

PROCAINE PENICILLIN

Indication	<ul style="list-style-type: none"> Confirmed (or highly probable or possible) congenital syphilis¹⁻³ AND (either): <ul style="list-style-type: none"> Benzylpenicillin not available Unable to gain IV access
IM	Presentation <ul style="list-style-type: none"> Vial: 1,200,000 units supplied with 5 mL diluent
	Dosage ²⁻⁴ <ul style="list-style-type: none"> 50,000 units/kg <ul style="list-style-type: none"> ONCE daily for 10 days
	Preparation <ul style="list-style-type: none"> Add supplied diluent (5 mL water for injection) to vial <ul style="list-style-type: none"> Allow foam to settle before withdrawing prescribed dose Final concentration is 1,200,000 units in 6 mL (200,000 units/mL) Draw up prescribed dose into a new syringe
	Administration <ul style="list-style-type: none"> Deep IM injection into thickest part of the vastus lateralis (mid-lateral thigh)^{1,4,5} <ul style="list-style-type: none"> Withdraw plunger, observe for blood or discolouration in syringe barrel (to avoid risk of accidental IV or IA administration) At a slow, steady rate (to avoid needle blockage as solution concentrated)
Caution	<ul style="list-style-type: none"> High-risk, do not administer <ul style="list-style-type: none"> IV or IA can result in cardiac arrest and death^{1,4} Into or in close proximity to nerves—can cause severe neurovascular damage^{1,4,5}
Special considerations	<ul style="list-style-type: none"> Painful injection <ul style="list-style-type: none"> Rotate injection sites Use appropriate needle gauge (smaller gauge increases pain) Compound contains local anaesthetic to reduce pain¹ Implement pain management strategies Regardless of initial antibiotic treatment, full 10 day course is required If two (or more) doses missed, restart entire course
Monitoring	<ul style="list-style-type: none"> Swelling, inflammation, tenderness at injection site^{4,5} Hypersensitivity reactions (e.g. rash)¹ Renal impairment and myelosuppression^{1,4,5} <ul style="list-style-type: none"> FBC and renal function within 72 hours of commencing treatment, then weekly until end of course (at SMO's discretion)
Compatibility	<ul style="list-style-type: none"> Nil known
Incompatibility	<ul style="list-style-type: none"> Nil known
Interactions	<ul style="list-style-type: none"> Nil known
Stability	<ul style="list-style-type: none"> Store below 25 °C
Side effects	<ul style="list-style-type: none"> Common <ul style="list-style-type: none"> Digestive: diarrhoea⁵ Integumentary: inflammation (injection site)⁵ Rare <ul style="list-style-type: none"> Blood pathology: neutropenia⁵ Digestive: vomiting⁵, <i>Clostridioides difficile</i>-associated disease^{4,5} Lymphatic: hypersensitivity reaction (maculopapular rash, red purple plaques or urticarial type plaques)⁵
Actions	<ul style="list-style-type: none"> Bactericidal⁵: interferes with bacterial cell wall peptidoglycan synthesis by binding to penicillin-binding proteins, eventually leading to cell lysis and death^{1,5}
Abbreviations	FBC: full blood count, IA: intraarterial, IM: intramuscular, IV: intravenous, SMO: most senior medical officer
Keywords	bactericidal, congenital syphilis, neonatal medicine, neonatal monograph, procaine benzylpenicillin, procaine penicillin, procaine penicillin g, syphilis



The Queensland Clinical Guideline *Neonatal Medicines* is integral to and should be read in conjunction with this monograph. Refer to the disclaimer. Destroy all printed copies of this monograph after use.

References

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Document history

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