

Patient Blood Management Program

Improving patient outcomes through optimal blood management.
Right patient, right product, right time.

The Patient Blood Management Program at St. Vincent Regional Hospital uses an evidence-based; multidisciplinary approach to optimize the care of patients who might need a transfusion. We use safe and effective medical and surgical techniques designed to prevent anemia and decrease bleeding in an effort to improve patient outcome.

What does Patient Blood Management accomplish?

- Improves patient safety by minimizing exposure to blood.
- Reduces hospital length of stay
- Minimizes risk of exposure to viruses and other blood-borne diseases.
- Decreases the risk of hospital acquired complications and infections.
- Promotes improved outcomes.
- Enhances quality of life and well-being.
- Helps with preserving current blood supplies.

Blood is a Precious Resource

Our Patient Blood Management Program looks at appropriate use of blood products and strategies for each patient to reduce or avoid the need for a blood transfusion. By protecting donated blood, we are more likely to have enough blood available when an individual or individuals need small or even massive transfusions.

Blood has three main components. These are the red blood cells, plasma and platelets. Red blood cells carry oxygen from your lungs to the rest of your body and, if you do not have enough red cells, you have a condition called anemia. Plasma is the liquid part of the blood and contains many different protein substances, called clotting factors, which are needed for your blood to clot if you are bleeding. Platelets are small cells in your blood which are also needed for your blood to clot properly.

Benefits to Receiving Blood

Blood is a life-saving treatment that benefits patients by treating or preventing blood loss, which can lead to severe anemia and cause damage to body organs due to lack of oxygen. Blood can also be used to treat certain diseases or disorders that affect the body's ability to form blood clots, and thereby prevent bleeding.

Risks to Receiving Blood

Despite all of the benefits of receiving blood, a blood transfusion is not without risk. These risks can be minor or very serious. Below is a list of non-infectious and infectious risks associated with blood transfusion.

Non-Infectious Complications	Estimated Risk of Event
Minor allergic reaction (hives or rash)	1 in 100
Fluid overload	1 in 100
Fever or chills	1 in 100
Lung injury	1 in 1,200 to 1:190,000
Incompatible blood reaction	1 in 40,000
Serious allergic reaction	1 in 20,000 to 1:50,000

Infectious Complications	Estimated Risk of Event
Bacteria	1 in 6,000 platelet units
1 in 100,000 red blood cell	1 in 100
West Nile Virus	Less than 1 in 1 million
Hepatitis B	1 in 1.2 million
Human T-lymphotropic virus (HTLV)	1 in 7.6 million
Hepatitis C	1 in 1.1 million
Human Immunodeficiency Virus (HIV)	1 in 1.2 million

For reference, below is the relative risk of other life-threatening events.

Non-Transfusion Risk Events	Estimated Risk of Event
Death from a motor vehicle accident	1 in 10,000
Death from being struck by lightning	1 in 5 million

Reference: Claudia Cohn, Meghan Delaney, Susan Johnson, Louis Katz; 20th Edition, Technical Manual. aabb 2020; 198-201, 203-204, 628-630

The Role of Blood in Your Body

- Hemoglobin, a protein in the blood, carries oxygen. A below normal hemoglobin is called anemia.
- Because hemoglobin is made up of iron, nutrition plays a role in planning for surgery. Discuss iron supplementation with your doctor or registered dietician.
- Another way to measure normal blood levels is Hematocrit, or the ratio of red blood cells in the overall volume of blood.

Anemia Management

Anemia is a blood disorder that occurs when there is not enough hemoglobin in a person's blood. Hemoglobin is the substance in the red blood cells that makes it possible for the blood to transport oxygen through the body.

What are the symptoms of anemia?

- Feeling tired
- Difficulty breathing
- Dizziness
- Headache
- Feeling Cold

What causes anemia?

A lack of iron in the body is the most common cause of anemia. This type of anemia is called iron-deficiency anemia. Your body uses iron to make hemoglobin. Without the needed amount of iron, your body cannot make hemoglobin.

How can I know if I have anemia?

Your health care provider can perform blood tests to tell if you have anemia. The type and number of blood tests will depend on what type of anemia is suspected. Your health care provider will determine the proper treatment, depending on the type of anemia and its cause.

Treating anemia before surgery:

If you are anemic and your surgery is scheduled for 4 or more weeks in the future, your anemia should be treated before surgery. Treatment may include medications and iron supplements. If you have anemia, your physician can determine the cause.

Treating anemia during surgery:

There are many ways to lower blood loss during surgery. A surgeon can use techniques to decrease blood loss. It may be possible to collect the blood lost during surgery, wash it, and give it back to you or collect whole blood immediately prior to surgery to give back at the end of surgery to you.

Treating anemia after surgery:

A good diet and/or medications may be used after surgery to help with recovery.

Blood Conservation

St. Vincent Regional Hospital's Blood Conservation Program uses proven, state-of-the-art equipment and technology to care for you while reducing or eliminating the need for blood transfusions. We offer a special service for those desiring blood conservation techniques in order to avoid blood transfusion. For more information ask your provider or nurse about our Blood Conservation Program.

Alternatives to Transfusion

There may be other options that can be used to avoid or reduce the need for blood transfusion. Since some of these take time to work, they need to be planned ahead of time.

For patients having surgery, discuss these steps with your nurse or doctor:

- A thorough medical exam before surgery to address any treatable conditions.
- Iron and Vitamins to maintain "healthy" blood levels.
- Blood tests to determine hemoglobin (red blood cell), iron levels and any risk of transfusion.
- When to stop drugs and supplements (e.g., aspirin) that thin your blood and may increase bleeding during surgery.
- In some patients, it may be appropriate to use a drug which is the synthetic form of the hormone erythropoietin (EPO) to boost hemoglobin production.
- Use of other medications that may reduce blood loss before, during and after the surgery.

Your surgeon and anesthesiologist will discuss the best treatment for your particular condition.

Standard of Care

Patient Blood Management is a standard in the St. Vincent Regional Hospital practice involving patients in the design of their care. The staff at St. Vincent values the healing of the whole person, believing this to be a commitment to restoring the patient to good health. Your concerns and beliefs are important to us, and our experienced team of physicians, surgeons, registered nurses, laboratorians, and technicians. They are personally committed to providing you with the highest standard of care.

