

Transfusion Free Program (TFP) & Patient Blood Management (PBM)

Serving patients and the community since 2005

Transfusion Free Program at MultiCare

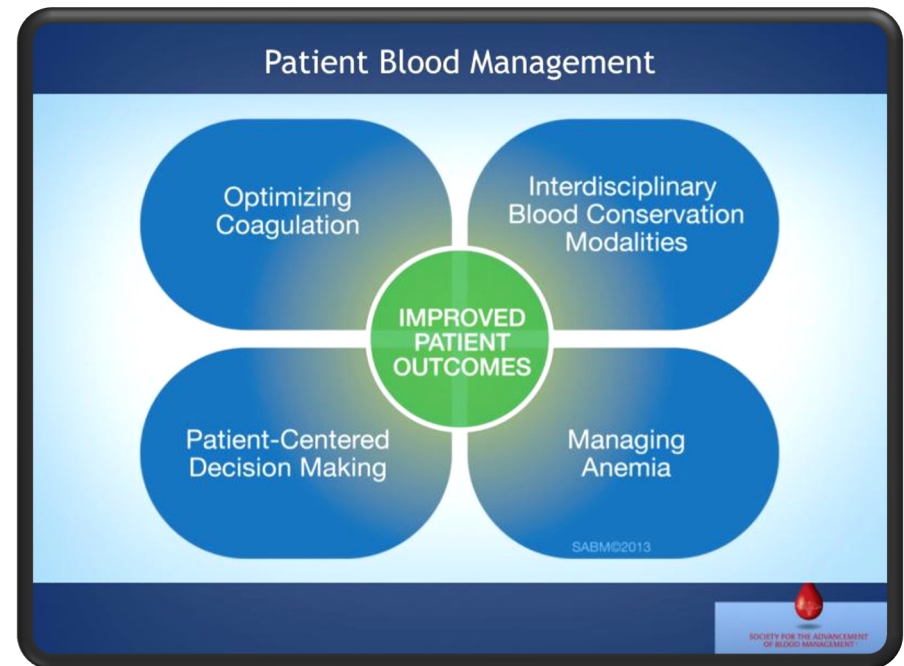
- ❖ Transfusion Free Program (TFP) was founded at Good Samaritan Hospital (GSH) in 2005 to serve the medical needs of patients who refuse blood products because of religious convictions (predominantly Jehovah's Witnesses).
- ❖ In 2008, MultiCare expanded the department's scope to meet the needs of this patient population across all hospitals in the Puget Sound Region.
- ❖ Regardless of patients' reasons for restricting or refusing blood products in their care, the **TFP is available to honor and support those directives.**
- ❖ Bloodless medicine is a safe and effective method of treating patients without the use of blood or blood products, even in a life-threatening situation.
- ❖ TFP offers a team approach to health care and promotes awareness of blood alternatives.



Patient Blood Management at MultiCare

Patient Blood Management (PBM) is a patient-centered, evidence-based approach to improve patient outcomes by managing and preserving patients' own blood, while promoting patient safety

- Respect for individuals' integrity
- Collaborate with clinical teams to deliver safe, efficient, quality care
- Promote PBM best practices
- Educate patients, communities, and care teams
- Promote alignment with MultiCare mission, vision, and values
- Assist patients and families 24-hours a day, 7 days a week (24/7)



Mission

- To reduce patients' exposures to blood transfusion-related risks and improve patient outcomes, through application of evidence-based blood conservation practices, while respecting the autonomy, dignity, and personal values of everyone.

Vision

- To collaborate with and support multidisciplinary teams, increase patient safety, promote quality of care, and achieve optimal patient outcomes through application of best practices in blood conservation strategies.

Values

- Respect, Integrity, Collaboration, Excellence, Stewardship, and Kindness - in acknowledging patients' rights to privacy and autonomy to refuse recommended treatments with blood products based on their ethical, moral, or religious convictions.

What is Blood?



