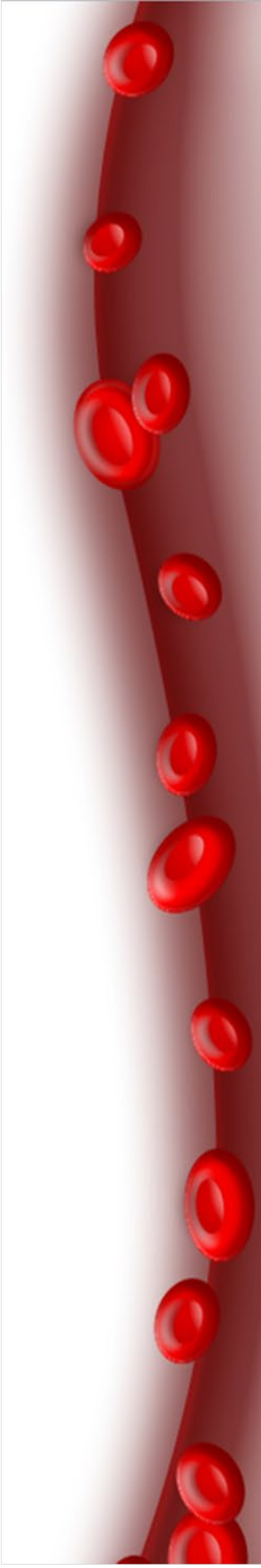
Manitoba Transfusion Best Practice Resource Manual



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Introduction

The **Manitoba Transfusion Best Practice Resource Manual (MTBPRM)** has been developed and maintained by the **Provincial Nurses Working Group for Transfusion Practice**. This is the third version of the original **Manitoba Transfusion Medicine Best Practice Resource Manual for Nursing**. The purpose of this ongoing work is to have consistently current, standardized and evidenced based resources for all health care providers involved in the administration of blood, blood products, and plasma protein products. The MTBPRM is available in both printed and electronic formats found on Best Blood Manitoba website.

1. The Blood System in Canada and Manitoba

The current blood system in Canada came into being in 1998 when Canadian Blood Services (CBS) and Hema Quebec (HQ) were formed on the recommendation of Justice Horace Krever.

Throughout the 1970's and 1980's many recipients of blood or blood products developed communicable diseases like Hepatitis C and Human Immunodeficiency Virus (HIV). It is estimated that 30,000 Canadians contracted Hepatitis C and 2,000 Canadians contracted HIV from contaminated blood or blood products.

In 1993, following release of the report Tragedy and Challenge: Canada's Blood system and HIV, Canadian Ministers for Health, federal, provincial other than Quebec and territorial, agreed that an inquiry into the blood system in Canada be undertaken.

This inquiry came to be known as the **Krever Commission.** Justice Horace Krever was mandated to "review and report on the mandate, organization, management, operations, financing, and regulation of all activities of the blood system in Canada, including the events surrounding the contamination of the blood system in Canada in the early 1980's." This review began in 1993 and was completed in 1997; the 1200 page report includes detailed history and fifty recommendations in five categories: Compensation, the Canadian Blood Supply System: Basic Principles, The Operator: A National Blood Service, The Regulator: The Health Protection Branch and Public Health.

Recommendation numbers 3-28, addressed the overhaul of Canada's blood system resulting in the creation of Canadian Blood Services and Hema Quebec in 1998.

Canadian Blood Services provides blood and blood products as a vendor regulated by Health Canada. They perform the collection, testing and processing of blood into components and other blood products. Standard testing in Canada includes ABO and Rh blood groups, antibody screen, Human Immunodeficiency Virus (1 & 1), Hepatitis B and C viruses, Human T Cell Lymph tropic virus (I & II) and Syphilis . CBS also tests for West Nile Virus and Chagas Disease when increased risk is present and performs extended red blood cell phenotyping as needed.

In Canada blood products are a national resource and are moved between cities and provinces as needed to ensure national supply. CBS and HQ serve each other in times of shortages Manitoba contributes 4% of the collected blood in Canada.

Hospital Blood Banks are governed and operated by Shared Health, previously Diagnostic Services of Manitoba (DSM). The primary purpose of blood banks is to distribute blood products to the transfusion sites; in addition they perform an important role in the investigation of transfusion reactions and follow up.

Transfusion sites include health care facilities and professionals, who order, transfuse, monitor, and evaluate the use of blood and blood products. Their monitoring and recognition of transfusion reactions is integral to the safety of the whole blood supply. When a reaction is reported, the donor or donors that contributed to the product the patient received can be identified as part of the vein to vein tracking.

Transfusion Practice Committees (TPCs) are formed and function as oversight in the safe administration of blood and blood products. This was one of the recommendations made in the Krever Report. There are currently seven active TPCs in Manitoba that report through the Provincial Transfusion Practice Committee to Manitoba Health.

Choosing Wisely Canada launched in 2014 with recommendations that identify tests and procedures commonly used that are not supported by evidence. The current top ten things patients and physicians should question in Transfusion Medicine are important to understand. These recommendations can be found at choosingwiselycanada.org.

2. Vein to Vein

The phrase vein to vein describes the scope of transfusion medicine that encompasses donor collection, product preparation, transfusion and includes recipient follow up and evaluation. The concept of vein to vein traceability was a result of the Krever Commission‘s recommendations to improve patient safety.

This process is regulated by Health Canada and is made up of several organizations in a complex multidisciplinary health care collaboration. CBS and Shared Health are accredited by the College of American Pathologists (CAP). Regional Health Authorities are accredited by Accreditation Canada. This organization requires that blood and blood products are traceable from donor to recipient so that any product may be traced back to a particular donor. This allows identification of potentially contaminated or infectious blood or blood product so transfusion reaction investigations can be initiated. Based on the results of transfusion reaction investigation, blood and blood products may be removed from inventory to reduce the potential for adverse events in other recipients.

Each team member in the organization has a responsibility in ensuring the traceability and safety of all blood products. Policies and procedures are written in accordance with the standards of the accrediting body to assist team members through this process.

3. ABO Compatibility

The ABO blood group system was first discovered in 1907.The four blood groups are A, B, AB and O. Later in 1939 the Rhesus (RH) systems was discovered. Rh antigens are D, C, c, E and e. The Rh D antigen affects all Rh D negative women of childbearing age. Anti-RHD antibodies can be produced as a result of a pregnancy or a transfusion. ABO antibodies are present in all healthy adults. To determine a patient's blood group lone needs to identify which if any of the A and B antigens are present on the surface of the red blood cells. If the antigens are absent from the red cell surface they will be present in the plasma.

Patient blood group	Antigens on red cell	Antibodies in plasma
A	A	Anti-B
B	B	Anti-A
O	none	Anti-A and Anti-B
AB	A and B	none

Antigens stimulate an immune response. Antigens of transfused red blood cells must match their own antigens. Antibodies are capable of reacting with A or B antigens on the surface of donor red cells. All blood and blood components should be ABO compatible except in an emergency when non-ABO specific products can be substituted.

Apart from the A and B antigens on red blood cells, there are many more but less common antibodies that can develop as a result of transfusion or pregnancy. Testing of a patient specimen to determine the presence of ABO and RH type and screening for the presence of atypical red cell antibodies in the plasma is known as Type & Screen (T&S). The presence of these antibodies makes crossmatch more difficult.

People with blood type O are considered *universal donors*. Type O blood contains no antigens and is compatible with all ABO types. Blood type AB is the least common and considered *universal recipients* as they can receive any type of blood since there are no antibodies present.

4. Special Considerations for Pediatrics

Children under the age of three months have little or no antibodies present in the plasma. A pre-transfusion sample is collected to conduct ABO and RH blood grouping and to detect clinically significant red cell antibodies.

5. Traceline®

Traceline® is the software that Canadian Blood Services and Shared Health use to track blood and blood products from donation through distribution, transfusion and follow up. Inventory and maintenance of the cold chain are tracked via bar code and computerized thermometer with USB attachment. Traceline® also includes patient records and electronic crossmatch capability. This system depends on positive patient identification at the bedside and before transfusion to maintain patient safety.

Paper documents seen at the bedside include the **Transfusion Medicine Results Report** (TMRR), Record of Transfusion, Emergency Record of Transfusion, and Antibody Report. The Transfusion Medicine Results Report provides details on the patient's ABO, RH type, and antibodies if applicable, it is valid for 72 hours for inpatients and 21 days for preoperative assessment clinic (PAC) patients.

An **Emergency Record of Transfusion** comes attached to a unit of uncrossmatched blood or blood product; it must be signed by the ordering physician and returned to the blood bank 15 minutes after start of transfusion. A **Record of Transfusion (ROT)** comes with a unit of blood or blood product and must be signed, dated and returned to the blood bank 15 minutes after start of the transfusion. This completes the vein to vein process for traceability.

6. Standards for Accreditation

Standards are norms of practice that are used by regulating bodies to enhance safety and quality. They define a core set of requirements to attain a defined level of quality in the service being provided. They apply to all nurses regardless of their role. Compliance with them is voluntary but necessary to meet and maintain accreditation.

In contrast, **regulations** are mandatory; they are legislated. Regulations apply the standards through the force of law and potentially could include judicial penalties for non-compliance.

Standards	Regulations
CAN/CSA Z902-15 Standard for Blood and Blood Components; this set of standards are referenced by the national hospital accreditation body, Accreditation Canada American Association of Blood Banks (AABB) MANQAP has adopted the AABB standards for transfusion medicine services College of American Pathologists (CAP) St. Boniface General Hospital, Health Sciences Centre, and the Canadian Blood Services-Winnipeg Centre are all accredited according to CAP standards.	Health Canada Blood Regulations The Blood Regulations contain safety requirements with respect to blood for transfusion or for further manufacture and apply to all persons or establishments who perform any of the following activities related to blood : • processing (donor suitability assessment, collection, testing and blood component preparation) • transforming (washing, pooling and irradiating blood intended for transfusion) • labeling • storing • record keeping • importing (for transfusion) • distributing • Error, accident and adverse reaction investigation and reporting.

