

DILUTION AND STRENGTHS OF SOLUTIONS

A drug when dissolved in a solution and the strength of the solution may be expressed as:

- grams per liter
- mg/ml
- ratio strength
- percentage

Ratio

- 1) How many ml of a 1:1000 solution of adrenaline is required to administer 0.5mg of adrenaline to a client with anaphylactic shock?

Sol: 1 gm in 1000 ml
1 mg in 1000 ml $\frac{0.5 \times 1000}{1000}$

Therefore, 0.5 mg in 0.5 ml Ans = 0.5 ml

Percentage

- 2) The physician has ordered to administer 180mg of 2% drug. How much is to be given in ml?

Sol: 1% is 1 gram in 100 ml solution

$\frac{180 \text{ mg}}{2 \text{ gram}} \times 100 \text{ ml} = \frac{180 \text{ mg}}{2000 \text{ mg}} \times 100 \text{ ml} \quad \text{Ans} = 9 \text{ ml}$