# Hyponor™

Norepinephrine 2 mg/2ml

**Composition**
**Hyponor**™ : Each 2 ml ampoule contains 4 mg Norepinephrine Bitartrate USP which is equivalent to Norepinephrine 2 mg.

**Pharmacology**
**Hyponor**™ (Norepinephrine) is a direct-acting sympathomimetic which stimulates $\beta_1$ and α-adrenergic receptors. Its α-agonist effects cause vasoconstriction, thereby raising systolic and diastolic BP with reflex slowing of heart rate.

**Indications**
For blood pressure control in certain acute hypotensive states (e.g. pheochromocytomectomy, sympathectomy, poliomyelitis, spinal anesthesia, myocardial infarction, septicemia, blood transfusion, and drug reactions).
As an adjunct in the treatment of cardiac arrest and profound hypotension.

**Dosage & Administration**
*Upper gastrointestinal haemorrhage: Adult:* Intraperitoneal admin: 8 mg in 250 ml of 0.9% sodium chloride inj. Alternatively, instill 8 mg in 100 ml of 0.9% sodium chloride solution through a nasogastric tube every hr for 6–8 hr, then every 2 hr for 4–6 hr. Withdraw drug gradually.

*Acute hypotensive states: Adult:* Initially, 8-12 mcg/minute, up to 8-30 mcg/minute in refractory shock. Infuse using a solution of 4 mcg/ml in glucose 5%, or sodium chloride 0.9% and glucose 5% at a rate of 2-3 ml/minute. Adjust according to BP response. Average maintenance dose: 0.5-1 ml/minute (2-4 mcg/minute). Infuse via a central venous catheter or into a large vein. *Child:* Administer at a rate of 2 mcg/minute. Adjust rate according to BP response and perfusion. *Elderly:* Initial dose should be at low end of dose range.

**Contraindication**
Hypertension, pregnancy & patients with peripheral or mesenteric vascular thrombosis unless necessary as a life-saving procedure.

**Precautions**
Not a substitute for replacement of blood, plasma, fluids, and/or electrolytes; correct volume depletion prior to admin. Identify and correct hypoxia, hypercapnia and acidosis prior to or during admin. Avoid extravasation as tissue necrosis may occur.

Avoid inj. into leg veins, especially in elderly or those with occlusive vascular diseases, arteriosclerosis, DM, Buerger's disease, hypertensive or hyperthyroid patients. In conjunction with local anaesthetics, do not use in fingers, toes, ears, nose or genitalia.

**Side Effects**
The following reactions can occur: Body As A Whole: Ischemic injury due to potent vasoconstrictor action and tissue hypoxia. Cardiovascular System: Bradycardia, probably as a reflex result of a rise in blood pressure, arrhythmias. Nervous System: Anxiety, transient headache. Respiratory System: Respiratory difficulty. Skin and Appendages: Extravasation necrosis at injection site.

If plasma volumes are not corrected, hypotension may recur when Norepinephrine is discontinued, or blood pressure may be maintained at the risk of severe peripheral and visceral vasoconstriction (e.g. decreased renal perfusion) with diminution in blood flow and tissue perfusion with subsequent tissue hypoxia, lactic acidosis and possible ischemic injury. Gangrene of extremities has been rarely reported. Overdoses or conventional doses in hypersensitive persons (e.g. hyperthyroid patients) cause severe hypertension with violent headache, photophobia, stabbing retrosternal pain, pallor, intense sweating, and vomiting.

**Use in Pregnancy & Lactation**
*Pregnancy Category: C.* Animal reproduction studies have not been conducted with Norepinephrine. It is also not known whether Norepinephrine can cause fetal harm when administered to a pregnant woman or can affect reproduction capacity. Norepinephrine should be given to a pregnant woman only if clearly needed. *Nursing Mothers:* It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, caution should be exercised when Norepinephrine is administered to a nursing woman.

**Use in Children and Geriatric Patients**
*Pediatric Use:* Safety and effectiveness in pediatric patients has not been established.
*Geriatric Use:* Clinical studies of Norepinephrine did not include sufficient numbers of subjects aged 65 and over to determine whether they respond differently from younger subjects. Other reported clinical experience has not identified differences in responses between the elderly and younger patients. In general, dose selection for an elderly patient should be cautious, usually starting at the low end of the dosing range, reflecting the greater frequency of decreased hepatic, renal or cardiac function and of concomitant disease or other drug therapy. Norepinephrine infusions should not be administered into the veins in the leg of elderly patients.

**Drug Interaction**
Guanethidine, Methyldopa, Reserpine, TCAs may increase pressor response to Norepinephrine.

**Overdose**
Symptoms: Hypertension, sweating, cerebral haemorrhage and convulsions.

**Storage**
Store at 2- $8^0$ C. and protect from light.
**How Supplied**
**Hyponor**™ : Each box contains 1 Ampoule in a blister pack.

*Manufactured by*
SQUARE
PHARMACEUTICALS LTD.
BANGLADESH