Guidelines address practice related issues; help nurses to understand their responsibilities and how to make safe decisions regarding their practice. Best Practice Guidelines offer some flexibility and are suggested to be the most effective and efficient way of attaining safe practice. These are suggestions but may not be absolute requirements.

Accreditation is about quality improvement and patient safety. It looks at how well an institution of facility meets national standards of excellence, so it can provide the best possible care and service to patients and clients.

The accrediting body applies what is observed /reported to the standards that they set forth. The WRHA receives its accreditation through Accreditation Canada. Blood Banks at St. Boniface Hospital and Health Sciences Centre receive accreditation through the College of American Pathologists (CAP).

The guidelines in section 2 of the MTBPRM are based on the standards of the relevant accrediting bodies and are meant to translate to nurses what is expected of them in regards to safe and efficient administration of blood and blood products. They have been written to offer flexibility and encourage critical thinking. In case of discrepancy between the guidelines in this resource manual and the site or regional policy, the site policy shall prevail.

The use of the term “shall” in this document implies that the statement is mandated in the standards. Failure to comply with these guidelines means that the facility does not meet current acceptable accreditation standards.
The use of the term “should” in this document implies that the guideline appears to be scientifically valid or useful and it is recommended that this practice be implemented.

7. Electronic Resource Material

Printed versions of any document may not be the most current version. Although every effort to ensure that all information is accurate and complete, documents and policies are regularly under review and in the process of being amended and blood product information/inserts may change. The most current version of the document applies. This would apply to the guidelines in this resource manual and especially the Product Monographs. Users should verify that any policy is the most current policy before acting on it. Contact the Transfusion Medicine Hematopathologist on call if required. To contact the TM on call, use your local paging service. If no paging service exists, use HSC paging at 204-787-2071.

8. Qualified Transfusionist

A qualified transfusionist is a trained health care professional working within their scope of practice according to the **Regulated Health Professionals Act (2018)**. This act has the responsibility of administering blood, blood components and plasma protein products in accordance with regional/ site policies. Some examples of a qualified transfusionist are registered nurse, licensed practical nurse, nurse practitioner, respiratory therapist, physician, clinical assistant and physician assistant.

Student nurses are not qualified to administer blood, blood components, or plasma protein products. As per the CRNM, student nurses do not hold professional liability protection and cannot be delegated to perform this activity as they are not accountable nor yet competent. Students should be encouraged to participate as a third person in the identification of any blood product. That is, two qualified transfusionists are responsible for the 2-person check and the student may observe. Student nurses may participate in monitoring of patients receiving blood products but should not be the sole person providing direct observation during the first 15 minutes of transfusion. The qualified transfusionist is ultimately responsible for monitoring patients for transfusion reactions.

9. Best Blood Manitoba

Best Blood Manitoba is a collaboration of WRHA Blood Management Service, Shared Heath, and Canadian Blood Services. Formally founded in 2014, the BBM website is jointly maintained by this partnership. The MTBPRM is a living document on the BBM website which is accessible to all health care providers. If difficulties arise, ensure cache is cleared and browser is current before contacting Blood Management Service at 204-926-8006.

10. Additional Resources:

CBS Clinical Guide to Transfusion
Bloody Easy 4
Choosing Wisely Canada

11. References

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12. Abbreviations

Abbreviation	Term
2,3-DPG	2,3-diphosphoglycerate
AC	Accreditation Canada
AABB	American Association of Blood Banks
AFFP	Apheresis Fresh Frozen Plasma
AHF	Anti-Hemophilic Factor
AHG	Anti-Human Globulin
AHTR	Acute Hemolytic Transfusion Reaction (also HTR)
AIDS	Acquired Immune Deficiency Syndrome
ANH	Acute Normovolemic Hemodilution
PLTA	Apheresis Platelets
aPPT	Activated Partial Thromboplastin Time
ARDS	Acute Respiratory Distress Syndrome
BBM	Best Blood Manitoba
TMS	Transfusion Medicine Service
CBS	Canadian Blood Services
CAP	College of American Pathologists
CAD	Coronary Heart Disease
CMV	Cytomegalovirus
CPD	Citrate, Phosphate, Dextrose (anticoagulant)
CPDA	Citrate, Phosphate, Dextrose-Adenine (anticoagulant)
CRYO	Cryoprecipitate
CSP	Cryo Supernate Plasma
CSTM	Canadian Society of Transfusion Medicine
DAT	Direct Antiglobulin Test also known as Coombs Test
DIC	Disseminated Intravascular Coagulopathy
D5W	Dextrose 5% water
FDA	Food and Drug Administration
F	Factor
FFP	Fresh Frozen Plasma
FP	FP24
FNHTR	Febrile Non-Hemolytic Transfusion Reaction
FP	Frozen Plasma
GGTP	Gamma Glutamyl Transferase (GGT)
GVHD	Graft-Versus-Host Disease
HAS	Albumin-25% or 5%

Abbreviation	Term
HB/HGB/Hgb	Hemoglobin
HCT	Hematocrit
HBV	Hepatitis B Virus
HCV	Hepatitis C Virus
HDN	Hemolytic Disease of the Newborn
HIV	Human Immunodeficiency Virus
HLA	Human Leukocyte Antigen
HMO	House Medical Officer
HTR	Hemolytic Transfusion Reaction
IAD	Intraoperative Autologous Donation
IAT	Indirect Anti-globulin Test
IDA	Iron deficiency anemia
IgA	Immunoglobulin A
IU	International Units
IVIG	Intravenous Immunoglobulin
MTBPRM	Manitoba Transfusion Best Practice Resource Manual
MSBOS	Maximum Surgical Blood Order Schedule
MCH	Mean Corpuscular Hemoglobin
MCHC	Mean Corpuscular Hemoglobin Concentrate
MCV	Mean Corpuscular Volume
mg/dL	milligrams per deciliter
MLA	Medical Laboratory Assistant
MLT	Medical Laboratory Technologist
NAT	Nucleic Acid Amplification Testing
NS	Normal Saline
OR	Operating Room
PAC	Pre-Admission Clinic
PAD	Preoperative Autologous Blood Transfusion
PEG	Polyethylene glycol
PCC	Prothrombin Complex Concentrates
PHIN/PHN	Personal Health Identification Number
PLT	Platelets
PNRGTP	Provincial Nursing Resource Group for Transfusion Practice
PRP	Platelet-Rich Plasma
PTT	Partial Thromboplastin Time
PPP	Plasma Protein Products
RBC	Red Blood Cells
rF	recombinant Factor

Abbreviation	Term
RHA	Regional Health Authority
RhIG	Win Rho
Rh	Rhesus Factor
ROT	Record of Transfusion
RPM	Revolutions Per Minute
RT	Respiratory Therapist
SAGM	Saline Adenine Glucose Mannitol
SCIG	Subcutaneous Immune Globulin
SDM	Substitute Decision Maker
SEQ	Sequence Number
STS	Serological Test for Syphilis
SOP	Standard Operating Procedure
T&S	Type and Screen
TACO	Transfusion Associated Circulatory Overload
TA-GVHD	Transfusion-Associated Graft-Versus-Host Disease
TMRR	Transfusion Medicine Results Report
TRALI	Transfusion-Related Acute Lung Injury
TTP	Thrombotic Thrombocytopenic Purpura
TM	Transfusion Medicine
vCJD	Variant Creutzfeldt-Jakob Disease
WBC	White Blood Cells

3. Glossary

Term	Definition
Adverse Event Reporting System	Surveillance system used by Manitoba Health to track and monitor transfusion reactions to blood, blood components and plasma protein products.
Adverse Reaction	Undesirable and unintended response to the transfusion of blood components of plasma protein products that is considered to be definitely, probably or possibly related to the transfusion.
Alloimmunization	An immune response to foreign antigens after exposure to genetically different cells or tissues. Can be a complication of receiving incompatible blood.
Authorized Health Care Provider	A person trained and licensed and authorized to provide health care in Manitoba.
Antibody	A protein substance produced in the blood or tissues in response to a specific antigen, as a bacterium or a toxin that destroys or weakens bacteria and neutralized organic poisons, thus forming the basis for immunity.
Antigen	Any of various substances, including toxins, bacteria, foreign blood cells, and the cells of transplanted organs, that when introduced into the body stimulate the production of antibodies.
Blood Bank Refrigerator	A refrigerator that meets transfusion medicine regulatory requirements (e.g. fan for circulating air, or of a capacity and design to ensure that the proper temperature is maintained throughout, and equipped with automatic temperature recording and an audible alarm) to store blood, blood components or derivatives.
Blood Bank	A department in a facility that performs transfusion related activities but does not perform crossmatching.
Blood Component	A therapeutic part of blood intended for transfusion (red cells, platelets, plasma, cryoprecipitate).
BTS (Blood Transfusion Service)	A department in a facility that performs transfusion related activities and also performs crossmatching.
Capacity	A person has capacity to make decisions if they have the ability to understand the decision as well as consequences of the decision presented to them.

Term	Definition
Component	A therapeutic component of blood intended for transfusion (e.g., red cells, platelets, cryoprecipitate or plasma) that can be prepared using equipment and techniques available in a blood center. Note: Such equipment and techniques can include centrifugation, filtration or freezing.
Crossmatch	A method used to ensure compatibility between donor and recipient blood.
Crossmatch Transfusion Ratio	The ratio of units of RBC that are crossmatched in the hospital blood bank for potential transfusion during a surgical procedure to the number of units transfused.
Derivative (now known as Plasma Protein Product or PPPs')	Sterile solutions of a specific protein(s) derived from blood or by recombinant technology (eg: human serum albumin, plasma protein fraction, immunoglobulin preparations, and coagulation products (factors VIII and IX, fibrinogen, ant-thrombin III, etc.
Donation Number	Unique number identifying the unit of blood or blood component and is composed of 13 digits, 2 flag characters and 1 check digit.
Extended Practice Nurse	A registered nurse who is registered on the register of registered nurses (extended practice) and where the Authorized Practitioner is an employee of a Regional Health Authority or health care facility who is permitted to do so by written policy of the authority or facility. As per the *Registered Nurses Act Extended Practice Regulation.*
Guidelines	Written principles that guide actions or decisions. They allow flexibility in the sequence and/or inclusion specific steps in the process and encourage appropriate professional judgment. By definition a guideline is not mandatory.
Hospital Liaison for Jehovah's Witness	Contact person for HCPs to support ACP in those people refusing blood products for religious reasons.
Indate	Refers to expiry date of blood components. Opposite of outdate. A T&S will have a valid indate for 72 hours.
Irradiated	Blood components that have been exposed to gamma radiation.
Laboratory Information System (LIS)	A computerized inventory system used in laboratory operations; specifically, the system that generates accession labels and tracks issues.
Lot Number	The unique number assigned by the manufacturer when preparing plasma protein products. This number is located on both the box and the vial.

