Dosage Calculations by Weight
Sample Question

1. You have a patient who has Pitocin ordered at **2mcg/kg/min**. The pharmacy has sent you Pitocin, 250mg in 500mL bag. Client weight is 156lbs. What do you set the pump to?

Tips before we tackle the equation:

- Always make sure your weight is in the right units
- Check for what the order asks for? **Drop rate (drops/min.)** or **Pump rate (mL/hr.)**

1st step: Calculate the kg

156 lbs (pounds) = 70.90kg
2.2kg

2nd step: Calculate the total amount ordered, then convert the units.

70.90kg x 2mcg x 60min = 8,509.09mcg < THIS IS THE TOTAL AMOUNT INFUSING IN ONE HOUR

Convert to mcg to mg: 1mg = 1000mcg
8509.09mcg = 8.5mg (micrograms cancel out)

3rd step: Now use D/H x Volume to get the flow rate in mL/hr.

8.5mg
250mg X 500mL = 17.01 remember we use *WHOLE NUMBERS* for PUMPS & DROPS

Answer: 17mL/hr.

Other helpful tips for converting units:

1 unit = 1000mu (milli-units)
1g = 1000mg
1mg = 1000mcg

Moving the Decimal Point

<table>
<thead>
<tr>
<th>1000 mg</th>
<th>1 g</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 mg</td>
<td>0.1 g</td>
</tr>
<tr>
<td>10 mg</td>
<td>0.01 g</td>
</tr>
<tr>
<td>1 m = 0.001 L</td>
<td></td>
</tr>
</tbody>
</table>

1.25 grams is how many mg?
1000 µL = 1 mL
100 µL = 0.1 mL
10 µL = 0.01 mL
1 µL = 0.001 mL