



IV fluids

Dextrose solutions

Dextrose solutions are for giving water and a bit of nutrition

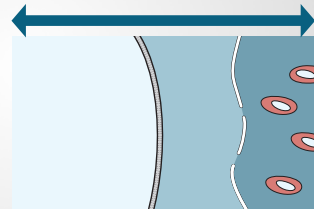
Primary use:
hyponatremia and
hypoglycemia



Secondary use:
maintenance of fluids

Dextrose solutions provide water and some nutrition

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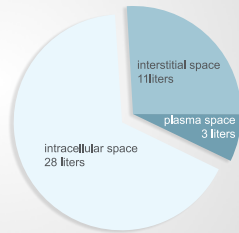


Secondary use:
maintenance of fluids

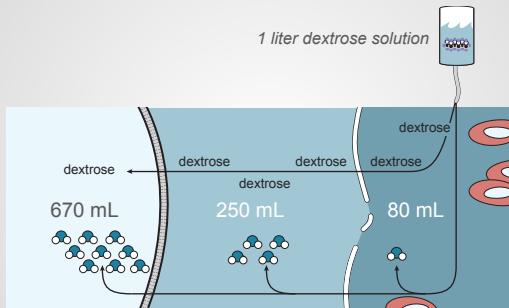
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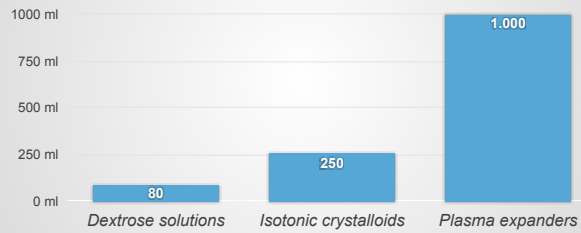
Secondary use:
maintenance of fluids



1 liter dextrose solution



Volume remaining in the plasma space





Tonicity and Osmosis

Isotonic Hypotonic Hypertonic

The hemolysis can cause anemia and acute kidney injury

How sweet is D5W?



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- Convert g to mg (1,000 mg = 1 g): 5,000 mg/dl



Why is D5W so sweet?



D5W has a glucose concentration of 5,000 mg/dL. Why?

To convert 5,000 mg/dL to units of osmolality divide by the molecular weight and multiply by 10.

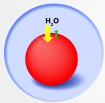
$$5,000 \text{ mg/dL} / 180 \text{ mg/mmol} \times 10 \text{ dL/L} = 277 \text{ mmol/L}$$

Normal osmolality is 275-295

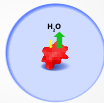
Tonicity and Osmosis



Isotonic



Hypotonic



Hypertonic