

Class: **Sodium Nitroprusside**
Trade Names: **Nipride, Nitropress**
REVISED: **November 1, 2018**

Class:

- Vasodilator

Mechanism of Action:

- Relaxation of vascular smooth muscle and consequent dilatation of peripheral arteries and veins. Other smooth muscle (e.g., uterus, duodenum) is not affected. Sodium nitroprusside is more active on veins than on arteries.

Indications:

- Acute hypertension
- Blood Pressure control in the critically ill (i.e. Aortic Aneurism)

Contraindications:

- Hypersensitivity
- Heart Failure
- Hypotension
- Aortic Deformity/stenosis

Precautions:

- Pregnancy Class C

Dosage:

Doses are highly variable and based on institutional guidelines and patient laboratory values. Double check orders with transferring physician.

- Infusion:
 - **IV/IO: 0.3 – 5 mcg/kg/min**

Onset:

- IV/IO: Immediate

Duration:

- 1-10 minutes from time infusion is discontinued

Side Effects:

- Hypotension
- Cyanide toxicity
- Methemoglobinemia
- Thiocyanate Toxicity
- Metabolic Acidosis
- Tachycardias and Bradycardias
- Increased ICP

IFT

REFERENCE ONLY

This document is for **reference only**. Please refer to Physician Order's for specific indications, dosages, and applications

IFT DRUG: Sodium Nitroprusside

Interactions:

- *Is potentiated by other drugs with hypotensive properties.*

PEARLS:

Monitor closely for Hypotension and Toxicity

- Typically mixed as 50 mg/2 ml vials Sodium Nitroprusside in 250 or 500 cc of D5W or NS. It is light sensitive and is often "shrouded". If properly protected from light, it is shelf stable for 24 hours after mixing.
- Nitroprusside should be administered in its own dedicated line.
- Nitroprusside is highly vasoactive. The patient should be closely monitored with frequent blood pressure checks.
- Half-life of Nitroprusside is approximately 2 minutes, allowing for 6-12 minutes to clear the patient completely providing normal metabolism.
- Overdosage of nitroprusside can be manifested as excessive hypotension or cyanide toxicity or as thiocyanate toxicity.
 - Standard Cyanide treatment is often effective.
- Sodium nitroprusside infusions at rates above 2 mcg/kg/min generate cyanide ion (CN⁻) faster than the body can normally dispose of it. Doses above 10 mcg/kg/min for more than 30 minutes can rapidly become lethal. It is imperative that this medication only be given via infusion pump and monitored closely.
- Methemoglobinemia (MetHb) is a blood disorder in which an abnormal amount of methemoglobin is produced. Hemoglobin is the protein in red blood cells (RBCs) that carries and distributes oxygen to the body. Methemoglobin is a form of hemoglobin. With methemoglobinemia, the hemoglobin can carry oxygen, but is not able to release it effectively to body tissues.

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