

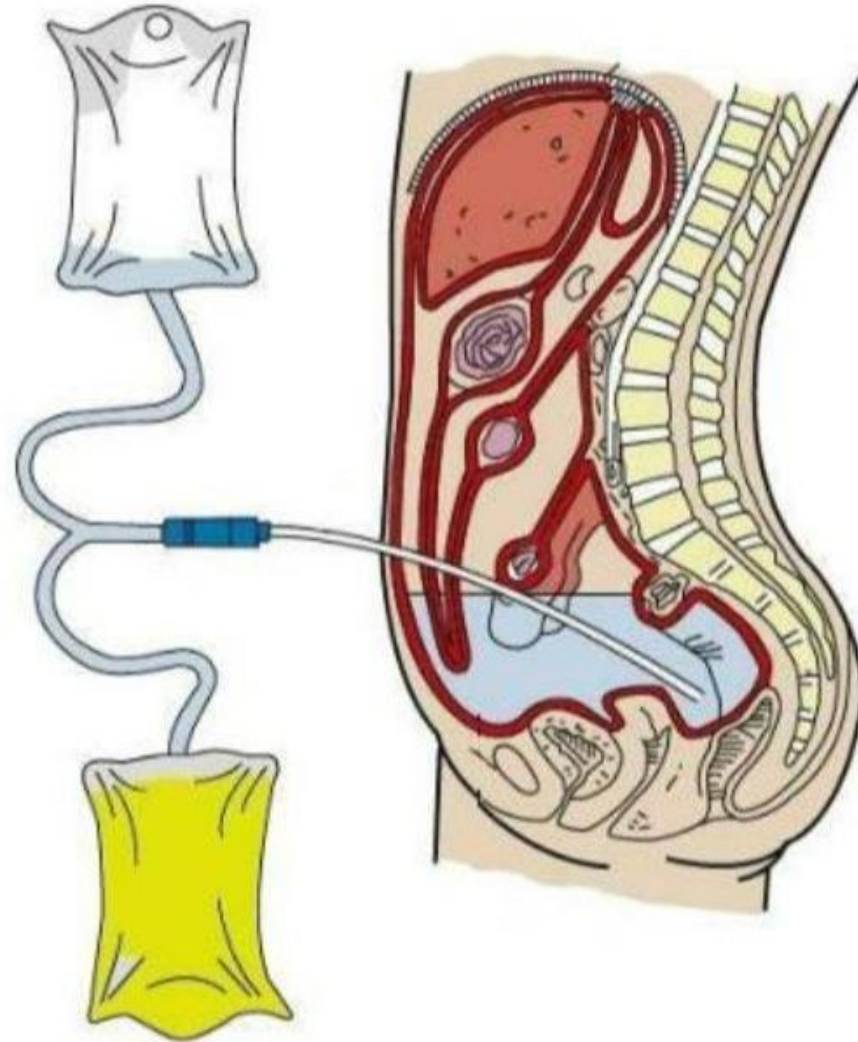
Peritoneal Dialysis

CAPD

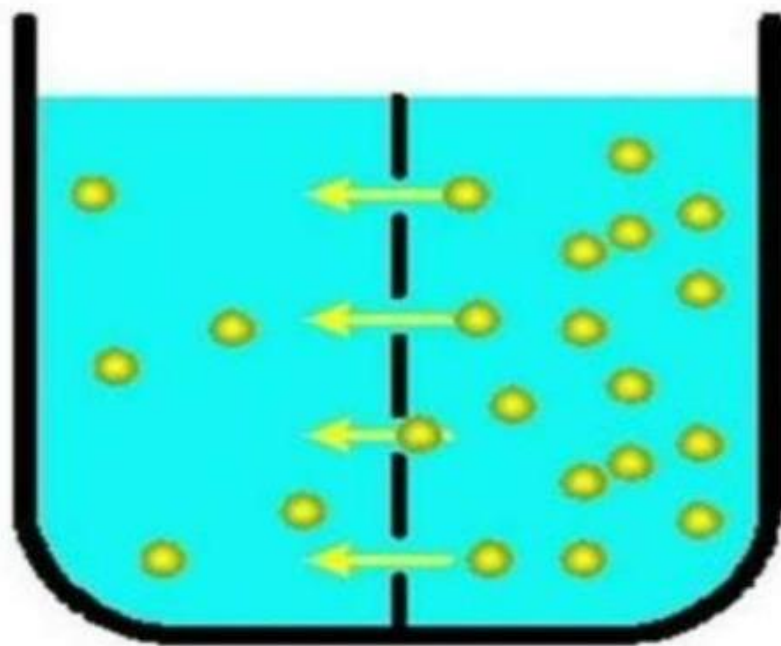
III . Peritoneal Dialysis

A. Definition removal of fluid and waste products via a dialysis catheter located in the peritoneal cavity; space between the stomach, liver, spleen, intestines and kidneys by:

