Guideline SK 13

Administration of Blood Components and Plasma Protein Products

1.0 Principle

1.1. To provide guidelines for the preparation, initiation, administration and termination of transfusion of blood components and plasma protein products.

2.0 Definitions

2.1. Qualified Transfusionist – practitioners and regulated health professionals authorized to initiate transfusion of a blood component and/or plasma protein product within their respective scope of practice under applicable provincial legislation, regulations and/or bylaws.

3.0 Scope and Related Policies

3.1. There shall be established policies, processes and procedures in place for safe administration of blood components and plasma protein products, including the operation of infusion devices and ancillary equipment. WCDAA TM.11.1.1; CSA 11.1.1, 11.4.1

3.2. Transfusion of blood components and plasma protein products shall be prescribed by a physician/authorized health practitioner with a comprehensive transfusion order. TM.7.0.2, TM.11.1.2; CSA 10.2.1, 10.2.2, 10.2.3, 11.4.3, 11.4.4, 14.3

3.3. The patient's physician/authorized health practitioner shall obtain documented informed consent before the transfusion is started. Patients shall receive information necessary to make informed consent decisions before receiving blood components and plasma protein products. WCDAA TM.7.0.2; CSA 11.2.1

3.4. Requests for blood components and plasma protein products shall be documented and shall contain sufficient information to uniquely identify the patient and the authorized requester, as well as providing the pertinent clinical indication for transfusion. WCDAA TM.7.0.2, TM.11.1.2; CSA 10.2.1, 10.2.2, 10.2.3, 11.4.3, 11.4.4, 14.3

3.5. Health care personnel shall be trained and competent in the administration of blood components and plasma protein products. WCDAA TM.1.2.3, TM 1.2.4; CSA 4.3.2.1, 4.3.2.2, 4.3.4, 4.3.6.2, 14.4.2

3.5.1. A summary of qualified transfusionists authorized to initiate transfusion of blood components and/or plasma protein products in Saskatchewan is as follows:

SK Application - Qualified Transfusionist:
Practitioners and regulated health professionals authorized to initiate transfusion of a blood component and/or plasma protein product within their respective scope of practice under applicable provincial legislation, regulations and/or bylaws includes:

- Physician (within their training, expertise and scope of practice)
- Physician Trainee (within their training, expertise and scope of practice)
- Registered Midwife (in accordance with his/her granted facility privileges)

- Registered Nurse (Nurse Practitioner) [RN(NP)]
- Registered Nurse with additional authorized practice (RNs with additional authorized practice)
- Registered Nurse (RN)
- Registered Psychiatric Nurse (RPN)
- Licensed Practical Nurse (LPN) who has completed the IV Therapy/Blood and Blood Products Completer Course
- Certified Clinical Perfusionist
- STARS Advanced Care Paramedics following Critical Care Medical Control Protocols

Registered Nurse (Graduate Nurse Practitioner) (RN(GNP)), Graduate Nurse (GN), Graduate Psychiatric Nurse (GPN) and Graduate Licensed Practical Nurse (GLPN) must be supervised by the appropriate licensed professional.

Interpretation of the scope of practice of regulated health professionals can be accessed at each applicable licensing and regulating health professional organization's website.

3.6. Samples for pre-transfusion compatibility testing shall be collected within 96 hours prior to scheduled transfusion if: WCDAA TM.7.0.5; CSA 10.4.2

3.6.1. The patient has been transfused with a blood component containing red blood cells within the previous three months;

3.6.2. The patient has been pregnant within the previous three months; or

3.6.3. The patient's history is questionable or unavailable.

Following transfusion of the first unit of blood, the original blood sample may be used to crossmatch additional units within 96 hours. WCDAA TM.7.0.5; CSA 10.4.3

For patients not transfused or pregnant in the last three (3) months the sample may be used for a time specified by the RHA/facility/transfusion medicine program. WCDAA TM.7.0.5; CSTM 5.2.3.3

