Aminoglycoside Dosing Parameters

**Initial Dosing**

1. **LBW**
   - Males: \(50 + 2.3 \text{ (# inches > 5')}\)
   - Females: \(45 + 2.3 \text{ (# inches > 5')}\)
   
   *Note: If actual body weight (ABW) < LBW, use ABW*

2. **Dosing weight (use when ABW is 30% > LBW) (ABW/LBW ≥ 1.3)**
   - \(DW = LBW + (ABW - LBW) \times 0.4\)

3. **CrCl**
   - \(\frac{(140 - \text{age}) \times LBW}{72 \times \text{Scr}}\) (x 0.85 for females)

4. \(kd = 0.0024 \times \text{Clcr} + 0.01/h\) (Dettli equation)

5. \(t1/2 = \frac{0.693}{kd}\)

6. **Interval = 2-3 \times t1/2**

7. **Dose**
   - **G/T:** 1.5 – 2.5 mg/kg/dose
   - **A/S/N:** 5 – 7.5 mg/kg/dose

8. **Levels**
   - 1\(^{st}\) dose
   - 2\(^{nd}\) dose
   - Steady-State
   - 3 levels
   - 3 levels
   - 2 levels
   - spaced over 1.5
   - trough + 2 post-dose
   - peak: 15-30 min post-dose
   - trough: 15-30 min pre-dose
   - x t1/2 post 1\(^{st}\) dose

*Interpretation of levels*

1. graph levels
2. determine patient t1/2 from graph
3. determine extrapolated peak from graph
4. determine extrapolated trough from graph
   - trough always = 0 for 1\(^{st}\) dose
5. determine patient Vd using equations
   - \(Ko = \text{dose/duration of infusion}\)
   - \(Cmin = 0 \text{ for 1}\(^{st}\) dose\)
6. determine new dosing interval from calculated patient-specific parameters
   - use desired Cmin and Cmax
7. determine new dose from equations
   - \(Dose = Ko \times t'\)
8. Check that new regimen gives desired Cmax and Cmin using equations

*Throughout calculation process stop to think if levels, t1/2, Vd, etc. are feasible*