

Total Parenteral Nutrition (TPN)

With TPN, all essential nutrients are given intravenously. Since this type of solution is very thick, it *cannot* be given through a peripheral line, it *must* be given through a **central line**.

This includes:

- PICC lines
- Subclavian CVC
- Femoral CVC
- Internal jugular lines

Indications for TPN include:

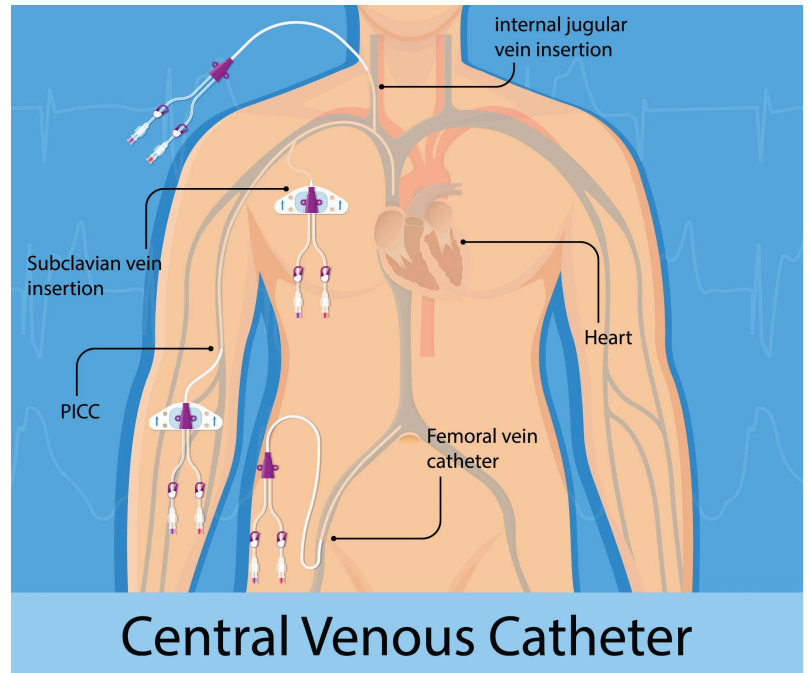
- Pancreatitis
- Crohn's Disease
- Severe burns/trauma
 - hypercatabolic state
- oncology patients
- malabsorption issues

Nursing care:

- daily weights
- monitor glucose levels and
 - signs of hypoglycemia
 - signs of hyperglycemia

Complications of TPN:

- higher risk of infection (cvc) as compared to enteral feeding.
- stress ulcers



Other important TPN info:

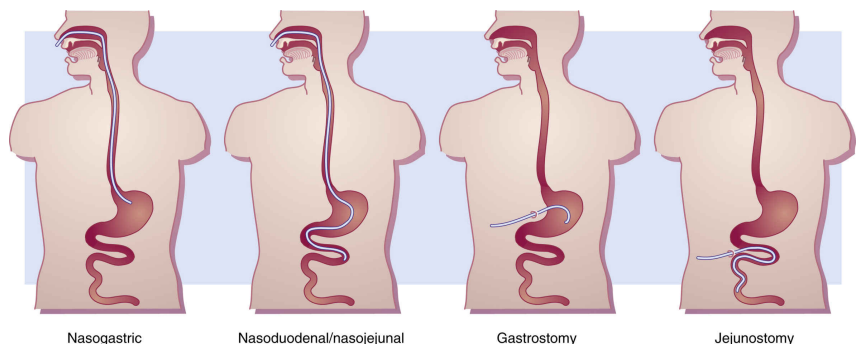
- TPN lines are for TPN only! No IV push or piggyback meds.
- Start and stop TPN slowly to avoid hyper or hypoglycemia.
- Tubing and bag must be changed every 34 hours.
- If your bag is almost empty and you don't have a bag to replace it. 10% dextrose in water should be hung.

Enteral feedings:

Enteral feeding includes: NG tube, PEG, and G-tube feeding.