Major Components:

Red Blood Cells: Cells that transport oxygen throughout the body and give blood its red color

White Blood Cells: Infection-fighting cells

Platelets: Tiny cell fragments that help the body form clots and stop bleeding

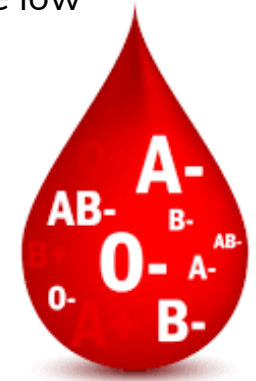
Plasma: Clear, straw-colored liquid portion of blood that contains the blood cells, proteins, hormones, and electrolytes

How is blood “made?”

- ❖ All cells in the blood are made in the bone marrow, primarily in the flat bones such as the skull, sternum, and pelvis.
- ❖ All cells differentiate from “master cells” called stem cells. The stem cells can become whatever kind of blood cell the body needs.

Blood Transfusion Information and Risks

- ❖ A transfusion of blood is given if a patient's blood cell or plasma protein levels are low
- ❖ All donor blood is carefully tested for viruses, diseases, and other factors
- ❖ Transfusion reactions can occur after any transfusion
 - Occur when the patient's immune system attacks the transfused blood
 - Occur in about 2-5% of all transfusions and are typically mild
 - Can be sudden or delayed
 - Symptoms of transfusion reactions:
 - ✓ Difficulty breathing, chills, fever, back pain, headache, hives/rash, increased pulse rate, change in color of urine, decreased volume of urine, jaundice
- ❖ Transfusion Transmitted Infection Risk
 - Human Immunodeficiency Virus (HIV): 1 in every 1 – 2 million transfusions
 - Hepatitis B (HBV): 1 in every 200,000 – 500,000 transfusions
 - Hepatitis C (HCV): 1 in every 1 -2 million transfusions
 - Cytomegalovirus (CMV): Found in 50-85% of people over 40 years old. Can be serious or life-threatening to infants and patients with weak immune systems



Source: American Red Cross

Why Refuse Blood?

Advantages of Transfusion Free Medicine

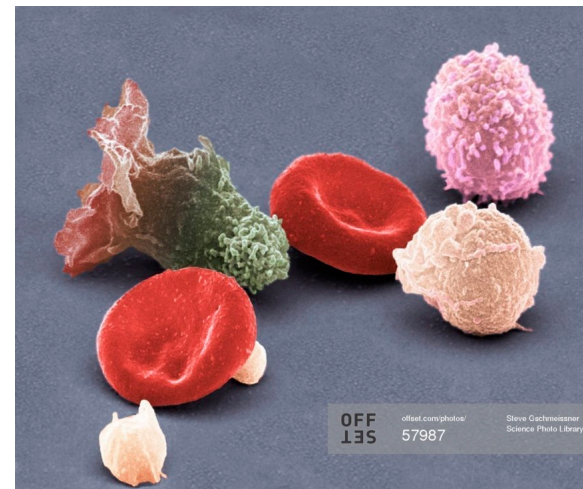
- ❖ Transfusions come with associated risks
- ❖ Faster healing and recovery times
- ❖ Decreased length of hospital stays
- ❖ Lower infection rates / exposure to viruses
- ❖ No possibility of transfusion reactions or of receiving incorrect donor blood in error
- ❖ Reduced hospital costs associated with maintaining blood inventory
- ❖ Reduced demand for blood and blood products



Why Limit the use of Blood?

Advantages of Patient Blood Management

- ❖ Management of patients' own blood supply
- ❖ Cost containment for patients and MultiCare
- ❖ Improved stewardship of the limited blood supply
- ❖ Decreased overuse of Red Blood Cell transfusions without detriment to patient outcomes
- ❖ Improved clinical outcomes
- ❖ Goal-directed, individualized care



Advocates' Role in TFP/PBM

- ❖ Advocates for patients' blood product avoidance or restriction directives
- ❖ Documents acceptable blood alternatives in the electronic medical record
- ❖ Offers information on blood alternatives and blood sparing techniques
- ❖ Promotes best practices in blood conservation
- ❖ Is a resource for bloodless patients
- ❖ Notifies appropriate hospital services of the patients' choices
- ❖ Monitors patients' progress during hospitalizations and provides consultation as requested
- ❖ Available 24/7



