

Once Daily Gentamicin: Administration and Monitoring in Adults – Summary (excludes patients receiving renal replacement therapy)

Dosage

The dose will be dependent on:

- weight (ideal body weight (IBW) or obese dose body weight (ODBW) if BMI >30 or >120% of ideal body weight) - see equation below to calculate ODBW or [Ideal Body Weight and Adjusted Body Weight calculator](#) * (NOTE: Do not use calculator if patient is under 5ft or 152.5cm in height.)
- age
- renal function – calculating Creatinine clearance ([online calculator](#))
- For maternity sepsis, use pregnancy booking weight to calculate the dosage

	CrCl above 30ml/min	CrCl of 10-30ml/min	CrCl less than 10ml/min
Age 65 and over	3mg/kg* iv od	2mg/kg* iv od	Do not use gentamicin
Age under 65 years	5mg/kg* iv od	3mg/kg* iv od	Do not use gentamicin

*Use ideal body weight rather than actual body weight as gentamicin distributes poorly in fat. For obese patients (BMI >30 or >120% of ideal body weight) it is recommended that the dose is calculated using the weight obtained from the following formula

$$\text{Obese Dosing Body Weight} = \text{IBW} + 0.4(\text{ABW} - \text{IBW})$$

Where
& **ABW = Actual body weight**
IBW = Ideal body weight

For Male = 50kg + (2.3kg x height in inches over 5 feet)

For Female = 45.5kg + (2.3kg x height in inches over 5 feet)

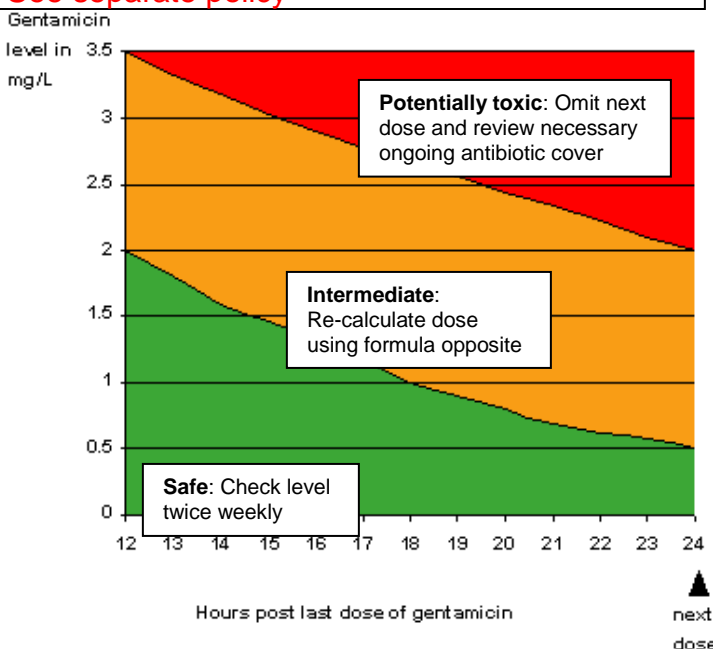
Exclusions

Once daily gentamicin is inappropriate and should not be used in:

- ★ Endocarditis
- ★ Major burns
- ★ Ascites
- ★ Age < 16*
- ★ Myeloma patients
- ★ Myasthenia gravis
- ★ Dialysis patients

Caution in renal impairment (GFR <30):
See above – more details in full policy on intranet for dosing in renal impairment.

*See separate policy



Monitoring

A post-dose level is required. Obtain a single serum sample 12 to 18 hours after the dose.

Send sample to **CHEMICAL PATHOLOGY**.

Electronic blood sample request forms must include:

- ★ Date and time of drug administration
- ★ Date and time of blood sampling
- ★ Dose or dose per kg used (e.g. 5mg/kg)
- ★ Dosing regime (e.g. daily dosing)

Target serum gentamicin level:

12 hours post dose = <2mg/L

18 hours post dose = <1mg/L

Intermediate area - Formula to re-calculate gentamicin dose:

$$\text{New Dose} = \frac{\text{Previous dose} \times \text{Target serum level}}{\text{Actual serum level}}$$

(round new dose to the nearest 20mg)

Serum gentamicin levels should be rechecked 12 to 18 hours after the new dose.

If gentamicin levels are within the recommended range, with normal renal function, monitor levels / U&Es twice weekly.