

Rules for Dopamine Infusion

1. In most cases, volume boluses are administered before it is determined that dopamine is necessary.⁴¹
2. The starting dose for dopamine should be selected based on the infant's clinical status and reason for hypotension. Dopamine is usually started at 5 mcg/kg/minute and can be increased (or decreased) by 2.5 mcg/kg/minute as shown in the infusion graph on page 213.

Note: In many neonatal intensive care units, dopamine is mixed to yield a more concentrated solution than presented in this module, and the rate of increase (or decrease) is usually limited to 1 mcg/kg/minute, each time the rate is changed.

3. Monitor the blood pressure and heart rate every 1 to 2 minutes for 15 minutes then every 2 to 5 minutes depending upon response to the medication. If an infant is failing to respond to a dose of 20 mcg/kg/minute, then increasing the dose further is not recommended.



- Never infuse dopamine, or any vasoconstrictor medication through any arterial site including the umbilical artery catheter or peripheral arterial line.
- Infuse dopamine on an infusion pump and to increase safety, use “smart pump” technology whenever possible.
- **Do not flush** dopamine or lines containing dopamine, as this will cause the blood pressure to surge up and the heart rate to abruptly slow down.

4. Since IV infiltration may lead to tissue sloughing and necrosis, it is recommended that dopamine be administered through a central venous line whenever possible.
 - Administer via an umbilical venous catheter (UVC) if the catheter's position has been confirmed by chest x-ray and the tip is appropriately located above the liver at the inferior vena cava/right atrial junction; or, administer via a peripherally inserted central catheter (PICC).
 - If no central venous access is available, infuse dopamine through a peripheral IV.
 - If infused through a peripheral IV, monitor the infusion site closely. If infiltration occurs, and there is concern that dermal necrosis may develop, be prepared to treat the area with a subcutaneous injection of a saline solution containing phentolamine mesylate.^{72,75}

Practice Session: Dopamine rate

A dopamine standardized concentration of 800 mcg per mL IV fluid has been prepared.

Using the infusion graph on page 213 answer the follow questions:

1. A dose of 10 mcg/kg/minute of dopamine is ordered for a 3.8 kg infant.
What infusion rate will this infant require? _____
2. A dose of 5 mcg/kg/minute of dopamine is ordered for a 1.4 kg infant.
What infusion rate will this infant require? _____