Therapeutic Plasma Exchange

<https://utswmed.org/conditions-treatments/therapeutic-plasma-exchange/>

Therapeutic plasma exchange (TPE), also known as plasmapheresis, removes and replaces a patient's blood plasma. TPE is used in the treatment of various autoimmune diseases, in which the body recognizes a part of itself as foreign and generates proteins, called autoantibodies. These antibodies attack specific parts of our body and can cause a spectrum of symptoms, depending on their target. These proteins are found in the plasma component of blood. The goal of TPE is to remove large amounts of disease-causing agents, such as these antibodies, that attack the body and cause symptoms.

During this therapy, small amounts of blood are gradually removed through an inserted needle or central line catheter and circulated through a machine that portion blood into a plasma substitute added to your own blood cells (red cells, white cells, and platelets), and they are returned by intravenous or central venous catheter access. The plasma is discarded in a waste bag. One procedure typically removes 65 to 70 percent of the disease-causing proteins (antibodies) in the plasma.

Diseases Treated by Therapeutic Plasma Exchange

* Thrombotic thrombocytopenic purpura
* Myasthenia gravis
* Acute inflammatory demyelinating polyneuropathy (Guillain-Barré Syndrome)
* Antibody-mediated rapidly progressive glomerulonephritis
* Chronic inflammatory demyelinating polyradiculoneuropathy
* Transplant rejection of solid organs (kidney, heart)
* Hyperviscosity syndrome
* Recurrent focal segmental glomerulosclerosis
* Multiple sclerosis
* Neuromyelitis optica
* Cryoglobulinemia
* Other rare diseases

How to Prepare for Plasma Exchange

Prior to a procedure, we recommend drinking large amounts of non-carbonated, non-alcoholic beverages a couple of days prior to the procedure. We also recommend eating prior to your scheduled procedure. Since plasma exchange can affect levels of circulating medication, we recommend discussing with your regular physician if they should be taken after, instead of prior, to our procedure.

What to Expect During Plasma Exchange

Plasma exchange is a safe procedure with a few side effects.  If intravenous catheters are placed, the arms will be propped on pillows and you will be asked to intermittently pump a fist to help promote blood flow. One may experience bruising or discomfort at the insertion sites. If a larger catheter or port is used, one will have free use of their arms during the procedure.

The procedure typically last 2 to 3 hours. You may have mild numbness or tingling, nausea, or light-headedness. An apheresis staff member specialized with the procedure will be with you throughout the treatment and should be notified of any side effects to help alleviate the symptoms.

After the procedure is completed, you may feel tired for the rest of the day. We recommend hydrating well after the procedure. We also recommend that someone drives you home until you have a good idea of how these procedures affect you.