Louth: Antimicrobial Guidelines - Louth Hospitals: Antimicrobial Guidelines: Adult Gentamicin Guideline

Gentamicin Calculator

KDIGO AKI Definition

Assessing Renal Function

LH Adult Gentamicin Dosing Guideline, V.5, 2024

1. Select patient appropriately

- Note For endocarditis, gentamicin 3mg/kg once daily recommended instead of 5mg/kg once daily
- Before starting therapy, consider renal function, hydration status, concomitant nephrotoxic medicines and contraindications (e.g. myasthenia gravis)
- Review need for gentamicin daily avoid duration in excess of 5 days. Prolonged duration is associated with increased risk of nephrotoxicity and ototoxicity.



2. Use Gentamicin Calculator on LH Antimicrobial Guidelines App to calculate dose based on renal function and weight

- N.B. CrCl is NOT accurate in AKI, consider full clinical picture, see dose recommendations for AKI as well as CKD below
- If BMI ≥ 30kg/m², use obese dosing weight (ODW) to calculate dose gentamicin calculator will do this automatically
- If pregnant, use booking weight to calculate dose (ODW if BMI ≥ 30kg/m²)
- Prescribe ACTUAL DOSE (not mg/kg) maximum dose 480mg daily

Treatment and tr			
Normal Renal Function or CKD	AKI (KDIGO)	Once Daily Dose (Max dose 480mg)	
CrCl ≥ 50mL/min	AKI Stage 1	Smg/kg once daily N.B. Wait for trough level result before re-dosing if renal impairment.	
CrCl < 50 mL/min	AKI Stage 2 or 3	3mg/kg STAT N.B. Wait for trough level result before re-dosing if renal impairment.	
Dialysis	Dialysis	Contact clinical microbiologist or pharmacist for dosing advice.	



3. Check urea and creatinine daily/alternate days as indicated

- Ensure patient well hydrated.
- If urea and creatinine deteriorate from baseline, review patient and consider holding gentamicin until trough level checked and urea and creatinine repeated.



4. Check trough level 16 - 24 hours after first dose

- Gentamicin levels are processed in Biochemistry from 8am to 8pm Mon Fri and 9am to 5pm Sat Sun.
- Consultant request only outside of these hours.



5. Check trough level result before next dose given		
Trough	Action	
< 1mg/L	Give dose as prescribed	
≥1 mg/L	Verify that level checked at correct time. If true trough level result, hold dose and repeat level next day. Do not redose until level < 1mg/L.	
Not available	 If renal function normal, give dose as prescribed. If renal function abnormal or unstable, usually hold dose until level result available, however if patient acutely septic, contact senior doctor for advice. If dose given before level back, review level result when available. 	



6. Repeat trough level when clinically indicated		
Normal stable renal function	Every 3 days: Review duration of gentamicin as soon as possible.	
Abnormal or unstable renal function	Daily: Review duration of gentamicin as soon as possible.	

Approved by LH Drugs and Therapeutics Committee

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