3.7. There shall be comprehensive policies, processes and procedures for the release and transfusion of blood components prior to the completion of pre-transfusion testing in emergency situations. WCDAA TM.8.1.7; CSA 10.9.3

3.8. There shall be established policies, processes and procedures for unequivocal identification of the patient from the time of sample collection through to transfusion. Positive patient identification is verified at all stages of the transfusion process. WCDAA TM.11.2.1; CSA 11.3.1, 11.3.2, 11.3.3, 12.4.3

3.9. In non-urgent/non-bleeding/in-patient settings, blood components should be transfused during daytime hours (for patient safety) and transfused one unit at a time.

3.10. Blood components and plasma protein products should be requested from the transfusion service/laboratory immediately prior to initiation of the transfusion.

3.11. Appropriate training and competency assessments shall be provided for personnel involved in the sign-out of blood components/products from the transfusion service/laboratory and transport to the patient's location. WCDAA TM.1.2.3, TM.1.2.4; CSA 4.3.2.1, 4.3.3.1

3.12. Issued blood components and plasma protein products shall be returned immediately to the transfusion service/laboratory or placed in an authorized, monitored storage device if the decision is made not to transfuse. WCDAA TM.11.1.3; CSA 11.4.5, 11.4.6

3.13. Prior to initiating transfusion of any blood component or product, two qualified transfusionists (or one qualified transfusionist and an electronic identification system) shall in the presence of the patient, compare and document all identifying information linking the patient and the blood component or product to ensure it matches and is correct. WCDAA TM.11.2.1; CSA 11.3.1

3.14. If any discrepancy is detected in the identifying information, the transfusion shall not be initiated until the discrepancy is resolved. WCDAA TM.11.2.1; CSA 11.3.2

3.15. Blood component administration shall begin within 60 minutes from the time the component is released from temperature-controlled storage and transfusion shall not exceed 4 hours from the time-of-issue from the temperature-controlled storage. WCDAA TM.10.2.11, TM.11.3.5; CSA 10.10.5, 11.4.6

3.16. The transfusion label/tag shall remain attached to the blood component or plasma protein product at least until completion of the transfusion. WCDAA TM.11.2.1; CSA 11.3.3

3.17. There shall be comprehensive policies, processes and procedures for the use of transfusion administration sets that include all of the following: WCDAA TM.11.3.2; CSA 11.4.9, 11.4.10, 11.4.11, 11.4.13, 11.4.14

a) all blood components shall be transfused through a standard sterile, pyrogen-free administration set that has a filter designed to retain particles potentially harmful to the patient;

b) for plasma protein products, the product insert shall be followed for filter requirement and size;

c) microaggregate or leukoreduction filters shall not be used for the transfusion of granulocytes;

d) only Health Canada approved infusion devices and ancillary equipment are to be used for transfusion;

e) drugs or medications, including those intended for intravenous administration, shall not to be added directly to a blood component or plasma protein product or to the administration set containing a blood component or plasma protein product;

f) red blood cells should not be diluted;

g) the only solutions that may be administered in the same blood administration set as a blood component or plasma protein product is sterile, non-pyrogenic compatible intravenous solution if approved for this use by Health Canada or if validated as a safe procedure;

h) air shall not to be introduced into the blood component or administration set;

i) all connections are to be secured and directly luer-locked to the insertion site;

j) frequency of administration set changes to include minimum regulatory requirements:

- administration sets shall be changed after 4 consecutive units of red blood cells have been infused through it, or
- if the set becomes occluded, or
- at least once every 24 hours or according to the manufacturer's requirements

k) add-on filters and specialized blood sets (e.g., rapid infuser sets) shall be changed according to set or filter manufacturer's recommendations or in accordance with facility policies, processes and procedures;

l) the administration set shall be changed immediately prior to the transfusion of platelets; and

m) the administration sets for plasma protein products shall be changed in accordance with the recommendations of the plasma protein product manufacturer and the administration set manufacturer.

