



TITLE

TRANSFUSION OF BLOOD COMPONENTS AND PRODUCTS

SCOPE

Provincial

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NOTE: The first appearance of terms in bold in the body of this document (except titles) are defined terms – please refer to the Definitions section.

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OBJECTIVES

- To establish a standard for transfusion of **blood components** and **blood products** for **patients** within Alberta Health Services (AHS).
- To ensure the safe handling and transfusion of blood components and products for patients within AHS.

PRINCIPLES

AHS is committed to promoting a safe, effective process for all patients requiring blood components and products.

APPLICABILITY

Compliance with this document is required by all Alberta Health Services employees, members of the medical and midwifery staffs, Students, Volunteers, and other persons acting on behalf of Alberta Health Services (including contracted service providers as necessary).

ELEMENTS

1. Informed Consent

- 1.1 The **most responsible health practitioner** shall obtain express written **informed consent** prior to the transfusion of blood components and products. This documentation shall include the signature of the patient, **co-decision maker**, **alternate decision-maker** or **legal representative** on the appropriate AHS consent form. (Refer to the AHS *Consent to Treatment/Procedure(s)* Policy suite.) The consent form shall then be attached to the patient's **health record**.

Note: In the context of emergency health care, exceptions to the requirement for express written (signed) consent may exist. Refer to the AHS *Consent to Treatment/Procedure(s) Adults with Impaired Capacity and Adults who Lack Capacity Procedure*, *Consent to Treatment/Procedure(s) Minors / Mature Minors Procedure* and the *Emergency Health Care: Documentation of Exception to Consent Form* for further details.

2. Competency

- 2.1 The transfusion of blood components and products is restricted to those **health care professionals** practicing within their scope of practice; who have also demonstrated competency in blood transfusion and have received the appropriate didactic, clinical education and training.
- 2.2 It is the duty and responsibility of all health care professionals to self-identify learning needs and undertake appropriate measures to ensure ongoing and continual competency, as determined by their governing bodies and specific work settings.

3. Collection of Pre-transfusion Specimen(s)

- 3.1 An **order** from an **authorized prescriber** is required to type and screen and/or crossmatch a patient.

Note: Not all blood products require a type and screen and/or crossmatch specimen. Refer to AHS monographs for specific product information.

- 3.2 A type and screen order may be followed by a crossmatch order when the order to transfuse is present.
- 3.3 A transfusion of red cells order may only occur concurrently with an order for crossmatch or at a later time. The administration of blood components and products shall require a transfusion order from an authorized prescriber.
- 3.4 The indication for transfusion shall be documented on either the health record or the order.
- 3.5 The transfusion order for blood components and products shall include:
 - a) type and amount of blood component and product;
 - b) rate of infusion;
 - c) any special requirements (e.g., use of a blood warmer, irradiation);
 - d) sequence of infusion if more than one (1) type of blood component and product is to be transfused; and
 - e) any pre-/post-medication orders or pre-/post-laboratory tests as required.

- 3.6 Pre-transfusion specimen labels and/or requisitions shall include:
- a) patient's full first and last name;
 - b) at least one (1) other **unique identifier**;
 - c) **transfusion service identification number (TSIN)**;
 - d) date and time of collection;
 - e) identification of the **health care provider** collecting the specimen; and
 - f) identification of witness of collection.

Note: This witness may include a second health care provider, patient or electronic device (e.g., barcode scanner) as specified by the local process.

- 3.7 Following collection of the blood specimen, a transfusion identification band containing the TSIN shall be secured to the patient.

4. Obtaining Blood Components and Products

- 4.1 To obtain blood components and products from Transfusion Medicine/Laboratory, a computer-generated or handwritten hard copy document with the following patient identification information is required:
- a) patient full first and last name;
 - b) at least one (1) other unique identifier;
 - c) type of requested blood component or product; and
 - d) amount/dose of requested blood component or product.

Note: Confirmation of this information shall be done at the time the blood component or product is **issued**, including when a pneumatic tube system for blood component or product delivery is in use.

- 4.2 All blood components and products shall be inspected for abnormalities immediately prior to removal from Transfusion Medicine/Laboratory. When an abnormality is detected, the blood component or product must not be used.
- 4.3 All blood components and products must have a **compatibility label/tag** attached in order to be issued from Transfusion Medicine/Laboratory. Blood components and products that do not have a compatibility label/tag attached must not be removed from Transfusion Medicine/Laboratory.

