

What is parenteral nutrition?

Total parenteral nutrition (TPN) is an alternate form of nutrition support where nutrition is given through the veins (intravenously (IV)). It is used when the gastrointestinal (GI) tract is not functioning and the person is not able to be fed enough nutrition orally or by tube feedings.

NOTE: Studies have found that parenteral nutrition provides little to no clinical benefit if it runs for less than 5-7 days¹.

What are the reasons for using parenteral nutrition?

Although the use of parenteral nutrition may be different for each patient, general uses may include:

- A GI tract that is not working due to a blockage, bleeding, infection, leak, etc.
- Long-term severe vomiting or diarrhea that cannot be resolved.
- Specific conditions affecting the GI tract such that it is not possible to use an oral diet or tube feeding.

What are the Benefits of parenteral feeding?

“If the gut works, use it!” An oral or tube feeding diet is preferable in order to maintain the health of the gastrointestinal tract, and promote normal bowel elimination. However, if it is not possible to use the gut, TPN may be used to provide nutrition.

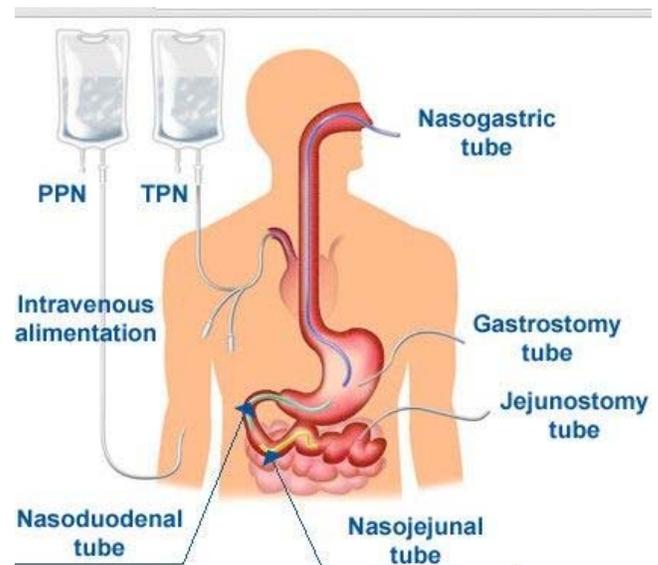
What kinds of parenteral nutrition solution are provided?

- TPN formulas contain the necessary nutrients (calories, protein, carbohydrates, fat, electrolytes, vitamins, minerals) similar to a well-balanced diet.
- PPN formulas are used for short term intravenous nutrition and may not be 100% complete.

How is the parenteral nutrition given?

Parenteral nutrition is administered through the veins.

- Total Parenteral Nutrition (TPN): must be delivered by a central venous catheter if it contains higher concentrations of carbohydrates (greater than 10% dextrose).
 - Short term TPN is generally delivered through a subclavian, internal jugular, or femoral venous catheter.
 - Long term TPN can be delivered through a tunneled central venous catheter or a peripherally inserted central catheter (PICC).
- Peripheral Parenteral Nutrition (PPN): delivered through a peripheral intravenous catheter for short term nutrition.



¹ American Society of Parenteral and Enteral Nutrition (ASPEN)

What are the risks of parenteral nutrition?

You will be having lab tests and physical exams to check how well the TPN is working, and for any side effects. Talk with your doctor and healthcare team, about any questions or concerns. Some risks of parenteral nutrition include:

- Infections: fungal and bacteria bloodstream infections
- Adverse metabolic effects: high blood sugars, serum electrolyte (lab) alterations
- Venous access complications: bleeding, injury to vessels that carry blood, pneumothorax (collapsed lung), or blood clots
- Atrophy: wasting of the GI tract due to it not being used

What should I inform my doctor about and what side effects should I watch for?

- Tell your doctor and healthcare team if you have the following:
 - If you are allergic to any medicines, eggs, or soybeans
 - What medications you are taking, including prescription, over-the-counter, vitamins, herbals, and supplements
 - If you have, or have ever had, diabetes, or heart, lung, kidney or liver disease
 - If you are pregnant, plan to become pregnant or are breastfeeding
- Side Effects – Tell your doctor and healthcare team if you experience any of the following while on TPN:
 - Trouble breathing
 - Fever or chills
 - Stomach pain, headache, vomiting
 - Muscle weakness, twitching or cramps
 - Shortness of breath, heart palpitations, chest pain
 - Excessive thirst
 - Observe your IV site for possible signs of infection, and notify your healthcare team if you notice any of the following at your IV site: tenderness, warmth, redness, swelling, discharge, or pain