- 1) diffusion
- 2) osmosis
- 3) ultrafiltration
- 4) convection

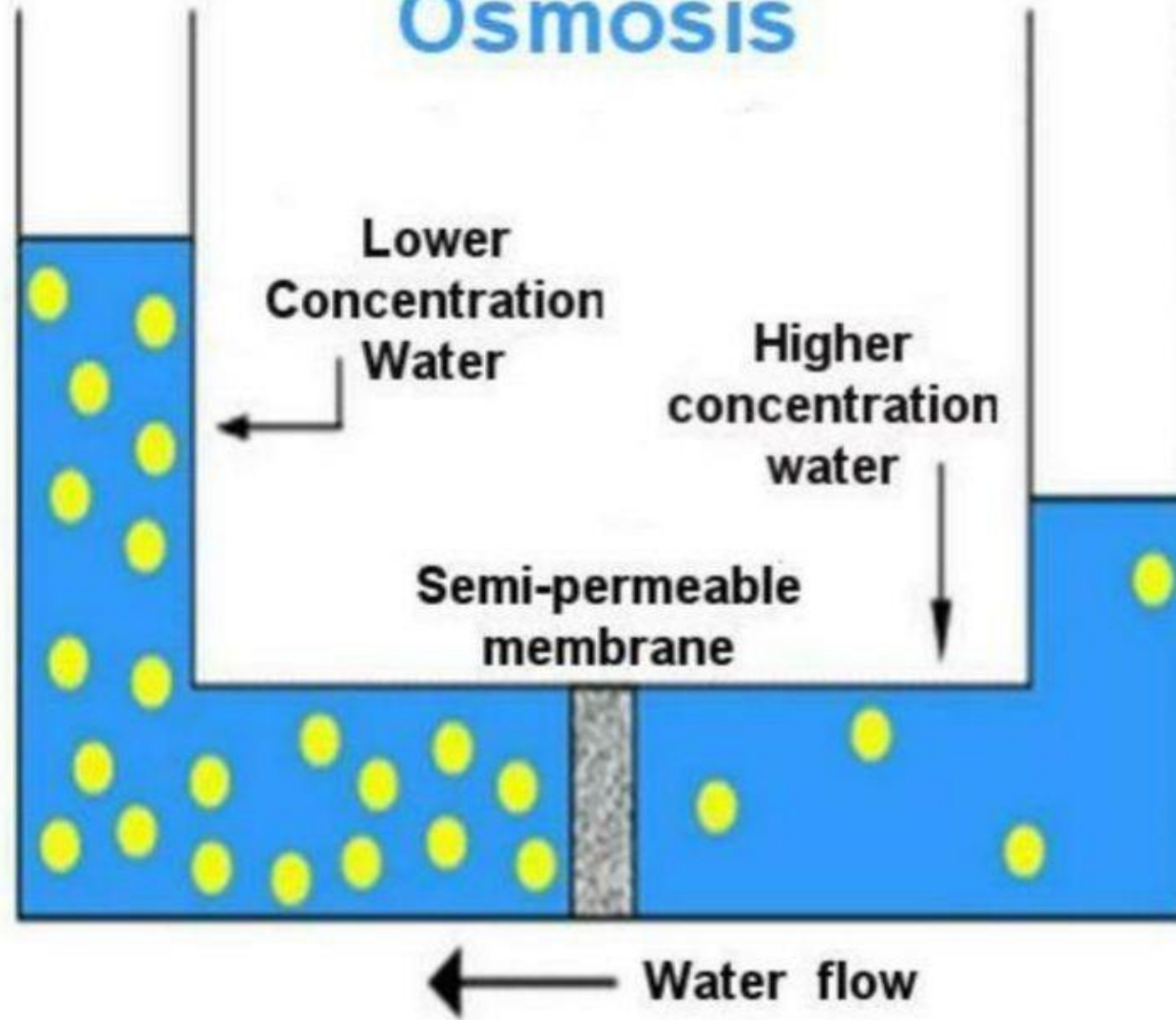


Diffusion



Solvent moves by a
concentration gradient

Osmosis





Ultrafiltration

Occurs because of a pressure gradient

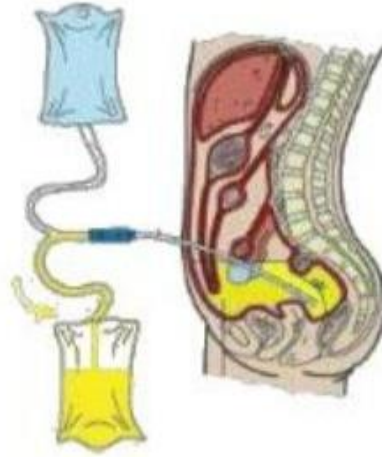
Convection

Occurs as solvent drag. Solvent brings the solute with it.

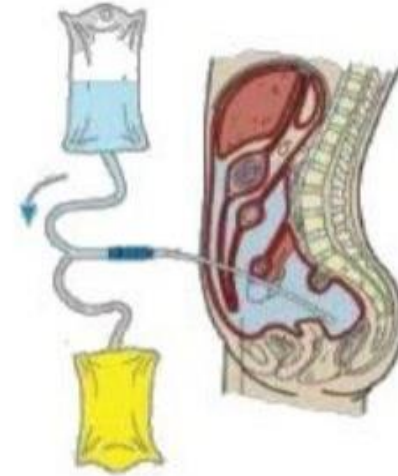
B. Process

- 1. Infusion-** 1 to 3 liters of sterile dialysate solution is infused through the dialysis catheter into the abdominal cavity which comes into contact with the peritoneal membrane.
- 2. Dwell** - The membrane is semi-permeable and acts as a filter which allows waste products and excess fluid to pass from the blood stream, across the membrane and into the dialysis solution.
- 3. Drain** - After a specified dwell time the fluid containing the waste and excess fluid is drained out. **(however!!!)**

1- Drain -



2- Infusion-



3- Dwell -



C. Types

1. **CCPD** -

Continuous **C**ycler **P**eritoneal **D**ialysis
(or APD - Automated PD). Cycler is
used during the night to perform up to
8 exchanges. Long dwell during the day

