Patient leaflet in accordance with the Pharmacists' Regulations (Preparations) - 1986

This medicine is dispensed with a doctor's prescription only

Penicillin G Sodium 5 MU
Penicillin G Sodium 10 MU

Powder for reconstituting a solution for injection into a muscle or into a vein

Composition:
Each vial of Penicillin G Sodium 5 MU contains:
Benzylpenicillin Sodium 5 MU

Each vial of Penicillin G Sodium 10 MU contains:
Benzylpenicillin Sodium 10 MU

For information about inactive ingredients and allergens, see section 2 under 'Important information about some of this medicine's ingredients', and section 6 'Additional information'.

Read the entire leaflet carefully before you start using this medicine. This leaflet contains concise information about this medicine. If you have any further questions, consult your doctor or pharmacist.

This medicine has been prescribed to treat your illness. Do not pass it on to others. It may harm them, even if it seems to you that their illness is similar to yours.

1. What is this medicine intended for?

This medicine is intended for treatment of infections caused by microorganisms that are sensitive to penicillin.

Therapeutic group: a semisynthetic beta-lactam antibiotic

2. Before using this medicine

Do not use this medicine if:

- You are sensitive (allergic) to the active ingredient benzylpenicillin sodium.
- You have ever been treated with a penicillin before and had a hypersensitivity reaction to penicillin (such as skin rash, itching, fever, shortness of breath, drop in blood pressure) as a result. In these cases, as there is a risk of life-threatening anaphylactic shock, you must stop taking this medicine.
- You have had severe hypersensitivity reactions (anaphylactic reactions) to other beta-lactams (cephalosporin, carbapenem, monobactam).

Special warnings about using this medicine
Before using Penicillin G Sodium tell your doctor if:

- You have ever experienced intolerance to other antibiotics (such as cephalosporins). In such cases, your doctor will decide whether to treat you with Penicillin G Sodium. Before starting treatment, a hypersensitivity test should be carried out.
- You are prone to allergic reactions (such as hives or hay fever) or asthma. In such cases, there is an increased risk of a hypersensitivity reaction.
- You have heart problems or severe electrolyte imbalance (such as of sodium, calcium, potassium, and chloride). Your doctor will have to monitor your electrolyte levels, especially your potassium level.
- Your liver or kidney function is impaired. In such cases, your doctor will have to adjust your Penicillin G Sodium dosage or dosing interval.
- You have epilepsy, brain oedema or meningitis. You will require careful monitoring by your doctor, as you may be at increased risk of seizures during therapy.
- You have kissing disease (mononucleosis). There may be an increased risk of skin reaction.
- You have acute lymphatic leukaemia (a type of blood cancer). There may be an increased risk of skin reaction.
- You have a fungal skin disease. You are at increased risk of developing an allergy-like reaction.
- You are being treated with anticoagulants. Close monitoring is required and adjustment of the anticoagulant dose is necessary to obtain the desired degree of anticoagulation in the blood (see the section 'Interactions with other medicines').
- You have diabetes. With injection in a muscle, the absorption of Penicillin G Sodium may be delayed.
- You have a sexually-transmitted disease. Your doctor will perform tests for these diseases before starting treatment and during treatment.
- You are being treated for Lyme disease or suffer from complications of syphilis. A temporary reaction, known as a Jarisch-Herxheimer reaction, may often occur due to the antibiotic effect of Penicillin G Sodium on the pathogen of this disease. This reaction may be characterised by sudden fever, chills, skin redness, headache, muscle and joint pain, tiredness and/or exhaustion. The symptoms may persist for several days. Tell your doctor for help relieving these symptoms.
- You experience severe and persistent diarrhoea during treatment with Penicillin G Sodium. This could be a result of antibiotic-associated colitis (inflammation of the colon). The symptoms of this are bloody/mucous, watery diarrhoea, abdominal pain, fever or, occasionally, a constant and painful need to pass stools. Penicillin G Sodium must be stopped immediately and your doctor will put you on a suitable new treatment.
- During long-term treatment (several weeks), any antibiotic therapy can cause overgrowth of certain resistant bacteria or yeast-like fungi. Therefore, tell your doctor if you experience diarrhoea, itchy skin rash or growth of yeast-like fungi on mucous membranes. Furthermore, your doctor will regularly carry out blood tests during prolonged treatment of more than 5 days.
- Effect on laboratory tests
  Tell your doctor before you have any laboratory test. These test results may be affected due to treatment with Penicillin G Sodium.