- 4.4 When blood components and products are issued from Transfusion Medicine/Laboratory, the information listed in section 4.1 and 4.2 above must be documented in a manner that links the blood component or product with the request and the intended recipient. This documentation shall occur through one (1) of the following means:
- a) automatic electronic capture (i.e., scanning of personnel identification);
 - b) manual data entry in an Information System; or
 - c) paper transfusion log.
- 4.5 Health care professionals listed in the *AHS Health Care Professionals Regulated to Issue and/or Receive Blood Components and Products Table* are regulated to issue and to document the issue of blood components and products.
- Note:** Health care professionals listed in the *AHS Health Care Professionals Regulated to Issue and/or Receive Blood Components and Products Table* who have received additional training shall be authorized to issue and to document the issue of blood components and products, and/or receive blood components and products.
- 4.6 With appropriate training, a nursing student, a Health Care Aide, a Unit Clerk or a Porter are permitted to receive and document the issue of blood components and products only during Laboratory hours when a Laboratory Technologist or Laboratory Assistant is available to release the required blood component or product. Valid institutional identification is required by students.
- 4.7 Blood components and products stored outside the Laboratory shall be stored in a storage device or location that has been approved by Transfusion Medicine/Laboratory for this purpose.

Note: Platelets and cryoprecipitate are never refrigerated.

5. Verifying Blood Components or Products and Patient

- 5.1 The health care professional administering the transfusion shall confirm and document that the identity of the patient is correct, and that the blood component or product that is about to be transfused matches the order for transfusion.
- 5.2 Unequivocal identification of both the patient and the blood component or product to be transfused is required. This shall be accomplished through a double check process involving a second health care professional or Laboratory Assistant trained and authorized to do so, or through the use of an electronic device by the transfusionists, approved by the Transfusion Service for this purpose.
- 5.3 The following verifications must occur in the presence of the patient, immediately prior to transfusion:

- a) patient identification (refer to the AHS *Patient Identification* Policy). The patient identity must match the transfusion documentation/tag provided with the blood component or product; and
- b) the TSIN on the transfusion documentation/tag matches the TSIN on the patient's transfusion service identification armband where applicable.

6. Administration and Monitoring of Blood Components and Products

- 6.1 Only AHS-approved infusion devices and ancillary equipment shall be used for transfusions. Home infusion patients shall be provided with a list of acceptable ancillary equipment.
- 6.2 Blood components shall be transfused over a maximum of four (4) hours from the time of issue or removal from a temperature-controlled environment.
- 6.3 Blood components shall be returned to the transfusion service/laboratory when:
 - a) the transfusion is cancelled; or
 - b) the transfusion has not been initiated and cannot be completed within four (4) hours from the time of issue; and
 - c) the transfusion is not initiated within 60 minutes of removal from a temperature-controlled environment.
- 6.4 In situations when it is necessary for the patient to continue a transfusion away from the initial patient care area, a **clinical handover** of the patient's transfusion care shall occur.
- 6.5 Patients shall be monitored throughout blood component and product transfusions for adverse reactions.
Exception: Patients established on a home infusion program for a blood product and who are educated in the recognition and follow-up of adverse reactions.
- 6.6 Under no circumstances shall **medications** be added to a blood component and product unless otherwise stated in the blood component and product information/monograph.

Note: A second venous access site or a different lumen of a central venous access device (CVAD) should be used for medication administration, where possible.

Alternatively, a lower intravenous injection port should be used to administer medication and include pre- and post-administration of an intravenous solution compatible with the blood component or product to flush the line.

7. Reporting of Adverse Reactions

- 7.1 The health care professional shall notify an authorized prescriber and Transfusion Medicine/Laboratory, even if no intervention was required.
- 7.2 Where there is a possible adverse reaction to a blood component or product, an adverse reaction investigation is required. Refer to the
- 7.3 AHS *Acute Transfusion Reaction Chart* (which can be found on the external AHS web page by searching for "Transfusion Reaction Chart") for information on accountabilities and responsibilities of the investigation.

8. Documentation

- 8.1 All blood components and products transfused shall be documented on the patient's health record.
- 8.2 Documentation of the completed transfusion shall be forwarded to Transfusion Medicine/Laboratory in accordance with Zone-specific reporting mechanisms.
- 8.3 In the event of an adverse reaction, complete an adverse reaction notification as per your Zone-specific mechanism.
- 8.4 Transfusion Medicine/Laboratory shall be notified of all blood components and products not transfused or when the ordered volume is not fully transfused.

9. Patient Notification

- 9.1 As per the *CSA Z902, Blood and Blood Components* (CSA Group), all inpatients who have received blood components and products must receive written notification of the transfusion in accordance with Zone-specific mechanisms.

DEFINITIONS

Alternate decision-maker means a person who is authorized to make decisions with or on behalf of the patient. These may include, specific decision-maker, a minor's legal representative, a guardian, a 'nearest relative' in accordance with the *Mental Health Act* (Alberta), an agent in accordance with a Personal Directive, or a person designated in accordance with the *Human Tissue and Organ Donation Act* (Alberta).

Authorized prescriber means a health care professional who is permitted by Federal and Provincial legislation, her/his regulatory college, Alberta Health Services and practice setting (where applicable) to prescribe medications.