Term	Definition
Maximum Surgical Blood Ordering Schedule	A list of common surgical procedures that defines the number of units of blood to be crossmatched prior to surgery.
Medical Director (Transfusion Medicine)	Provincially licensed physician who is responsible for all clinical and laboratory policies, processed and procedures related to transfusion practices within their jurisdiction.
Outdate	Refers to expiry date of blood components. Opposite of indate. Found on product label. Administration must be initiated before outdate but does not have to be concluded before outdate.
Patient Blood Management	An evidence-based, multidisciplinary approach to optimizing the care of patients who might need transfusion. PBM encompasses all aspects of patient evaluation and clinical management surrounding the transfusion decision-making process, including the application of appropriate indications, as well as minimization of blood loss and optimization of patient red cell mass. PBM can reduce the need for allogeneic blood transfusions and reduce health-care costs, while ensuring that blood components are available for the patients who need them.
Phenotype	The outward expression of genes (e.g: blood type). On blood cells, serologically demonstrable antigens constitute the phenotype.
Phlebotomist	Person drawing the specimen of blood for laboratory tests. This may be a Nurse, Medical Doctor, medical laboratory technologist, or technician trained in phlebotomy.
Plasma Protein Product (PPP) (previously referred to as Derivatives)	Sterile solutions of a specific protein(s) derived from blood or by recombinant technology (eg: human serum albumin, plasma protein fraction, immunoglobulin preparations, and coagulation products (factors VIII and IX, fibrinogen, ant-thrombin III, etc.
Policy	Defined as per the WRHA Policy: non-negotiable, clear, formal and authoritative statements that enable informed decision making .
Quality Assurance	Actions that are planned and performed to verify that all systems and elements that affect the quality of products and services are functioning as expected.

Term	Definition
Quarantine	To isolate non-conforming blood, components, tissues, derivatives or materials to prevent their distribution or use.
Record of Transfusion (ROT)	A document that comes with a unit of blood or blood product and must be signed, dated and returned to the blood bank after start of the transfusion.
Request for Release Form	Request for preparation or transfusion of a blood component or plasma protein product generated in response to and order written by a physician.
Serious Adverse Reaction	Adverse reaction that meets at least one of the following: requires hospitalization or prolongation of existing hospitalization, results in persistent or significant disability or incapacity, necessitates medical or surgical intervention to preclude permanent damage or impairment of a body function, is life threatening, results in death.
Student Nurse	A nurse in training that does not hold a license or registration with a regulating body. He/she functions under the mentorship of an instructor and or mentor.
Traceline®	An electronic laboratory information system that is capable of electronic crossmatch. It supports the vein to vein traceability of blood products in Manitoba.
Transfusion	The transfer of blood or blood products from one person (the donor) into the bloodstream of another person (the recipient).
Transfusionist	The qualified person who initiates the transfusion of blood components and or plasma protein products. See *Qualified Transfusionist* in introductory chapters.
Transfusion Associated Circulatory Overload (TACO)	Transfusion recipient experiences symptoms characterized by dyspnea, cyanosis, orthopnea, hypertension, or congestive heart failure during or within 6 hours of completion of a transfusion.
Type and Screen (T&S)	Testing of patient specimen to determine the patient's ABO and Rh type and screening for the presence of atypical red cell antibodies in the plasma. If a clinical need arises for blood products, the in date specimen can be crossmatched later, when/if required.
Transfusion Medicine Results Report (TMRR)	A report generated by CBS that indicates the blood group, Rh type , presence of antibodies and expiry date of crossmatch if applicable. This report is faxed to patient care area and should accompany patients on transfer.

Term	Definition
Transfusion Transmissible Infection (TTI)	Any infection that is transmissible from person to person through parenteral administration of blood components or blood products. Examples of known TTIs include HIV, HBV, HCV, HTLV, WNV, syphilis, cytomegalovirus and malaria.
Unit Number	See donation number
Unique Identifier	An alphanumeric identifier that confidentially links to the client's personal health information. Some examples of a Unique Identifier are: PHIN, Military Number, RCMP Number, Treaty Number, or Unique Client Identification Number. For Manitoba residents, the PHIN is the preferred unique identifier. In the absence of a unique identifier in the outpatient setting, photo identification can be used.
Unique Client Identifier Number (UCI number)	The number assigned to an individual asylum seeker at the border. (Provided by Canada Border Services Agency). This number will serve as a unique identifier for these patients as they will not have PHIN or other as above. (from WRHA protocol)
Wrong Blood in Tube (WBIT)	Where the blood in the sample is not that of the patient identified on the label, and may lead to catastrophic outcomes, such as death from ABO-incompatible red cell transfusion.
WRHA	Winnipeg Regional Health Authority

Section 2 Guidelines

Guideline Number	Guideline Title
1	Informed Consent for Administration of Blood, Blood Components, and/or Plasma Protein Products
2	Patient Identification in Specimen Collection for Pre-Transfusion Testing
3	Patient Identification in Blood, Blood Components and/or Plasma Protein Products
4	Receipt of Blood, Blood Components and/or Plasma Protein Products
5	Monitoring of Patients Receiving Transfusion
6	Patient Required Health Record Documentation of Blood, Blood Products and Plasma Protein Products
7	Transfusion Reaction - Identification, Management, and Reporting
8	Administration of Blood and Blood Components
9	Administration of Plasma Protein Products (Derivatives)
10	Education Requirements for Patients Receiving Transfusion
11	Nurses Performing Laboratory Duties

Guideline 1

Informed Consent for Administration of Blood, Blood Components, and/or Plasma Protein Products

Purpose

1.0 To provide best practice guidelines that aligns with the standards set forth by the American Association of Blood Banks (AABB), Accreditation Canada (AC), Transfusion Services, Canadian Standards Association (CSA) and the Canadian Society of Transfusion Medicine (CSTM) for informed consent for blood, blood components and/or plasma protein products.

Refer to Appendix 3
Frequently-asked-questions-regarding-informed-consent-for-blood-transfusions.pdf

Informed consent is:
- ✓ Required for the administration of all blood products
- ✓ An ongoing process that includes the provision of information that is understood by the person providing consent.

1.1 The standards state that informed consent **must:**
- Have up to date information regarding the blood component or blood product
- Involve discussion regarding risk and benefits of:
  - ✓ Transfusion vs no treatment
  - ✓ Any clinically appropriate alternatives to transfusion
- Provide opportunity to ask questions
- Be voluntary
- Be documented in the patient's record
- Ensure the patient has the capacity to provide consent
- Understand the patient has the right to refuse transfusion
- May be withdrawn at any time

1.2 In the event that patients are unable to provide consent, the health care team refers to the patient's advance directives or obtains consent from a substitute decision maker (SDM). If the SDM is providing consent, the SDM's name, relationship with patient and decision made must be documented in the patient's record.

Whenever possible, the discussion between the physician/authorized practitioner and the patient or SDM should take place well in advance of the planned surgical procedure or transfusion of product. This may enable the patient to explore other available alternatives to blood transfusion

Policy for Informed Consent

1.3 Health care facilities/RHAs in Manitoba must implement a policy for informed consent for blood, blood components and/or plasma protein products.

1.4 Documented and informed consent is valid for over the course of hospital admission or medical treatment plan. If substantive medical changes have occurred between the time of consent and the need for transfusion, the consent should be reviewed. The informed consent process must be reviewed at least every 12 months for patients with chronic conditions.

1.5 Informed consent must be obtained by a physician or authorized practitioner, according to facility/RHA policy. An authorized practitioner may include but is not limited to:

- ✓ Registered Nurse Extended Practice
- ✓ Registered Clinical assistant
- ✓ House Medical Officer
- ✓ Physician Assistant

1.6 Both verbal and written information from the physician/authorized practitioner should be provided to the patient or substitute decision maker (SDM) to allow them to make an informed decision as to the treatment plan.

1.7 In emergency situations a blood transfusion may be given without informed consent, **only if <u>all</u> the following apply:**

- ✓ An urgent transfusion is required to preserve the patient's life, limb, or vital organ.
- ✓ A patient does not have decision making capacity and a substitute decision maker is not readily available.
- ✓ A reasonable patient would consent in his/her circumstances.
- ✓ No evidence that the patient objects to transfusion for personal or religious reasons.

1.8 The physician/authorized practitioner must document, in the patient's health record, why informed consent was not obtained. The patient shall be informed as soon as possible.

1.9 Refusal of consent to receive blood, blood components, and/or plasma protein products must be documented in the patient's health care record.

Telephone Consent is used when informed consent is not obtainable in person, it is acceptable to obtain consent via telephone. The physician/ authorized practitioner must discuss the elements on the informed consent with the patient/SDM. A witness must be present to this conversation and is required to sign the consent form. The signature of the witness does not imply responsibility for the consent, only that he/she witnessed the process.

1.10 The nurse will ensure informed consent for any blood, blood components, or plasma protein products have been obtained prior to the administration of any product.

In the event that there is no signed consent or relevant documentation in the health record and/or the patient disclaims knowledge or understanding of the intended transfusion, the nurse will notify the physician/authorized practitioner and **will not** initiate the transfusion until the situation has been rectified.

1.11 Written notification, a patient notification card, must be provided to each patient (or SDM) who has received a transfusion/infusion of blood, blood components, or plasma protein products. It is recommended that this be provided at the time of discharge and include information on signs and symptoms of potential adverse events.

Documentation

1.12 Documentation regarding consent must always be included in the patient's health care record. This includes non-consent and emergency situations where a patient may require blood, blood component or plasma protein products as part of their care. Documented informed consent should be obtained at all times with the exception of emergency situations.

