## Indications for IV Use

**Health Canada Approved**
- Treatment of severe herpes simplex and varicella-zoster infections.

**Non Health Canada Approved Indication but Substantiated in the Literature:**
- Alone or in combination regimens in the prophylaxis and treatment of other viral infections including cytomegalovirus.

### Spectrum of Activity:
- Herpes simplex, varicella-zoster, and human herpesvirus 6.
- Limited activity against Epstein-Barr and Cytomegalovirus.

## Contraindications
- Hypersensitivity to acyclovir or ganciclovir.

## Cautions
- Dehydration or impaired renal function: increased risk of nephrotoxicity.
- Neurological abnormalities or previous neurological reactions to cytotoxic medications.
- Immunocompromised and/or geriatric patients: increased risk of neuropsychiatric toxicity.

## Drug Interactions:
- Other nephrotoxic medications, e.g. amphotericin B, increased potential for nephrotoxicity.

## Pregnancy/Breast Feeding
- Contact pharmacy for most recent information.

## Administration

<table>
<thead>
<tr>
<th>Mode</th>
<th>Direct Into IV Tubing</th>
<th>Intermittent Infusion</th>
<th>Continuous Infusion</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td><strong>Who May Give</strong></td>
<td></td>
<td>All registered nurses</td>
<td></td>
</tr>
<tr>
<td><strong>Adult</strong></td>
<td></td>
<td>Dilute each 500 mg in at least 50 mL. Maximum concentration 10 mg/mL. Infuse over at least 60 minutes.</td>
<td></td>
</tr>
<tr>
<td><strong>Paediatric</strong></td>
<td></td>
<td>As above</td>
<td></td>
</tr>
<tr>
<td><strong>Neonate</strong></td>
<td></td>
<td>Pharmacy to prepare and dilute to 5 mg/mL. Infuse over at least 60 minutes.</td>
<td></td>
</tr>
</tbody>
</table>

## Monitoring

- **Required**: Fluid balance. Ensure adequate hydration during and for at least 2 hours following administration. (Manufacturer suggests 1 litre of fluid/24 hours/gram of acyclovir and recommends a minimum urine output of 500 mL/24 hours/gram of acyclovir.)

- **Recommended**: Assess IV site for signs of phlebitis.
- Serum creatinine.

## Reconstitution
- None required. Available as acyclovir 50 mg/mL - 10 mL vial.
COMPATIBILITY/STABILITY
- Compatible with D5W, NS, dextrose 5% - saline combinations, and lactated Ringer’s solutions.
- Stable in above solutions for 24 hours at room temperature. Do not refrigerate.
- For drug-drug compatibility, contact drug information.

ADVERSE EFFECTS

LOCAL REACTIONS
- Phlebitis or inflammation at the injection site (pain, swelling or redness).

RENAL
- Acute renal failure, due to precipitation of acyclovir in renal tubules. Risk is decreased by ensuring adequate hydration during and for at least 2 hours following administration.

CNS
- Confusion, hallucinations, seizures, tremors, coma: associated with high plasma concentrations. (Rare).

MISCELLANEOUS
- Anorexia, nausea or vomiting.
- Light-headedness.

DOSE

ADULT
- Obese patients should be dosed based on ideal body weight.1
- 5 - 10 mg/kg every 8 hours.
- Immunocompromised patients: 10 mg/kg every 8 hours.
- Duration of therapy: at least 5 days for immunocompetent patients and at least 7 days for immunocompromised patients.1
- Prophylaxis of herpes simplex in immunocompromised patients: 5 mg/kg every 8 - 12 hours.3

PAEDIATRIC
- 250 - 500 mg/m² or 5 - 15 mg/kg every 8 hours depending on the infection.7,8 For children 12 years or younger it is recommended that dose be calculated by use of body surface area.1
- Herpes simplex:
  - Encephalitis: 10 mg/kg or 500 mg/m² every 8 hours for 10 - 14 days.8
  - Mucocutaneous infections in immunocompromised patients: 5 mg/kg or 250 mg/m² every 8 hours for 7 - 10 days.8
  - Severe disseminated infections: 5 - 15 mg/kg or 250 - 500 mg/m² every 8 hours for 5 - 10 days.7,8
  - Varicella-zoster in immunocompromised patients: 10 - 15 mg/kg or 500 mg/m² every 8 hours for 7 - 14 days.8

NEONATE9
- 10 mg/kg q8h for 10 - 14 days. Longer dosing interval if less than 34 week PCA or significant renal or hepatic impairment.

RENAL IMPAIRMENT ADJUSTMENTS

<table>
<thead>
<tr>
<th>Creatinine clearance (mL/s)</th>
<th>Creatinine clearance (mL/min)</th>
<th>% usual dose</th>
<th>Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.4-0.8</td>
<td>24 - 50</td>
<td>100%</td>
<td>every 12 hours</td>
</tr>
<tr>
<td>0.2-0.4</td>
<td>12 - 24</td>
<td>100%</td>
<td>every 24 hours</td>
</tr>
<tr>
<td>less than 0.2</td>
<td>less than 12</td>
<td>50%</td>
<td>every 24 hours</td>
</tr>
</tbody>
</table>

HEPATIC IMPAIRMENT ADJUSTMENTS10
- None required.

HEMO/PERITONEAL DIALYSIS11
- Haemodialysis: 50% of usual dose every 24 hours. Dose after dialysis.
- CAPD: 50% of usual dose every 24 hours.
- CAVH: 3.5 mg/kg.d