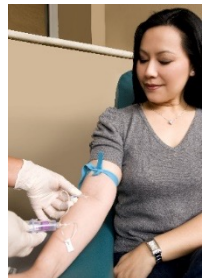


Patients' Role in TFP/PBM

- ❖ Document your medical and blood-related choices in an Advanced Directive/Durable Power of Attorney for Healthcare; provide copies to all your medical providers and the hospital upon admission
- ❖ Inform your medical providers about your objections to blood transfusions and if you desire the use of alternatives in your care
- ❖ Do not postpone treatments; some alternatives require time to be effective
- ❖ Ask your medical providers if you have anemia, or low blood counts
- ❖ Notify your medical providers of any medications or supplements you are currently taking

SPEAK UP!

You are always your own best advocate



Clinical Strategies for Blood Optimization

Pharmaceuticals:

- Medication to stimulate blood cell production
- Hemostatic agents to reduce blood loss
- Intravenous iron infusions for anemia

Lab work:

- Use of low-volume tubes
- Minimal amounts of blood taken for testing
- “Batching” lab tests to reduce the amount of blood needed

Anesthesia:

- Hypotensive anesthesia to decrease operative blood loss
- Maintenance of normothermia to reduce clotting issues
- IV fluids to maintain fluid balance

Surgical Techniques:

- Embolization of bleeding vessels
- Electrocautery
- Harmonic scalpel
- Topical hemostatic agents
- Argon beam coagulator



Tests & Treatments Using Blood

Cell Tagging: A sample of blood is withdrawn, “tagged” with radioactive material, and then injected back into the patient. The material can then be seen on radiologic scans to help diagnose bleeding.

Platelet gel: Blood is withdrawn and concentrated into a platelet and white cell-rich solution that can be used to treat wounds and surgical sites.

Epidural Blood Patch: A small amount of the patient’s blood is injected into the membrane around the spinal cord to stop a spinal fluid leak.

