



## ADULT MEDICATION GUIDELINE

# BENZATHINE BENZYL PENICILLIN G (BPG) (BENZATHINE PENICILLIN)

**Scope (Staff):** All WNHS Staff

**Scope (Area):** Obstetrics and Gynaecology

This document should be read in conjunction with the [Disclaimer](#).

### Quick Links

[Dose](#)

[Administration](#)

[Monitoring](#)

[Pregnancy and  
Breastfeeding](#)

### Restrictions

[Formulary: Unrestricted](#)

### Medication Class

Penicillin antibiotic

### Presentation

**Prefilled syringe:** 900mg in 2.3mL (1.2 million units)

### Storage

Store at 2 to 8°C. Refrigerate, do not freeze

### Dose

**Early Syphilis (Primary, Secondary or Latent):**

**IM:**

1.8g (2.4 million units) as a single dose

---

**Late Latent Syphilis:**

**IM:**

1.8g (2.4 million units) once weekly for 3 weeks (3 doses)

**Rheumatic heart disease**

For dosing see Therapeutic Guidelines or [The 2020 Australian guideline for prevention, diagnosis and management of acute rheumatic fever and rheumatic heart disease \(3.2 edition, March 2022\)](#)

**Administration**

**IM (intramuscular)**

***Do NOT give IV (intravenous)***

Inject slowly, at a steady rate, over at least 2 to 3 minutes, deep in the ventrogluteal site (preferred).

The vastus lateralis (lateral thigh) is an acceptable site.

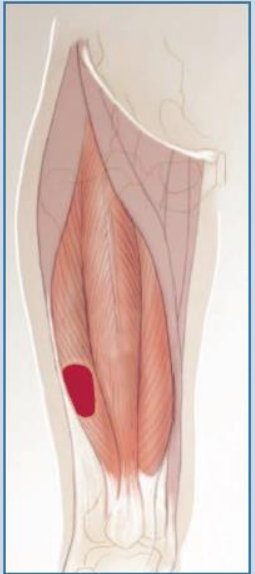
**VENTROGLUTEAL SITE**

1. Place the patient in a side-lying position.
2. Using your right hand on the patient's left hip; or left hand on the patient's right hip:
  - a) With the palm of your hand, locate the greater trochanter of the femur.
  - b) Place your index finger towards the front or anterior superior iliac spine, and fan the middle finger as far along the iliac crest as you can reach. (The thumb should always be pointed toward the front of the leg.)
3. The injection site is in the middle of the triangle between the middle and index fingers.
4. Remove your fingers prior to inserting the needle.



### VASTUS LATERALIS INJECTION SITE

1. Place the patient in a supine (on back) or sitting position. Patients with valve disease at risk of cardiac decompensation must lie down (See [Non-allergic penicillin reactions](#)).
2. Place one hand on patient's thigh against greater trochanter, the other hand against the lateral femoral condyle near the knee.
3. Visualise a rectangle between the hands across the thigh.
4. The correct injection site is the middle third of the anterolateral thigh.



Give doses greater than 900mg (1.2 million units) as 2 injections at separate sites.

For repeated doses, rotate the site of injection.

Intramuscular BPG injections are painful

Most people do not get used to repeated painful procedures without psychological or pharmaceutical intervention.

Targeted strategies are required for managing pain. For further details view [The 2020 Australian guideline for prevention, diagnosis and management of acute rheumatic fever and rheumatic heart disease \(3.2 edition, March 2022\)](#)

Non-pharmaceutical pain-blocking techniques and devices available, include:

- firm pressure to the site for at least 10 seconds immediately before injecting;
- ice pack applied to the site before injecting;
- refrigerating the needle prior to injection delivery.

Pharmaceutical strategies for managing injection pain include:

- oral paracetamol before injection and at appropriate time intervals afterwards as required;
- anaesthetic spray before injection;
- lidocaine (lignocaine) injected with BPG;
- nitrous oxide (Entonox) during the injection procedure;

Pharmaceutical strategies for managing injection pain include:

- oral paracetamol before injection and at appropriate time intervals afterwards as required;
- anaesthetic spray before injection;
- lidocaine (lignocaine) injected with BPG;
- nitrous oxide (Entonox) during the injection procedure;

---

### Administering BPG with lidocaine

A strategy to deliver lidocaine with BPG is to transfer the contents of the pre-filled BPG syringe to a new syringe, draw lidocaine into the new syringe tip, then administer using the new syringe so that the lidocaine is injected first.

#### **Equipment**

Pre-filled BPG syringe  
3 mL syringe  
2 drawing-up needles  
21 g needle

#### **Preparation**

1. Attach a drawing-up needle to a 3 mL syringe.
2. Draw the required contents of BPG from the pre-filled syringe into the 3mL syringe (2.3 mL for 1,200,000-unit dose and 1.17 mL for 600,000-unit dose).
3. Using a new needle, draw up 0.5 mL of 1% lidocaine or 0.25 mL of 2% lidocaine into the tip of the 3mL syringe.
4. Avoid mixing to keep the lidocaine in the tip of the syringe.
5. Push plunger up carefully to remove any air in the syringe.
6. Remove the drawing-up needle.
7. Attach IM needle (e.g. 21 gauge) to the syringe to administer injection.