Severe local reaction can occur with intramuscular administration to infants. Wherever possible, intravenous therapy should be administered.

- When intravenously administering very high doses (over 10 mega IU a day), the administration site should be alternated every other day to avoid infections and venous thrombosis (thrombophlebitis).
- Due to possible electrolyte disturbances, Penicillin G Sodium should be administered slowly with infusions of more than 10 mega IU, and due to the possibility of seizures when administering more than 20 mega IU (see section 'Side effects').

Interactions with other medicines
If you are taking or have recently taken other medicines, including non-prescription medications and dietary supplements, tell your doctor or pharmacist. Particularly if you are taking:

- Probenecid to treat gout.
- Indomethacin, phenylbutazone, acetic acid, salicylates and additional medicines for reducing fever and inflammation, as well as for rheumatism and pain.
- Other antibiotics. As penicillins only affect certain bacteria, Penicillin G Sodium should be combined with certain antibiotics to have effective results. Your doctor will decide which combinations are effective.
- Digoxin (heart medicine).
- Methotrexate (chemotherapy agent used in cancer treatment, treatment of severe joint inflammation and the skin disease psoriasis). Combined use of methotrexate and Penicillin G Sodium must be avoided wherever possible. If this combination cannot be avoided, a reduction in the methotrexate dose should be considered and methotrexate blood levels should be monitored. The patient should be monitored for the possible additional side effects of methotrexate use.
- Oral anticoagulants such as acenocoumarol or warfarin. If combined use is required, blood-clotting parameters should be monitored when co-administering or discontinuing penicillin. Furthermore, adjustment of the oral anticoagulant dose may be necessary.

Pregnancy and breastfeeding
If you are pregnant or breastfeeding, think you may be pregnant or are planning to have a baby, ask your doctor or pharmacist for advice before taking this medicine.

Pregnancy
Benzylpenicillin crosses the placenta and enters the circulation of your unborn baby. Both experience with pregnant women and animal studies have not shown harm to unborn babies. Penicillin G Sodium may be used throughout pregnancy if your doctor believes that using the medicine is necessary.

Do not use Penicillin G Sodium in case of syphilis during pregnancy.

Breastfeeding
Penicillins pass into breast milk in small amounts.
Although no side effects have been reported in breastfed infants to date, the risk of sensitisation or an adverse effect on the infant's intestinal flora must be considered. In case of diarrhoea, candidiasis, or rash in the infant, inform your doctor immediately because these effects could be due to Penicillin G Sodium.
In infants also fed on baby food, mothers should express and discard their breast milk during treatment with Penicillin G Sodium. Breastfeeding can be started again 24 hours after the end of treatment.

Driving and using machines
Generally, the medicine has no influence on the ability to concentrate and react. However, since serious side effects, like severe allergic reaction (see section 4), have been observed, Penicillin G Sodium can reduce the ability to react. Avoid driving or using machines if such side effects occur.

Important information about some of this medicine's ingredients
Each vial of Penicillin G Sodium 5 MU contains 193 mg sodium.
Each vial of Penicillin G Sodium 10 MU contains 386 mg sodium.
1 MU contains about 39 mg sodium, which is equivalent to 2% of the maximum daily sodium intake recommended for adults.
Penicillin G Sodium is considered a high-sodium medicine.
Tell your doctor or pharmacist if you receive more than 10 MU per day for a long period, especially if a low-salt (sodium) diet has been recommended to you.

3. How to use this medicine?

Always use this medicine according to your doctor's instructions. Check with your doctor or pharmacist if you are not sure about your dose or about how to take this medicine.
Only your doctor will determine your dose and how you should take this medicine.
Penicillin G Sodium is best administered into a muscle. However, when large doses of this medicine are required, it is advisable to administer Penicillin G Sodium by means of a continuous intravenous drip.

