

# **Guideline for Gentamicin Multiple Daily Dosing for Endocarditis.**

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## Multiple Dose Gentamicin Regimen for Infective Endocarditis

- Used with beta-lactam or other antibiotics for infective endocarditis due to gram positive organisms e.g. *Streptococcus* or *Enterococcus*.
- This regime **SHOULD NOT** be used for endocarditis caused by gram negative organisms e.g. Enterobacteriaceae and *Pseudomonas aeruginosa*.

### Calculating the dose

- The recommended dose is 1mg/kg 12-hourly.
- Use actual body weight (ABW) unless patient is obese (i.e.  $ABW \geq IBW + 20\%$ ).
- If patient is obese (i.e.  $ABW \geq IBW + 20\%$ ) then use ideal body weight.
- See table below for dose banding to allow for ease of administration.

HEIGHT	MALE (>16 yrs)			FEMALE (>16 yrs)		
	IBW (kg)	Gent 12hrly dose	ABW	IBW (kg)	Gent 12hrly dose	ABW
6' 3" (1.9m) +	84.5	80mg	≥75kg	79.5	80mg	≥75kg
6' 2" (1.88m)	82.2			77.2		
6' 1" (1.85m)	79.9			74.9		
6' (1.82m)	77.6			72.6		
5' 11" (1.8m)	75.3	70mg	65 – 74kg	70.3	70mg	65 – 74kg
5' 10" (1.78m)	73			68		
5' 9" (1.75m)	70.7			65.7		
5' 8" (1.72m)	68.4			63.4		
5' 7" (1.7m)	66.1	60mg	55 – 64kg	61.1	60mg	55 – 64kg
5' 6" (1.67m)	63.8			58.8		
5' 5" (1.65m)	61.5			56.5		
5' 4" (1.62m)	59.2			54.2		
5' 3" (1.6m)	56.9	50mg	45 – 54kg	51.9	50mg	45 – 54kg
5' 2" (1.57m)	54.6			49.6		
5' 1" (1.55m)	52.3			47.3		
5' (1.52m) or under	50			45		
				45	40mg	35 – 44kg

- In renal impairment, synergistic gentamicin use may not be appropriate or the dose may need to be adjusted. Contact the microbiologist or Pharmacist for further advice.

### When to take gentamicin levels for monitoring

- A PRE dose sample must be taken **no more than 30 min before giving the dose**.
- A POST dose sample must be taken 1 hour after **the START** of the infusion.
- Take the **first level just before the 3<sup>rd</sup> dose** and repeat at 72-hrly intervals. Monitor more frequently if renal function is unstable or if changes to dosage are made.

### Information required on the clinical request forms:

- The indication for gentamicin use (e.g. 'infective endocarditis'), whether the sample is PRE or POST dose, time and date of the sample, the actual dose given in mg/L.

### How to interpret levels in Streptococcal or Enterococcal endocarditis

Timing of level	Optimum level	Comment
Pre dose	≤ 1 mg/L	Levels falling outside these ranges – please check the comment on the Gentamicin report for further advice / information.
Post dose	3 – 5 mg/L	