3.18. The facility shall have established policies, processes and procedures for the evaluation, purchase, validation, periodic maintenance, repair, and decommissioning of administration/processing equipment. TM.4.1.1; CSA 23.1.1, 23.1.2, 23.2.1, 23.3.1

3.18.1. The transfusion service/laboratory should be consulted on the regulatory requirements related to the selection, use, quality control and maintenance of administration/processing equipment.

Note: administration/processing equipment includes but is not limited to, cell savers, extracorporeal bypass devices, hemodialysis machines, apheresis machines, warmers used for blood administration, infusion devices and rapid infusion devices.

3.19. There shall be comprehensive policies, processes and procedures for the use and quality control of blood component and plasma protein product administration/processing equipment. WCDAA TM.4.4.1; CSA 11.4.1, 11.4.2, 11.5.1, 11.5.2, 23.1.1, 23.1.2, 23.4.1, 23.4.2

3.19.1. Protocols for administration/processing equipment shall include all of the following:

a) only Health Canada approved administration/processing equipment shall be used for transfusion; and

b) the use of all equipment is based on manufacturer's recommendations.

3.19.2. A physician/authorized health practitioner order is required for the use of a blood warmer or rapid infuser except in clinical areas where there are established facility policies, processes and procedures. CSA 11.4.3

3.19.3. Blood warmers shall:

a) be validated;

b) comply with CAN/CSA-C22.2 No.60601-1 and other applicable medical device standards;

c) display biomedical certification and date visible on unit;

d) include a temperature sensing device and an audible alarm system; and

e) be calibrated and maintained as part of the quality control system for equipment.

3.20. Transfusion patients shall be appropriately monitored and managed. There shall be evidence of all of the following: WCDAA TM.11.3.4; CSA 11.4.15, 11.4.16, 18.1.1

3.20.1. Patient vital signs shall be recorded before, during, and after transfusion.

3.20.2. When direct medical observation or monitoring of the patient will not be available after transfusion, the patient shall be monitored by a qualified transfusionist for suspected adverse reactions during and after the transfusion. Instructions concerning possible adverse events shall be provided to the patient or to a responsible caregiver.

3.20.3. The qualified transfusionist shall follow established policies, processes and procedures for the management of patients exhibiting signs of a transfusion reaction.

3.21. For patients receiving blood components or plasma protein products in the home, the qualified transfusionist shall remain with the patient for not less than 30 minutes after transfusion and a competent adult shall remain for not less than 60 minutes. WCDAA TM.15.0.3; CSA 17.6.5

3.21.1. Note: This requirement does not apply to programs under which a patient self-infuses blood products in the home.

3.22. A transfusion record shall be completed for each transfusion patient that includes all the information relating to the patient and the transfused blood component or plasma protein product. WCDAA TM.10.2.9; CSA 11.1.2.2, 11.1.2.3

3.23. At the time of transfusion, the patient's health record shall be updated with the following information: WCDAA TM.11.3.6; CSA 11.1.2.3, 11.1.2.4, 11.4.17, 18.2.3

a) type of blood component or plasma protein product;

b) blood component or plasma protein product identification number;

c) date and time (both start and finish) of transfusion;

d) identity of the qualified transfusionist; and

e) any adverse reaction to the component or product transfused.

3.24. The facility shall have a policy, process and procedure in place to provide each patient of a blood component or plasma protein product written notification of the transfusion. WCDAA TM.10.1.2; CSA 11.2.2

3.25. Additional blood components should only be prescribed after re-assessment of the patient and their follow-up lab testing (i.e. CBC, INR). CSTM's Choosing Wisely Canada List of Ten Things Physicians and Patients Should Question (#2)

3.26. Disposal of all blood components and plasma protein product containers and administration sets must meet routine practice standards according to facility protocols.