Recirculating Procedures

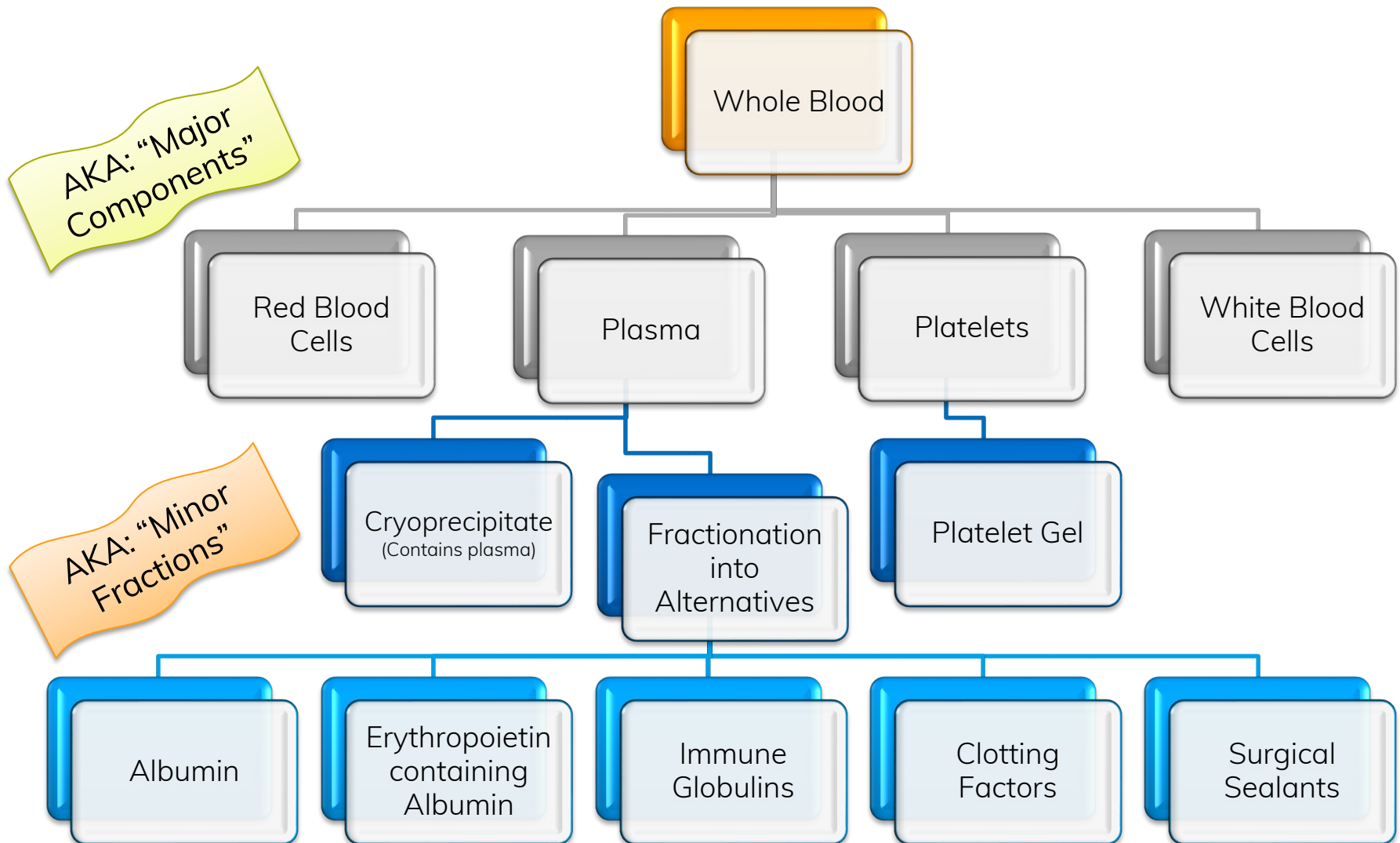
Cell Saver (AKA “blood salvage”): Continuous closed-circuit loop machine used to recover blood lost during surgery. Blood is washed with saline, filtered, and returned to patient.

Heart-lung Machine: A procedure that maintains circulation during cardiac surgery by diverting the blood through a machine to oxygenate it and then it’s returned to the patient.

Dialysis: Blood circulates through a closed loop machine that cleans and filters it before returning it to the patient.

Plasmapheresis: Used to treat certain illnesses, blood is withdrawn and run through a machine to remove the plasma. A plasma substitute is added in, and the blood is returned to the patient.

Blood Products and Derivatives



Where Do Derivatives Come From?