Do not exceed the recommended dose.

If you have taken an overdose, or if a child has accidentally swallowed some medicine
In case of overdose, increased neuromuscular hyperexcitability or cerebral seizures can be expected: stop the medicine. If necessary, clinical monitoring and symptomatic treatment will be provided. Penicillin G Sodium can be removed by dialysis.
Immediately see a doctor or go to a hospital emergency room and bring the medicine package with you.

If you forget to take the medicine
If you think you have not received a dose of this medicine, talk to your doctor immediately.

Adhere to the treatment as recommended by your doctor.

Do not take medicines in the dark! Check the label and dose every time you take medicine. Wear glasses if you need them.
If you have any further questions about using this medicine, consult your doctor or pharmacist.

4. Side effects

Like with all medicines, using Penicillin G Sodium may cause side effects in some users. Do not be alarmed by this list of side effects; you may not experience any of them.

Severe allergic reaction (anaphylactic shock or angioedema), including the following symptoms:
skin rash, itching, shortness of breath or chest tightness, swelling of the eyelids, face or lips, redness or swelling of the tongue, fever, joint pain, swollen lymph nodes.

Side effects may occur at following frequencies:
Common: affect 1-10 in 100 users
- Effect on laboratory tests.

Uncommon: affect 1-10 in 1,000 users
- Allergic reaction.
- Nettle-rash.
- Severe allergic reaction affecting the whole body, or which can cause difficulty in breathing, such as asthma, skin bleeding, gastrointestinal disorders.
- Severe skin reactions, such as:
  - Skin rash with fever and blisters called erythema multiforme.
  - Extensive scaly skin inflammation (exfoliative dermatitis).
- Fever.
- Joint pain.
- Inflammation of the mouth lining.
- Tongue inflammation, black hairy tongue.
- Nausea, vomiting.

Rare: affect 1-10 in 10,000 users
- Electrolyte disturbances due to rapid infusion of high doses.
- Nerve disorders. Seizures may occur due to infusion of high doses; this must be borne in mind in patients with severely impaired renal function, epilepsy, meningitis, cerebral oedema, or during cardiopulmonary bypass.
- Diarrhoea. If the patient develops diarrhoea during treatment, this is likely to be an inflammation of the colon (see section 'Special warnings about using this medicine').
- Kidney diseases.
- Secretion of the protein albumin or blood in the urine.
- Sediments in the urine (cylindruria).
- Reduced urine output or failure to excrete urine (mostly clears up within 48 hours after stopping treatment).
- Severe local reactions can occur with intramuscular administration to infants.

Very rare: affect less than 1 in 10,000 users
- Increased number of the white blood cells called eosinophilia.
- Reduced number of white blood cells (such as granulocytes, neutrophilic granulocytes), haemolytic anaemia (reduced blood levels of red blood cells) or all of them.
- Blood-clotting disorders.

Unknown frequency: frequency cannot be estimated from the available data
- AGEP – acute generalised exanthematous pustulosis, including symptoms such as severe drug skin reaction with or without reddening of the skin, fever, pustules.
- Maculopapular rash (flat and red area on the skin).
- Rash morbilliform (rash that looks like measles).
- Itching.
- Erythema.
- Angioedema (swelling of the skin, mucosa and subcutaneous tissues, especially on the face area, mouth, or tongue).
- Prolongation of bleeding time and average time in blood coagulation test.
- Thrombocytopenia (reduced blood levels of platelets).
- A hypersensitivity reaction to proteins in the blood, called serum sickness, including symptoms such as fever, lymph node swelling, local redness at the injection site, itching.
- Jarisch-Herxheimer reaction, characterised by sudden fever, chills, skin redness, headache, muscle and joint pain, tiredness and/or exhaustion.
- Metabolic encephalopathy.
- Liver inflammation.
- Reduced bile flow in the gallbladder.
- Skin problems with blisters (pemphigoid).

If you experience any side effect, if any side effect gets worse, or if you experience a side effect not mentioned in this leaflet, consult your doctor.

