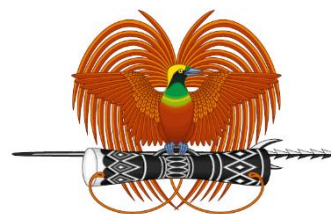


Vancomycin Dosing Information



NDOH Papua New Guinea Antibiotic Guidelines 2024

The dosing information in this section only applies to short-term empirical treatment of serious infections.

Contraindications and precautions	<p>Administer vancomycin by slow intravenous infusion (maximum 10 mg/min), not by intramuscular administration or intravenous injection (push). See Table 20 (page 393) for minimum infusion times.</p> <p>Do not use vancomycin if the patient has a history of vancomycin allergy or vancomycin-induced thrombocytopenia.</p>
Indications	<p>Vancomycin is used for directed treatment of methicillin-resistant <i>Staphylococcus aureus</i> (MRSA), methicillin-resistant coagulase-negative staphylococcal species (e.g. <i>Staphylococcus epidermidis</i>) or vancomycin-susceptible <i>Enterococcus faecium</i> isolated from sterile sites (i.e. blood, CSF, pleural fluid, joint, bone).</p> <p>It can also be used for treatment and prophylaxis of Gram positive infections in the presence of immediate severe or delayed severe hypersensitivity to beta-lactams antibiotics (i.e. penicillins and cephalosporins)</p>
Dosage (see table below)	<p>Adults: Calculate vancomycin dose using age and actual body weight; the dosing interval is based on baseline estimated renal function (using serum creatinine). See Table 17 (page 389) for recommended doses in adults < 40 years and Table 18 (page 390) for doses in adults ≥40 years, both reproduced on following page. For patients on haemodialysis and peritoneal dialysis use local protocols.</p> <p>Infants and children: Calculate vancomycin dose using age and actual body weight. See Vancomycin dosing in young infants (0 to 90 days (page 391) and Vancomycin dosing in children 3 months or older (page 392).</p>
Loading dose (critically ill adults or children only)	<p>See loading dose for adults (page 390) and loading dose for children (page 392) for indications and recommended doses</p> <p>Do not give loading doses to infants younger than 90 days</p>
Monitoring	<p>Measure serum creatinine at baseline and then twice weekly; if creatinine rising, withhold dose(s) and seek advice (potentially restart later with a longer dose interval or substitute different antibiotic)</p> <p>Weekly full blood count</p>
Adverse effects	<ul style="list-style-type: none"> • Nephrotoxicity: this is usually reversible with cessation of therapy. There is an increased risk with prolonged therapy and when administered with other nephrotoxic agents (e.g. aminoglycosides such as gentamicin, piperacillin+tazobactam, frusemide, contrast media). In these situations, monitor creatinine more frequently, if possible. • Vancomycin flushing syndrome: this is an infusion-related histamine release reaction, causing flushing (usually involving the face and upper body) with or without pruritus, dyspnoea or hypotension. It is not an allergic reaction. If it occurs, pause the infusion for at least 30 minutes and then restart at half the previous infusion rate. Antihistamines can also be used as premedication. • Allergy including rash (occasionally severe) and anaphylaxis • Thrombocytopenia: this occurs in over 5% of recipients (it is reversible, but may recur – cease vancomycin and avoid future use)

Starting and maintenance dosing (adults)

Dosing and frequency of administration depends on the patient's age, weight and renal function (see Tables 17 and 18 below).

Table 17: Vancomycin dosing for adults less than 40 years age

Actual body weight (kg)	Dose	Dosing frequency based on initial serum creatinine value [Note 1]			Minimum infusion duration
		Serum creatinine value			
		Male < 140 µmol/L Female < 120 µmol/L	Male 140 to 380 µmol/L Female 120 to 280 µmol/L	Male > 380 µmol/L Female > 280 µmol/L	See instructions above if reactions occur during infusion
< 45	20 mg/kg	12-hourly	24-hourly	In general, a single dose only is recommended (unless the patient is on dialysis, use local protocols)	10 mg/minute
45 to 55	1 g	12-hourly	24-hourly		100 minutes
56 to 70	1.25 g	12-hourly	24-hourly		125 minutes
71 to 82	1.5 g	12-hourly	24-hourly		150 minutes
83 to 94	1.75 g	12-hourly	24-hourly		175 minutes
≥ 95	2 g	12-hourly	24-hourly		200 minutes

µmol/L = micromol/L

Note 1: In other guidelines, dosage adjustment for patients with renal impairment is often calculated from the estimated creatinine clearance (CrCl) using the Cockcroft–Gault formula. However, in these guidelines, although it is less accurate, serum creatinine is used as an estimation of renal function, as it is much less complex.

Table 18: Vancomycin dosing for adults more than 40 years age

Actual body weight (kg)	Dose	Dosing frequency based on initial serum creatinine value [Note 1]			Minimum infusion duration (maximum 10 mg/minute)
		Serum creatinine value			
		Male < 140 µmol/L Female < 120 µmol/L	Male 140 to 380 µmol/L Female 120 to 280 µmol/L	Male > 380 µmol/L Female > 280 µmol/L	See instructions above if reactions occur during infusion
< 49	15 mg/kg	12-hourly	24-hourly	In general, a single dose only is recommended (unless the patient is on dialysis, use local protocols)	10 mg/minute
50 to 58	750 mg	12-hourly	24-hourly		75 minutes
59 to 75	1 g	12-hourly	24-hourly		100 minutes
76 to 92	1.25 g	12-hourly	24-hourly		125 minutes
93 to 108	1.5 g	12-hourly	24-hourly		150 minutes
109 to 125	1.75 g	12-hourly	24-hourly		175 minutes
≥ 125	2 g	12-hourly	24-hourly		200 minutes
µmol/L = micromol/L					
Note 1: In other guidelines, dosage adjustment for patients with renal impairment is often calculated from the estimated creatinine clearance (CrCl) using the Cockcroft–Gault formula. However, in these guidelines, although it is less accurate, serum creatinine is used as an estimation of renal function, as it is much less complex.					