1.13 Informed consent must be documented according to facility/RHA policy in the patient's health care record with signatures by the patient/SDM and the physician/authorized practitioner present. Use of the informed consent or refusal of consent forms is recommended.

1.14 Details of the consent discussion should be documented whenever possible. This might include specific individualized risks and alternatives discussed.

1.15 In an emergency when the patient cannot provide consent and no SDM is available then, in good faith, emergency treatment/transfusion can be given. Consent must be obtained as soon as the patient or SDM is able to render an informed decision. The details of the situation and discussion should be clearly documented in the patient's health record.

1.16 Refusal of consent to receive blood, blood components, and/or derivatives must be documented in the patient's health record.

1.17 In addition, the nurse will document in the health care record:

- ✓ Any further actions taken pertaining to informed consent
- ✓ On completion of transfusion or discharge from hospital the patient was provided with written notification regarding their transfusion of blood, blood components, and/or plasma protein products.

Refer to Appendix 13 Page 1 Patient Resources
A-Blood-Transfusion-Reaction-what-you-should-know-patient-information-sheet-1.pdf

Informed Consent for Treatment or Procedure Form is used for surgical patients or those going for certain diagnostic procedures. There is a statement of consent that includes the administration of blood products within these forms. This is considered a general informed consent form.
Refer to Appendix 1 Sample of a General Informed Consent Form (sample A)

Health care providers should initiate a specific informed consent form for the administration of blood products whenever possible.
Refer to Appendix 2 Sample of Specific Informed Consent Form (general form with transfusion as procedure)

Quality Control

1.18 A facility-based quality improvement system or process should be in place to monitor compliance to the informed consent for blood, blood components, and/or derivatives through random patient and health care record audits and/or other quality improvement mechanisms. Health care facilities/Regional Health Authorities should implement a quality improvement system facilitated through the Transfusion Practice Committee to monitor compliance.

Notes/Special Consideration

1.19 Pediatric patients – the term patient refers to the patient, parents or care providers, legal guardians or agency responsible for the child's care (Substitute Decision Maker, SDM).

1.20 In Manitoba, a person who is 16 years of age or more and has the mental capacity to make health care decisions, have the right to consent, or refuse to consent to medical treatment.

Guideline 2

Patient Identification for Specimen Collection for Pre-Transfusion Testing

Purpose

2.0 To provide best practice guidelines for nurses that align with the standards set forth by the American Association of Blood Banks (AABB), Accreditation Canada (AC, Transfusion Services, Canadian Standards Association (CSA), and the Canadian Society of Transfusion Medicine (CSTM) for positive patient identification.

Standards

2.1 At least two person-specific identifiers are used to confirm that the intended patient is receiving the planned service or procedure.

2.2 Verification of the patients identity should include patient first and last name (stated by patient when possible), and Personal Health Identification Number (PHIN) or Medical Record Number (MRN).

All specimen labels must be labeled in the presence of the patient.

The person responsible for identification of the patient and collection of the specimen must be the same person signing the tube label.

2.3 Unequivocal identification of the patient must be established. If discrepancies are discovered during the identification process, blood samples must not be collected. No blood, blood components and/or plasma protein products should be administered until the discrepancies have been resolved.

Did You Know?
Errors in sample labeling and patient identification are the leading cause of Acute Hemolytic Transfusion Reactions.
Refer to Appendix 4 Proper labeled specimen

2.4 The transfusion service shall accept only specimens with complete, accurate, and legible handwritten labels.

Policy for Patient Identification

2.5 Health care facilities/Regional Health Authorities (RHA's) in Manitoba must implement a policy for unequivocal identification of an intended patient for any and all testing related to and administration of blood, blood components, and/or plasma protein products.

2.6 A policy shall be established for patient identification where the patients identity and/or identification number are not available.

For both admitted and emergency patients, ensure that an identification band is prepared and attached to the correct patient prior to collection of the blood specimen.

NO BAND = NO BLOOD

For outpatients, positive identification using a Manitoba/RCMP/Military Health card is required.

Procedure for Pre-Transfusion Testing

2.7 Review the patient health record for informed consent and order for Type and Screen for the blood component and/or plasma product.

2.8 The CBS blood label must be affixed to the tube, once the blood is drawn in the presence of the patient. Perform two person (authorized provider) verification for correct patient in the presence of the patient.

2.9 Perform verification by confirming patients first and last name, PHIN or other unique identifier, date of birth and the phlebotomist initials.

2.10 The label should be hand written with non-smearing ink in the presence of the patient. Have patient state and spell name and date of birth whenever possible.

Refer to Appendix 5 2 sample protocol

Documentation

2.11 The phlebotomist must sign the request for pre-transfusion testing form, XM101A, and the request for Miscellaneous Testing, XM104, as applicable.

Guideline 3

Patient Identification for Blood, Blood Component, and/or Plasma Protein Products (Derivatives) Administration

Policy

3.0 Health care facilities/Regional Health Authorities (RHA's) in Manitoba must implement a policy for unequivocal identification of an intended patient for all administration of blood, blood components, and/or plasma protein products.

3.1 A policy shall be established for patient identification where the patients identity and/or identification number are not available.

For both admitted and emergency patients, ensure that an identification band is prepared and attached to the correct patient prior to collection of the blood specimen.

NO BAND = NO BLOOD

For outpatients, positive identification must be obtained using a MB/RCMP/Military Health Card.

Procedure

3.2 Review the following:

- ✓ Patient health record for informed consent
- ✓ Treatment order for blood, blood component and/or plasma protein products
- ✓ Transfusion Medicine Results Report (TMRR)

3.3 Perform (authorized provider) verification

- ✓ correct patient
- ✓ correct blood, blood component or plasma protein product

3.4 **A two person verification** shall be performed upon receipt and prior to administration of blood products. The two person verification should include a comparison of the TMRR to blood component bag, issue tag and ROT (if applicable).

3.5 Confirmation of physicians order should be repeated once blood, blood component, or plasma protein product arrives in clinical care area.

3.6 Compare the information on the Transfusion Medicine Results Report (TMRR) with the blood issue tag and Record of Transfusion (ROT).

3.7 Confirm product expiry date.

3.8 In the presence of the patient:

- ✓ perform verification by confirming patients first and last name
- ✓ PHIN or other unique identifier
- ✓ Have patient state and spell name and date of birth whenever possible

In case of discrepancy: DO NOT TRANSFUSE! Ensure accuracy of patient identification, correct order and product before initiating transfusion.

Documentation

3.9 The two authorized providers completing the patient identification procedure must **initial the Cumulative Blood Product Record (CBPR),** when administering blood, blood components, or plasma protein products.

3.10 Any deviation from the identification procedure must be clearly documented in the IPN.

Authorized providers include: Registered Nurses, Licensed Practical Nurses, Registered Nurses Extended Practice, Physicians, Clinical Assistants and Medical Residents.
Graduate Nurses (GN): Authorized to perform the two provider verification along with an authorized professional as listed above. Refer to facility/RHA policy for exceptions to these guidelines.
Student Nurses are not authorized to complete the two person verification as an authorized professional. They are encouraged to observe/participate as a third person as often as possible.

Quality Control

3.11 Health care facilities/Regional Health Authorities (RHA) in Manitoba should implement a quality improvement system to monitor compliance of patient identification.

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3.12 Incidents involving improper patient identification should be reported to the Transfusion Practice Committee.

Notes/Special Considerations

3.13 If the patient's clinical condition prohibits physical placement of a patient identification band, positive patient identification from their primary care giver is required.

3.14 For pre and postnatal testing (Rh 101 form) identification and verification should include:

- ✓ patients first and last name
- ✓ one unique identifier
- ✓ Manitoba/RCMP/Military Health Card

3.15 Cord blood specimens shall be labeled with the **mothers:**

- ✓ first and last name
- ✓ PHIN or unique identifier
- ✓ date and time of collection

Guideline 4

Receipt of Blood, Blood Components, and/or Plasma Protein Products (Derivatives)

Purpose

4.0 To provide best practice guidelines for nurses that align with the standards set forth by the American Association of Blood Banks (AABB), Accreditation Canada (AC)Transfusion Services, Canadian Standards Association (CSA) and the Canadian Society of Transfusion Medicine (CSTM) for the receipt of blood, blood components and/or plasma protein products.

4.1 The standards state that:

- Blood, blood components and plasma protein products must be visually inspected and that the inspection is documented. If abnormalities are present this should be documented in the health record.
- When an abnormality is detected the blood, blood component and/or plasma protein products shall be quarantined until appropriate disposition is determined.

- ✓ If the expiry date is day/month/year, the product expires at midnight on that day.
- ✓ If the expiry date is month/year, the product expires at midnight on the last day of the month.

Policy for Receipt of Blood, Blood Components, and or Plasma Protein Products

4.2 Inspection of products should occur upon receipt from the blood bank or another facility and in the event of a suspected transfusion reaction. This includes:

- Visual inspection of product
- Confirmation of expiry dates
- Product identifiers on label

4.3 For return of products failing visual inspection see:

Refer to Appendix 6 Visual Inspection

Failed Inspection

- ✓ If the blood, blood component or plasma protein product fails visual inspection contact blood bank for instruction on returning product.
- ✓ Notify physician if there is a delay in transfusion because of failed visual inspection.

4.4 Products shall be delivered to patient care areas by personnel trained in the transportation of blood. **Refer to Appendix 16** Shared Service policy 160-INV-17 regarding training for transportation of blood products.

4.5 Products should not be delivered to an unattended area.

Procedure

One nurse does the first check

From the

1. Transfusion Medicine Results Report (TMRR) to the Patient Demographic sheet

Two nurses read aloud letter by letter

- First and last name (letter by letter)
- PHIN or unique identifier
- Blood group-ABO/Rh
- Donation Number

2. From the Record of Transfusion (ROT) to the TMRR

3. Then from the ROT to Blood Tag and the Blood Bag

Two nurses now go to the patient's bedside for the final set of checks; nurses read aloud letter by letter and if possible have the patient verbalize the following).

