

Transplant Desensitization with Plasma Exchange and IVIG

Desensitization removes antibodies from the blood. Antibodies are proteins that white blood cells make to help the body fight infection. The body makes antibodies as the first line of defense in the immune process.

These antibodies work hard to protect our bodies and keep us healthy. But, these same antibodies could be bad for someone with a kidney transplant. They can attack or destroy a transplant kidney.

Antibodies are created during a prior transplant, blood transfusion, or pregnancy. The process to remove antibodies is called plasmapheresis. It is a process like hemodialysis but will not replace your regular dialysis.

In the desensitization process, you will need 2 – 6 of these treatments before your transplant. You will also receive several treatments after your transplant to remove antibodies.

Plasma exchange is a process that removes the plasma and replaces it with new plasma. This process is also called pheresis.

Why is Plasma Exchange Done

Plasma, the fluid within your blood, has proteins in it. In certain diseases, these substances (autoantibodies) attack healthy cells. By doing a plasma exchange, we can remove some of the autoantibodies. This treatment may make it possible for you to have your transplant.

How Plasma Exchange is Done

During plasma exchange, blood is drawn from your arm and passed through a small tube (catheter).

You may also need a catheter placed in a large vein in your neck or leg. The blood flows from the tube into a bag. It is placed in a machine that spins the blood (centrifuge).

As the blood spins, it splits into plasma and blood cells (red cells, white cells, and platelets). The plasma is light and rises to the top of the bag. The plasma layer is then removed.

The rest of the blood along with a plasma replacement is returned to your body through a small tube to your other arm or catheter. Only about one cup of blood is removed from your body at one time.

Plasma Replacements

The plasma that is removed is replaced by:

- **Albumin** – a human blood product that has been screened and heat-treated. This is to prevent disease from being transmitted. Side effects are rare, but may include nausea, fever, chills, itching, low blood pressure, or flushing.
- **Saline** – a saltwater mixture.
- **Fresh frozen plasma** – from healthy plasma given by blood donors and has been screened for viruses. Side effects may include itching, hives, chills, fever, and skin flushing. Rare side effects are labored breathing, low blood pressure, and allergic reaction. Be sure to tell your doctor or nurses if you notice any of these side effects.

After the Plasma Exchange

Most people feel well during the exchange. Some have felt dizzy or light-headed. Slowing the rate of the exchange or lowering your head can help relieve these symptoms.

Some people have numbness in the lips and tingling in the hands and fingers. Chewing Tums[®] or drinking milk can help.

Others are slightly sick to their stomach (nauseated). These symptoms often go away after the exchange is done. It will help if you eat something before the treatment.

You may receive a medicine called Immune globulin (IVIG) after the exchange. It is given through an IV in your arm or a catheter in your neck. This medicine helps prevent the return of the antibodies or a rebound. The entire treatment takes 5 – 6 hours.

Care After Plasma Exchange

- Most people feel tired. Plan on little or no activity for the next few hours.
- If you are dizzy, lie down and raise your feet higher than your head.
- For the next few hours, leave your bandages on and keep them dry.
- **Do not** do any heavy lifting or exercise.
- If you have any redness or pain where the needle was placed, call the UW Health Infusion Center at: **608-263-8369 during regular business hours.**

Your health care team may have given you this information as part of your care. If so, please use it and call if you have any questions. If this information was not given to you as part of your care, please check with your doctor. This is not medical advice. This is not to be used for diagnosis or treatment of any medical condition. Because each person's health needs are different, you should talk with your doctor or others on your health care team when using this information. If you have an emergency, please call 911. Copyright © 6/2023. University of Wisconsin Hospitals and Clinics Authority. All rights reserved. Produced by the Department of Nursing. HF#5790.