A blood transfusion is a common procedure in which blood and/or blood products is given to you through an intravenous (IV) line in one of your blood vessels. The procedure usually takes 1 to 4 hours.

Transfusions of blood and/or blood products may be needed for various reasons:

- **Red Blood Cells**: Deliver oxygen to tissues and organs
  - Treats anemia (low blood count)
  - Replaces blood lost during surgery or after a serious injury

- **Platelets (Clotting Factors)**: Help stop bleeding, including internal bleeding that you cannot see
  - Treats low platelet count
  - Reduces the risk for bleeding in the course of treatments

- **Plasma**: Straw colored part of your blood that is not the red blood cells
  - Replaces certain clotting factors
  - Minimizes the effects of bleeding

**Risks**

A blood transfusion, like other medical processes, involves some risk. You can ask questions at any stage of the transfusion process. You will be monitored closely throughout the transfusion for any signs of reaction and will be provided appropriate care.

Potential risks or side effects may include:

- **Infections**: Blood transfusions can transmit infections caused by bacteria, viruses (such as HIV or Hepatitis), and parasites. All blood is tested, so the risk of infection is extremely low. No process or testing, however, is 100% reliable.

- **Reactions**: Mild reactions such as chills, headache, nausea, pain, fever, rash, itching, shortness of breath, or other allergic reactions may occur. Severe reactions such as anaphylactic shock and death are rare, but may occur.

- **Hemolysis**: A breakdown of red blood cells due to an immune reaction, which may cause anemia and kidney injury.

- **Fluid overload**: This can occur when the rate of blood transfusion is greater than what the heart can manage.

- **Transfusion Related Acute Lung Injury (TRALI)**: TRALI causes fluid to build up in the lungs. It is thought to be caused by antibodies in donor blood that damage the white blood cells in the lungs.

**Where does the blood come from?**

The Valley Hospital's blood supply is provided by licensed blood centers that obtain blood from unpaid, voluntary donors. Blood donors are screened prior to donation, and once the blood is obtained, it is tested for infections (such as HIV or Hepatitis).
Types of Donations

- **Autologous** is blood that you donate for yourself prior to surgery or a procedure. This type of donation has the least risk. Autologous blood must be donated in advance and is usually suited to elective surgery as advance notice is required.

- **Directed** is blood donated from relatives or friends. This type of donation is not recognized as being any safer than ordinary blood bank donations. Directed donation also requires advance notice and goes through the same testing as blood from volunteer donors.

- **Homologous** is blood donated by volunteer donors.

Before blood and/or blood products are given through directed or homologous donation, you will require a blood test to ensure that your blood type and antibodies are compatible with the donor blood.

If you have any questions about blood transfusions, you should discuss them with your Practitioner.
The purpose of surgical anesthesia is to relieve pain during surgery through the use of various medications or drugs known as anesthetic agents. Because anesthesia may inhibit breathing and/or blood pressure, life support measures are often undertaken with the anesthesia in order to maintain the well-being of the patient. These measures might include the administration of blood or blood products (unless such blood or blood products have been refused); use of medications and equipment to support the heart, lungs or other systems of the body; antibiotics (drugs used to prevent or treat infection); and medications to counteract disease states or correct imbalances.

There are several methods of producing adequate surgical anesthesia for various surgical procedures. Not all methods are appropriate for all patients or for all surgical procedures. The three major types of anesthesia are General Anesthesia, Regional Anesthesia (including Spinal Anesthesia, Epidural Anesthesia, and Peripheral Nerve Block), and Local Anesthesia. The method(s) of anesthesia selected for a given case will depend on the medical condition of the patient, the nature of the surgical procedure, and collaboration between the patient, Surgeon, and Anesthesiologist.

General Anesthesia is a method of surgical anesthesia in which the patient is rendered unconscious and insensitive to pain (will be asleep) through the use of anesthetic agents administered by inhalation (breathing an anesthetic gas through a mask) and/or by intravenous injection (using a small tube (catheter) to place the anesthetic agent into the patient's bloodstream via a vein). The anesthetic agent, the route of administration, the dosage, and the depth of General Anesthesia are dependent on the nature of the surgery to be performed, the medical condition of the patient, and other considerations. Endotracheal intubation, in which a breathing tube is placed into the windpipe, is often necessary. Occasionally, patients complain of a sore throat, nausea and/or vomiting after undergoing General Anesthesia. Strokes, brain damage and heart attack are rare complications. Occasionally, patients may have a breathing tube in place in the recovery room after surgery. Once they are able to breathe comfortably on their own, the breathing tube will be removed. It is usually, but not always, removed within hours. General Anesthesia also causes forgetfulness (amnesia) and relaxation of the muscles throughout your body.