- First and last name (letter by letter)
- PHIN or unique identifier
- Patient Birthdate (*optional but encouraged)*

4. Blood TAG to the Patient arm band (if an inpatient.

OR

Blood TAG to the patients Identification (Manitoba Health Card or Military Card (if outpatient)

Documentation

4.6 Two person verification is documented by each nurses initials on the Cumulative Blood Product record (CBPR).

Refer to Appendix 7 Cumulative Blood Product Record Completion Guide

Quality Control

4.7 A formal competency assessment program shall be in place for all personnel involved in the transfusion process.

4.8 Occurrences regarding blood products damaged in transport, failed visual inspection, or returned to blood bank if not transfused should be reported according to facility policy.

Guideline 5

Monitoring of Patients Receiving Transfusion

Transfusion Reactions can be mild or life threatening. All products derived from human blood can pose a risk. Adequate monitoring of patients receiving transfusion is essential in the recognition of transfusion reactions.

Purpose

5.0 To provide best practice guidelines for nurses that align with the standards set forth by the American Association of Blood Banks (AABB), Accreditation Canada (AC), Transfusion Services, Canadian Standards Association (CSA), and the Canadian Society of Transfusion Medicine (CSTM) for safe patient monitoring during transfusion of blood/blood components.

5.1 The standards state that the patient shall be observed for potential adverse events during the transfusion and for an appropriate time thereafter.

Practice Policy for Monitoring of Patients Receiving Transfusion

5.2 Patients vital signs shall be obtained and recorded before, during, and post transfusion. Vitals signs should include temperature, blood pressure, heart rate, respiratory rate and oxygen saturations.

5.3 Baseline vitals: within 30 minutes prior to beginning transfusion/infusion.

5.4 Upon initiation of blood/ blood component, the transfusionist shall directly observe the patient during the first 15 minutes of transfusion. Repeat vital signs are completed after the first 15 minutes and are then reassessed hourly or more frequently based on clinical indications and product guidelines. Refer to product monographs.

5.5 Reassess vital signs on completion of blood/blood component and 1 hour after. The patient should be monitored for 1 hour post completion transfusion. For those patients in an outpatient clinical setting, post transfusion monitoring should be at the discretion of the transfusionist.

5.6 In the event the patient exhibits signs of an adverse event of transfusion/infusion reaction.

Refer to Guideline 10 Transfusion Reactions, Identification, Management and Reporting

5.7 Specific written instructions concerning possible adverse events shall be provided to the patient or responsible caregiver when direct medical observation or monitoring of the patient will not be available after transfusion.

Monitoring Best Practice

- ✓ **Baseline vital signs and assessment**
- ✓ **15 minutes after start of transfusion**
- ✓ **STAY WITH PATIENT FOR THE FIRST 15 MINUTES**
- ✓ **Every hour during transfusion**
- ✓ **One hour post transfusion for inpatients**
- ✓ **Educate patient for signs of adverse reaction**

Documentation

5.8 Record vital signs on the Cumulative Blood Product Record or applicable facility documentation record.

Refer to Appendix 7
CBPR-Cumulative Blood Product Record Completion Guide

Quality Control

5.9 Health care facilities/Regional Health Authorities (RHA) in Manitoba should implement a quality improvement system to monitor compliance with the policies for the administration of blood components and blood products.

5.10 A competency program shall be established for all personnel involved in the transfusion process.

Notes/Special Consideration

5.11 When administering IVIG products, it is recommended that vital signs be monitored when increasing infusion rates.

Refer to product monograph for additional information.

5.12 Most reactions occur within 1 - 30 minutes of administration. Closely monitor for the first 15 minutes.

Guideline 6

Patient Required Health Record Documentation of Blood, Blood Products and Plasma Protein Products (Derivatives)

Purpose

6.0 To provide best practice guidelines for nurses that align with the standards set forth by the American Association of Blood Banks (AABB), Accreditation Canada (AC) Transfusion Services, Canadian Standards Association (CSA) and the Canadian Society for Transfusion Medicine (CSTM) for health record documentation of blood components and blood products.

6.1 The standards state that an order from a physician/authorized practitioner is required for the administration of all blood, blood components, and/or derivatives. The decision to use blood, blood components, and/or derivatives should permit optimal patient care while fostering prudent clinical use of the allogeneic blood supply.

6.2 The responsibility of the transfusionist shall include confirmation that the physicians/authorized practitioner order accurately identifies the recipient name, identification number, blood component or blood product, rate of infusion, date and time and all other items.

Policy for Health Record Documentation of Blood Components and Blood Products

6.3 Health care facilities/Regional Health Authorities (RHA) in Manitoba must have policies in place to ensure appropriate documentation of blood product administration.

Documentation

6.4 The **Patient Health Record** shall include the following:

- ✓ Transfusion order
- ✓ Documentation of patient consent
- ✓ Name of component/ product, donation identification number/ lot number and sequence number
- ✓ Date and time of administration
- ✓ Pre-transfusion, intra-transfusion, and post-transfusion vital signs
- ✓ Amount transfused
- ✓ Initials of transfusionist and second person verifying product prior to administration
- ✓ *If applicable*, transfusion related adverse events

Refer to Guideline 7 Transfusion Reaction - Identification, Management And Reporting

Documentation of Blood Components and Plasma Protein Products

6.5 Forms:

- ✓ Physicians order
- ✓ CBPR (Cumulative Blood Product Record)
- ✓ ROT (Record of Transfusion)
- ✓ IPN (Integrated Progress Notes)

Procedure for Form Documentation

6.6 Document on the **CBPR**:

- ✓ Date and time of transfusion
- ✓ Baseline VS
- ✓ Assessment
- ✓ Two initials are required to identify the 2 person verification.
- ✓

Important (CBPR) is a **mandatory** regional health cord form for facility staff to complete when blood and blood products are being transfused on an in-patient or an out-patient setting. This form must become part of the permanent patient health record and retained in the facility.

6.7 Document in the **Integrated Progress Notes:**

- ✓ Specific details regarding the consent process, education provided to patient and family
- ✓ Patient response to transfusion

Refer to Appendix 7 Cumulative Blood Product Record Completion Guide

6.8 Sign and date the ROT and return to Blood Bank according to facility RHA procedure.

Refer to Appendix 8 Record of Transfusion sample

Did You Know?
The Record of Transfusion (ROT) comes with each unit of blood and blood components. This document must be completed with the date and start time of transfusion and returned to the blood bank after the first 15 minutes of the infusion is complete. In the event of a transfusion reaction this allows the same donor units to be tracked and quarantined until the reaction can be investigated

6.9 A facility base quality improvement system or process should be in place to monitor appropriate processing of treatment orders, patient identification with correct product, appropriate utilization of blood and blood products and proper consent processes.

Notes/Special Considerations

6.10 Electronic health records where they exist should have the capacity to include all of the same required elements as described above.

Guideline 7

Transfusion Reaction - Identification, Management, and Reporting

When any unexpected or untoward sign or symptom occurs during or shortly after the transfusion of a blood component, a transfusion reaction must be considered as the precipitating event until proven otherwise.

Purpose

7.0 To provide best practice guidelines for nurses which align with the standards set forth by the American Association of Blood Banks (AABB), Accreditation Canada (AC) Transfusion Services, Canadian Standards Association (CSA) and the Canadian Society for Transfusion Medicine (CSTM) for the recognition and management of transfusion reactions.

7.1 The standards state a process and procedure shall be in place for the transfusionist to recognize, manage, and report a transfusion reaction and for the recording of relevant information in the patient's medical record.

Serious adverse events requiring prompt reporting to transfusion service include but are not limited to:

Immediate hemolytic reactions;
Delayed hemolysis;
Transfusion related acute lung injury (TRALI);
Systemic allergic reactions including anaphylactic shock;
Bacterial sepsis;
Other transfusion-transmissible infections;
Transfusion Associated Graft Vs Host Disease (TA-GVHD); Post-transfusion purpura;
Other serious reactions; and
Death.

Policy for Identification of Transfusion Reaction

7.2 Persons administering blood components and plasma protein products should be familiar with the common signs and symptoms of a transfusion reaction.

7.3 A thorough assessment of the patient's condition is necessary **prior** to the administration of blood components and plasma protein products in order to recognize new onset signs and symptoms.

Signs & Symptoms of a Transfusion Reaction include NEW onset of:

Temperature rise greater than 1°C	Chills	Jaundice
Shortness of breath (dyspnea)	Rigors	Hemoglobinuria
Hypertension	Rash	Bleeding at IV site
Hypotension	Urticaria	Pain (back, chest, bone, abdomen)
Hypoxemia	Pruritus	Tachycardia

Policy for Management of Transfusion Reaction

7.4 For all cases of suspected transfusion reaction refer to the Transfusion Reaction Algorithm.

Refer to Appendix 10 Transfusion Reaction Algorithm

7.4.1 Stop the transfusion immediately.

7.4.2 Do not discard product.

7.4.3 Maintain IV with 0.9% saline using a separate/new intravenous set as per RHA policy.

7.4.4 Contact MD/designate for medical assessment/ treatment.

Important If this is assessed as a suspected transfusion reaction, and the physician orders a transfusion reaction investigation proceed to 7.4.5. If this is assessed as **NOT** a suspected transfusion reaction, proceed with transfusion and document this in the patient's chart.

7.4.5 If a transfusion reaction is suspected, proceed with the prescribed treatment and continue with the algorithm.

7.4.6 Perform vital signs every 15 minutes and PRN until patient is stable.

7.4.7 Perform visual inspection of unit.

7.4.8 The labels on the blood products and records shall be examined for clerical errors in identifying the patient, blood, or blood component.

This is a 2 person (authorized health care providers) check.

7.4.9 Notify the blood bank of the suspected transfusion reaction.

Most transfusion reactions occur within 1 to 30 minutes from start of transfusion.

Transfusion Reaction Action

- Stop the Transfusion
- Do NOT discard product
- Maintain IV with normal saline using a new IV set
- Contact MD/designate for medical assessment or treatment. Suspect transfusion reaction?
- If yes, proceed with prescribed treatment and continue with algorithm
- Perform vital signs every 15 minutes until patient is stable
- Visually assess product
- Check for clerical discrepancy
- Notify blood bank/ lab

See table below for Minor and Major symptoms of a suspected transfusion reaction. These symptoms may result in interruption or discontinuation of the transfusion.

