Aciclovir

250 mg/10 mL and 500 mg/20 mL vial, 250 mg and 500 mg vial, 200 mg tablet

Note:

This guideline provides advice of a general nature. This statewide guideline has been prepared to promote and facilitate standardisation and consistency of practice, using a multidisciplinary approach. The guideline is based on a review of published evidence and expert opinion.

Information in this statewide guideline is current at the time of publication.

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Health practitioners in the South Australian public health sector are expected to review specific details of each patient and professionally assess the applicability of the relevant guideline to that clinical situation.

If for good clinical reasons, a decision is made to depart from the guideline, the responsible clinician must document in the patient's medical record, the decision made, by whom, and detailed reasons for the departure from the guideline.

This statewide guideline does not address all the elements of clinical practice and assumes that the individual clinicians are responsible for discussing care with consumers in an environment that is culturally appropriate, and which enables respectful confidential discussion. This includes:

- The use of interpreter services where necessary,
- Advising consumers of their choice and ensuring informed consent is obtained,
- Providing care within scope of practice, meeting all legislative requirements, and maintaining standards of professional conduct, and
- Documenting all care in accordance with mandatory and local requirements

Synonyms

acyclovir, acycloguanosin

Dose and Indications

Varicella Zoster Virus (VZV) Infection Treatment Indications

- Neonates presenting with chickenpox who are unwell (e.g., poor feeding, tachypnoea) whether or not they received Varicella Zoster Immune Globulin (VZIG)
- Any immunocompromised neonate who develops chickenpox, including those who are premature (less than 37 weeks) or being treated with corticosteroids, whether or not they received VZIG.
- Any otherwise high-risk neonate (judged by the clinician) who develops chickenpox and in whom VZIG prophylaxis was not given within 24 hours of exposure.

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Herpes Simplex Virus (HSV) Infection: Therapeutic (Suspected or Confirmed) or Pre-Emptive Therapy in the High-Risk Asymptomatic Neonate.

Intravenous

Corrected Age Gestational Age PLUS Postnatal Age (weeks)	Dose (mg/kg/dose)	Frequency (hours)
< 30 weeks	20 mg/kg/dose	every 12 hours
≥ 30 weeks	20 mg/kg/dose	every 8 hours

See below as a guide to dose adjustment in renal dysfunction for babies ≥ 30 weeks* corrected gestational age. Consider in conjunction with clinical picture:

Serum Creatinine (µmol/L)	Dose adjustment
70 - 100	Give usual dose every 12 hours
101 - 130	Give usual dose every 24 hours
> 130	Decrease dose by 50% and give every 24 hours

*For dose interpretation in renal impairment in babies < 30 weeks corrected gestational age, consult Neonatologist/Infectious Diseases.

Length of therapy should be guided by clinical picture, underlying pathology, and specialist consultation: as a guide, the **minimum treatment durations** are as follows, but require consultation with Infectious Diseases:

Diagnosis	Minimum Treatment Duration
HSV (encephalitis/disseminated disease)	21 days (IV)*
HSV (skin/eye/mouth)	14 days (IV)
HSV (high risk asymptomatic neonate)	10 days (IV)
Varicella Zoster Virus	seek expert advice

See below for ongoing suppressive therapy.

Herpes Simplex Virus (HSV) Suppressive Therapy

Oral

Suppressive therapy, for infants with HSV encephalitis

20 mg/kg/dose, three times a day for 6 months after completion of IV treatment.

Oral therapy should not be recommended for therapeutic or pre-emptive treatment of HSV in the neonate.

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Preparation and Administration

Intravenous

STEP ONE:

Viatris brand (vial powder for reconstitution): Reconstitute the 250 mg vial with 10 mL of water for injection or sodium chloride 0.9%, or the 500 mg vial with 20 mL of water for injection or sodium chloride 0.9%. The reconstituted solution contains 25 mg/mL aciclovir

DBL brand (vial concentrate): Both vial sizes (250 mg/10 mL and 500 mg/20 mL) contain 25 mg/mL aciclovir.

STEP TWO:

Dilute 4 mL of 25 mg/mL aciclovir injection solution with 16 mL sodium chloride 0.9% (to a total volume of 20 mL). Shake well to ensure thorough mixing. The resulting solution contains **5 mg/mL** aciclovir.

Dose	20 mg	40 mg	60 mg	80 mg	100 mg
Volume	4 mL	8 mL	12 mL	16 mL	20 mL

Infuse over 1 hour.

Discard remaining solution.

Oral

The lowest strength tablet available is 200 mg. It is recommended to round off the dose to the nearest quarter of a tablet and give dispersed in small amount of water (5 to 10 mL).

Compatible Fluids

Glucose 5%, Glucose Sodium Chloride combinations, Sodium chloride 0.9%

Adverse Effects

Common

Vomiting, diarrhoea, encephalopathy, injection site reactions.

Infrequent

Agitation, oedema, renal impairement, constipation, rash, transient elevation of hepatic transaminases and total bilirubin.

Rare

Coma, seizures, leucopenia, neutropenia, thrombocytopaenia, crystalluria, hepatitis, Stevens-Johnson syndrome, toxic epidermal necrolysis.

Anaphylactic shock is not commonly seen in neonates.

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Monitoring

- Periodic full blood count.
- Periodic renal and liver function.

Practice Points

- Oral aciclovir has poor oral bioavailability. Intravenous administration is the preferred route in neonates.
- Slow infusion and adequate hydration can minimise renal toxicity caused by precipitation of aciclovir in renal tubules.
- Discard the solution if visual turbidity or crystallisation occurs before or during infusion.
- Store at room temperature to prevent precipitation.
- Maternal chickenpox in the peripartum period poses a risk of severe neonatal varicella, with a mortality rate up to 30%. The timing of maternal infection in relation to delivery determines the risk to the infant.
- See the Australian Society for Infectious Diseases (ASID) *Management of Perinatal Infections* 3rd edition found at under *guidelines* at www.asid.net.au/publications for further information.
- If required, Varicella Zoster Immunoglobulin (VZIG) should be given to the baby as early as possible after delivery or exposure but must be within 72 hours.

References

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Approval Date	Version	Who approved New/Revised Version	Reason for Change
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7/12/2021	V3.0	Domain Custodian, Clinical Governance, Safety and Quality	Formal review
7/3/2017	V2.0	SA Health Safety and Quality Strategic Governance Committee	Update and review
11/2012	V1.0	SA Maternal & Neonatal Clinical Network	Original Version