Common complications:

- tube displacement
- abdominal distention
- clogged tubes
- aspiration (**NO bolus** feeding via NG tube if on a mechanical ventilator)



Peg tube information:

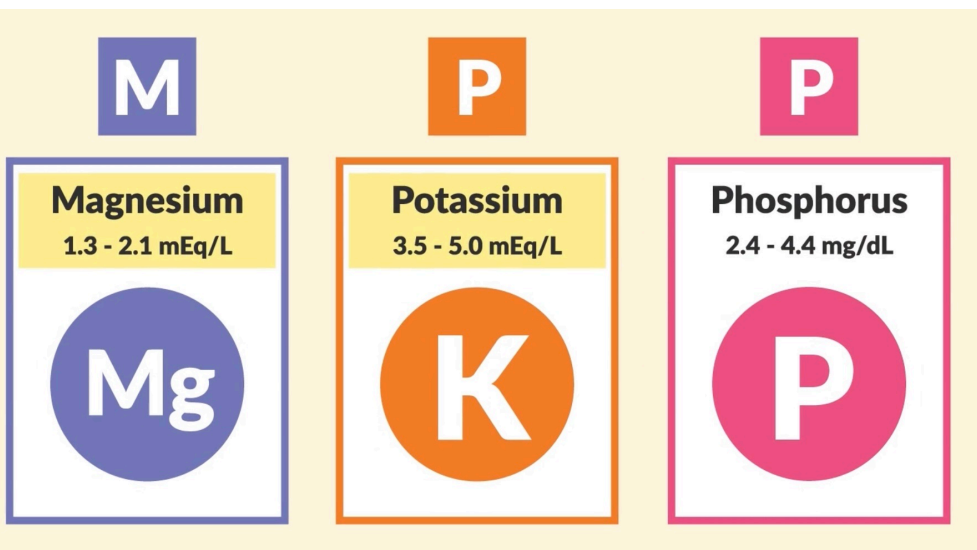
- if peg tube < 7 days old gets dislodged the HCP who inserted it must be notified, as it takes about 4-6 weeks for this tube to reach “full maturity”.

Refeeding Syndrome

Giving too many nutrients in a short period of time (24-48 hours) can cause a massive shift of electrolytes from the blood and into the surrounding tissues/cells so the blood ends up having low electrolytes.

Refeeding syndrome is most commonly seen in patients with: *Anorexia Nervosa* and *Chronic Alcoholism*

Remember that MPP will be low:



Magnesium: Mellows out the Muscles

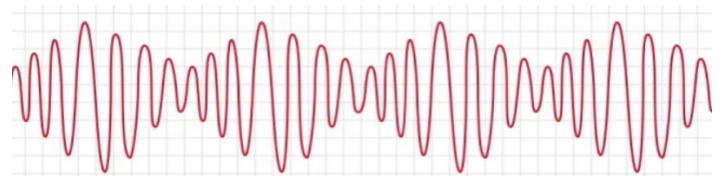
Potassium: Priority, as it Pumps the heart muscles

Fatal complications include:

- cardiac dysrhythmias such as:
 - Torsades De Pointes (from low magnesium)
 - V-fib and cardiac arrest (low potassium)

How to prevent refeeding syndrome:

- give gradual feeding
- increase calories *slowly*



T-tube (biliary drain)

Placed in the bile duct following:

- cholecystectomy
- bile duct exploitation
- liver transplant

The t-tube is placed to drain the excess bile until the body is healed and able to do it on its own.

• Bile is *created* in the *liver* and drains through the biliary tree into the *gallbladder* where it is *stored* and *concentrated*.

• Bile does two things: helps digest fats and helps provide a way for bilirubin to be excreted through the stool.

- if bile can't reach the duodenum where it mixes with chyme, from something such as a gallstone or cholecystitis, the fats will not be digested and will be excreted in the stools causing *steatorrhea* (light, greasy stools). Also bilirubin will not be excreted and it will build up in the tissues. This is what causes Jaundice, due to the color of bilirubin.

Nursing care of the patient with a t-tube: remember the mnemonic "DRAIN"

Drainage bag positioned correctly, to promote flow of gravity.

- at or below waist level
- patient in semi-fowler, laying on opposite side when sleeping.

Record and empty drainage bag per protocol

- post-op drainage has some blood
- drainage decreases as post-op days advance
- no more than 500 ml/day

Assess color of drainage

- watch out for thick, foul smelling drainage (infection)
- bright red blood could indicate internal bleeding

Inspect the skin and abdomen

- change dressing often, keep skin dry
- bile peritonitis signs: abdomen bloating, tender to touch, N/V/D

Need MD order to clamp or flush tube

- flushing maintains patency and prevents blockages and/or build-up
- clamping is often ordered before and after meals