Minor Symptoms	Major Symptoms
Urticaria/hives Other skin rash Temperature greater than 1°C from baseline **AND** Temperature between 38°C to 38.9°C **AND** No associated MAJOR symptoms **AND** Onset greater than 10 minutes into transfusion	Hypertension Hypoxemia Severe respiratory distress Temperature rise greater than 39°C Hypotension/shock Back/chest pain Hemoglobinuria Jaundice Bleeding at IV site Severe allergic reaction Tachycardia/arrhythmias

7.4.10 If a transfusion is discontinued prior to completion due to major symptoms and there has been a transfusion reaction investigation ordered by the MD/Designate, the following needs to be completed urgently;

Return the blood or blood product with tubing attached (clamps in locked position and end capped), manilla-colored product tag attached to product (this tag should not be removed until the transfusion is complete).

A completed Transfusion Reaction Investigation Form (CM105)

Any additional ordered blood work and if required a new crossmatch sample

7.4.11 **If bacterial contamination is suspected and the patient meets the following criteria** the patient and blood product will need to have blood cultures ordered for investigation (the blood bank will culture the blood product) **but the physician ordering the transfusion reaction investigation will need to write the order.**

- Temperature rise more than 1°C AND greater than 39°C
- Temperature rise greater than 1°C AND between 38 and 39°C AND rigors/chills OR hypotension/shock OR tachycardia OR severe respiratory distress
- Temperature rise not responding to antipyretic and/or suspicion of sepsis in absence of fever

Returning Blood to the Blood Bank

Blood/blood product shall be returned to the blood bank:

- ✓ With all tubing attached
- ✓ All clamps on the tubing must be in the clamped/closed position.
- ✓ The end of the tubing that was connected to the patient must have a cap attached to seal the line.

Return the product to the blood bank as soon as possible to initiate the investigation of the transfusion reaction.

Policy for the Reporting of a Transfusion Reaction

7.5 All transfusion reactions (Minor or Major) that are ordered must be reported to the facility blood bank. This is accomplished with the completion and submission of the CM105.

7.6 The only incident where a CM105 is not submitted is when administering IVIG and minor symptoms are observed and resolved by slowing the infusion rate.

Documentation for the Identification, Management and Reporting of Transfusion Reaction

7.7 Details of the transfusion reaction should be documented in the patient's health record.

7.8 Documentation of the transfusion reaction should include the Cumulative Blood Product Record (CBPR) Patient Progress Notes and the Transfusion Reaction Investigation Form CM1055.

Quality Control

7.9 A facility-based quality improvement system or process should be in place to ensure all major transfusion reactions are reported immediately to the Transfusion Medical Director or designate.

7.10 Following notification of a serious adverse event, the Transfusion Medical Director or designate will conduct an investigation which may include laboratory tests to determine the probable cause.

7.11 Review all confirmed reactions and outcome reports.

7.12 Reports shall be submitted to the appropriate authorities.

Notes/Special Consideration

Refer to Appendix 11 Transfusion Reaction Quick Reference Guide

Guideline 8

Administration of Blood and Blood Components

Purpose

8.0 To provide best practice guidelines for nurses that align with the standards set forth by the American Association of Blood Banks (AABB), Accreditation Canada (AC) Transfusion Services, Canadian Standards Association (CSA) and the Canadian Society of Transfusion Medicine (CSTM) for the administration of blood and blood components.

8.1 The standards state that a protocol/policy is required for the administration of blood and blood components. This includes:

- The use of infusion devices and ancillary equipment.
- Identification, evaluation, and reporting of adverse events related to transfusion

Refer to Guideline 7

- Administration of blood and blood components will be under medical direction.

Blood refers to Whole Blood, Blood Components: Red Blood Cells, Platelets, Plasma (fresh or frozen) and Cryoprecipitate.

Policy for administration of blood and blood components

8.2 Health care facilities/Regional Health Authorities (RHA) in Manitoba must implement processes and procedures that include the following:

Pre-transfusion

8.3 Ensure documentation of patient Informed Consent

8.4 The Physicians Transfusion **ORDER** shall include the following:

- ✓ Product name and dosage/units required
- ✓ Date and time transfusion/infusion to take place
- ✓ Clinical indication for transfusion/infusion

- ✓ Modifications and special requirements if any to blood components
- ✓ If multiple products ordered, indicate the order of sequence
- ✓

8.5 Ensure the intended blood recipient has direct venous access for administration.

All identification tags attached to the blood, blood component bag shall remain attached until the transfusion has been completed/ terminated. If any discrepancies are identified or the product fails inspection do not administer. Contact blood bank.

Infusion of one unit must not exceed 4 hours. if it is determined that this will not be possible, the blood must be returned to a monitored blood bank fridge be within 60 minutes of issue or it will be discarded.

The Blood Bag Verification Refer to Guideline 4

8.6 Inspect the product for any leakage, discoloration, or abnormalities such as evidence of clots or hemolysis. **Refer to Appendix 6** Visual Inspection. If the product fails visual inspection, contact the blood bank immediately.

8.7 The transfusionist and one other authorized personnel will verify the following:

- ✓ Recipient's unique identifier and first & last name
- ✓ Recipient's ABO group, Rh type and presence of antibodies
- ✓ Donation identification number, donor ABO group and if required, the Rh type

The Patient to Blood Bag Verification

Refer to Guideline 3

Patient Identification for the Administration of Blood, Blood Components,and/or Plasma Protein Products

8.8 Positive identification of the intended recipient

8.9 Explain the procedure to the patient and to report signs/symptoms of adverse reaction(s) immediately.

8.10 Assess the patient for symptoms prior to the transfusion/infusion that might be confused with a transfusion reaction and document same(i.e.fever or rash).

Complete required information on the product tag and/or Record of Transfusion (ROT) and return to blood bank. This ensures traceability of blood components and vein to vein process standards are met.
Refer to Appendix 8 Record of Transfusion Sample.

Documentation for Blood or Blood Product Administration

Refer to Guideline 5

8.11 The Cumulative Blood Product Record (CBPR)
See Appendix 7 Cumulative Blood Product Record Completion Guide

8.12 The following must be documented on the CBPR **before** administration of the blood or blood products.

- ✓ Pre-transfusion vital signs
- ✓ Names and designation of transfusionist and second identifier

8.13 The CBPR must also record the following:

- ✓ Intra-transfusion and post-transfusion vital signs
- ✓ Amount transfused (the volume)

In non-urgent, non-bleeding patients, blood, blood components and/or plasma protein products should be transfused/infused during daytime hours and given one at a time.

Administration of Blood or Blood Products

8.14 Blood Administration Set

Blood, blood components and/or plasma protein products must be administered through a standard sterile, pyrogen-free blood administration set that has a 170-260 microns filter designed to retain particles potentially harmful to the patient.

8.15 Red blood cell administration set should be changed after:

- ✓ Maximum of 4 hours
- ✓ Four consecutive units of red blood cells have been infused through the same set. If administering different products a separate set must be used for each
- ✓ More than 30 minutes have elapsed between units
- ✓ Set becomes occluded

8.16 Infusion of one unit of Red Blood Cells must not exceed 4 hours.

8.17 Medication must never be added to any transfusion of blood, blood components, and/or plasma protein products.

8.18 Transfusion of blood and/or blood components should be initiated at a slower rate and patient monitored for first 15 minutes for signs and symptoms of an adverse reaction (recommended initial rate of 50ml/hour). If no observed or reported reactions after 15 minutes proceed to ordered rate of transfusion.

8.19 Consider a slower rate for patients at risk of circulatory overload.

8.20 Patient must be monitored throughout the transfusion for adverse reactions. Post transfusion monitoring is at the discretion of the person administering the transfusion.

Quality Control

8.21 All Health care facilities/Regional Health Authorities (RHA) in Manitoba should implement a quality improvement system to monitor compliance with the policies for the administration of blood components and blood products.

8.22 A competency program shall be established for all personnel involved in the transfusion process.

Notes/Special Considerations

8.23 Only approved infusion devices and ancillary equipment that meet provincial safety standards and are approved by Health Canada are to be used for administration of blood, blood components, and/or plasma protein products.

8.24 Blood warming device must be validated and have a temperature sensor and an audible alarm system.

Refer to Appendix 12 Blood Warming Devices.

8.25 Pressure exerted by pressure pumps should not exceed 300mm Hg.

8.26 Rapid infusion devices shall be used only by appropriately trained staff.

EMERGENCY BLOOD ADMINISTRATION

For the administration of Emergency Blood, a pre-transfusion blood specimen must be drawn prior to the transfusion of unmatched Group O red cells.

Transfusion records shall include a signed declaration by the requesting physician/ authorized practitioner confirming that the clinical situation was sufficiently urgent to justify releasing blood products before completion of pre-transfusion testing.
Refer to Appendix 9 Record of Transfusion Emergency Blood Component.

When only Group O Rh positive units are available the Blood Transfusion Service will notify the Transfusion Medicine Physician on call within 24 hours if the recipient is determined to be Rh negative and is a female less than or equal to 45 years of age in order to determine need for administration of Rh Immune Globulin. This may include a consultation with the attending physician.

Outpatient Settings:

8.27 The patient should be monitored for adverse reactions until the transfusion has been completed. Post transfusion monitoring shall be at the discretion of the person administrating the transfusion.

8.28 Information of post transfusion adverse effects must be provided prior to outpatient being discharged from care.

Refer to Appendix 13 Patient resources, "A Blood Transfusion Reaction; what you should know patient information sheet

Guideline 9

Administration of Plasma Protein Products *(derivatives)*

Purpose

9.0 To provide best practice guidelines for nurses that align with the standards set forth by the American Association of Blood Banks (AABB), Accreditation Canada (AC) Transfusion Services, Canadian Standards Association (CSA) and the Canadian Society of Transfusion Medicine (CSTM) for the administration of Plasma Protein Products (PPP's), previously known as derivatives.