4.0 Blood Administration Clinical Practices

4.1. Blood Administration Sets:

- Follow the manufacturer's instructions for use of the particular sets supplied at the facility.
- Blood components must be transfused through a standard blood transfusion set (170 – 260 micron filter). Pediatrics: Refer to established hospital policy and procedure for filter size or specific tubing set.
- Plasma protein products shall be administered as per manufacturer's instructions.
    - A standard vented IV administration set should be used for administration of product in glass bottles such as albumin and IVIG. Use of a needle to vent these bottles is not appropriate.
    - Administration sets or filter needles that accompany plasma protein products should be used as they meet the manufacturer's requirements for administration. If a plasma protein product is without accompanying tubing, refer to the product monograph to determine what if any filtration is required.
- A new administration set is required when switching from one blood component or product to another.
- Platelets should always be run through a NEW blood administration set.

4.2. Connecting the Blood Administration Set:

- All administration set connections shall be secured and directly luer-locked to the insertion site.
- Policies, processes and procedures shall be established to ensure a minimal length of intravenous tubing required is used (i.e. if extension set is required use the minimal length to prevent accidental disconnection).

4.3. Frequency of Blood Administration Set Changes:

At minimum, the blood administration set used for the administration of blood components shall be changed after or whichever comes first:

- Four (4) consecutive units of red blood cells have been infused through it, or
- If the set becomes occluded, or
- A maximum of twenty-four (24) hours or according to manufacturer requirements.

Refer to facility policies, processes and procedures.

4.4. Compatible IV Solutions:

- 0.9% sodium chloride (normal saline) and Plasma-Lyte A® are equally compatible with blood components.
- IVIG is compatible with 5% Dextrose in water (D5W).
- For plasma protein products, refer to the individual product monograph for compatible IV solutions.

4.5. **Pre-medications:**

Routine pre-medication is not advised unless the patient has a documented history of previous moderate or severe transfusion reactions.

- The patient's medication regimen should be reviewed before transfusion.
- Administration of pre-medications requires an order from the treating physician/authorized health practitioner.
- For repeated allergic reactions, antihistamines and/or steroids may be required.

4.6. **Emergency Medications**

- Medications used to treat anaphylaxis (epinephrine, antihistamine(s) and a steroid) shall be immediately available within the patient care area administering the transfusion.
- Administration of emergency medications requires an order from the treating physician/authorized health practitioner.

4.7. **Co-administration of Intravenous Medications and Blood:**

- Medications must NOT be added to the blood bag or infused through the same tubing as blood components and/or plasma protein products.
- Simultaneous administration of blood components and plasma protein products should be avoided. If it is necessary to administer medications simultaneously with blood in emergent/life-threatening situations, an alternate IV site or a multi-lumen CVAD should be used.
- If an alternate IV site is not possible, the blood line can be clamped, the IV line flushed with a minimum of 10 mL 0.9% sodium chloride or compatible IV solution at the most distal port, and the medication administered. The tubing must be flushed again with compatible IV solution after injecting the medication to prevent mixing of the blood component/product and medication. The transfusion may then be resumed.
- Caution should be used when simultaneously administering medications linked to hypersensitivity reactions via another IV line or CVC lumen since distinction between medication-related symptoms and transfusion reactions may be difficult.

4.8. **Rate of Infusion or Duration:**

The rate of infusion shall be specified either by a physician/authorized health practitioner, or in the facility standard operating procedures for transfusion.

- Infusion rates depend on the patient's blood volume, cardiac status and hemodynamic condition and are predetermined by the patient's physician/authorized health practitioner.
- Blood components shall be infused within 4 hours from time of issue.
- Plasma protein products (e.g. RhIG, IVIG, albumin) shall be infused within 4 hours from the time the product is spiked.

- After 4 hours, the blood component or plasma protein product shall be discontinued and remaining product discarded in an appropriate biohazardous waste container.

4.9. **Pressure Infusion Devices:**

Pressure infusion devices may be used to increase the rate of administration in gravity flow infusions, must be validated by the manufacturer for the administration of blood components/products and used exactly as specified by the manufacturer. The use of pressure infusion devices should be recorded in the patient's health record.

