

Adult Parenteral SYNERGISTIC GENTAMICIN Administration & Monitoring Chart

Not for use in renal unit, patients receiving RRT or those with a creatinine clearance <21ml/min - Refer to the full NHS Forth Valley 'Guidance on synergistic use of gentamicin' for further information

Patient name : Age: Sex: M / F
 Date of birth : Weight: Height:
 CHI no .: Creatinine: on: / /
Affix patient label

Signs of gentamicin toxicity:

- **Renal:** ↓ urine output/oliguria or ↑ creatinine
- **Oto/vestibular:** NEW tinnitus, dizziness, poor balance, hearing loss, oscillating vision
- **Toxicity may occur irrespective of gentamicin concentration**

Step 1: Calculate the initial dose of gentamicin from the dosage table (the dose is based on **actual** body weight unless obese, then use **maximum** body weight – see table below). Doses should be administered by **IV bolus** injection over 3 – 5 minutes.

Weight [Use ABW (or MBW if obese – see last page)]	ONCE DAILY Dose of Gentamicin
43kg to 49kg	140mg
50kg to 56kg	160mg
57kg to 64kg	180mg
65kg to 70kg	200mg
71kg to 76kg	220mg
≥77kg	240mg

Step 2: Prescribe gentamicin on HEPMA including exact dose and frequency **ONCE DAILY**. Doses should be prescribed within core hours - synergistic gentamicin should never be given overnight.

Step 3: Administration and monitoring of gentamicin (**record all doses and levels using the chart overleaf**)

- Take a 'peak' level 1 hour after the first gentamicin bolus dose.
- Take a 'trough' level before the second gentamicin dose but DO NOT await the result before re-dosing unless there are concerns about deteriorating renal function. Thereafter take a trough level at least every 2 days or daily if unstable renal function. Levels should always be taken during core hours (ideally between 9am and 2pm) to allow for processing.
- Record the exact time of ALL gentamicin samples on the sample request form and overleaf on this chart. Contact pharmacy if uncertain on interpretation of levels.

Step 4: Assess ongoing need for gentamicin daily and any signs of toxicity – Ask patients about signs of ototoxicity regularly and check renal function daily. Refer to audiology if >7 days or signs of ototoxicity.

Patient name..... CHI no.

TOXICITY Renal & Oto-vestibular Function MUST be reviewed daily	Synergistic Gentamicin Administration Record					Synergistic Gentamicin Monitoring Record				
	Complete each time gentamicin is administered (Dose MUST be prescribed on HEPMA)					To be completed by staff taking blood for gentamicin concentration monitoring Record ALL sample dates/times accurately below				
	Date given	Gentamicin dose (mg) *Bolus over 3-5 mins*	Time given (24 hour clock)	Given by		Date of sample	Time of sample (24 hour clock)	Blood sample taken by PRINT name and status	Result (mg/L)	Action/ Comment
EXAMPLE Cr =70 micromol /L	30/05/2024	180mg	08.00	Sig 1: EP	Sig 2: DS	31/05/24	07.55	AJ Young (Staff Nurse)	0.6mg/L	Trough Level
Cr = micromol /L				Sig 1:	Sig 2:					
Cr = micromol /L				Sig 1:	Sig 2:					
Cr = micromol /L				Sig 1:	Sig 2:					
Cr = micromol /L				Sig 1:	Sig 2:					
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DISCUSS ONGOING NEED FOR GENTAMICIN WITH INFECTION SPECIALIST – Courses for endocarditis are typically complete after 14 days

Interpreting synergistic gentamicin levels

(Following a dose change recheck trough levels after 24 hours)

Result	Action to be taken
Both peak (10-12mg/L) AND trough result are in range (<1mg/L)	Continue the present dosage regimen. There is no need to repeat the peak sample unless there are concerns over response to therapy. Repeat the trough sample every 2 days , provided renal function remains stable. Repeat the trough sample daily and discuss with pharmacy if renal function changes/is unstable.
Trough sample is ≥ 1 mg/L	If a further dose has already been administered: take another trough sample - await result before re-dosing. Do NOT re-dose until level is <1 mg/L. If a further dose has not already been administered: discuss with pharmacy. Do NOT re-dose until level is <1 mg/L.
Peak result is out of range (10-12mg/L)	Discuss with pharmacy.

Maximum Body Weight Table ([maximum-body-weight-table.pdf \(sagp.scot\)](#))

Maximum body weight table			
Height (ft inches)	Height (cm)	MBW (kg) (male)	MBW (kg) (female)
4' 8"	142	49	43
4' 9"	145	52	47
4' 10"	147	54	49
4' 11"	150	58	52
5' 0"	152	60	55
5' 1"	155	62	58
5' 2"	158	66	60
5' 3"	160	68	62
5' 4"	163	71	66
5' 5"	165	74	68
5' 6"	168	77	71
5' 7"	170	79	74
5' 8"	173	82	77
5' 9"	175	85	79
5' 10"	178	88	82
5' 11"	180	90	85
6' 0"	183	94	88
6' 1"	185	96	90
6' 2"	188	98	94
6' 3"	191	101	97
6' 4"	193	104	99
6' 5"	195	107	101
6' 6"	198	109	105
6' 7"	201	113	108
6' 8"	203	115	110