Examples of PPP's include, but are not limited to: Albumin, Anti-inhibitor Coagulant, ATIII, C1 Inhibitor, Factors VII-XIII, Recombinant Factors, Fibrinogen, Immune Globulins, Protein C, and Prothrombin Complex Concentrates

9.1 The standards state that a protocol/policy is required for the administration of plasma protein products (PPP's). This includes the use of infusion devices and ancillary equipment, and the identification, evaluation, and reporting of adverse events related to the transfusion.

Refer to Guideline 7 Transfusion Reaction - Identification, Management, and Reporting

Policy

9.2 Health care facilities/RHAs in Manitoba must implement processed and procedures that include informed consent, physician orders, administration and documentation as well as reporting of adverse events associated with these products.

9.3 Ensure direct venous access for administration.

The transfusionist will ensure informed consent for any blood, blood components and/or plasma protein products have been obtained by the physician/authorized practitioner before administering any product.

9.4 The transfusionist and one other authorized provider will verify the following:

9.4.1 The order which includes

- ✓ Intended recipient's two independent identifiers: Unique identifier and first & last name
- ✓ PPP and dosage required
- ✓ Date and Time of the transfusion
- ✓ Rate or duration of the transfusion
- ✓ Modification or special requirement to product if applicable
- ✓ If multiple products to be infused, indicate the sequence, and clinical indication for transfusion

9.4.2 Donation identification number/product lot number.

9.4.3 The product end date has not expired.

9.4.4 Positively identify the recipient and match the PPP to recipient.

Refer to Guideline 3

9.5 Inspect the product for leakage, discoloration, and/or abnormalities. If product fails visual inspection contact the blood bank immediately.

Refer to Appendix 6 Visual Inspection.

9.6 Explain the procedure to the patient and to report signs/symptoms of adverse reaction(s) immediately.

9.7 Assess the patient for symptoms prior to the infusion that might be confused with transfusion reaction and document same (i.e. fever, rash).

Information regarding the administration set, infusion rate and common side effects can be found in the individual Blood Product Monographs
See Blood Monographs
Link TBA

9.8 Administration sets should be changed:

- ✓ After maximum 4 hours,
- ✓ More than 30 minutes have elapsed between units
- ✓ Between different products, or
- ✓ Administration set becomes occluded.

9.9 Medications must not be added directly to PPP's or to the administration set during infusion.

9.10 Transfusion of plasma protein products should be administered according to the product monograph recommended rate.

Practice Scenario: Many PPP's are ordered to be given IV push over a matter of minutes.

For example: Prothrombin Complex Concentrates (PCC) are administered at 1mL/min for first 5 mins followed by a maximum rate for the remainder of the infusion which varies between products. (Octaplex = 3mL/min, Beriplex 8mL/min). The maximum infusion time for PCC is approximately 40 minutes (3000 IU = 120 mL).

Example: If you have orders for Beriplex 1000IU (total Volume 40 mL), the max infusion time would be 9 minutes at 1mL/min for the first 5 mins and then a maximum rate of 8mL/min.

9.11 Patient must be monitored throughout the infusion for adverse reactions. Post infusion monitoring is at the discretion of the person qualified or the transfusionist administering the infusion.

9.12 Information regarding potential post infusion adverse effects must be provided to the patient prior to being discharged.

Refer to Appendix 13 Patient resources, *"A Blood Transfusion Reaction; what you should know"* patient information sheet.

Documentation

9.13 Documentation in the patients' health record should include the following:

Refer to Appendix 7 Cumulative Blood Product Completion Guide:

- ✓ Order from physician/authorized provider
- ✓ Informed consent
- ✓ Name of product
- ✓ Donation/lot number and sequence number
- ✓ Vital signs
- ✓ Amount infused
- ✓ Rate of infusion
- ✓ Two authorized provider signatures verifying two person check
- ✓ Response to infusion
- ✓ Any education provided related to infusion

Quality Control

9.14 Health care facilities and RHA's in Manitoba should implement a quality improvement system to monitor compliance with the policies for the administration of plasma protein products.

9.15 A competency program shall be established for all personnel involved in the transfusion process.

Notes/Special Considerations

9.16 Only approved infusion devices and ancillary equipment that meet provincial safety standards and are approved by Health Canada shall be used for transfusion.

Outpatient settings:

9.17 Patient should be monitored for adverse reactions until the infusion is completed. Post transfusion monitoring is at the discretion of the person administering the infusion.

9.18 Information regarding potential post infusion adverse effects must be provided to the patient prior to being discharged.

Refer to Appendix 13 Sample patient information for receiving transfusion.

Guideline 10

Educational Requirements for Patients Receiving Transfusion

Informed patients are better prepared to make choices regarding their care. Every effort should be made to ensure patients understand the risks, benefits, and alternatives to blood and blood products.

Purpose

10.0 To provide best practice guidelines for nurses that align with the standards set forth by AABB and the Canadian Society for Transfusion Medicine for the educational requirements for patients receiving blood or blood products.

Policy for Educational Requirements for Patients Receiving Transfusion.

10.1 The standards state that recipients of blood and blood products are provided with information that includes a description of the blood or blood product, the risks and benefits associated with the transfusion, and any alternatives including their risks and benefits.

10.2 In the event of an emergency, where it is deemed necessary to provide the patient with emergency blood components (not fully tested for ` infectious disease or prior to pre-transfusion testing these risks are explained to patient.

10.3 In order to be fully informed patients are made aware that they have received a blood or blood product. There is a policy or procedure in place to provide written information to patients about the blood or blood products they have received.

Refer to Appendix 13 Sample notification card.

10.4 It is preferable that patients receive both verbal and written information about the blood or blood products they are about to receive. Written notification of the type of blood or blood product received is required.

Procedure for Educating Patients

✓ **Prior to pre-transfusion testing**	Ensure understanding the purpose of pre-transfusion testing is for potential blood transfusion.
✓ **Prior to request for blood or blood product**	Ensure understanding of type of product, risks and benefits, potential adverse effects, alternatives and right to refusal.
✓ **At time of administration**	Describe the expected normal and abnormal responses to the transfusion.
✓ **At the end of the transfusion**	Ensure understanding of the intended purpose of the transfusion and type of product administered. Provide written notification of type of product. Document all elements of education in the health record.

Documentation

10.5 Documentation of the education provided to patient should include what information was presented, time it was presented, and evaluation of patients understanding of that information.

Quality Control

10.6 A facility-based quality improvement system or process should be in place to monitor compliance to patient educational requirements. Sites/facilities should facilitate these requirements by creating/sharing consistent educational materials.

Refer to Appendix 13 Sample patient information for receiving transfusion.

Notes/Special Considerations

10.7 Patient's families and support persons should be involved in the educational process wherever possible.

Guideline 11

Nurses Performing Laboratory Duties

Purpose

11.0 To provide best practice guidelines for nurses that align with the standards set forth by American Association of Blood Banks (AABB), Accreditation Canada (AC) Transfusion Services, Canadian Standards Association (CSA) and the Canadian Society for Transfusion Medicine (CSTM) for nurses performing laboratory duties.

11.1 The standards state that facilities that do not have Shared Services lab staff during night and evening shift, must have nurses trained on all duties that pertain to receiving blood or blood products from the CBS blood bank including:

- ✓ Acceptance of the CBS blood bank cooler
- ✓ Unpacking the blood products
- ✓ Documentation of receipt of blood or blood products
  Refer to Appendix 14 Log Book Receipt of Blood Sample
- ✓ Fridge temperature checks
- ✓ Issue of blood or blood products to trained transport staff
- ✓ Receipt of returned blood or blood products back to the lab, lab fridge and documentation for same

Policy for Nurses Performing Laboratory Duties

11.2 Nurses should have sufficient training and resource tools in order to perform laboratory duties when required to do so.

11.3 Laboratory duties include issuing, receiving, transporting, monitoring storage, and returning blood, blood components, and plasma protein products. The following table contains Shared Services policies and forms that support nursing practice when performing these duties.

Documentation

11.4 Details pertaining to the documentation requirements are contained within the Shared Services policies.

Quality Control

11.5 A record keeping system shall be in place to ensure all transfused blood, blood components and plasma protein products are recorded in the patients' health records and the final disposition of all issued products is recorded.

Notes/Special Consideration

11.6 Documents in the table are subject to change by Shared Services. Note the version date in the right hand column for the most current version of the form. Electronic versions of these documents are located on BBM website.

Shared Services Document	Document number
Daily Temperature and Weekly/Monthly Maintenance Record: Fridge	F160-QCFORM-08 F160-QCFORM-09
Daily Temperature and Weekly/Monthly Maintenance record: Freezer	F160-QCFORM-06 F160-QCFORM-07
Daily Temperature and Weekly/Monthly Maintenance Record: Platelet Incubator Maintenance Record: Platelet Incubator	F160-QCFORM-11
Alarm System Check: Blood, Blood Component and Derivative Storage Equipment	160-QC-14
Alarm Response/Malfunction: Blood, Blood Component and Derivative Storage Equipment	160-QC-13 F160-QCFORM-15
Storage Equipment Standards: Blood, Blood Components and Derivatives	160-QC-02
Transport of Blood, Blood Components and Derivatives (Within a Facility)	160-INV-17
Issuing, Returning and Documenting the Final Disposition of Blood, Blood Components and Derivatives	160-INV-14 160-INV-16 160-INV-19
Receiving Blood, Blood Components and Derivatives	160-INV-07 160-INV-07B 160-INV-07C
Visual Inspection of Blood, Blood Components and Derivatives (When Performing Blood Bank Duties)	160-INV-12

Emergency Issue of Donor Red Cell Units (Non Crossmatch Facilities)	160-MP-20
Shared Services Customer Feedback	F160-INV-23
Equipment Malfunction & Corrective Action Record	F160-QCFORM-15
Inter-facility Shipping of Blood, Blood Components and Derivatives	160-INV-18 F160-INV-18A F160-INV-18B F160-INV-18C

Section 4 Competency Requirements

Continuous Competency Assessment for Nurses who Administer Blood, Blood Components and or Plasma Protein Products in Manitoba

This document is designed to support the maintenance and enhancement of safety, efficacy, and quality of the transfusion process for blood, blood components and plasma protein products. The standards state that personnel involved in transfusion are trained in the identification of transfusion recipients and blood component and in observation of transfusion to include the recognition and reporting of adverse transfusion events. Annual in-service education records should be kept as per site/facility RHA policy.

