DESCRIPTION	Aciclovir is a guanine analogue, it inhibits viral DNA polymerase and DNA synthesis following phosphorylation by viral and cellular enzymes.[1] Aciclovir is active against herpes simplex and varicella-zoster virus.[2]
ChAMP INDICATIONS AND RESTRICTIONS	**IV: Category B: Monitored** ChAMP team to be informed of use and will review if ongoing therapy is required and does not meet specified indications. **Standard Indications:** • HSV – localised, encephalitis or disseminated infection in children < 3 months of age • Empiric treatment of sepsis or encephalitis (<3 months of age) • HSV treatment (immunocompromised) • VZV treatment (immunocompromised) • HSV and VZV prophylaxis (immunocompromised, including oncology/transplant) • HSV treatment of severe mucocutaneous infection (immunocompetent) • Empiric treatment – encephalitis • HSV encephalitis treatment • Varicella pneumonitis, encephalitis or hepatitis **Oral and Topical: Category A: Unrestricted** Oral and topical aciclovir are not restricted agents. Follow standard ChAMP guidelines where appropriate.
FORMULATIONS	250mg/10mL solution for injection 200mg tablets (dispersible) 3% Eye Ointment 5% Topical Ointment
DOSAGE	The doses listed below fall within the standard range. Higher doses may be prescribed for certain situations. This should be in consultation with Infectious Diseases or Microbiology consultants. $\text{BSA } (m^2) = \sqrt{\frac{\text{Height (cm) x weight (kg)}}{3600}}$ **<u>Less than 3 months:</u>** **IV:** Herpes simplex • Term < 3 months : 20mg/kg/dose 8 hourly[3] **<u>3 months and above</u>** **IV:** Herpes simplex encephalitis, Zoster ophthalmicus, Varicella encephalitis, Varicella with complications (non-encephalitis), Disseminated viral infection in immunocompromised host. • 3 months – 12 years : 500mg/ m^2/dose 8 hourly[3] • 12 years and above : 10mg/kg/dose 8 hourly Localised skin, eyes, mouth herpes simplex (non-encephalitis): • 3 months – 12 years : 250mg/m^2/dose every 8 hourly • 12 years and above : 5mg/kg/dose 8 hourly Prevention of recurrent Herpes simplex and varicella-zoster virus infection post Haematopoetic Stem Cell Transplant or Autologus Stem Cell Rescue: • 3 months – 12 years : 500mg/m^2/dose 8 hourly

	• 12 years and above ; 10mg/kg/dose 8 hourly Prevention of HSV in seropositive patients post Haematopoetic Stem Cell Transplant or Autologus Stem Cell Rescue: • 3 months – 12 years : 250mg/m^2/dose 8 hourly • 12 years and above ; 5mg/kg/dose 8 hourly Convert to oral aciclovir/valaciclovir as soon as oral medications are tolerated. **Oral:** Treatment of Herpes simplex (non-encephalitis) in immunocompetent host < 2 years : 100mg five times per day > 2 years : 200mg five times per day[3] Treatment of Herpes simplex (non-encephalitis) in immunocompromised host < 2 years : 200mg five times per day > 2 years : 400mg five times per day Prevention of Herpes simplex in immunocompromised host < 2 years : 100mg 3 or 4 times per day > 2 years : 200mg 3 or 4 times per day[3] Treatment of Varicella, Zoster 20mg/kg/dose (maximum 800mg) five times per day **<u>Ocular and Topical treatment</u>** Zoster opthalmicus, Herpes simplex keratitis, Dendritic ulcers 3% eye ointment: 1cm five times per day Herpes simplex 5% topical cream: Apply topically five times per day.[1, 3] Sexually transmitted disease should be treated with oral therapy. **Neonates:** Please refer to neonatal clinical care drug protocols Neonatology Clinical Care Unit - Drug Protocols - Services A — Z - Women and Newborn Health Service
DOSAGE ADJUSTMENT	**Dosage adjustment required in renal impairment:** Dosage adjustment may be required in cases of impaired renal function (with creatinine clearance of less than 50mL/min). [2] http://cahs.hdwa.health.wa.gov.au/__data/assets/pdf_file/0003/106986/01_Guidlines_for_calculating_CLcr.pdf **IV:** CL_{cr} >50mL/minute : normal dose CL_{cr} 25 – 50mL/minute : 100% 12 hourly CL_{cr} 10 – 25mL/minute : 100% 24 hourly CL_{cr} <10mL/minute : 50% 24 hourly [2] **Oral: *herpes simplex*** CL_{cr} > 10mL/minute : normal dose CL_{cr} < 10mL/minute : 100% 12 hourly[5] **Oral: *herpes zoster*** CL_{cr} > 25mL/minute : normal dose CL_{cr} 10 – 25mL/minute : 100% 8 hourly CL_{cr} < 10mL/minute : 100% 12 hourly[5]
RECONSTITUTION	Not applicable – use solution prepared in CIVAS where possible
ADMINISTRATION	**IV Infusion:** Dilute dose to a concentration of 5mg/mL or less with compatible fluid and infuse over one hour. In fluid restricted patients, a concentrated solution of 25mg/mL may be given via central line over one hour by a controlled rate infusion pump.[4,5,6] **Oral:** Tablets may be dispersed in water to facilitate oral administration in children unable to swallow tablets or for administration via a nasogastric tube or PEG.
MONITORING	Renal function (including urine output) and hepatic function should be monitored weekly with prolonged therapy (i.e. longer than 7 days)[7]

ADVERSE EFFECTS	**Common:** Nausea, vomiting, diarrhoea, hallucinations (with high dose), headache, encephalopathy, injection site reactions.[1] **Rare:** agitation, vertigo, confusion, dizziness, oedema, renal impairment, arthralgia, sore throat, abdominal pain, constipation, rash, weakness, coma, seizures, neutropenia, leucopenia, crystalluria, anorexia, fatigue, hepatitis, Stevens-Johnson syndrome, toxic epidermal necrolysis, anaphylaxis.[1]
COMPATIBLE FLUIDS	Glucose 5% Glucose/sodium chloride solutions Sodium chloride 0.45% and 0.9% Hartmann's[4,6,8]
PRECAUTIONS	DO NOT REFRIGERATE as crystallisation may occur. The crystals may not redissolve when brought back to room temperature.[3,4,8] Ensure adequate hydration throughout treatment to prevent precipitation of aciclovir the renal tubules that may manifest as haematuria or renal impairment.[5,6]
COMMENTS	Aciclovir is poorly and erratically absorbed from the gut. [2] Each 1 gram vial of aciclovir contains 158.8mg (6.9mmol) of sodium[8]

Please note: The information contained in this guideline is to assist with the preparation and administration of **aciclovir**. Any variations to the doses recommended should be clarified with the prescriber prior to administration

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