

Starts July 22

Cleviprex® (Clevidipine)

Therapeutic Overview



CAUTION!!
Look Alike Med

MECHANISM OF ACTION:

- Clevidipine is a third-generation intravenous dihydropyridine **calcium channel blocker** in the same family as amlodipine, nicardipine, and nifedipine.
- Acts as a potent arterial vasodilator
 - Reduces afterload (BP and SVR) with minimal hemodynamic effects on preload or myocardial contractility.

ADMINISTRATION / FORMULATION:

- 20% lipid emulsion (Reference: Propofol is a 10% lipid emulsion.)
 - **Avoid in** patients with egg or soy allergy, defective lipid metabolism, and **those with severe aortic stenosis.**
- Comes in 25mg/50mL pre-mixed, ready to use vials.
- **May be infused via central or peripheral line**
- **Tubing must be changed every 12 hours / Vial must be discarded 12 hours after puncturing**

INCOMPATIBLE WITH MANY of our common infusions (examples include Levophed, Epinephrine and Amicar), so a dedicated line such as a VIP infusion port will most often be required. (See incompatibilities list on Accudose flyer.)

CLINICAL PEARLS:

- Ultra-short acting agent : Onset of action is 2-3 minutes, duration of action is 5-15 minutes
- Dosage:
 - **Starts at 1-2 mg/hr continuous infusion**
 - **May titrate every 90 seconds initially**
 - **Once initial BP goal is reached, then titrate at q5-10 min intervals**
 - **Typical dose range in trials were 4-6 mg/min**
- Adverse effects:
 - **Hypotension, nausea, headache, vomiting**

| | Sodium Nitroprusside | Nicardipine | Clevidipine |
|--------------------------------|--|--|--|
| Actions for BP-Lowering | Arterial and venous vasodilation | Arterial vasodilation | Arterial vasodilation |
| Typical dosage | 0.3-3 mcg/kg/min | 5-15 mg/hr | 4-6 mg/hr |
| Time to onset | < 1 min | 10-15 min | 2-3 mins |
| Duration | 1-3 min | 4-6 hours | 5-15 mins |
| Titration intervals | Q5-10 mins | Q5-15 mins | Q90 secs, then Q5-10 mins |
| Comments | <ul style="list-style-type: none"> • Venodilatory effects may produce unpredictable swings in BP, esp in diastolic dysfxn or hypovolemia • Potential for cyanide toxicity in renal failure | <ul style="list-style-type: none"> • Long half-life, slower offset of action • Extensive hepatic metabolism – possibly decreased activity in intra-operative hypothermia | <ul style="list-style-type: none"> • ECLIPSE study showed more predictable BP control compared to nitroprusside • Not impacted by hepatic or renal dysfunction |

WHY ARE WE CHANGING AND HOW WILL CLEVIDIPINE BE USED??

- The price of sodium nitroprusside has risen dramatically.
- Clevidipine use is restricted to 1) orders by Cardiac Anesthesia and 2) **perioperative use for up to 12 hours.** Its intended use is for very hypothermic or very low EF patients. The “standard” medication will be nicardipine.
- Patients requiring an antihypertensive for longer than 12 hours will be transitioned to another agent post-operatively.
- In non-cardiac surgery patients, nicardipine will be the preferred agent when requiring IV continuous infusion for blood-pressure reduction.