Many healthcare organizations require that nurses demonstrate the ability to calculate IV drip rates (drops/minute) in the event of an emergency that disables IV infusion pumps. Review the formula for calculating IV drip rate in drops per minute.

To calculate the infusion rate: IV drip rate in drops per minute = 

\[ \frac{\text{Volume to be infused (mL) over 1 hour}}{\text{Drop factor constant}} = \frac{12}{1} = 12 \text{ drops/min} \]

Common drop factors

<table>
<thead>
<tr>
<th>Drop factor constant</th>
<th>120 gtts/mL - minidrip set</th>
<th>10 gtts/mL – regular drip set</th>
<th>15 gtts/mL – regular drip set</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 60</td>
<td>1</td>
<td>6</td>
<td>4</td>
</tr>
</tbody>
</table>

Common drop factors are also known as the clock method – drop factors are obtained by dividing 60 minutes by the number of gtts per mL that the IV set delivers.

Review correct procedure and precautions for the following routes of administration:

- Bottle feeding the infant who has a cleft palate
- Enteral feeding tube
- Eye drops
- IM injections
- IV therapy

Review monitoring and precautions related to blood transfusion

Review monitoring and precautions related to medication allergy

Review indications, action of medications, adverse effects, monitoring, precautions, and patient teaching implications related to:

- Albumin
- Analgesics
  - Acetaminophen (Tylenol®), also antipyretic use
    - Especially risks, maximum recommended dosage
  - Fentanyl
    - Especially adverse effects
  - Morphine
    - Especially adverse effects
Especially toxicity, signs/symptoms and treatment

- **Antibiotics, such as**
  - Amoxicillin
  - Erythromycin
  - Gentamicin (Garamycin®)
  - Penicillin G
    - Especially adverse effects
  - Vancomycin (Vancocin®)
    - Especially adverse effects

- **Anticoagulants, such as heparin**
  - Emphasis on safety

- **Anticonvulsants, uses such as**
  - Lorazepam (Ativan®)
    - Especially precautions
  - Phenobarbital
    - Especially indications

- **Asthma medications including Bronchodilators, such as** albuterol (Proventil®)
  - Especially adverse effects
  - Treatment of acute asthma

- **Cardiovascular Medications, such as digoxin**
  - Especially indications of toxicity and pertinent lab values

- **Diuretics, such as furosemide (Lasix®)**
  - Especially monitoring

- **Electrolytes such as**
  - **IV potassium chloride (KCl)**
    - Especially monitoring
  - 10% dextrose in water (D_{10}W)
  - 12.5% dextrose in water (D_{12.5}W)
  - 25% dextrose in water (D_{25}W)

- **IV potassium chloride (KCl)**
  - Especially monitoring

- **Emergency medications, particularly indications and dosing, for medications such as:**
  - Epinephrine
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- Dobutamine
- Dopamine
- Lidocaine

- **Famotidine (Pepcid®)**

- **Glucocorticosteroids, such as prednisone**
  - Especially adverse effects

- **Inhaled nitric oxide**
  - Especially action of the medication

- **Methylxanthine agents, such as caffeine**
  - Especially adverse effects

- **Milrinone**

- **Prostaglandin**
  - Especially action and indications

- **Reversal Agents/Antidotes, such as**
  - Flumazenil (Romazicon®)
  - Naloxone (Narcan®)

- **Surfactant**
  - Ventilator implications

Review **Calculations, including**

- IV drip rate
- mL/hr IV rate
- Number of milliliters to obtain ordered dose
- Fluid calculations
- Dosage and fluid 24-hour calculations

Review **laboratory tests used to monitor medication therapy**, including

- Hematocrit
- Peaks and troughs
- Serum bilirubin
- Serum electrolytes, particularly potassium
- Serum glucose