Regional Anesthesia is a method of surgical anesthesia in which anesthetic agents are used to anesthetize (numb) a group of sensory nerve fibers in order to make the surgical site insensitive to pain. Sometimes a tourniquet is used on an arm or leg and an anesthetic agent is injected into a vein of that limb. A supplementary sedative is often administered to relax and calm the patient during the surgery. Occasionally, it is not possible to achieve a satisfactory level of anesthesia using regional techniques, and, therefore, another type of anesthesia (usually General Anesthesia) is added. Three of the most commonly used types of Regional Anesthesia are Spinal Anesthesia, Epidural Anesthesia, and Peripheral Nerve Block.

Spinal Anesthesia is a method of surgical anesthesia in which anesthetic agents are injected through the back into the cerebrospinal fluid (the fluid which bathes the spinal cord) to numb the legs, pelvis, and abdomen. Infrequently, a post-spinal headache may occur. Extremely rare complications include infection, bleeding, and nerve injury.
**Epidural Anesthesia** is a method of surgical anesthesia in which anesthetic agents are injected through the back into the epidural space (a space that is the outermost part of the spinal canal), to numb the legs, pelvis, and abdomen. With this type of anesthesia, a small tube (catheter) is inserted into the epidural space so that additional medication can be injected as needed, both during and after the surgical procedure. Infrequently a post-epidural headache may occur. Extremely rare complications include infection, bleeding, and nerve injury.

**Peripheral Nerve Block** is a method of surgical anesthesia in which anesthetic agents are injected into the area around a nerve (the sheath) to numb a specific part of the body (usually an arm, a leg, or part of the abdomen). Frequently, a small tube (catheter) is also inserted into the nerve sheath, so that additional medication can be injected as needed, both during and after the surgical procedure. Extremely rare complications include infection, bleeding, and nerve injury.

**Local Anesthesia** is a method of anesthesia in which a local anesthetic agent is injected directly into the surgical site to numb it. During this type of anesthesia, a supplementary sedative is often administered, to relax and calm the patient during the procedure. Occasionally, it is not possible to achieve a satisfactory level of anesthesia using local techniques, and another type of anesthesia (usually General Anesthesia) is added. Extremely rare complications include infection, bleeding, and nerve injury.

**Discussion with Your Anesthesiologist**  
On the day of surgery, your Anesthesiologist will speak with you prior to the procedure to discuss the method(s) of anesthesia you will receive, and to answer any questions you may have. If you have experienced issues in the past with anesthesia, such as nausea, vomiting, and/or an allergic reaction, you should notify your Anesthesiologist.

If you wish to speak with an Anesthesiologist prior to the date of your procedure, please call the Anesthesiology Department at (201) 847-9320.
This patient information sheet has been developed to explain moderate sedation.

Moderate sedation is a controlled state of extreme relaxation often resulting in little memory of the procedure. This type of sedation reduces pain and awareness of the procedure while allowing the patient to breathe on his/her own and to respond to verbal commands and/or gentle stimulation. Many times a patient will not even recall having spoken to the staff during the procedure. Conscious sedation allows a patient to tolerate the procedure by relieving anxiety, discomfort and/or pain. For procedures that require children not to move moderate sedation will help them to remain still.

Informed consent must be obtained before the procedure and before the patient receives moderate sedation. In children, the informed consent must be obtained from a parent or guardian of the child before moderate sedation is administered. The physician administers the first dose, and a registered nurse may administer subsequent doses of moderate sedation. The patient is monitored before, during and after the procedure.

If the patient is going home, arrangements must be made for a responsible adult to take the patient home. The patient may feel drowsy for the rest of the day.

There are some risks with moderate sedation. The risk is dependent upon many factors including the type of procedure and the medical condition of the patient. Fortunately, adverse events are rare. Speak with your Practitioner about your specific risks.

If you have any questions about moderate sedation, you should discuss them with your Practitioner.
This patient information sheet has been developed to explain the possible use of radiation during your procedure.

Some procedures may require practitioners to be able to see inside your body in order to know where to go, to confirm the positioning of organs, and/or the placement of needles, catheters, or other devices. Your procedure may involve the use of radiation, such as x-rays, for imaging during the procedure and documenting the results. Because of the nature of the planned procedure, it is possible that we will have to use high amounts of radiation.

What does this mean? Potential radiation risk to you may include:

- There may be a slightly elevated risk of cancer several years later in life. This risk is typically less than 0.5%. This risk is low in comparison to the natural risk of developing cancer. According to the American Cancer Society, the natural risk of developing cancer over a lifetime is 33% for women and 50% for men.

- Skin rashes occur infrequently; on very rare occasions, they may result in tissue breakdown and possibly severe ulcers. Hair loss may occur, which can be temporary or permanent. The likelihood of either of these occurring depends on the difficulty of the procedure and whether you are sensitive to radiation due to previous procedures, disease, or genetic conditions.

You or your family will be advised if high amounts of radiation will actually be used during your procedure. If this happens, you will be given written instructions stating that you are expected to have a family member check you for any of the above mentioned signs of skin damage or hair loss; or we may also schedule you for a follow-up appointment.

If you have any questions about the possible use of radiation during your procedure, you should discuss them with your Practitioner.