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| **Alert** | Increased risk of renal impairment if there is concomitant use of other nephrotoxic drugs, pre-existing renal disease or dehydration.<br>Even when mixed with compatible fluids, turbidity or crystallisation may occur in the infusion fluid. Discard preparation if this occurs before or during the infusion.<br>Aciclovir is highly alkaline and IV extravasation can cause severe tissue damage. |
| **Indication** | Treatment of neonatal herpes simplex virus (HSV) infection.<br>HSV suppression following treatment to prevent CNS sequelae.<br>Treatment of varicella zoster virus (VZV) infection. |
| **Action** | Pro-drug which is activated in virally infected cells and inhibits viral DNA synthesis. |
| **Drug Type** | Antiviral |
| **Trade Name** | IV: Aciclovir Sandoz, DBL, Pfizer,<br>Oral: Aciclovir GH, Aciclovir Sandoz, Acihexal, Acyclo-V, Chemmart Aciclovir, GenRx Aciclovir, Lovir, Ozvir, Pharmacor Aciclovir, Terry White Chemists Aciclovir, Zovirax |
| **Presentation** | IV: Aciclovir DBL, Pfizer : 250 mg/10 mL ampoule, 500 mg/20 mL ampoule<br>Aciclovir Sandoz: 250 mg, 500 mg vial (powder for reconstitution)<br>Oral: 200mg, 400mg, 800mg tablets (Acyclo-V, Lovir, Ozvir, Zovirax brands are dispersible) |
| **Dosage/Interval** | **Treatment of HSV and VZV**<br>IV: 20 mg/kg/dose 8 hourly<br>Consider 12 hourly dosing in infants with postmenstrual age/corrected age < 30 weeks where HSV or VSV is not confirmed.<br><br>**Suppression of HSV following treatment[5]**<br>PO: 300 mg/m$^2$/dose three times per day for 6 months.<br><br>**Body Surface Area (BSA) calculation:**<br>$BSA\ (m^2) = \sqrt{\frac{height\ (cm) \times weight\ (kg)}{3600}}$<br><br>**Adjusted Dose/dose interval in renal impairment**<br><br>**Creatinine concentration** / **Dosage/Interval adjustment**<br>70–100 micromol/L / 20 mg/kg 12 hourly<br>101–130micromol/L / 20 mg/kg 24 hourly<br>> 130 micromol/L and/or urine output < 1 mL/kg/hour / 10 mg/kg 24 hourly<br><br>**Duration of therapy**<br>For laboratory or clinically confirmed HSV confined to skin, eye, mouth: 10–14 days.<br>For HSV encephalitis or disseminated disease: 21 days.<br>For pre-emptive therapy (high-risk asymptomatic infant without laboratory confirmed infection): 10 days (expert recommendation). |
| **Maximum daily dose** | |
| **Route** | IV or PO |
| **Preparation/Dilution** | IV: If using Sandoz brand, reconstitute 250 mg vial with 10 mL or 500 mg with 20 mL of water for injection to obtain 25 mg/mL solution. If using DBL or Pfizer brand, vials contain 25 mg/mL solution.<br>Draw up 2 mL (50 mg)of aciclovir and add 8 mL sodium chloride 0.9% to make final volume 10 mL with a concentration of 5 mg/mL.<br><br>PO: Acyclo-V, Lovir, Ozvir and Zovirax brands come as dispersible tablets. Consider rounding if dose is close to half or quarter of a tablet. Disperse fraction of tablet in small quantity of water (e.g. 2 mL) and give dose immediately.<br>If this is not possible, disperse an entire tablet in a set quantity of water, ensure mixture is a uniform suspension, and draw up a fraction of this mixture and give immediately. If uniform suspension cannot be produced, contact pharmacy. Discard any unused mixture. Example: If dose |

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| | is 30 mg, disperse 200 mg tablet in 10 mL of water to obtain 20 mg/mL mixture, and then give 1.5 mL. |
| **Administration** | IV Infusion: Infuse via syringe driver over 60 minutes.<br><br>PO: Dose can be given with feed. |
| **Monitoring** | Periodic full blood count, renal function, bilirubin, and hepatic transaminases. Monitor IV site for phlebitis — prepare a more dilute infusion solution if phlebitis occurs. |
| **Contraindications** | Known hypersensitivity to aciclovir, valaciclovir or any component of the product. |
| **Precautions** | There is an increased risk of renal impairment if there is concomitant use of other nephrotoxic drugs, pre-existing renal disease or dehydration. Administration interval may be lengthened to minimise renal effects. Please refer to the renal adjustment dose in the dosage/interval section. |
| **Drug Interactions** | Concurrent administration with other nephrotoxic drugs may cause renal impairment e.g. gentamicin, frusemide. Concurrent use with ceftriaxone may also cause renal impairment. |
| **Adverse Reactions** | Neutropenia, thrombocytopenia may occur. May cause neurotoxicity with lethargy, tremor, and agitation. May cause transient renal impairment which is minimised by a slow administration rate. May cause transient rise in AST and total bilirubin. Phlebitis may occur at IV injection site (highly alkaline solution). If this occurs, the solution can be made more dilute. |
| **Compatibility** | Sodium chloride 0.45%, sodium chloride 0.9%<br><br>Compatible via Y-site : Amikacin, ampicillin, anidulafungin, cefotaxime, ceftazidime, ceftriaxone, cefazolin, chloramphenicol, clindamycin, dexamethasone, doripenem, erythromycin, fluconazole, heparin sodium, hydrocortisone sodium succinate, imipenem–cilastatin, linezolid, lorazepam, magnesium sulfate, methylprednisolone sodium succinate, metronidazole, potassium chloride, ranitidine, remifentanil, sodium bicarbonate, tobramycin, trimethoprim-sulfamethoxazole, vancomycin, zidovudine |
| **Incompatibility** | Amino acid/glucose solution, glucose-containing solutions, adrenaline (epinephrine) hydrochloride, aztreonam, caffeine citrate, cefepime, ciprofloxacin, dobutamine, dopamine, esmolol, gentamicin, hydralazine, ketamine, labetalol, lidocaine (lignocaine), midazolam, pentamidine, phenylephrine, piperacillin–tazobactam (EDTA-free), potassium phosphate, sodium nitroprusside, sodium phosphate, ticarcillin–clavulanate, vecuronium, verapamil. |
| **Stability** | Dilute solutions should be used as soon as practicable, discard unused solution. |
| **Storage** | Store below 25°C. Do NOT refrigerate (may result in precipitation). |
| **Special Comments** | The infusion solution may be filtered. Discard the solution if visible turbidity or crystallisation appears. |
| **Evidence summary** | As per NMF Consensus Group. Refer to reference manual or electronic version. |
| **References** | As per NMF Consensus Group. Refer to reference manual or electronic version. |

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