NEONATAL MEDICATION PROTOCOLS

FORMULAS FOR GLUCOSE & METRIC CONVERSION
Created by: NCCU
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NCCU Clinical Guidelines
KEMH/PMH
Perth, Western Australia

FORMULAS

1) TO WORK OUT MG/KG/MIN OF GLUCOSE

$$\frac{\text{Rate} \times \text{glucose \%} \times 1000}{100} = \text{mg/hr}$$

$$\frac{\text{mg/hr}}{\text{wt}} = \text{mg/kg/hr}$$

$$\frac{\text{mg/kg/hr}}{60} = \text{mg/kg/min}$$

Eg 4ml/hr – 1.5 kg baby – 5% glucose

$$\frac{4 \times 5 \times 1000}{100} = 200$$

$$\frac{200}{1.5} = 133.3 \text{ mg/kg/hr}$$

$$\frac{133.3}{60} = 2.2 \text{ mg/kg/min}$$

2) TO INCREASE GLUCOSE CONCENTRATION

$$\frac{\text{Vol} \times (\text{req\%} - \text{avail\%})}{(\text{add \%} - \text{avail\%})} = \text{amount of additive glucose required}$$

To make 50ml of 13% glucose, using 50% glucose ampoules and 10% bags

Eg $\frac{50 \times (13-10)}{(50-10)} = \frac{50 \times 3}{40} = \frac{15}{4}$

= 3.75 mls 50% glucose and 46.25 mls of 10% glucose

3) TO DECREASE GLUCOSE CONCENTRATION

$$\frac{\text{Required strength} \times \text{volume}}{\text{Stock strength}}$$

= amount of stock glucose required plus amount of H20

E.g. decrease 5% - 3% to make a 50 ml syringe

$\frac{3 \times 50}{5}$ 30 mls 5% glucose and 20 mls of H20

METRIC CONVERSION

1 mg	**=**	**1000 microgram**
0.1 mg	**=**	**100 microgram**
0.01 mg	**=**	**10 microgram**

TO CONVERT mg TO MICROGRAM

mg x 1000	**=**	**microgram**		
eg 2.3 mg	**=**	**2.3 x 1000**	**=**	**2,300 microgram**

TO CONVERT MICROGRAM TO mg

$$\frac{\text{microgram}}{1000} = \text{mg}$$

eg $\frac{100}{1000}$ **= 0.1 mg**