



Math Study Strategies

Math for Nursing

Finding Percentages for IV Fluids

Percentages are used especially in intravenous solutions. Percentage (%) means parts per hundred.

The solutions percentage represents the number of grams of medication per 100ml or cc of solution.

Example 1

To calculate the amount of dextrose in 1000ml (10%DW) use the Dimensional Analysis (DA).

$$\frac{10g}{100ml} \times 1000ml = 100g$$

Example 2

To calculate the amount of dextrose and NaCl in 500ml (5%DNS).

Dextrose

$$\frac{5g}{100ml} \times 500ml = 25g$$

NaCl

$$\frac{0.9g}{100ml} \times 500ml = 4.5g$$

*A physician's order for IV fluid therapy **must include** the type of solution, the quantity of solution, the time period for administration, and sometimes milliliter/hour (Example: Administer 1000ml of 0.9% NSS every 12 hours for 2 days).*

The most commonly prescribed intravenous fluids are:

Saline Chloride Solutions			
0.90%	sodium chloride solution =	1/2 NSS	
0.45%	sodium chloride solution =	1/2 NSS	
0.25%	sodium chloride solution =	1/4 NSS	
Dextrose Solutions			
0.05%	dextrose in water =	5% DW or D 5 W	
0.10%	dextrose in water =	10% DW or D 10 W	
0.5%	dextrose solution in 0.45% sodium chloride solution		=D5 1/2
	Dextrose with Ringer's lactate =	D/RL	
	Ringer's Solution =	R	
	Lactated Ringer's Solution =	RL	