Blood components means the therapeutic parts of blood used for transfusion, namely, packed red blood cells, plasma, fresh frozen plasma, platelets and cryoprecipitate.

Blood products means the therapeutic parts of blood derived from plasma by manufacturing companies. Examples include albumin, intravenous immune globulin, and prothrombin complex concentrates.

Clinical handover means the transfer of professional responsibility and accountability for some or all aspects of care for a patient(s) to another person or professional group on a temporary or permanent basis.

Co-decision-maker means a person selected by the patient and appointed by the Court to make decisions in partnership with the patient, when the patient has significantly impaired capacity but can still participate in decision-making.

Compatibility label/tag means the documentation attached to the blood component or product that links the intended recipient to the blood component or product. Information on the label/tag shall include: i) recipients full name, ii) recipients identification number, iii) lot/unique identification number of blood component or product, iv) type/name of blood component or product, v) amount/dose, vi) TSIN where required.

Health care professional means an individual who is a member of a regulated health discipline, as defined by the *Health Disciplines Act* (Alberta) or the *Health Professions Act* (Alberta), and who practises within scope and role.

Health care provider means any person who provides goods or services to a patient, inclusive of health care professionals, staff, students, volunteers and other persons acting on behalf of or in conjunction with Alberta Health Services.

Health record means the Alberta Health Services legal record of the patient's diagnostic, treatment and care information.

Informed consent means the agreement of a patient to the patient undergoing a treatment/procedure after being provided with the relevant information about the treatment/procedure(s), its risks and alternatives and the consequences of refusal.

Issue means, for the purpose of this policy, the process of signing out blood components or blood products from the Transfusion Service or a Transfusion Service approved temperature controlled environment (e.g., refrigerator located outside of the laboratory).

Legal representative means the following in relation to a minor, as applicable:

- a) guardian; or
- b) nearest relative as defined in the *Mental Health Act* (Alberta),

who has the authority to consent to treatment for a minor formal patient or minor who is subject to a Community Treatment Order.

Medication means any substance or mixture of substances manufactured, sold or represented for use in the diagnosis, treatment, mitigation or prevention of a disease, disorder or abnormal

physical state, or its symptoms, in human beings, and restoring, correcting or modifying organic functions in human beings.

Most responsible health practitioner means the health practitioner who has responsibility and accountability for the specific treatment/procedure(s) provided to a patient and who is authorized by Alberta Health Services to perform the duties required to fulfill the delivery of such a treatment/procedure(s), within the scope of his/her practice.

Order means a direction given by a regulated health care professional to carry out specific activity(-ies) as part of the diagnostic and/or therapeutic care and treatment to the benefit of a patient. An order may be written (including handwritten and or electronic), verbal, by telephone or facsimile.

Patient means all persons who receive or have requested health care or services from Alberta Health Services and its health care providers and also means, where applicable:

- a) a co-decision-maker with the person; or
- b) an alternate decision-maker on behalf of the person.

Transfusion Service Identification Number (TSIN) means the unique number assigned to the patient for the purpose of blood component transfusion. It assists in the unequivocal identification of patient and blood component as this number is utilized throughout the transfusion process, from collection to transfusion. It is displayed on the patient armband, requisition, collected samples and blood components to be transfused. This number is referred to differently dependent upon the blood services provider, e.g., RTSIS (Regional Transfusion Service Identification System), BBIN (Blood Bank Identification Number), TMID (Transfusion Medicine Identification).

Unique identifier means, for the purpose of this policy, the patient's unique lifetime identifier (ULI), or if ULI is not available, a Personal Healthcare Number (PHN), hospital number, military identification number or valid health insurance number (out-of-province/country patients).

REFERENCES

- Alberta Health Services Governance Documents:
 - *Consent to Treatment/Procedure(s)* Policy suite (#PRR-01)
 - *Consent to Treatment/Procedure(s) Adults with Impaired Capacity and Adults Who Lack Capacity* Procedure (#PRR-01-02)
 - *Consent to Treatment/Procedure(s) Minor/Mature Minors* Procedure (#PRR-01-03)
 - *Patient Identification* Policy (#PS-06)
- Alberta Health Services Forms:
 - *Consent to Treatment Plan or Procedure* Form (#09741)
 - *Emergency Health Care: Documentation of Exception to Consent* Form (#18629)
- Alberta Health Services Resources:
 - *Acute Transfusion Reaction Chart*
 - *Health Care Professionals Regulated to Issue and/or Receive Blood Components and Products Table*

- Non-Alberta Health Services Documents:
 - *Canadian Blood Services 2011*
 - *CSA Z902, Blood and Blood Components* (CSA Group)
 - *Standards for Hospital Transfusion Services* (Canadian Society for Transfusion Medicine)

VERSION HISTORY

Date	Action Taken
January 30, 2017	Revised
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