ACICLOVIR

Read in conjunction with Disclaimer

HIGH RISK Medication

Formulary: Restricted Requires Neonatologist/Microbiologist review within 24 hours of initiation	
Presentation	**Vial (powder for reconstitution):** 250 mg
Drug Class	Antiviral – guanine analogue
Indication	• Treatment or prophylaxis of herpes simplex virus (HSV) type I and II. • Treatment or prophylaxis of varicella zoster virus infection (VZV).
Special Considerations	• Duration should be discussed with clinical microgiologist. • Oral route is not recommended in neonates as absorption is erratic. Consult microbiologist regarding therapy for long term oral suppressive therapy. • Increased risk of impaired renal function in patients with pre-existing renal disease and dehydration, and with concomitant use of other nephrotoxic drugs.
Monitoring	• Urine output, renal and hepatic function. • Full Blood Count (FBC) • Aciclovir can crystalize out in the renal tubules and present as haematuria • IV site for phlebitis – prepare a more dilute infusion solution if phlebitis occurs
Compatibility	**Fluids:** Sodium Chloride 0.9%, Sodium Chloride 0.45%, Glucose 5% Refer to KEMH Neonatal Medication Guideline: Y-Site IV Compatibility in Neonates.
Incompatibility	Amino acid/glucose solution (TPN), adrenaline (epinephrine), caffeine citrate, cefepime, ciprofloxacin, dobutamine, dopamine, hydralazine, midazolam, paracetamol, phenylephrine, piperacillin/tazobactam (EDTA-free), vecuronium, verapamil.
Interactions	• Nephrotoxic drugs (concurrent use) e.g. gentamicin, furosemide. • Ceftriaxone (concurrent use) may cause renal impairment.

Side effects	**Common:** diarrhoea, vomiting, encephalopathy, extravasation, injection site reactions, hypotension.
	Infrequent: agitation, oedema, constipation, rash, renal impairment.
	Rare: seizures, anaemia, neutropenia, leucopenia, thrombocytopenia, crystalluria, anorexia, hepatitis, urticaria, pruritis, photosensitivity, Stevens-Jonhson Syndrome, toxic epidermal necrolysis, anaphylaxis.
Storage & Stability	• Store at room temperature, below 25ºC. • Do NOT refrigerate (may result in crystallisation). • Discard the solution if visible turbidity or crystallisation appears.

INTRAVENOUS

Presentation (for IV use)

Vial (powder for reconstitution): 250 mg

Available from CIVAS (KEMH Only): *5 mg/mL*

Dosage

Treatment or prophylaxis of HSV or VSV

Corrected Gestational Age	Dose	Frequency
Less than 30 weeks	20 mg/kg	Every 12 hours
Greater than or equal to 30 weeks	20 mg/kg	Every 8 hours

- Dose adjustment:
  - Renal impairment: dose adjustment is required. Consult microbiologist or neonatal pharmacist.

Preparation

IV infusion:

Step 1 Reconstitution:

Add 10 mL of water for injections or sodium chloride 0.9% to a 250 mg vial.

Step 2 Dilution:

Draw up 50 mg (2 mL) and make up to 10 mL total volume with compatible fluid.

Concentration is now equal to **5 mg/mL**

Administration

IV infusion:

Infuse via syringe driver pump over 60 minutes.

- Discard the solution if any visual turbidity or crystallisation occues before or during administration.
- Rapid rate of infusion may lead to renal tubular damage & impaired renal function.

Use central line if available

Aciclovir is highly alkaline and can cause severe extravasation injury (*Risk of phlebitis and extravasation increases at concentrations greater than 10 mg/mL*).

- Empirical therapy: may be given via a peripheral line.
- Long term treatment: consider giving via central line.

Related Policies, Procedures, and Guidelines

HDWA Mandatory Policies:

MP 0131/20: WA High Risk Medication Policy

Clinical Practice Guidelines:

Neonatology – Herpes Simplex Virus (HSV); management of neonates born to HSV positive women

Neonatoy – Neonatal Viral Infections

References

Takemoto CK, Hodding JH, Kraus DM. Pediatric & neonatal dosage handbook with international trade names index : a universal resource for clinicians treating pediatric and neonatal patients. 23rd ed. Hudson (Ohio): Lexicomp; 2017. 2,401 p. 58

Truven Health Analytics. Acyclovir sodium. In: NeoFax [Internet]. Greenwood Village (CO): Truven Health Analytics; 2023 [cited 2023 Jun 27]. Available from: https://neofax.micromedexsolutions.com/

Society of Hospital Pharmacists of Australia. Aciclovir. In: Australian Injectable Drugs Handbook [Internet]. [St Leonards, New South Wales]: Health Communication Network; 2023 [cited 2023 Jun 27]. Available from: http://aidh.hcn.com.au

Neomed Formularies. Aciclovir. In: The Royal Hospital for Women [Internet]. [South Eastern Sydney, New South Wales; 2021 [cited 2023 Jun 27]. Available from: https://www.seslhd.health.nsw.gov.au/royal-hospital-for-women/neomed-formularies

Therapeutic Guidelines. Neonatal herpes simplex infection. In: eTG complete [Internet]. West Melbourne (Victoria); Therapeutic Guidelines; 2023 [cited 2023 Jun 27]. Available from: https://tgldcpd.tg.org.au

Document history

Keywords	Aciclovir, acyclovir, herpes simplex virus, HSV, varicella zoster virus, VZV				
Document Owner:	Chief Pharmacist				
Author/ Reviewer	KEMH & PCH Pharmacy/Neonatology Directorate				
Version Info:	4.0 – full review (October 2023)				
Date First Issued:	01/2001	Last Reviewed:	24/10/2023	Review Date:	24/10/2028
Endorsed by:	Neonatal Directorate Management Group			Date:	
NSQHS Standards Applicable:	☒ Std 1: Clinical Governance		☒ Std 4: Medication Safety		
Printed or personally saved electronic copies of this document are considered uncontrolled. Access the current version from WNHS HealthPoint.					

This document can be made available in alternative formats on request for a person with a disability.