Infusion Pumps:

Infusion pumps deliver solutions at a controlled rate and measurement and should be used during routine transfusions to enhance patient safety.

- Only infusion pumps approved for blood administration can be used with transfusions, since other pumps may cause hemolysis.
- Periodic assessment must be performed during the administration of blood components or products to ensure safe and accurate delivery of the prescribed infusion rate and volume.

Pressure Bags:

Pressure bags may be used when a critically ill or injured patient requires a rapid administration of blood components or products because of an emergency situation, such as massive bleeding.

- Pressure bags must be equipped with a pressure gauge and pressure should not exceed 300mm Hg.
- Pressure bags must be continually monitored during use because excess pressure may cause red cell hemolysis and/or rupture the seams of the blood bag.
- Blood pressure cuffs are not suitable because they do not exert uniform pressure against all parts of bag, possibly causing the bag to leak.

Blood Warmers:

Blood warmers may be used to prevent hypothermia that can be induced by rapid infusion of large volumes of refrigerated blood in the operating room or trauma setting. In patients with cold agglutinin disease, warming the blood during infusion may prevent agglutination or hemolysis due to cold-reactive antibodies in the recipient.

- Routine warming of blood on a patient care unit is **NOT** recommended.
- The blood warmer should be set at 37°C or as recommended by the manufacturer and must trigger an audible or visible alarm if the temperature exceeds 42°C.
- Improvised warming such as putting the blood component in a blanket warmer or microwave oven must NEVER be used. These methods may damage red blood cells and can cause harm to the patient.

Rapid Infusion Devices:

Rapid infusion devices warm red blood cells and operate under constant pressure.

- All of the principles related to infusion pumps, pressure bags and blood warmers apply to use of rapid infusion devices (e.g. Level 1 Rapid Infuser) in tertiary care settings.

4.10. **Monitoring Patient Vital Signs:**

- Refer to Guideline SK 14 Patient Monitoring during the Transfusion/Infusion Procedure.
- Vital signs should include temperature, blood pressure, pulse rate, respiration rate, oxygenation saturation (SpO2) and oxygen source, if available.
- Monitoring of patient vital signs starts when the blood component or product reaches the IV site.
- Vital signs shall be assessed and recorded at:
  - Within 30 minutes before starting the transfusion
  - At 15 minutes after the transfusion has started
  - Every hour during the transfusion
  - At the end of transfusion
  - During any transfusion reaction
- For IVIG, in addition to above frequency for monitoring vital signs, vital signs shall also be assessed and recorded **prior to each rate increase**. Refer to the manufacturer's instructions for monitoring requirements.
- For plasma protein products administered via subcutaneous or intra-muscular route over less than 5 minutes, vital signs shall be assessed prior to administration and at least 15 minutes post-dose for any adverse effects. Refer to the manufacturer's instructions for monitoring requirements.
- Vital signs must be recorded in the patient’s health record as per established protocols.

4.11. **Suspected Transfusion Associated Adverse Reaction Management:**

Every sign/symptom should be considered potentially serious and reported to the treating physician/authorized practitioner.

- STOP the transfusion immediately if a suspected adverse reaction occurs. Manage and report adverse reactions as per established protocols.
- Refer to:
  - Appendix # 7 Transfusion Reaction Chart
  - Appendix # 8 Bedside Transfusion Reaction Algorithm
  - Appendix # 9 Saskatchewan Transfusion Adverse Event Report Form (as applicable)

- Guideline SK 16 Recognition and Management of a Transfusion Associated Adverse Reaction, and
- Guideline SK 17 Transfusion Associated Adverse Reaction Investigation and Reporting.

