Intravenous aciclovir- *Dosage adjustments in adult patients*

Key Messages

- Intravenous (IV) aciclovir is indicated for the treatment of Encephalitis in the NHS Ayrshire & Arran adult empirical management of infection guidelines
- A weight based dose (10mg/kg) every 8 hours is recommended – **adjusted body weight (AdjBW) should be used to calculate dose in obese patients**
- The risk of toxicity is increased when IV aciclovir is dosed as per actual body weight in obese patients
- The frequency of dosing is adjusted in renal impairment - adjust dose as per Creatinine Clearance (do not use eGFR).

How to determine the correct weight to calculate dose

Step 1. Establish if your patient is obese using the MDCalc BMI calculator

Obesity is defined by the National Institute for Health and Care Excellence (NICE) as BMI ≥ 30kg/m^2

If patient has BMI < 30kg/m^2 **Calculate IV aciclovir 10mg/kg (using actual body weight) rounded to nearest practical dose** and prescribe on the Hospital Electronic Prescribing and Medicines Administration (HEPMA) system

If patient has BMI ≥ 30kg/m^2 **proceed to step 2.**

Step 2. For obese patients only, calculate AdjBW using the MDCalc AdjBW calculator

Prescribe IV aciclovir 10mg/kg (AdjBW) rounded to nearest practical dose and prescribe on the HEPMA system.

If calculator unavailable, first calculate ideal body weight (IBW):

IBW	**=**	Male: 50kg + 2.3kg per inch over 5ft Female: 45.5kg + 2.3kg per inch over 5ft

Then calculate AdjBW:

AdjBW	**=**	IBW + 0.4 (actual body weight – IBW)

Written by: K Hamilton, Senior Antimicrobial Pharmacist, on behalf of Antimicrobial Management Team
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For example: A male patient with a height of 178cm and weight of 120kg would be classified as obese as their BMI is 37.9kg/m^2

Using their AdjBW, a weight of 92kg should be used to calculate the aciclovir dose for this patient ***e.g. for the treatment of encephalitis (assuming no renal impairment) the dose would be calculated as:***

- 10mg/kg IV every 8 hours using AdjBW of 92kg.
- The dose calculated would be 920mg every 8hrs but 920mg is not a practical dose to be measured, therefore it would be rounded to **900mg every 8hrs.**

Dose reduction in renal impairment

An adjustment to dosing frequency is required for patients with renal impairment*:

Creatinine Clearance (CrCl)	Dosage
25-50ml/min	Recommended dose every 12 hours
10-25ml/min	Recommended dose every 24 hours
0-10ml/min	Recommended dose should be halved and administered every 24hrs.

*Refer to SPC for dose recommendations in patients receiving renal replacement therapy

Use of aciclovir in renal impairment increases the risk of neurological reactions. Adequate patient hydration should be maintained.

For full prescribing information on aciclovir, please refer to the BNF or SPC.

Bibliography

Association of Scottish Antimicrobial Pharmacists, Consensus Guidance on the Prescribing of intravenous Aciclovir in Adults ≥ 16 years, September 2024