

# PROCEDURE: THERAPEUTIC PLASMA EXCHANGE

(ALSO REFERRED TO AS THERAPEUTIC PLASMAPHERESIS)

## Description:

Plasma refers to the "liquid" portion of the blood which contains proteins, electrolytes, vitamins, hormones, etc. It does not include the red blood cells, white blood cells or platelets. Plasma exchange is a procedure in which a machine separates and removes the patient's plasma. Many types of machines are available: The most common ones use a centrifuge to separate the blood into its different parts. The plasma that is removed from the patient must be replaced with another protein solution such as 5% human albumin (most commonly). In some cases plasma donated from other people is used. A solution containing citrate is used to keep your blood from clotting during the treatment.

## Reason for the Procedure:

Plasma exchange is used when it is necessary to remove disease-causing proteins, called antibodies, from a patient. These antibodies are caused by an abnormal immune system and can attack healthy organs. It is often not possible to remove only the protein that is causing the disease. Therefore the plasma must be removed to treat the illness.

## Venous Access:

In some cases, plasma exchange can be performed using needles that are placed in each arm. Blood is removed from one arm, separated in the machine, and returned to the patient through the other arm. In patients with small or fragile peripheral veins, the placement of a central venous catheter may be necessary.

## Duration:

This is different from patient to patient, but an average plasma exchange procedure lasts about 2 hours.

## Risks and Side Effects:

Plasma exchange is a safe procedure but side effects can occur. Common side effects include fatigue, nausea, dizziness, feeling cold and tingling in the fingers and around the mouth, allergic reaction, and lowered blood pressure. It is very important to notify medical staff if these symptoms occur. Serious complications such as abnormal heart beat, seizures, electrolyte abnormalities, and unexplained bleeding are extremely rare.

## Diseases for Which Plasma Exchange is Used:

Plasma exchange is a standard treatment for many diseases. Conditions that are commonly treated with plasma exchange include diseases that affect the nervous system like Guillain-Barré Syndrome, CIDP (chronic inflammatory demyelinating polyneuropathy), and myasthenia gravis. It is also used to treat some diseases in which the blood is too thick, and a blood disorder called TTP (thrombotic thrombocytopenic purpura) where small blood clots can cause damage to organs.

## Number of Procedures that are Required:

This depends on the disease that is being treated. While some diseases require a short course of treatment, others may require many treatments. Patients should ask their physician, or the apheresis physician, for specific details related to their condition.

## Other Considerations:

Plasma exchange can remove large amounts of some medications, including intravenous medications that you may be getting. Patients should talk to their physicians about any medication changes that may be needed before having the procedure.

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