**Understanding Therapeutic Plasma Exchange (TPE)**

https://www.saintlukeskc.org/health-library/understanding-therapeutic-plasma-exchange-tpe

Therapeutic plasma exchange (TPE) is a treatment that removes plasma from your blood. The removed plasma is then replaced with a substitute. Plasma is the liquid portion of blood. It helps carry blood cells and other substances throughout your body. With certain diseases, plasma can contain an abnormal substance that may trigger symptoms. TPE helps remove this abnormal substance and relieve symptoms. TPE can also help you better fight your disease. TPE is also known as plasmapheresis.

Why TPE is done

TPE is most often used to treat certain blood, neurologic, or autoimmune diseases. Examples are:

* Thrombotic thromobocytopenic purpura (TTP)
* Guillain-Barré
* Certain types of multiple sclerosis
* Chronic inflammatory demyelinating polyradiculoneuropathy (CIDP)
* Lambert-Eaton
* Myasthenia gravis
* Some diseases of the kidney such as Goodpasture syndrome

Used alone, TPE cannot cure these diseases. But it may help slow their progress and relieve symptoms. When used with other treatments, TPE may increase your chances of fighting the disease.

How TPE is done

TPE uses a special machine to separate blood into its different parts. It then removes and replaces most of the plasma. You often need more than one treatment. You and your healthcare provider will discuss the schedule for your treatment in advance. Each plasma exchange takes about 2 to 4 hours.

* An IV needle is inserted into a vein in each arm as an access point. In some cases, the healthcare provider may use a large vein in your shoulder or groin instead. Tubing connects the access point or points to the exchange machine.
* Your blood flows through tubing to the machine.Before the blood reaches the machine, medicines are added that prevent the blood from forming clots. These medicines are called anticoagulants.
* The machine separates blood into its various parts. It then removes the plasma.
* The machine adds a plasma substitute to the remaining blood. This may be a replacement fluid that contains saline and albumin. Or it may be plasma from a human donor.
* The blood containing the new plasma returns to you through the tubing.

Risks of TPE

* Low blood pressure
* Shortness of breath
* Metabolic alkalosis. This can cause a headache or seizures.
* Bleeding
* Increased risk for infection because your normal immune system proteins (antibodies) have been removed
* Too little calcium in the blood (hypocalcemia)
* When non-plasma replacement fluid is used: too little potassium in the blood (hypokalemia)
* When donor plasma is used: Allergic reaction or disease transmission