2. **CAPD** -

Continuous **A**mbulatory **P**eritoneal **D**ialysis
4 or 5 exchanges per day

D. Dialysate

1. Definition: Fluid containing dextrose and electrolytes

2. Concentrations:

Higher concentrations
of glucose pull more fluid

- a) 1.5%
- b) 2.5%
- c) 4.25%

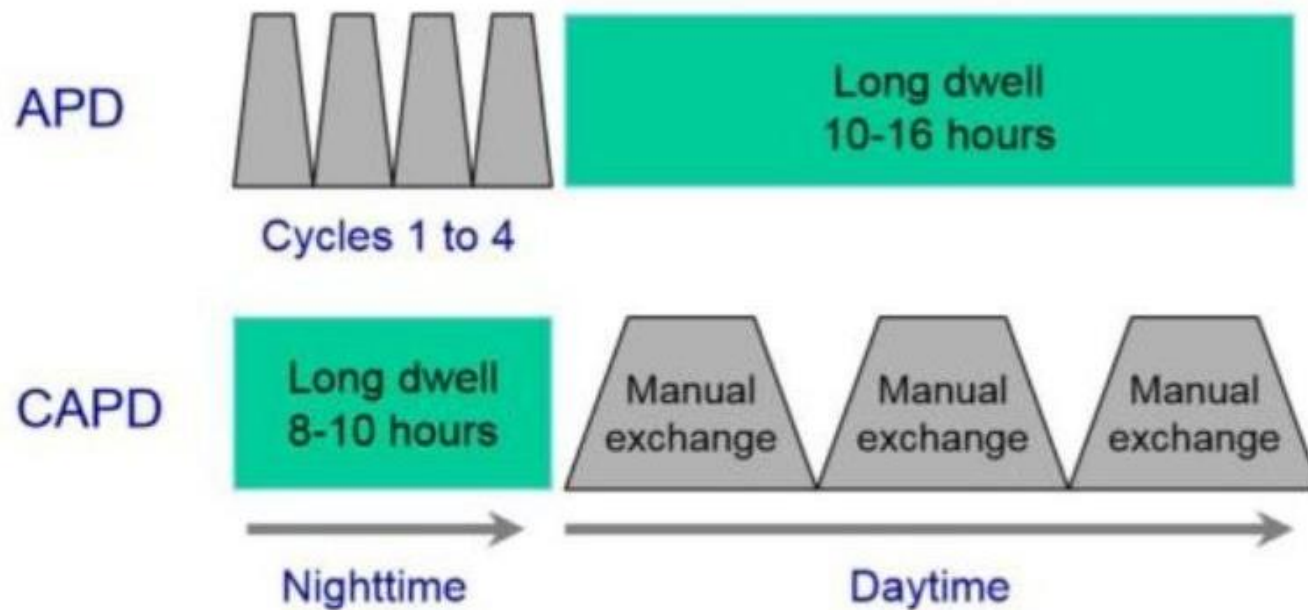




EXTRANEAL is a glucose-free polymer that is indicated for a single daily exchange for the long 8-16 hour dwell during CAPD or APD.

Recent findings have shown that it improves the long-dwell ultrafiltration and clearance of creatinine and urea compared to 4.25% dextrose.

The Long Dwell of Peritoneal Dialysis



Some glucose monitoring systems have given falsely elevated glucose readings due to the presence of **maltose**.

Patients and health care providers have withheld treatment of hypoglycemia or administered insulin inappropriately which has resulted in loss of consciousness, coma, permanent neurological damage and death.

Plasma levels of Extraneal and its metabolites return to baseline within approximately 14 days following cessation of administration.

3. Possible Additives

a) heparin

b) insulin (added by pharmacy)

c) antibiotics (added by pharmacy)

d) potassium (added by pharmacy)

Advantages

1. flexible schedule
2. less expensive than Hemodialysis
3. fairly easy to learn
4. fewer dietary restrictions
5. no needles required
6. dialysis can be done at home, on vacation or wherever you are
7. no blood loss
8. continue daily activities

Disadvantages

1. burn out, no days off
2. procedure must be followed exactly to prevent peritonitis
3. altered body image
4. risk of infection
5. permanent catheter access
6. larger clothing size because of fluid in the peritoneal cavity
7. some protein loss
8. storage space (supplies)

