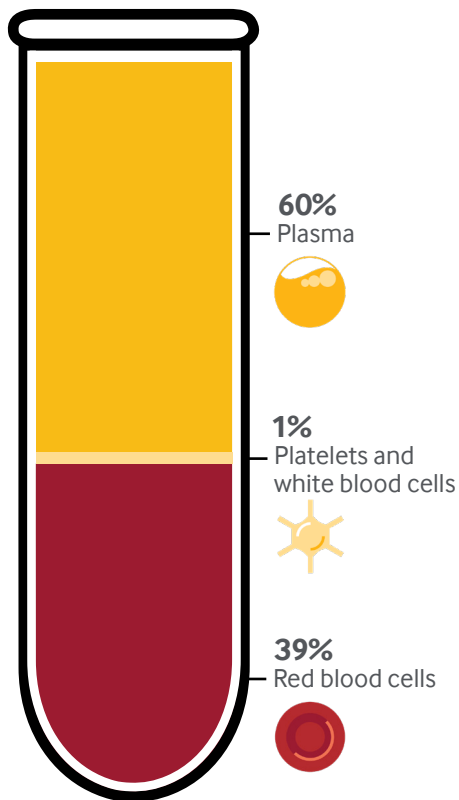


Patient Guide: Therapeutic Plasma Exchange





What Is Plasma?

Plasma is the liquid part of your blood that carries red blood cells and white blood cells through the body. When plasma is separated from the other parts of blood, it is yellow in color.

Plasma Exchange Basics




Why Do You Need Plasma Exchange?

Some medical conditions can cause your body to create harmful antibodies or excess proteins. These substances circulate throughout the body in the plasma and may harm healthy cells or tissues.

Therapeutic Plasma Exchange (TPE)

- Removes a portion of your plasma that contains potentially harmful substances while replacing it with beneficial fluids
- Calms down your overactive immune system
- Is an exchange transfusion performed on a medical device
- Takes one to four hours to complete

TPE is:

-  Safe and well-tolerated
-  Performed all over the world
-  Recommended by many professional medical organizations

TPE: What to Expect

Before the procedure

A single-use sterile tubing set is connected to one or both of your arms with a needle. Depending on the length of treatment, more permanent access options may be considered.

1

During the Procedure

A small portion of your blood is cycled through the device. Less than a cup of blood is outside of your body at any time.

2

It is then mixed with a fluid that prevents your blood from clotting.

3

The system spins your blood in a centrifuge, separating it into plasma and other blood components.

4

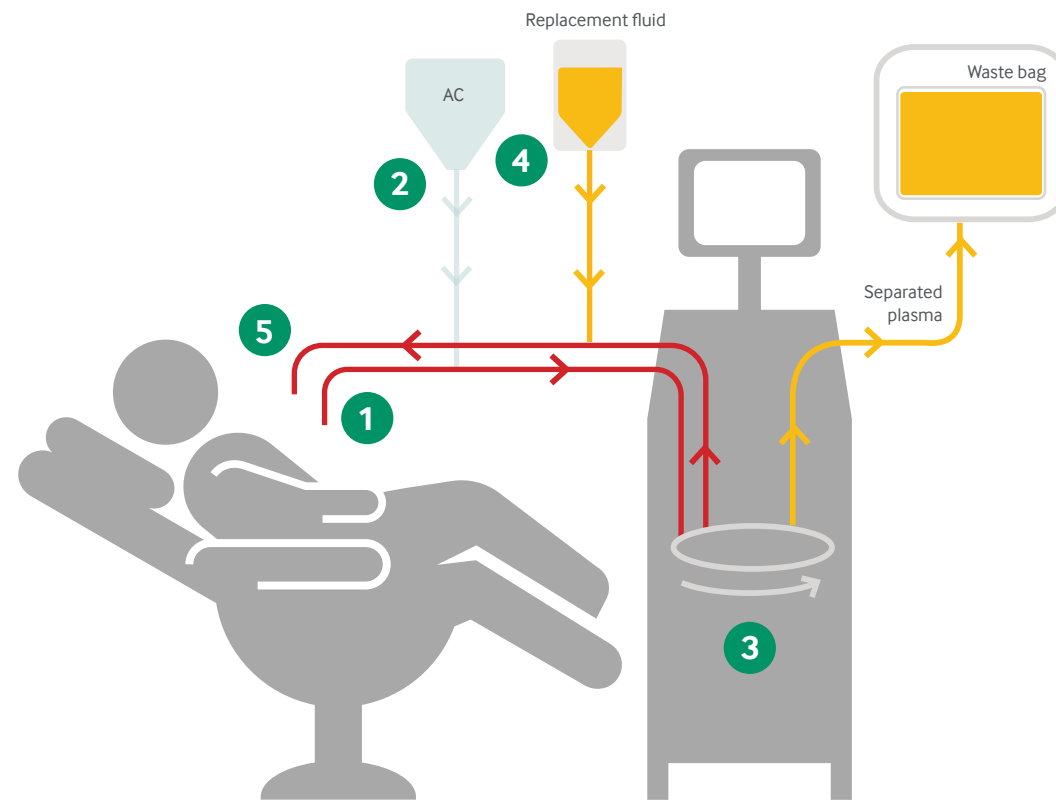
As your plasma is removed, it is replaced with a fluid recommended by your doctor.

