TelAbility

Enhancing the lives of children with disabilities

Total Parenteral Nutrition
(Intravenous Feeding)

This TelAbility handout will provide information on TPN (total parenteral nutrition), including its uses, benefits and possible complications.

What exactly is TPN?

Total Parenteral Nutrition (also known as TPN or, hyperalimentation,) provides a way for a person to receive nutrition when they cannot eat or cannot safely use their gastrointestinal (GI) tract in the body. It is a liquid mixture of nutrients given through a vein into the bloodstream, where it is then absorbed in the body. It completely bypasses the stomach and intestines TPN contains all of the protein, fat, sugars, vitamins and minerals a child needs to survive. The amount a child receives is carefully calculated by a health care team, and adjusted frequently depending upon how that child is growing, their health status, and what their blood tests show.

How does a child receive TPN?

TPN is usually given over a set amount of hours. The amount of time a child needs to be attached to the TPN can vary, depending on factors like how much a child needs, their schedule (school etc), and whether or not they are also eating food as well. The TPN runs into a central intravenous (IV) line that has been surgically placed in the hospital. Some common names for these IV's can be PICC lines, ports, or tunneled catheters.

What kinds of medical conditions could a child have where they would need TPN?

- ✓ Cancer
- ✓ Burns
- ✓ GI disorders like Crohn's disease or ulcerative colitis
- ✓ Short Bowel Syndrome
- ✓ Malnutrition
- ✓ AIDS
- ✓ Cystic Fibrosis

What are some possible complications of using TPN as a nutrition source?

- Over time, TPN can stress the liver, causing liver damage.
- It can be difficult to keep the body's blood sugar levels steady when on TPN
- High lipid levels (cholesterol, triglycerides).
- INFECTION (at the IV port site or infection in the blood).
- The IV catheter can come out of place.

Total Parenteral Nutrition

How can I prevent these complications?

Many steps are taken to prevent complications from happening:

- Using sterile techniques such as using alcohol wipes and antibacterial soap when setting up the TPN and strict hand washing significantly decreases the risk of infection.
- IV lines should be taped under clothing so they are not accidentally grabbed and removed.
- Carefully following the directions that the hospital and home health agency gave you on setting up the TPN and starting the infusion can also prevent problems.
- Calling your doctor if your child develops a fever or has swelling at the IV site is very important.
- It is important to not be embarrassed about asking any question, as providing TPN to your child is not always an easy task!
- Your child will have blood work completed usually on a set schedule (weekly, monthly etc). These will measure how your child's body is reacting to the TPN. If certain laboratory measures return too high, or low, your child's TPN can often be easily adjusted to correct some of these abnormalities.

Will my child be able to eat food again? Will he need TPN for his whole life?

The long-term goal for any child is to have them eating food from the table. If a child is receiving all of their nutrition from TPN, they should still be at the table with the family to receive all of the stimulation, sights, smells and sounds a mealtime often brings. Working with an occupational or speech therapist can help if a child is medically able to eat small amounts of food, but is resistant to it because they went so long without eating. Portable backpacks that can hold the TPN are now available so the family is not tied to the house when their child is receiving their TPN. Whether your child will be able to eat some or all of their nutrition by mouth depends on many factors. For example, in the case of short bowel syndrome, it will depend on what part of the bowel was involved, how much bowel was removed, and how the child is growing. For some children, TPN may be needed for at least part of their nutrition needs during their entire life.

For more information on this handout, please contact Sharon Wallace, RD, CSP, CNSD at sharonwallace@nc.rr.com or your local pediatric nutritionist.
Last updated 4/15/03

Resources

The Oley Foundation www.oley.org This is a non-profit organization that provides support and education to individuals receiving TPN.

The UNC Department of Pediatric Surgery
www.viper.med.unc.edu/surgery/pediatric/links.html Under pediatric/medical resources there is a handout on Broviac/Hickman IV care.