

VANCOUVER GENERAL HOSPITAL - CSU PHARMACEUTICAL SCIENCES  
Special Access Drug Data Sheet

NICARDIPINE

**Classification:** antihypertensive      Alternate name: CARDENE      Manufacturer: EKR Therapeutics

**Mechanism of action:**

- Calcium channel blocker

**Indication**

- Short-term treatment of hypertension in the setting of ischemic stroke or intracerebral hemorrhage in patients who have not responded to labetalol IV, hydralazine IV, and enalaprilat IV; and oral therapy is not feasible

**Pharmacokinetics:**

- Onset: 1-2 minutes
- Time course of blood pressure decrease is dependent on rate of infusion and frequency of dosage adjustment
- 50% maximal effect achieved in 45 minutes with IV continuous infusion
- Discontinuation of infusion results in a 50% decrease in effect in approximately 30 minutes with gradually decreasing effect over the subsequent 15 hours

**Reconstitution & Stability**

- Supplied as premixed bag of 20 mg in 200 mL sodium chloride 0.86% (0.1 mg/ml)
- Protect bag from light until ready to use.

**Compatibility**

- Compatible with D5W, NS, sodium chloride 0.45%
- Do not mix with other medication, even by Y-site
- Incompatible with sodium bicarbonate and Lactated Ringers

**Administration**

- IV infusion:
  - Restricted to NICU, ICU, and Emerg
  - Administer as slow IV continuous infusion through large peripheral veins or central line to reduce risk of venous thrombosis, phlebitis, local irritation, swelling, extravasation, and vascular impairments
  - Exercise extreme caution to avoid intra-arterial administration or extravasation
  - Change site of drug infusion every 12 hours to minimize risk of peripheral venous irritation

**Dosage**

- Initiate IV infusion at 5 mg/hour and increase rate by 2.5 mg/hour every 5 minutes (rapid titration) to 15 minutes (gradual titration) to a maximum of 15 mg/hour
- Following achievement of blood pressure goal, decrease infusion rate to 3 mg/hour (30 mL/hr)

Dose (mg/hour)	Concentration (premixed bag) 0.1 mg/mL
	Infusion Rate
2.5	25 mL/hr
5	50 mL/hr
7.5	75 mL/hr
10	100 mL/hr
12.5	125 mL/hr
15 (max)	150 mL/hr

- Prolonged duration of effect may occur in patients with renal or hepatic insufficiency. Titrate carefully in patients with renal dysfunction and severe hepatic dysfunction.
- If there is concern of impending hypotension or tachycardia, discontinue infusion. When blood pressure has stabilized, infusion may be restarted at a low dose 2.5 to 5 mg/hr and adjusted to maintain blood pressure.

**Monitoring Parameters:**

- Monitor blood pressure and heart rate continually during infusion and avoid too rapid or excessive blood pressure decrease during treatment.
- Continuous hemodynamics monitoring does not require an arterial line and can be done with a blood pressure cuff.

**Side Effects:**

- Most common: Headache, hypotension, tachycardia, nausea, vomiting
- Other:
  - CNS: fever, confusion
  - HEENT: conjunctivitis, ear disorder, tinnitus
  - CVS: angina pectoris, atrioventricular block, ST segment depression, inverted T wave, deep vein thrombophlebitis
  - RESP: respiratory disorder
  - GI: dyspepsia
  - GU: urinary frequency
  - HEME: thrombocytopenia
  - Metabolic: hypophosphatemia
  - Extremities: neck pain, hypertonia, peripheral edema

**Contraindications:**

- Advanced aortic stenosis
- Closely monitor patients with: angina, heart failure, impaired hepatic function, renal impairment

**Other:**

- Drug interactions with beta blockers, cimetidine, and cyclosporine
- Nicardipine is not available on Canadian Market. Use must be approved by the Health Canada Special Access Programme.
- Refer to the product monograph for more detailed information

**Report any adverse drug reactions to CSU Pharmaceutical Sciences**

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