Peritoneal Dialysis

Nursing Responsibilities

IV Nursing responsibilities

A. room environment - during bag connection, tubing change, adding meds, exit-site care for recent post ops

1. prefer a private room
(roommate approved by MD)
2. air vent covered
3. door closed (sign on door)

Procedure in Progress
Do Not Enter

4. curtain pulled
5. mask on patient, roommate, staff



B. accurate I&O

C. daily weights abdomen must be empty,
weigh after first AM drain

D. exit site care (daily)
immediately post-op - **do not disturb**
recent post-op - **ExSept**
long standing - **soap & water**



E. phosphate binders must be given immediately before or after meals, otherwise they are calcium supplements Examples:. PhosLo, Renagel, Ca+ carbonate (Tums)



F. sorbitol standing order.

No fleets enema or MOM.
(Mg⁺ not removed by dialysis)

G. tubing clamps

soak in hibiclens / betasept (in open position)
rinse off prior to use change solution every
24hrs.

H. IV rates

watch, especially pre-op and post-op patients.

Use IV Pump!

I. insulin is stable

2 hrs. in the warmer

24 hrs. out of the warmer

J. potassium is stable

1 hr after added

(adheres to bag)

K. heparin should be added to the bag prior to the infusion during the current exchange. Does not cross the peritoneal membrane so does not cause systemic anticoagulation

L. Specimens

C & S – aerobic & anaerobic culture bottles, 30ml extra in sterile specimen cup

Cell Count – lavender top tube

(must hand deliver specimens to the lab!)



M. Documentation

CAPD EXCHANGE		x	
05/10 1513 NUR		0000000654	PD PATIENT
Drain Time:		Fibrin:	
Drain Volume:		Color:	
		Clarity:	
Solution:			
Infusion Time:		Meds:	
Infusion Volume:		Added	
		Exit Site Care:	
Comment:			

Meditech: CAPD Assess & Care (150344)