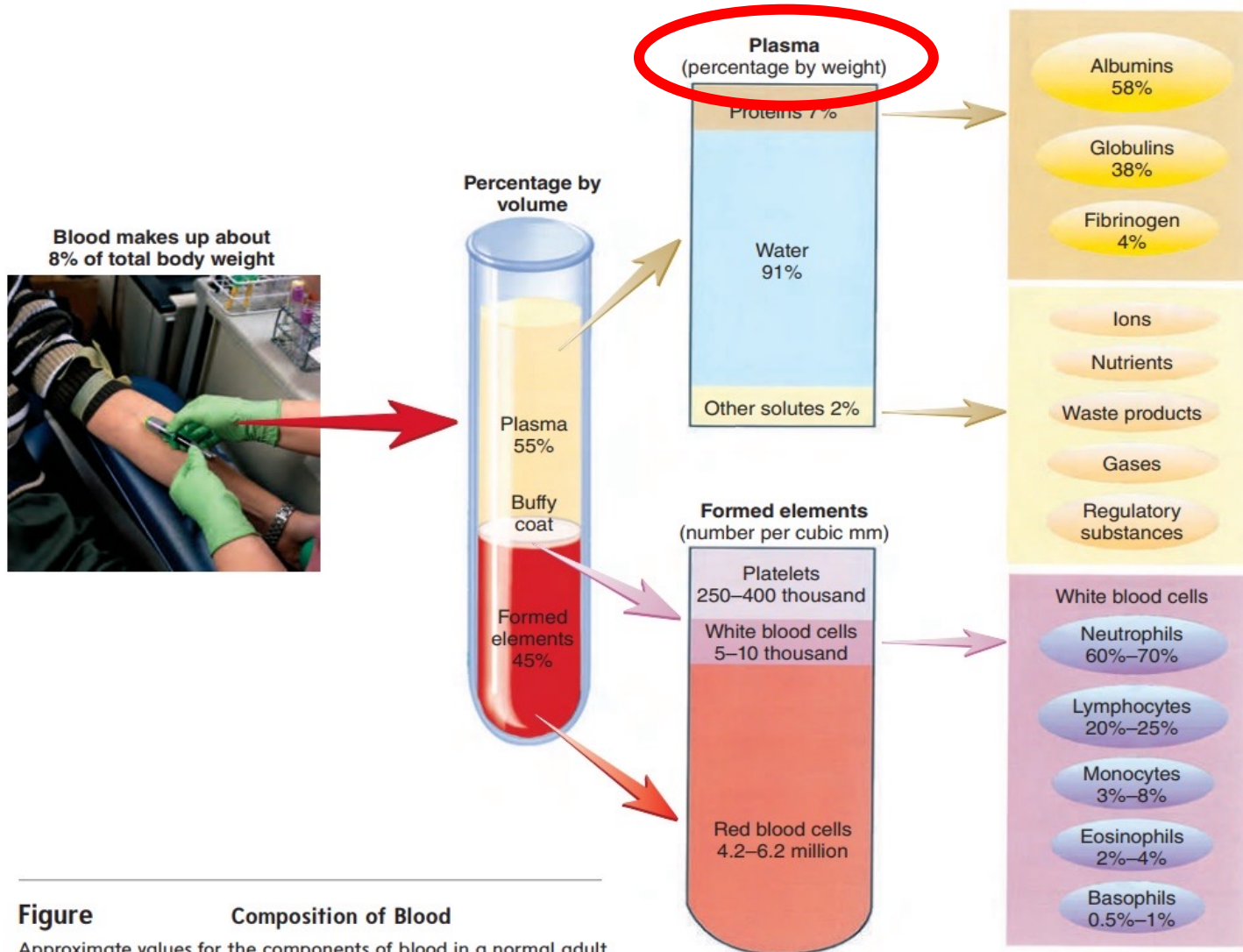


Figure **Composition of Blood**
 Approximate values for the components of blood in a normal adult.

Derivatives of Blood

Albumin

A protein produced in the liver and distributed throughout the body via the circulatory system. This protein is fractionated from plasma of healthy human donors and prepared for treatment to restore blood volume when needed. It is often used to treat shock as a volume expander in emergent situations.

- **Erythropoietin (EPO, Epoetin alfa, Procrit)** products sometimes contain a small amount of albumin for stabilization. Erythropoietin is a hormone that promotes red blood cell production in the bone marrow. This medication is used to treat anemia and may take 2-4 weeks to show effectiveness.

NOTE: Aranesp (darbepoetin) and Retacrit are versions that do not contain albumin.

Immune Globulins

Various proteins that act as antibodies to infection. These antibodies respond to bacteria, viruses and/or other foreign substances in the body. Immune globulins are fractionated from plasma and pass freely between mother and fetus. These antibodies are rarely used for healthy patients, except in the case of certain vaccines. Most are familiar with RhoGAM, given to Rh negative mothers whose blood is incompatible with their baby's.

Clotting Factors (Humate-P, K-Centra, Thrombate)

These products are proteins that control bleeding. They are fractionated from plasma and often suspended in a solution for treatment as needed. Many different clotting factors work together in a series of biochemical reactions to stop bleeding.

