

## ADULT AMINOGLYCOSIDE DOSING

- Once daily dosing of aminoglycosides is recommended for the treatment of Gram-negative infections.
- An Infectious Diseases (ID) or ID Pharmacist consultation is recommended.

### Exclusions to Once Daily Dosing

- Avoid aminoglycosides in neuromuscular disease
- Traditional dosing is preferred for:
  - CrCl  $\leq$  20ml/min or HD
  - Burns (involving  $>20\%$  BSA)
  - Pregnancy
  - Significant ascites or patients with significant third spacing

### Calculating Dose

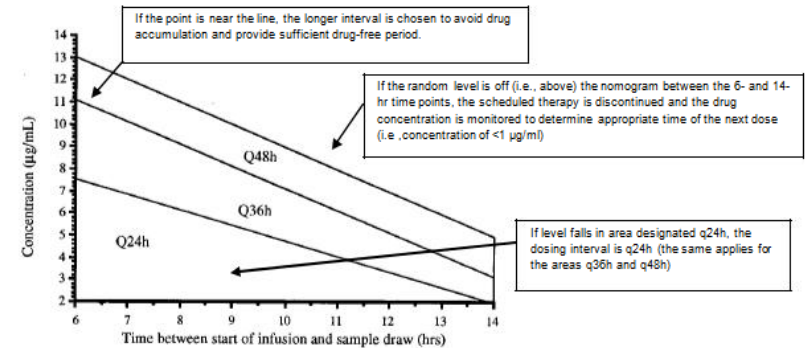
- Dosing is based on Ideal Body Weight (IBW)
- In obese patients ( $>120\%$  IBW) use Adjusted Body Weight (ABW) ○  $ABW = IBW + 0.4(\text{actual body weight} - IBW)$
- If actual body weight is under IBW, use actual body weight

CrCl (mL/min)	Aminoglycoside Once Daily Initial Dose	
	Gentamicin OR Tobramycin	Amikacin
> 60	7 mg/kg every 24 hours	15 mg/kg every 24 hours
40 to 59	7 mg/kg every 36 hours	15 mg/kg every 36 hours
20 - 39	7 mg/kg every 48 hours	15 mg/kg every 48 hours
<20 or HD	Use "traditional AG dosing" protocol	

### ONCE DAILY AMINOGLYCOSIDE MONITORING

Order a *random* level 8-10 hours after the beginning of the infusion. Please communicate with the nursing staff. Plot the level on the nomogram below based on when it was drawn.

#### Nomogram† for Gentamicin & Tobramycin at 7mg/kg\*\*:



†Adopted from Hartford Hospital

\*\*Amikacin: Divide amikacin level by "2" and plot above

#### TIPS ON EVALUATING LEVELS AND REPEAT MONITORING:

- If the level falls on a line, the longer dosage interval should be selected.
- If the level falls above the Q 48H line: The drug should be held.
  - Serial random levels should be followed until  $<1\text{mcg/mL}$
- If initial level falls below the nomogram, consider going to traditional dosing
- Repeat serum AG levels as necessary, with significant changes in CrCl or when therapy continues beyond 96 hours after previous level and every 96 hours to minimize toxicity.
- Patients on concurrent nephrotoxic agents (diuretics, vancomycin, contrast, etc)
- Recommend to monitor level twice a week and monitor BUN and Cr daily

CrCl (mL/min)	Traditional Aminoglycoside Dosing		Monitoring – Traditional Dosing	
	Gentamicin**/ Tobramycin	Amikacin	Gentamicin/ Tobramycin	Amikacin
> 60	1-2mg/kg every 8 hours	5mg/kg every 8hours	Target Peaks/Troughs: Sepsis/Pneumonia: 7-10/ <2 OB-GYN: 5-7/ <2 **Synergy for Enterococcal or Streptococcal Endocarditis (Gent 1mg/kg): 2-4/ <1	Target Peaks/Troughs: Sepsis/Pneumonia: 20-30/ <10 UTI/Cystitis: 10-15/ <7 5/ <7
40-60	1-2mg/kg every 12 hours	5mg/kg every 12hours		
20-40	1-2mg/kg every 24 hours	5mg/kg every 24hours		
<20	1-2mg/kg every 48 hours	5mg/kg loading dose then monitor levels		
<10	1-2mg/kg after HD	5mg/kg after HD		

\*\*For Gram-positive endocarditis, use 1mg/kg