

Policy for Intravenous Vancomycin in Adults

FLOW-DIAGRAM FOR INITIATING INTRAVENOUS VANCOMYCIN PULSED INFUSION IN ADULT PATIENTS – USE IF ONLINE VANCOMYCIN CALCULATOR UNAVAILABLE

A loading dose should be administered based on patient's **actual body weight**.

For online vancomycin use the [vancomycin calculator](#) available via the NHS Highland and Western Isles antimicrobial app.

Actual body weight	Dose	Volume of sodium chloride 0.9% OR glucose 5%	Duration of infusion
<40kg	750mg	250mL	90 minutes
40-59kg	1000mg	250mL	2 hours
60-90kg	1500mg	500mL	3 hours
>90kg	2000mg	500mL	4 hours

Calculate patient's ideal body weight (IBW):
Males: 50 kg + 2.3 kg for every inch above 5 feet (or 2.5 cm above 152 cm)
Females: 45.5 kg + 2.3 kg for every inch above 5 feet (or 2.5 cm above 152)

N.B. The loading dose is based on weight only so does not take account of renal function. On rare occasions a patient's clearance of vancomycin may be so high that the maintenance dose is higher than the loading dose. In these circumstances, give the maintenance dose as a loading dose.

Is patient obese (obese = actual body weight >20% over ideal body weight)?

YES

NO

Calculate creatinine clearance using **IBW**

Calculate creatinine clearance using **actual body weight**.

Creatinine clearance (mL/min):
 $(140 - \text{age (years)}) \times \text{weight (kg)}$

Creatinine (micromoles/L)

Multiply figure obtained by:
1.23 for males
or 1.04 for females

NOTE

In patients with low creatinine i.e. less than 60mmol/l, use 60mmol/l. Use of estimated GFR (eGFR) is not recommended

Prescribe the first maintenance infusion 12, 24 or 48 hours after the loading infusion according to the table. Use the pre-printed vancomycin prescription chart

VANCOMYCIN PULSED INFUSION – INITIAL MAINTAINANCE DOSAGE GUIDELINES

CrCl (mL/min)	Dose amount	Volume of sodium chloride 0.9% OR glucose 5%	Dose interval
<20	500mg over 1 hour	250 ml	48 hours
20-29	500mg over 1 hour	250 ml	24 hours
30-39	750mg over 1.5 hours	250 ml	24 hours
40-54	500mg over 1 hour	250 ml	12 hours
55-74	750mg over 1.5 hours	250 ml	12 hours
75-89	1000mg over 2 hours	250 ml	12 hours
90-110	1250mg over 2.5 hours	250 ml	12 hours
>110	1500mg over 3 hours	500 ml	12 hours

The daily dose can be split into 3 equal doses and given 8 hourly, particularly in patients who require higher doses as it produces higher trough concentrations.

Take a trough sample (pre-dose) within 48 hours of starting therapy then every 2 to 3 days if patient is stable or daily if patient has unstable renal function. Monitor creatinine daily. **Record the time of the last dose and the blood sampling time on the request form and on the vancomycin prescribing chart.**

If renal function is stable, give the next dose before the trough result is available.

Contact pharmacy or microbiology if you require any further advice.

Vancomycin concentration	Suggested dose change
<10mg/L	Increase dose by 50% and consider reducing the dosing interval (e.g. from 1g every 12 hours to 1g every 8 hours) or seek advice
10 - 15mg/L	If the patient is responding, maintain the present dose regimen. If the patient is seriously ill, consider increasing the dose or reducing the dosing interval to achieve a trough level of 15 – 20 mg/l
15 – 20mg/l	Maintain the present dose regimen
>20mg/L	Hold next dose and repeat level until less than 20mg/L. Seek advice on subsequent dosing