Intra-operative blood salvage (Cell Saver) – Continuous Closed Circuit Loop ONLY

Frequently used during cardiothoracic, vascular, and spinal surgery, the Cell Saver or Autologous Blood Salvage procedure recovers blood “lost” during surgery, allowing for its immediate re-infusion to the patient, via a continuous circuit and without interruption

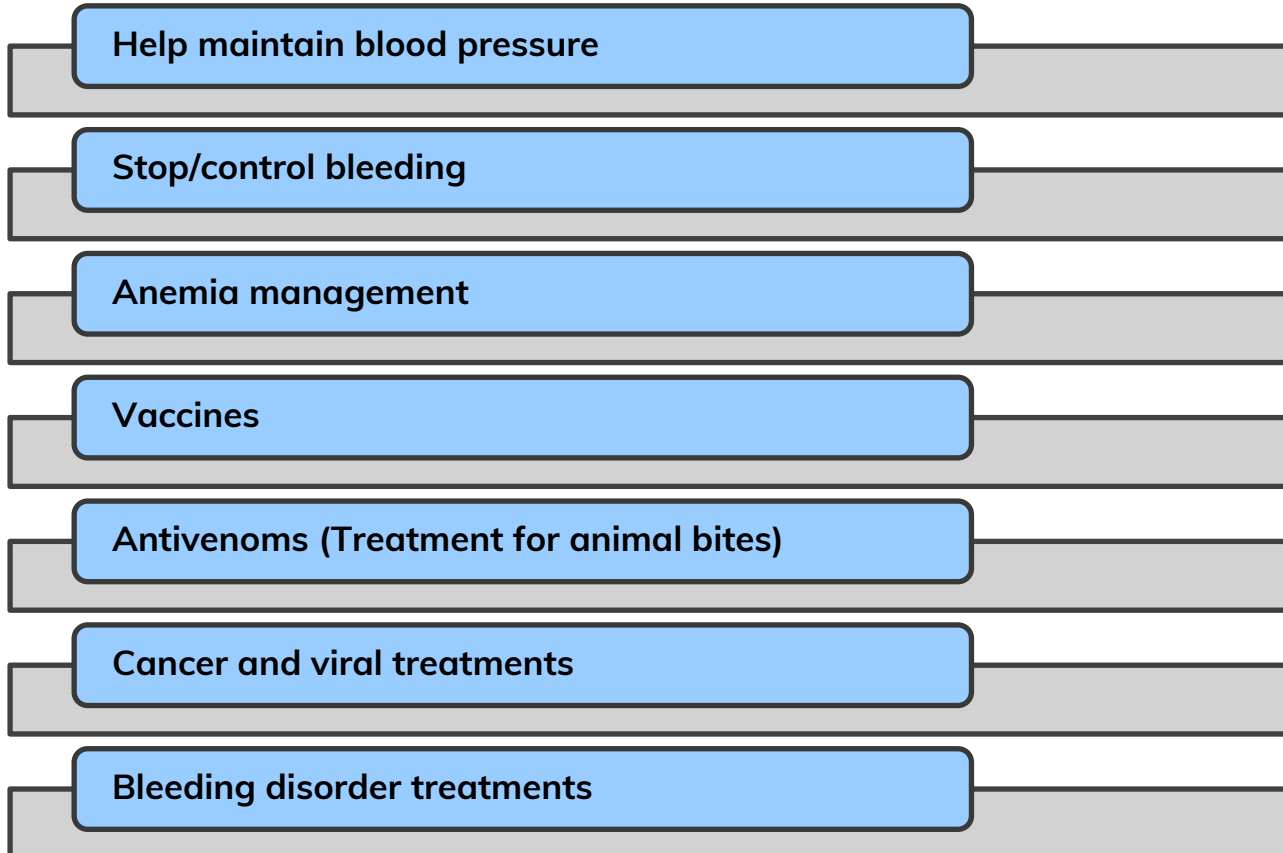
Surgical Sealants (Tissue Adhesives, Fibrin Glue, Hemostatic Agents)

These products are proteins fractionated from plasma and usually used during surgery to stop surgical site bleeding. If you are agreeable to these alternatives, advise your surgeon that you want this available and implemented during surgery.

Cryoprecipitate (CONTAINS 10-15 ml Plasma)

A mix of insoluble proteins and clotting factors extracted from plasma given to patients in emergency situations to stop and control bleeding.

