IV THERAPY

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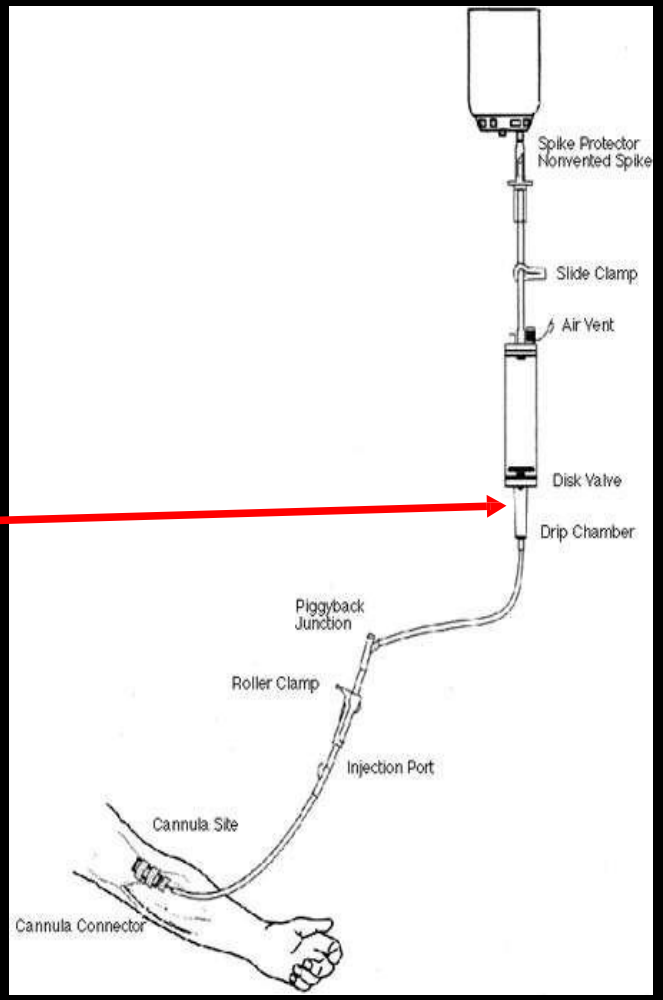
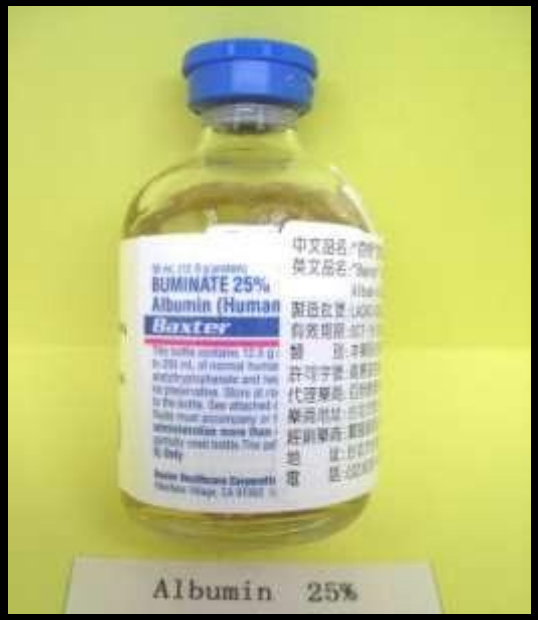
IV THERAPY - AN OVERVIEW

- **Intravenous therapy** or **IV therapy** is the giving of liquid substances directly into a vein.
- Compared with other routes of administration, the intravenous route is the fastest way to deliver fluids and medications throughout the body.
- It is commonly referred to as a **drip** because it employs a drip chamber, which prevents air entering the blood stream (air embolism) and allows an estimate of flow rate.