5

The remaining parts of your blood are mixed with the new fluid, then returned to you.

After the Procedure

The tubing set and the removed plasma are safely discarded.



Prepare for Your Procedure



Inform your doctor about your current medications.



Ask your doctor or nurse if you can have company during the procedure.



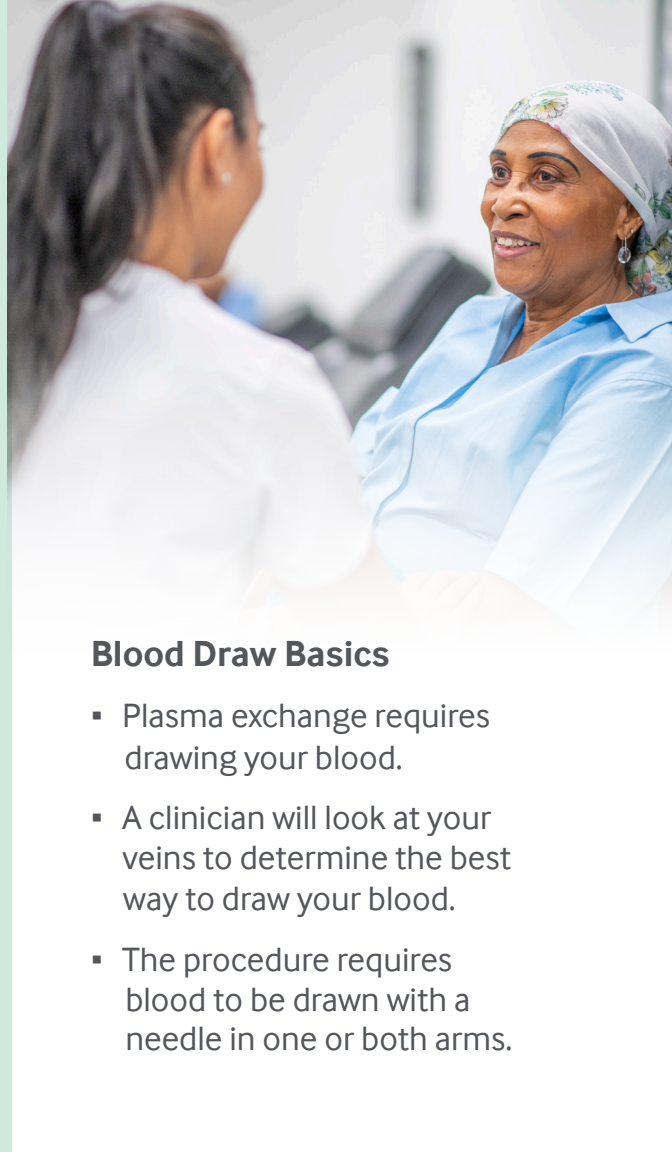
Ask your doctor how to take proper care of the veins in your arm.



To help your procedure go smoothly, drink water and consume foods high in calcium, such as cheese or milk.



Plan how you will pass the time, such as by reading, listening to music, or watching a video.



Ask Your Doctor If TPE Is Right for You

Blood Draw Basics

- Plasma exchange requires drawing your blood.
- A clinician will look at your veins to determine the best way to draw your blood.
- The procedure requires blood to be drawn with a needle in one or both arms.



Apheresis-Related Safety Information

Contraindications for the use of Spectra Optia are limited to those associated with the infusion of solutions and replacement fluids as required by the apheresis procedure and those associated with all types of automated apheresis systems.

Adverse events of apheresis procedures can include anxiety, headache, lightheadedness, digital and/or facial paresthesia, fever, chills, hematoma, hyperventilation, nausea and vomiting, syncope (fainting), urticaria, hypotension, allergic reactions, infection, hemolysis, thrombosis in patient and device, hypocalcemia, hypokalemia, thrombocytopenia, hypoalbuminemia, anemia, coagulopathy, fatigue, hypomagnesemia, hypogammaglobulinemia, adverse tissue reaction, device failure/disposable set failure, air embolism, blood loss/anemia, electrical shock, fluid imbalance and inadequate separation of blood components.¹

Reactions to blood products transfused during procedures can include hemolytic transfusion reaction, immune-mediated platelet destruction, fever, allergic reactions, anaphylaxis, transfusion-related acute lung injury (TRALI), alloimmunization, posttransfusion purpura (PTP), transfusion-associated graft-versus-host disease (TA-GVHD), circulatory overload, hypothermia, metabolic complications and transmission of infectious diseases and bacteria.^{2,3}

Restricted to prescription use only. Operators must be familiar with the system's operating instructions. Procedures must be performed by qualified medical personnel. Terumo Blood and Cell Technologies is a medical technology company. Our products, software and services enable customers to collect and prepare blood and cells to help treat challenging diseases and conditions. Our employees around the world believe in the potential of blood and cells to do even more for patients than they do today.

¹ Crookston KP. *Therapeutic Apheresis: A Physician's Handbook*. 5th ed. Bethesda, MD; AABB; 2017.

² AABB. *Circular of Information for the Use of Human Blood and Blood Components*. Bethesda, MD: AABB; 2017.

³ European Directorate for the Quality of Medicines & HealthCare (EDQM). *Guide to the Preparation, Use and Quality Assurance of Blood Components*. 20th edition. Strasbourg, France: EDQM Council of Europe; 2020.

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