

# PENIDOT

## Benzathine Benzylpenicillin Injection I.P. Veterinary Use

### Description

**Benzathine Benzylpenicillin I.P.** (also known as Benzathine Penicillin G) is a long-acting form of **Penicillin G**, designed for deep intramuscular injection. In veterinary medicine, it provides prolonged therapeutic blood levels of penicillin, making it suitable for the **prevention and treatment of infections caused by penicillin-sensitive organisms** in livestock and companion animals.

After intramuscular injection, it slowly hydrolyses to **Benzylpenicillin**, maintaining effective blood concentrations over an extended period — often **up to 7 days or more**, depending on species and dose.

### Specifications

- **Dosage Form:** Sterile dry powder for injection
- **Appearance (Dry Powder):** White crystalline powder
- **Appearance (Reconstituted):** Milky or cloudy suspension
- **Solubility:** Poorly water-soluble, forms depot at injection site
- **Sterility:** Complies with Indian Pharmacopoeia (I.P.) standards
- **Assay:** Not less than 95% of labelled potency
- **Container:** Type I glass vial, sealed with rubber stopper and aluminium cap

### Composition

Each vial contains:

- **Benzathine Benzylpenicillin I.P.** – 4,800,000 IU (48 Lacs)
- **Excipients:** q.s. for formulation stability
- **Sterile Water for Injection:** Supplied separately for reconstitution

## Pharmacological Category

- **Therapeutic Class:** Long-acting  $\beta$ -lactam antibiotic
- **Mechanism of Action:**  
Benzylpenicillin inhibits bacterial cell wall synthesis by binding to penicillin-binding proteins (PBPs), leading to cell lysis and death. The **benzathine salt** form allows for slow absorption from the injection site, giving prolonged action.

## Indications (Veterinary Use)

Indicated in the treatment or prophylaxis of penicillin-sensitive bacterial infections in:

- Respiratory tract infections
- Metritis, mastitis
- Joint and skin infections
- Septicaemia
- Erysipelas
- Actinomycosis
- Prevention of infections in surgical cases or post-partum
- Chronic infections requiring sustained blood levels

Applicable for use in cattle, sheep, goats, pigs, horses, and other large animals under veterinary guidance.

## Dosage and Route of Administration

### **Route:**

- Deep Intramuscular (I.M.) injection only

### **Dosage (General):**

- **Cattle/Horses:** 10,000 – 30,000 IU/kg body weight
- **Sheep/Goats/Pigs:** 20,000 – 40,000 IU/kg body weight
- **Duration:** Typically single injection for prophylaxis; repeat after 72–96 hours if needed for treatment

Shake well before use; suspension must be uniform before administration.

## **Dosage Form and Presentation**

- Sterile dry powder in vial
- Each pack contains:
  - 1 vial of 4.8 million IU
  - 1 ampoule of sterile water for injection
  - Packaged in mono carton/tray

## **Key Advantages**

- **Long-acting** antibacterial effect with single injection
- Reduces handling frequency and animal stress
- Suitable for both treatment and prevention
- Widely effective against penicillin-susceptible pathogens
- Cost-effective and time-saving

## **Adverse Effects**

- Local swelling or pain at injection site
- Hypersensitivity (including anaphylaxis — rare but serious)
- Fever or allergic skin reactions
- Superinfection with resistant organisms (rare, with prolonged use)

## **Precautions and Contraindications**

- **Not for intravenous use** — intramuscular only
- Do not use in animals allergic to penicillin's
- Inject deeply to avoid local irritation or abscess formation
- Always conduct a test dose in sensitive animals
- Avoid use in small pets unless under strict veterinary prescription

## Withdrawal Period

- **Meat:** Minimum 30 days
- **Milk:** Minimum 7 days

Withdrawal periods must comply with national regulatory requirements.

## Storage and Handling

- Store below 25°C in a dry place
- Protect from light and moisture
- Do not freeze
- Reconstituted suspension should be used immediately
- Shake well before use
- Dispose of any unused portion safely

## Schedule / Regulatory Classification

- Prescription-only veterinary medicine
- Regulated under **Schedule H** (India) or equivalent
- Not intended for human use

## HS Code / HSN Code

- **HS Code (International):** 3004.10 – Penicillin's and derivatives
- **HSN Code (India):** 3004.10.20 – Benzathine Benzylpenicillin for veterinary use

## Special Instructions

- Reconstitute with supplied sterile water only
- Use aseptic technique during preparation and administration
- Observe animals for 30 minutes post-injection for any allergic reaction
- Complete full prescribed treatment to avoid relapse or resistance
- Maintain cold chain if needed for distribution

## **? Frequently Asked Questions (FAQs)**

### **Q1: What is Benzathine Benzylpenicillin used for in animals?**

A: It's used for long-acting treatment and prevention of penicillin-sensitive infections like respiratory disease, mastitis, and septicaemia.

### **Q2: Can it be given intravenously?**

A: No. It is strictly for deep intramuscular use only due to its formulation.

### **Q3: How often should the dose be repeated?**

A: Generally every 3–5 days if needed, based on the animal's condition and veterinary recommendation.

### **Q4: Is there any risk of allergic reaction?**

A: Yes, though rare. Monitor the animal closely, especially after first administration.

### **Q5: Can it be used in lactating animals?**

A: Yes, but observe the milk withdrawal period (minimum 7 days or as per regulations).