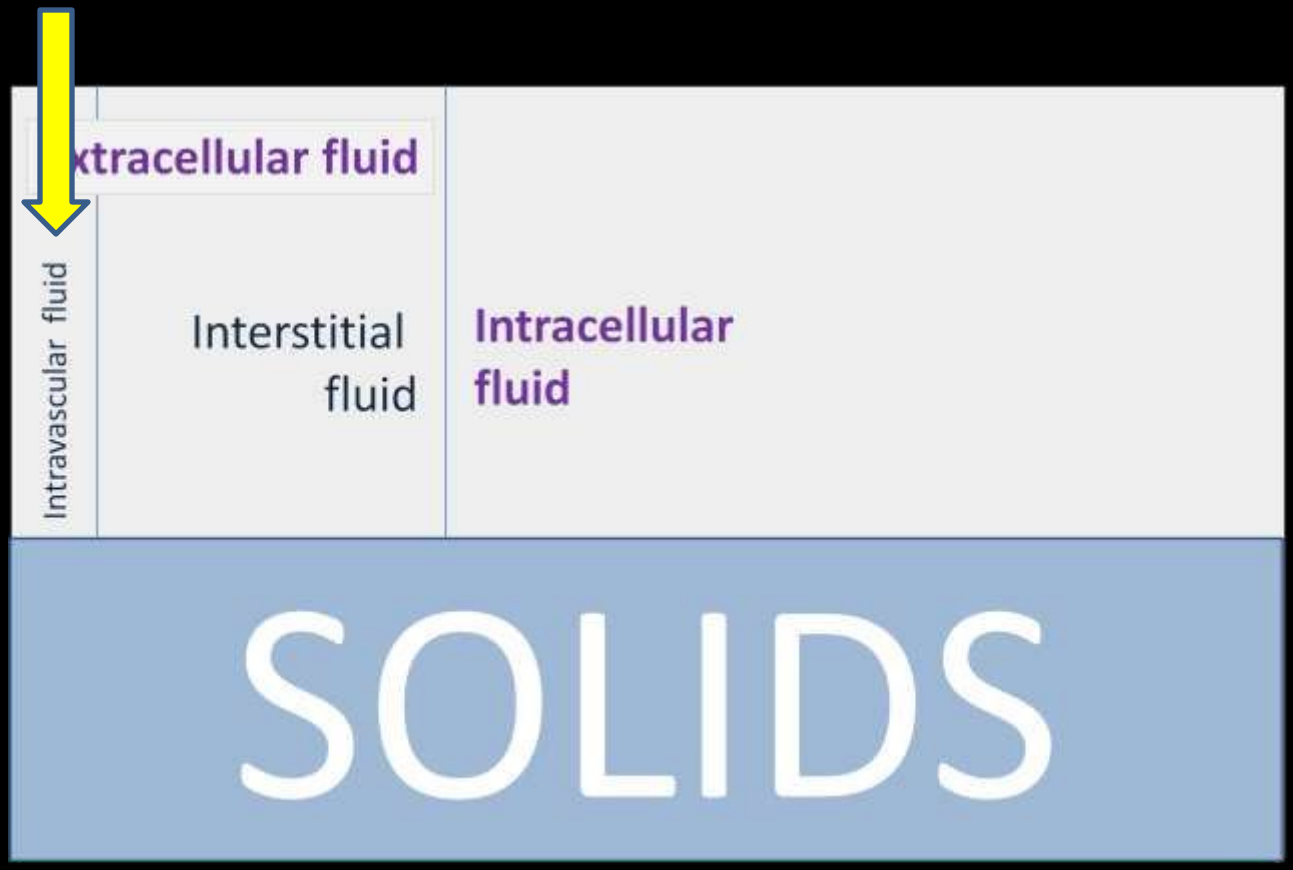
IV Fluids

- Crystalloids
- Colloids



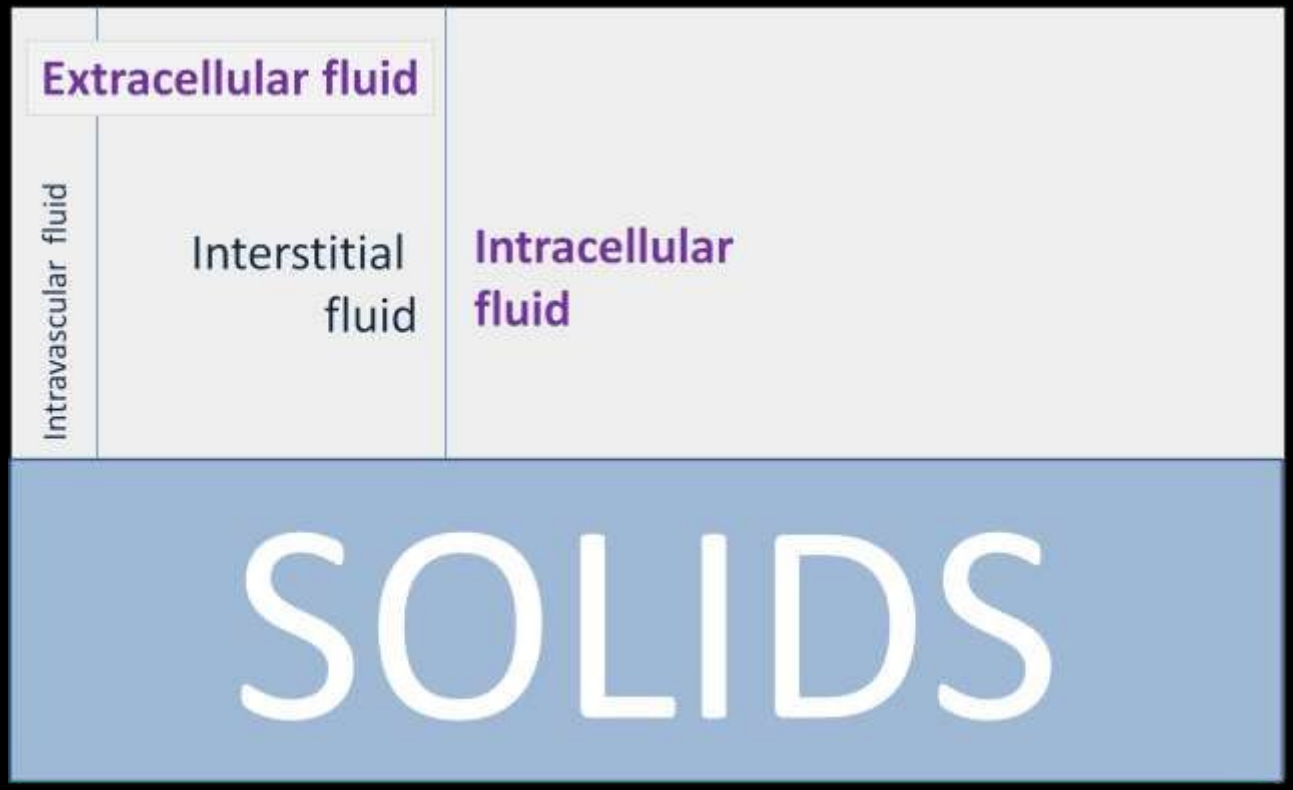
IV Fluids

- Colloids



IV Fluids

- Crystalloids



IV Fluids

- Colloids

- Contain larger insoluble molecules, such as albumen.
- Preserve a high colloid osmotic pressure in the blood
- Blood itself is a colloid.

IV Fluids

- Colloids

IV Fluids

- Crystalloids

- Aqueous solutions of water- soluble molecules.
- The most commonly used crystalloid fluid is *normal saline=,* a solution of sodium chloride at 0.9% concentration, which the concentration in t (isotonic).

- **What is isotonic?**
- **What is Iso-osmolar ?**

IV Fluids

- Crystalloids

Composition of common crystalloid solutions					
Solution	**Other Name**	**[Na^+] (mmol/L)**	**[Cl^-] (mmol/L)**	**[Glucose] (mmol/L)**	**[Glucose] (mg/dl)**
D5W	5% Dextrose	0	0	278	5000
2/3D & 1/3S	3.3% Dextrose / 0.3% saline	51	51	185	3333
Half-normal saline	0.45% NaCl	77	77	0	0
Normal saline	0.9% NaCl	154	154	0	0
Ringer's lactate	Lactated Ringer	130	109	0	0
D5NS	5% Dextrose, Normal Saline	154	154	278	5000

IV Fluids

- Crystalloids

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? Isotonic/ Hypertonic ?