Reporting side effects
You can report side effects to the Ministry of Health by following the link 'Reporting Side Effects of Drug Treatment' on the Ministry of Health home page (www.health.gov.il) which links to an online form for reporting side effects. You can also use this link: https://sideeffects.health.gov.il

5. How to store the medicine?

- Prevent poisoning! To prevent poisoning, keep this, and all other medicines, in a closed place, out of the reach and sight of children and/or infants. Do not induce vomiting unless explicitly instructed to do so by a doctor.
- Do not use the medicine after the expiry date (exp. date) which is stated on the package. The expiry date refers to the last day of that month.
- **Store below 25°C.**
- From a microbiological point of view, the medicine should be used immediately. If not used immediately, storage times and conditions are the responsibility of the user and would normally not be longer than 24 hours at 2°C to 8°C.
- **Storage conditions for reconstituted product** used for IM injection are 48 hours at 2°C to 8°C and 8 hours below 25°C.
- **Storage conditions for the diluted product** used for IV injection or infusion are 24 hours at 2°C to 8°C and 4 hours below 25°C.
- Do not throw away medicines in the trash. Ask your pharmacist how to throw away medicines you no longer use. These measures will help protect the environment.

6. Additional information

This medicine does not contain any inactive ingredients.

What the medicine looks like and contents of the pack:
Penicillin G Sodium 5 MU: Each 15-ml glass vial contains 5 MU benzylpenicillin sodium, a white to whitish powder for reconstituting a solution for injection.
Penicillin G Sodium 10 MU: Each 30-ml glass vial contains 10 MU benzylpenicillin sodium, a white to whitish powder for reconstituting a solution for injection.

Each pack of Penicillin G Sodium contains 1, 10, or 25 vials.
Not all pack sizes may be marketed.

Registration holder's name and address:
Teva Israel Ltd., 124 Dvora Hanevi'a St., Tel Aviv 6944020

Manufacturer's name and address:
Sandoz GmbH Austria
Biochemiestrasse 10, A-6250 KUNDL, Austria
This leaflet was revised in May 2023 according to MOH guidelines.

Registration number of the medicine in the National Drug Registry of the Ministry of Health:
Penicillin G Sodium 5 MU: 024.73.21066
Penicillin G Sodium 10 MU: 137.28.21065

THE FOLLOWING INFORMATION IS INTENDED FOR HEALTHCARE PROFESSIONALS ONLY:

Incompatibilities
The contents of the vial should only be used in a solution with water for injections, 5% glucose solution or 0.9% sodium chloride, in order to avoid incompatibilities.

In order to avoid undesirable chemical reactions or undesirable effects, the already dissolved vials should not be mixed with other mixed injections or infusions (e.g. Ringer's lactate solution, etc.).
Oxidizing and reducing substances, alcohol, glycerol, macrogols and other hydroxy-compounds can inactivate benzylpenicillin.
Benzylpenicillin solutions are most stable in the pH range of 6–7 (optimum at pH 6.8).
Benzylpenicillin is incompatible in solution with the following:
- cimetidine
- cytarabine
- chlorpromazine HCl
- dopamine HCl
- heparin
- hydroxyzine HCl
- lactate
- lincomycin HCl
- metaraminol
- sodium hydrogen carbonate
- oxytetracycline
- pentobarbital
- tetracycline HCl
- thiopental Na
- vancomycin

Benzylpenicillin is not compatible with vitamin B complex and ascorbic acid in mixed solutions.

Special precautions for disposal and other handling

Constitute as follows:
Penicillin G Sodium 5 MU: add 3.5 ml Water for Injection to provide a concentration of 1 MU/ml.
Penicillin G Sodium 10 MU: add 7 ml Water for Injection to provide a concentration of 1 MU/ml.

Preparation for IV infusion solution:
Penicillin G sodium 5 MU: dissolve in 50 ml Water for Injection.
Penicillin G sodium 10 MU: dissolve in 100 ml Water for Injection.

If this ratio is observed, an approximately isotonic solution is obtained.

The product should be used immediately after dissolution.

Reconstitution and dissolution should take place in controlled and validated aseptic conditions.