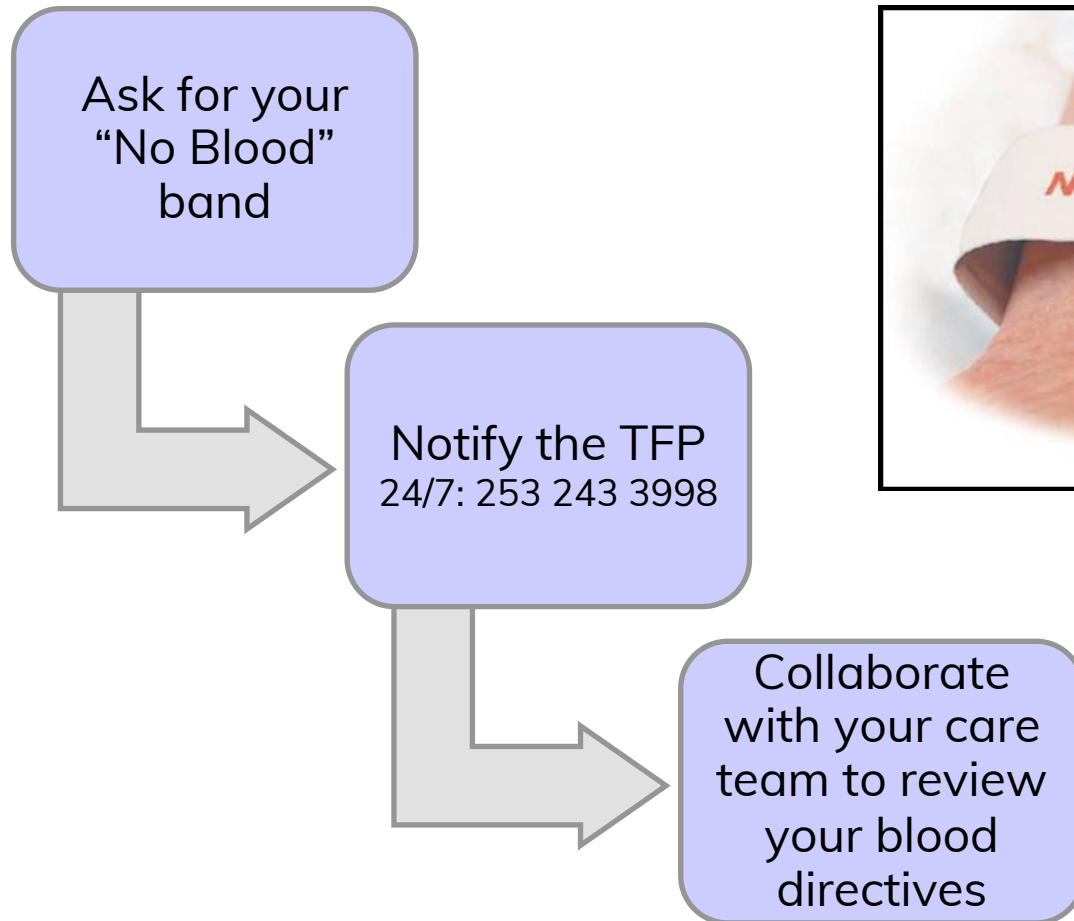
How Are Blood Derivatives Used?



Preparing For Surgery or Bloodless Medicine

- ❖ Consider healthier lifestyle choices that prepare the body for surgery or healing
- ❖ Have a daily diet of iron-rich foods
- ❖ Ask your provider for a referral to a registered dietician to review dietary options
- ❖ Stop all alcohol at least 7-10 days before your procedure
- ❖ Don't schedule elective/non-emergent procedures until blood levels are optimal
- ❖ Review all over-the-counter medications and supplements with your provider to see if they should be stopped
- ❖ Stop smoking to improve oxygen delivery to the body
- ❖ Take iron and vitamin supplements (B12, Vit C, Folic Acid) if recommended by your provider
- ❖ Be tested and treated for anemia

Take Charge of Your Care!



Thank you!

*Transfusion Free Program (TFP)
And
Patient Blood Management (PBM)*

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Immediate Assistance

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