringers (Hartmann's):* at room temperature (below 25°C) for up to 1 hour.

BEFORE ADMINISTERING CHECK:

Indications, Contraindications, Cautions, Interactions, Hepatic impairment, Renal impairment, Pregnancy, Breast-feeding, Adverse effects by referring to NZ Formulary: flucloxacillin.

DOSAGE AND ADMINISTRATION

Adults – usual dose

☑**Direct IV injection**	***Usual dose***: 250 mg to 2 g every 6 hours [2,3]. For doses greater than 1 g consider intermittent IV infusion. ***Endocarditis (in combination with another antibacterial*)*:*** *Weight less than 85 kg:* 8 g daily in 4 divided doses [2]. *Weight greater than 85 kg:* 12 g daily in 6 divided doses [2]. ***Osteomyelitis:*** up to 8 g daily in 3 to 4 divided doses[2]. ***Surgical prophylaxis:*** 1 g to 2 g up to 30 minutes before the procedure; up to 4 further doses of 500 mg may be given every 6 hours, for high risk procedures [2]. **In patients with renal impairment**: *GFR less than 10 mL/minute:* dose as above up to a total daily dose of 4 g [3].
☑**Intermittent IV infusion**	
☑**Continuous IV infusion**	May be used in the ambulatory setting. Buffering may be required to extend stability at body temperature [7]. *Consult pharmacist.*
☑**IM injection**	***Usual dose:*** 250 mg to 500 mg every 6 hours [2]. ***Surgical prophylaxis:*** following an initial IV dose, up to 4 further IM doses of 500 mg may be given every 6 hours [2].
☒ **Subcutaneous injection**	Not recommended.
☑ **Intra-articular injection**	***Usual dose*:** 250 mg to 500 mg once daily.

DIRECT IV INJECTION:

Injection solution concentration and preparation:

- Reconstitute by adding appropriate volume of compatible IV diluent to vial.

Reconstituted solution strength	Vial size		
	250 mg	**500 mg**	**1 g**
Complete vial use	10 mL	10 mL	15 to 20 mL
Part vial use ~ 25 mg/mL	9.8 mL	–	–
Part vial use ~ 50 mg/mL	4.8 mL	9.6 mL	19.2 mL
Part vial use ~ 100 mg/mL	–	4.6 mL	9.2 mL
Part vial use ~ 200 mg/mL	–	–	4.2 mL

- Shake until all the powder is dissolved.
- Draw up appropriate dose and dilute further to total volume of 10 to 20 mL if required.

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Compatibility – Diluents for direct IV injection:

- Water for injection.

Injection solution properties and stability:

- Prepare immediately before use. If storage is required, see 'Storage' section above.
- Visually inspect for particulate matter or discolouration, do not use if present.

Administration notes:

- Inject slowly over 3 to 4 minutes.
- May be injected via a drip tube over a period of 3 to 4 minutes.
- Phlebitis may occur at injection site [7].

INTERMITTENT IV INFUSION:

Infusion solution concentration and preparation:

- Reconstitute as for direct IV injection with water for injection.
- Dilute further by adding required dose to 100 mL of compatible IV fluid [7].

Compatibility – IV fluids appropriate to dilute IV infusion:

- Sodium chloride 0.9%
- Glucose (dextrose) 5%
- Lactated Ringers (Hartmann's)
- *Other:* Glucose and sodium chloride combinations.

Compatibility – Drugs in the same infusion solution or Y-site:

- Manufacturer states not to mix with blood products or proteinaceous fluids.
- Manufacturer specifically states incompatibility with aminoglycosides and other sources state further incompatibilities [7,10].
- One source recommends some drug compatibilities [10]. Consult a pharmacist for information about individual drugs or specific conditions that may apply.

Infusion solution properties and stability:

- Prepare immediately before use. If storage is required, see 'Storage' section above.
- Visually inspect for particulate matter or discolouration, do not use if present.

Administration notes:

- Infuse over 30 to 60 minutes [7].
- Phlebitis may occur at injection site [7].

INTRAMUSCULAR INJECTION:

Injection solution concentration and preparation:

- Reconstitute by adding appropriate volume of compatible diluent for IM administration.

Reconstituted solution strength	Vial size		
	250 mg	500 mg	1 g
Complete vial use	1.5 mL	2 mL	2.5 mL
Part vial use ~ 100 mg/mL	2.3 mL	–	–
Part vial use ~ 125 mg/mL	1.8 mL	3.6 mL	–
Part vial use ~ 200 mg/mL	–	2.1 mL	–
Part vial use ~ 250 mg/mL	–	1.6 mL	3.2 mL
Part vial use ~ 500 mg/mL	–	–	1.2 mL

- Shake until all the powder is dissolved.

Compatibility – Diluents for IM administration:

- Water for injection.

Injection solution properties and stability:

- Prepare immediately before use. If storage is required, see 'Storage' section above.
- Visually inspect for particulate matter or discolouration, do not use if present.

Administration notes:

- Inject deep into a large muscle.
- Pain may occur at injection site [7].

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INTRA-ARTICULAR INJECTION:

Injection solution concentration and preparation:

- Reconstitute by adding appropriate volume of compatible diluent.

Reconstituted solution strength	Vial size	
	250 mg	500 mg
Complete vial use	Up to 5 mL	Up to 5 mL

- Shake until all powder is dissolved.

Compatibility – Diluents for IM administration:

- Water for injection
- *Other:* Lidocaine hydrochloride 0.5%.

Injection solution properties and stability:

- Prepare immediately before use. If storage is required, see 'Storage' section above.
- Visually inspect for particulate matter or discolouration, do not use if present.

Administration notes:

- Inject directly into joint space.

MONITORING/OBSERVATION/CAUTION

- Monitor for early signs and symptoms of hypersensitivity or anaphylaxis.
- Monitor injection/infusion site and rotate as indicated.
- Monitor renal and hepatic function periodically, particularly during prolonged therapy – risk of flucloxacillin-induced jaundice and proteinuria.

REFERENCES

1. Flucloxin [Medsafe Datasheet]. Douglas Pharmaceuticals Ltd, 18 December 2014
2. New Zealand Formulary. Flucloxacillin [Accessed 16 July 2015]
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