

# Norepinephrine IV Guide (Levophed)

## Class:

Sympathomimetic: Alpha/Beta agonist

Alpha adrenergic: Vasoconstriction; increases peripheral vascular resistance,

increases BP, decreases renal and mesenteric perfusion.

Beta-1 adrenergic: increases inotropy

#### **Indication:**

Hypotension, sepsis, shock persisting after adequate fluid volume replacement

#### Dose:

Adults: 2-20 mcg/min

Start at 8mcg/min and titrate to desired mean arterial pressure

(usual goal: MAP\* >65; example: BP 90/55)

Titrate up or down by 0.03mcg/kg/min q 2 min (eg 70kg adult:

increase by 2mcg/min q 2 min); Monitor BP q 2-5min when titrating

ACLS 2010 suggested range: 7-35mcg/min

Max dose range used in sepsis clinical trials: 210mcg/min in 70kg patient

Pediatrics: 0.05-0.1mcg/**kg**/min (max 2mcg/**kg**/min)

 $*MAP = ((2 \times diastolic) + systolic) / 3$ 

Write the goal MAP or BP in the prescription area in the chart.

## Pharmacokinetics:

Onset: very rapid acting Duration: 1-2 minutes

Excretion: urine as inactive metabolites

# **Presentation:**

4mg/4ml ampoules (1mg/ml)

# **Precautions/adverse reactions:**

Administer via central line

IO or large peripheral not recommended: risk of extravasation and skin necrosis; may consider them as temporary access while inserting central line.

If extravasation occurs: mix 5mg phentolamine (Rogitine) +10cc NS in syringe and inject with hypodermic needle directly into affected site.

Possibility of reflex bradycardia, arrhythmias, peripheral digital ischemia

# **Suggested preparation:**

Remove 8ml of a 250ml D5% (or 250ml D5NS) bag.

Add 8mg (8ml: ie 2 ampoules) in this 250ml D5% (or 250ml 0.9%NaCl) bag.

Final concentration: 32mcg/ml

Dose	Rate
(mcg/min)	(ml/hour)
2mcg/min	4ml/hour
4	8
6	11
8	15
10	19
12	22
14	26
16	30
18	34
20	38

This preparation is stable for 24 hours at room temperature.

Do not use the preparation if it appears brown or if precipitates have formed.

# **Compatibility:**

*Incompatible with:* oxidants and alkaline solutions (eg NaHCO3, aminophylline), insulin regular, thiopental.

Compatible with (incomplete list): amiodarone, clonidine, diltiazem, dobutamine, dopamine, epinephrine, esmolol, famotidine, fentanyl, furosemide, haloperidol, heparin, hydrocortisone sodium succinate, hydromorphone, inamrinone, labetalol, lorazepam, meropenem, midazolam, milrinone, morphine, nicardipine, nitroglycerin, nitroprusside, potassium chloride, propofol, ranitidine, remifentanil, vasopressin, vecuronium, and more.

*Variable compatibility*: pantoprazole, neseritide.

# **Pregnancy risk factor:** C

The benefits vs risks in the context of pregnancy should be taken by the physician in charge. Case by case consideration can be discussed with our referral center specialists. Note that catecholamines decrease placental perfusion so pressors should be used very carefully in the context of pregnancy.

#### References

Norepinephrine, Guide d'administration intraveineuse des drogues critiques, 6e Édition, 2012 Uptodate.com Norepinephrine: Drug information, Accessed August  $6^{\rm th}$  2012