The competencies for nurses are:

1. **Nurse ensures Physician Order has been obtained.**

   1.1 Ensures Physician Order has been obtained and documented on patient chart prior to administration of blood and/or blood products(s).

   1.2 Reviews Physician Order for completeness: date, time, blood products, clinical indication, special requirements (if applicable), sequence of administration if specified, quantity of products to be transfused, volume/duration of transfused products, pre and post medications.

   1.3 Follows hospital process for Physician Order transcription.

   1.4 Ensure patient has a valid Type & Screen result on patient chart. If not, obtain Physician Order to collect a Type & Screen on patient.

2. **Nurse ensures Informed Consent has been obtained.**

   2.1 Demonstrates the nurse's role related to principles of informed consent and appropriate documentation of informed consent.

   2.2 Advocates for the patient's right to refuse administration of blood and/or blood product.

   2.3 Applies knowledge related to the elements of informed consent, hospital policies, roles and responsibilities of team members in the informed consent/refusal process.

3. **Nurse obtains Blood and/or Blood Products from the Blood Bank.**

3.1 Applies knowledge related to patient preparation to receive prescribed blood and/or blood products, includes obtaining vital signs, initiating IV therapy, administering premedication (if ordered), equipment, administration sets, & stand-by parenteral solutions readily available.

3.2 Applies knowledge related to blood and/or blood products and how to access same from the Blood Bank.

3.3 Demonstrates awareness of safe transportation of blood and/or blood products, identifies appropriate person or technology to retrieve blood and/or blood product from the Blood Bank, and ensures timely transportation of blood and/or blood products to the patient's location.

3.4 Demonstrates awareness of safe storage of blood and/or blood products.

3.5 Applies principles of Routine Practices when handling blood and/or blood products.

4. Nurse ensures Patient Identification is correct throughout the Administration of Blood and/or Blood Products.

4.1 Confirms accuracy of patient's personal health information by performing a 2 person check prior to initiating transfusion/infusion.

4.2 Blood and/or blood products are checked for accuracy with the Physician's Order and with the patient's Transfusion Medicine Results Report.

5. Nurse performs appropriate pre-transfusion checks.

5.1 Nurse ensures all equipment is ready for transfusion/infusion to begin.

5.2 Nurse educates patient on expectations and signs & symptoms of a transfusion reaction.

5.3 Nurse is aware that he/she cannot infuse any medication with blood or blood products. However, pre and/or post medications are allowed.

5.4 Nurse confirms vital sign measurements are appropriate to begin treatment.

6. Nurse provides continuous observation of patient during initiation of transfusion/infusion.

6.1 Nurse is knowledgeable of the signs & symptoms of a transfusion reaction.

6.2 Nurse is capable to manage an acute /delayed transfusion reaction.

6.3 Demonstrates accurate reporting and documentation of the adverse event.

7. Nurse completes appropriate documentation required as per facility and Blood Bank requirements.

7.1 Record of Transfusion is completed and returned to Blood Bank in a timely manner.

7.2 Cumulative Blood Product Record is completed as per hospital standards.

7.3 Patient Notification Card is completed by nurse.

8. Patient education is completed prior to patient's discharge home.

8.1 Patient is informed of signs & symptoms of a delayed transfusion reaction and an educational pamphlet is provided to patient upon leaving (outpatients).

8.2 Patient is encouraged to remain on unit (outpatients) for 1 hour post-transfusion/infusion for observation of a potential adverse reaction.

8.3 A Patient Notification card is provided to patient at discharge indicating administration of blood and/or blood products during their hospitalization.

Blood Administration Return Demonstration

Facilitator states - The physician informs you that your patient requires 1 unit of red blood cells to be administered now.

Element	✓ If Competent
Physician Order Facilitator states – What is your first step? Confirm order, does it contain all the required information? If all the order information is present, what should you check on the patient chart? (They may say consent) ensure in addition to that, an in-date Type and Screen is required 1. Confirm presence of physician order documented on patient chart. 2. State physician order requirements- date, time, required blood product, quantity of product to be transfused, volume/duration of transfused product, pre and post medications. 3. Check to see if patient has a valid Type & Screen result on patient chart. If not, obtain a physician order to collect a Type & Screen on patient. Have participant show you in the chart the in-date type and screen and the form that would be used to collect a type and screen if there wasn't one.	
Informed Consent Facilitator states - How do we know that informed consent has been given? 1. Confirm that informed consent has taken place with patient and this conversation has been documented on health record by physician. Show participant the two separate types of consent: 1) consent for treatment 2) surgical consent that includes transfusion Ask nurse: What would happen if the person had a total knee replacement but the transfusion was required because the patient developed an unrelated GI bleed, is the surgical consent for blood still good? Answer: No. Stress the importance of discussing consent with the patient as patient may not realize that they have given consent for transfusion by signing the surgery consent. If they were unaware a discussion between physician and patient would be necessary.	

Element	✓ If Competent
2. Nurse proceeds to bedside and informs patient that a transfusion will occur soon. Ask patient if they have any concerns related to this procedure. Confirm with patient that they agree to proceed with transfusion. Show participant pamphlet they can use.	
Documentation Required for Transfusions Facilitator: Ask what forms for documentation of transfusion are required. When is this documentation initiated and what is documented? 1. Record of Transfusion is completed and returned to Blood Bank at earliest opportunity after infusion has started. . 2. Cumulative Blood Product Record is completed as per hospital standards. 3. Patient Notification Card is completed by nurse and given to patient.	
Obtain Blood From Blood Bank Facilitator states – Before we request the red blood cell unit what else besides consent and an in-date type and screen do we have to ensure we have and what do we need to do? Have them check patency of IV and set up the equipment. 1. Nurse starts IV and/or check's patency of existing IV. Nurse establishes and primes blood administration set. Ensure that an additional IV set, (tubing and 500 cc NS bag) is in close proximity to patient's bedside in the event of a transfusion reaction. Facilitator states – How do we get the red blood cells from the lab? Have them look over the request for release form. Instruct 1) The steps for completing the form. 2) Sending the form to the blood bank. 3) Procedure for making the blood bank aware? 2. Nurse completes Request for Blood Release form and faxes it to Blood Bank and calls the Blood Bank or delegates this task to ward clerk to complete. Facilitator states – You have now received the unit of red blood cells from the trained designated transporter. Facilitator states – What is the maximum length of time that blood can be out of	

Element	✓ If Competent
the refrigerator if it will not be infused? EMPHASIZE: Blood can be infused for total of 4 hours. **Only** if it is determined that this will not be possible if the blood is to return to the blood bank to put into circulation this needs to be done within 60 minutes. Facilitator states-What would you do with the unit if the IV has gone interstitial and blood cannot be initiated prior to this timeline? 3. Nurse identifies: 1) The maximum length of time that blood can be out of the refrigerator if it will not be transfused prior to initiation on patient. 2) What to do if blood cannot be initiated prior to timeline. Blood is returned to Blood Bank ASAP!	
Pre Transfusion Checks Facilitator States - Before transfusion what are we inspecting the blood bag for? Blood is visibly observed for discoloration, sediment & expiry date. Facilitator States - What 2-nurse pre-transfusion checks are required? Perform these checks with another participant as outlined at the beginning of the session. 1. Blood is checked for accuracy with the Physicians' order and with the patient's Type and Screen Report (Transfusion Medicine Results Report). 2. Verbally Confirm accuracy of patient's personal health information by performing a 2-nurse check. 1) Confirm there are two patient identifiers. 2) Compare component tag information with information on chart records. 3. Compare information on blood bag with information on derivative tag and record of transfusion. Facilitator States- What do you do with the tag now that you have confirmed the information? Answer: The tag must be left in place for the duration of the transfusion. On transfusion completion it is removed and placed in confidential waste.	

Element	✓ If Competent
Component / Plasma Protein Product Verification Person 1 Reads aloud from the Component / Derivative Tag & Record of Transfusion: • Product/component type • Donor ABO/Rh, as applicable • Donor unit # or Lot #, as applicable • Compatibility status • Crossmatch expiry date, unit expiry date • Modifiers, if applicable. Example(s): CMV negative or irradiated Person 2 Compares and verifies the information on: • Blood component bag / Derivative	
Pre-Transfusion Check Continued. 1. Ensure all equipment is ready for transfusion to begin. 2. Educates patient on expectations and signs & symptoms of transfusion reaction to report to nurse (transfusion reaction S&S). Provide the information pamphlet for their resource. 3. Nurse confirms baseline vital signs are charted on the **Cumulative Blood Product Record** appropriate to begin treatment and starts treatment Facilitator: At this point set up should be done and now participants will switch.	
Initiation of Transfusion Facilitator: Ask the nurse what the starting rate of transfusion will be? Identify the correct rate programmed the infusion pump. Initiate the blood transfusion. 1. Nurse starts transfusion, states initial rate and when rate would increase.	

Element	✓ If Competent
Nurse must have continuous 1-1 patient monitoring during the first 15 min of transfusion Facilitator: Ask how often do you do transfusion checks including vital signs? Facilitator: Ask what are the signs and symptoms of transfusion reaction. Facilitator Scenario: After 15 mins you perform a routine vital sign check on the patient. You note the temperature rose one (1) degree above baseline and a rash has formed. What will you do? 1. Nurse can state signs & symptoms of a transfusion reaction. 2. Nurse can state the immediate interventional step if a patient is experiencing an acute transfusion reaction. Nurse demonstrates how he/she will report an adverse event (if it occurs) and identify documentation of same.	
Patient Education 1. Informs patient of signs & symptoms of a delayed transfusion reaction. An educational pamphlet is provided to patient upon leaving the hospital if the patient is an outpatient. 2. Nurse advises and encourages outpatient to remain on the unit for 1 hour post-transfusion for observation of a potential adverse reaction. 3. Patient Notification card is provided to patient at discharge indicating administration of blood and/or blood products during their hospitalization.	

Name: _____ Unit: _____