ACICLOVIR This drug must be guardrailed

Trade Name	Aciclovir-Claris® (Claris) solution for IV Infusion (AFT Pharmaceuticals Ltd) Aciclovir- Baxter® solution for IV infusion (Baxter Pharmaceuticals) Aciclovir Univir®
Class	Antiviral agent
Mechanism of Action	Inhibits DNA synthesis and viral replication. Active metabolite is aciclovir triphosphate.
Indications	Treatment of neonatal herpes simplex infection **Indication 1:** Skin eyes and mouth (SEM) disease **Indication 2:** CNS disease **Indication 3:** Disseminated disease **Indication 4:** Empirical treatment in infants born to mothers with evidence of **primary** herpes infection with vaginal delivery, or ruptured membranes >4 hrs or instrumentation during labour
Contraindications	Hypersensitivity to aciclovir. Caution in patients with pre-existing renal disease or with concurrent use of other nephrotoxic drugs
Supplied As	**IV:** 250mg/10mL vial, or 250mg dry powder for reconsititution (Univir brand)* **Oral:** 400mg dispersible tablets
Dilution* ***ONE dilution step required**	**CAUTION: check which brand is currently available as directions for dilution differ** **IV: Claris and Baxter brands* - 1 step dilution process** **Further dilute the 25mg/mL solution in the vial as per the table below:**

Drug	Add Diluent **0.9% sodium chloride or 5% dextrose**	Total Volume	FINAL CONCENTRATION
100mg = 4mL	16 mL	**20 mL**	**5 mg / mL**

****TWO dilution steps required**

IV: Univir brand - 2 step dilution process**

Step 1. Reconstitute the vial

Drug	Add Diluent	Total Volume	Concentration
	Water for injection		
250mg (dry powder)	10 mL	10 mL	25 mg / mL

Step 2. Further dilute the 25 mg/mL solution in step 1

Drug	Add Diluent	Total Volume	FINAL CONCENTRATION
	0.9% sodium chloride or 5% dextrose		
100mg = 4mL	16 mL	**20 mL**	**5 mg / mL**

Oral:

If acyclovir is prescribed orally then a suspension using a crushed tablet will be required to be freshly prepared as follows

Tablet	Add Diluent	FINAL CONCENTRATION
	Water for injection	
400 mg	20 mL	**20 mg / mL**

Dosage

Depending on the dose, aciclovir can either be infused via the Alaris pump with the guardrail in place or for smaller volumes (<10mL) via the T34 pump.

Indication 1: 20mg/kg/dose for 14 days

Indication 2/3: 20mg/kg/dose for 21 days

Indication 4: 20mg/kg/dose until PCR and viral culture results are negative or for up to 5 days.

Guardrails

Concentration: 5mg/mL

Soft Alert Min: 10mg/kg/hr Hard Alert Max: 25mg/kg/hr
Soft Alert Max: 20mg/kg/hr Default Setting: 20mg/kg/hr

Interval

8 hourly

12 hourly if <34 weeks gestation, or renal impairment

Administration	IV infusion over 1 hour Can give oral doses after initial iv treatment at 20mg/kg/dose 6 hourly in some clinical scenarios but this must be an SMO decision.
Compatible With	Solutions: Glucose 4% and Sodium Chloride 0.18%, Glucose 2.5% and Sodium Chloride 0.45%, Sodium Chloride 0.9% and 0.45%, Compound Sodium Lactate (Hartmann's) Y site: Amphotericin B liposomal, benzylpenicillin, calcium gluconate, cefazolin, cefotaxime, ceftazidime, cefuroxime, dexamethasone, dexmedetomidine, digoxin, erythromycin lactobionate, fluconazole, furosemide, heparin sodium, hydrocortisone sodium succinate, imipenem+cilastin, insulin, metronidazole, milrinone, pancuronim bromide, phenobarbital sodium, potassium chloride, propranolol, ranitidine, sodium bicarbonate, sulfamethoxazole + trimethoprim, vancomycin, voriconazole, zidovudine
Incompatible With	TPN Amiodarone, caffeine citrate, ciprofloxacin, dobutamine, dopamine, gentamicin, hydralazine, meropenem, midazolam, morphine, naloxone, ondansetron, paracetamol, phenytoin, piperacillin + tazobactam, potassium dihydrogen phosphate There is no information re compatibility with Smoflipid® and therefore infusion in the same line as aciclovir cannot be recommended.
Monitoring	Ensure adequate hydration and monitor renal function (consider impact of concomitant nephrotoxic drugs) Maintain good urine output for 2hrs post infusion.
Stability	Contains no antimicrobial preservative, dilute immediately before use and discard any unused diluted solution. Use a new vial for each dose.
Storage	Store at room temperature, DO NOT refrigerate – precipitate may form. Protect from light.
Adverse Reactions	Phlebitis may occur at IV site (due to alkaline pH of 10). If present dilution should be increased. Risk of transient renal impairment and crystalluria. Reversible neurological reactions have been reported (lethargy, seizures, agitation) Nausea and vomiting
Metabolism	Minimal metabolism in the liver. Primary route of excretion is the kidney. Protein binding <30%
Comments	Infusion solution should be <7mg/ml to minimise phlebitis Use of long courses of oral aciclovir for prevention of recurrent infection can cause transient neutropenia - routine use not yet recommended. Sodium content is approximately 2.67mg/mL.

References	1. Trissell Handbook on Injectable Drugs 10th Edition 2. NZHPA notes on Injectable Drugs 5th Edition 3. Micromedex, Neofax, 2007 4. NEJM 1991; 324:444-449 5. Am J Obst Gyn 1991; 164: 569-76 6. Pediatr Inf Dis J 1996; 15(3): 247-54 7. Herpes. 11 Suppl 2:65A-76A, 2004 Jun 8. Guidelines for the management of genital herpes in NZ; 8th Ed: 2007 9. Aciclovir-Claris data sheet. AFT Pharmaceuticals Ltd. Prepared 27th March 2014
Updated By	D Gray May 2000 N Austin December 2001, July 2002 P Schmidt, B Robertshawe Nov 2004, July 2006 A Lynn, B Robertshawe June 2007, September 2009 A Lynn, B Robertshawe July 2012 (re-order profile,increase dilution vol) A Lynn, B Robertshawe May 2013(change to brand, now powder) A Lynn, H Harris Feb 2016 (change to brand, now solution) A Lynn, M Wallenstein, B Robertshawe, A Evison May 2020 (review +update compatibility) A Lynn, B Robertshawe June 2022 (update brands and dilution) A Lynn, B Robertshawe Feb 2023 (update dilution formatting)