IV Fluids

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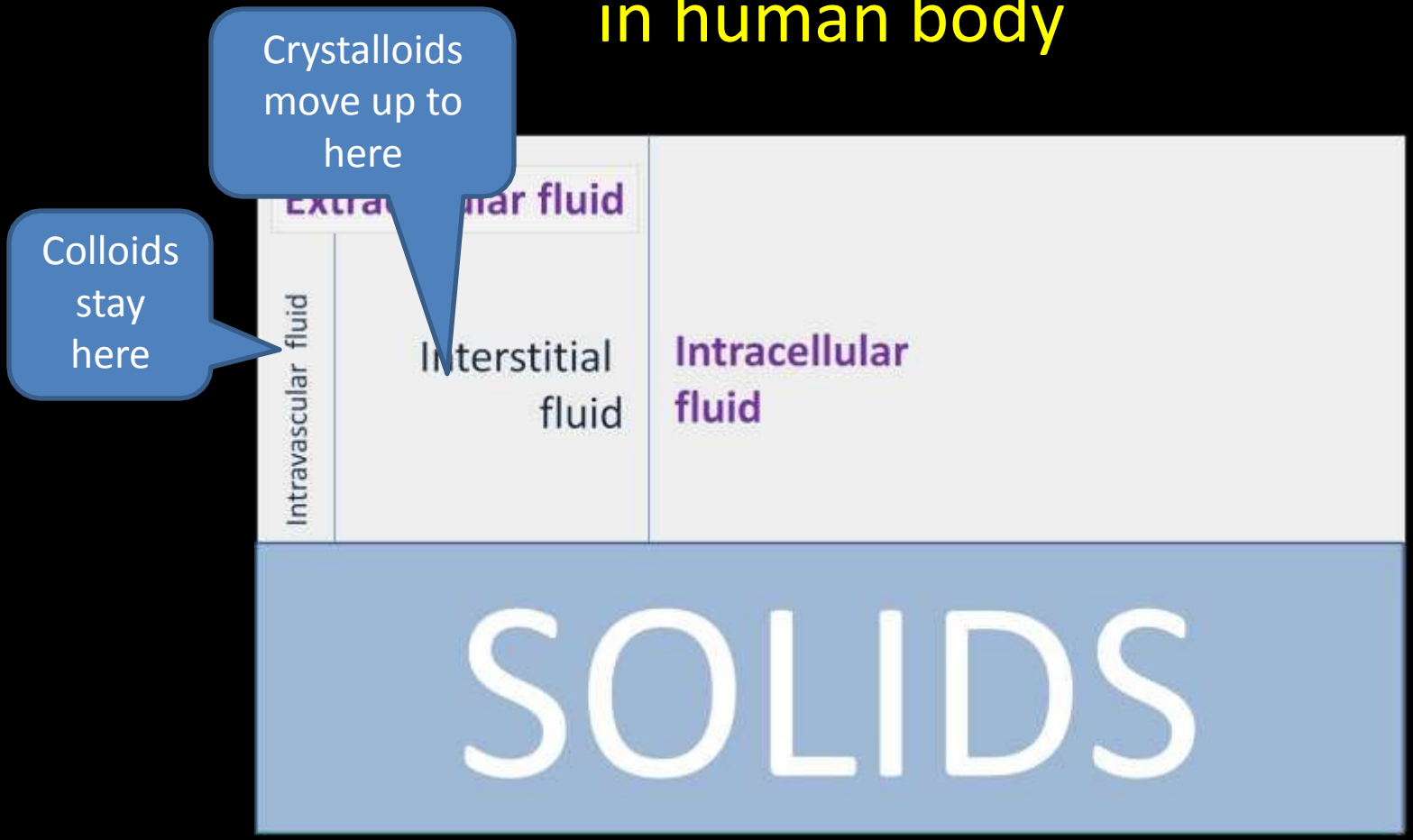
D5NS	Saline	154	154		

- **When giving KCl in the treatment of hypokalemia, don't add it to solutions containing Dextrose.**
- **When giving Dextrose containing solutions, add KCl to prevent hypokalemia**

Distribution of fluid in human body



Risks and complications of IV THERAPY

1. Infection
2. Phlebitis
3. Infiltration and extravasation
4. Embolism
5. Fluid overload
6. Electrolyte Imbalance

Electrolytes

- Sodium 135 – 145 mmol/L
- Potassium 3.5 – 5.0 mmol/L

- Calcium 2.12 – 2.75 mmol/L
  (Ionised calcium 1.0-1.3 mmol/L)
- Magnesium 0.5 – 2.2 m Eq/L

- Phosphorous 0.81 – 1.20 mmol/L

Electrolytes

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Hypokalemia

Hyperkalemia

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- Phosphorous 0.81 – 1.20 mmol/L

THANK YOU