*(Adapted from Heart Foundation New Zealand, 2014)*<sup>9</sup>

## Monitoring

Monitor complete blood count and renal and hepatic function during prolonged high-dose treatment (>10 days)

## Pregnancy

### **Benzathine penicillin**

**1<sup>st</sup> Trimester:** Safe to use

**2<sup>nd</sup> Trimester:** Safe to use

**3<sup>rd</sup> Trimester:** Safe to use

### **Lidocaine**

**1<sup>st</sup> Trimester:** Safe to use

**2<sup>nd</sup> Trimester:** Safe to use

**3<sup>rd</sup> Trimester:** Safe to use

## Breastfeeding

### Benzathine Penicillin

Safe to use

### Lidocaine

Safe to use

## Comments

Contraindicated with a history of immediate (eg urticaria, bronchospasm, anaphylaxis) or severe (eg interstitial nephritis) hypersensitivity to a penicillin. Seek specialist advice if using a penicillin is critical.

## Related Policies, Procedures & Guidelines

### HDWA Mandatory Policies:

[Syphilis \(health.wa.gov.au\)](https://www.health.wa.gov.au)

[Syphilis Silver book \(health.wa.gov.au\)](https://www.health.wa.gov.au)

### WNHS Clinical Practice Guidelines:

[Antimicrobial Stewardship](#)

O&G: Sexually Transmitted Infections: [Syphilis](#)









## References

Therapeutic Guidelines. Syphilis. In: eTG complete [Internet]. West Melbourne (Victoria): Therapeutic Guidelines; 2022 [cited 2022 Jul 06]. Available from: <https://tgldcdp.tg.org.au>

Society of Hospital Pharmacists of Australia. Benzathine Penicillin In: Australian Injectable Drugs Handbook [Internet]. [St Leonards, New South Wales]: Health Communication Network; 2022 [cited 2022 Jul 06]. Available from: <http://aidh.hcn.com.au>

RHDAustralia (ARF/RHD writing group). The 2020 Australian guideline for prevention, diagnosis and management of acute rheumatic fever and rheumatic heart disease (3.2 edition, March 2022). Darwin, NT: RHD Australia; 2020. <https://www.rhdaustralia.org.au/arf-rhd-guideline>

The Royal Women's Hospital. Benzathine Penicillin. In: Pregnancy and Breastfeeding Medicines Guide [Internet]. Parkville (Victoria): The Royal Women's Hospital; 2022 [cited 2022 Jul 06]. Available from: <https://thewomenspbmg.org.au/>

Keywords	Benzathine penicillin, syphilis, early syphilis, latent syphilis				
Document Owner:	Chief Pharmacist				
Author/ Reviewer	KEMH Pharmacy Department				
Version Info:	2014, 2017, 2019 2022 incorporation of recommendations from RHD Australia <ul style="list-style-type: none"> <li>- updated information regarding site for injection</li> <li>- inclusion of techniques for managing injection site pain including option of using lidocaine</li> </ul>				
Date First Issued:	2014	Last Reviewed:	July 2022	Review Date:	July 2025
Endorsed by:	Medicines and Therapeutics Committee			Date:	06/09/2022
NSQHS Standards Applicable:	<input checked="" type="checkbox"/>  Std 1: Clinical Governance <input type="checkbox"/>  Std 2: Partnering with Consumers <input checked="" type="checkbox"/>  Std 3: Preventing and Controlling Healthcare Associated Infection <input checked="" type="checkbox"/>  Std 4: Medication Safety		<input type="checkbox"/>  Std 5: Comprehensive Care <input type="checkbox"/>  Std 6: Communicating for Safety <input type="checkbox"/>  Std 7: Blood Management <input type="checkbox"/>  Std 8: Recognising and Responding to Acute Deterioration		
<b>Printed or personally saved electronic copies of this document are considered uncontrolled. Access the current version from WNHS HealthPoint.</b>					

The health impact upon Aboriginal people has been considered, and where relevant incorporated and appropriately addressed in the development of this document (insert ISD Number). (Please refer to the Aboriginal Health Impact Statement and Declaration for Department of Health and Health Service Provider Guidelines – please delete once you have completed this).

This document can be made available in alternative formats on request for a person with a disability.

© Women and Newborn Health Service 2022

Copyright of this material is vested in the State of Western Australia unless otherwise indicated. Apart from any fair dealing for the purposes of private study, research, criticism or review, as permitted under the provisions of the Copyright Act 1968, no part may be reproduced or re-used for any purposes whatsoever without written permission of the State of Western Australia.