4.12. **Patient Transport with Blood Components Infusing:**

- Prior to transport from one patient care area to another, the patient's assigned nurse at the sending unit is responsible for assessing the care needs of the patient during transport. The assessment includes:
  - Patient's current status;
  - Potential for the patient's status to change during transport; and
  - Patient monitoring requirements during transport.
- The patient assessment will determine whether the patient needs to be accompanied by an escort (e.g. nurse, physician, paramedic) and the category of care provider needed. The escort must have the knowledge, skill and expertise to deliver the anticipated care during transport.
- Unless immediate transport is critical, a patient should NOT be transported if the transfusion of blood products has just been initiated.
- Pre-transfusion and 15 minute vital signs should be taken and documented on the patient's health record before the patient leaves the sending unit. In order that patient care is not compromised upon transfer, clinical documentation on the patient's health record should clearly indicate:
  - Transfusion orders;
  - Status of the transfusion; and
  - Vital signs.

4.13. **Patient Notification:**

- Patients receiving blood components or products shall receive written notification of the transfusion as per facility policy, process and procedures.

5.0 Materials

5.1. Materials required include:

- Patient health care record/outpatient form
- Specific blood component or product information/monograph
- Blood components or plasma protein products
- Equipment for starting IV access
- Appropriate administration set specific to blood component or plasma protein product
- Compatible intravenous solution

- Infusion pump, as appropriate to blood component or product and patient condition
- Blood warmer when indicated
- Equipment for assessing vital signs
- Emergency equipment – oxygen source, oxygen tubing, nasal cannula and/or oxygen mask, suction and additional intravenous solutions
- Emergency medications
- Personal protective equipment
- Appropriate disposal container, as per facility protocol

5.2. Related documents:

- Appendix # 7 Transfusion Reaction Chart
- Appendix # 8 Bedside Transfusion Reaction Algorithm
- Appendix # 9 Saskatchewan Transfusion Adverse Event Report Form
- Guideline SK 1 Informed Consent or Refusal of Consent for the Administration of Blood Components and Plasma Protein Products
- Guideline SK 2 Transfusion Orders from the Physician/Authorized Health Practitioner
- Guideline SK 3 Processing a Transfusion Order from the Physician/Authorized Health Practitioner
- Guideline SK 4 Patient Identification and Pre-Transfusion Sample Labelling using the Saskatchewan Transfusion Service Identification System (SK TSIS)
- Guideline SK 7 Visual Inspection of Blood Components and Plasma Protein Products.
- Guideline SK 12 Bedside Patient Identification and Pre-Transfusion Check Prior to Initiation of Transfusion
- Guideline SK 14 Patient Monitoring during the Transfusion/Infusion Procedure
- Guideline SK 16 Recognition and Management of a Transfusion Associated Adverse Reaction
- Guideline SK 17 Transfusion Associated Adverse Reaction Investigation and Reporting
- Guideline SK 18 Instructions to Complete the Saskatchewan Transfusion Adverse Event Report Form
- Guideline SK 19 Transfusion Associated Error and Accident Investigation and Reporting

6.0 Quality Management

6.1. The transfusion service/laboratory shall have a quality improvement system in place to monitor positive compliance with the policies, processes and procedures for the administration of blood components and plasma protein products, operation /quality control of infusion devices and associated equipment, and maintenance of record keeping systems. This may be through audits of random patient transfusion and health records, maintenance, validation and calibration records of administration/processing equipment used for transfusion and/or other such mechanisms in place in the quality improvement program. CSA 4.6.1.1, 4.6.2.1

6.2. A formal, documented training program that includes both initial and ongoing training of personnel in the necessary skills related to their responsibilities in the administration of blood components and plasma protein products shall be in place. A system shall be in place to assess the effectiveness of their training programs and the frequency of this assessment shall be defined. WCDAA TM.1.2.3; CSA 4.3.2.1, 4.3.2.2, 4.3.4, 4.3.6.2, 14.4.2

6.3. A formal competency assessment program shall be in place for all personnel involved in the administration of blood components and plasma protein. Competency shall be assessed and documented following training and at regular and routine intervals thereafter. The effectiveness of the competency assessment program shall be evaluated periodically as needed and this evaluation shall be documented. WCDAA TM 1.2.4; CSA 4.3.3.1, 4.3.3.2, 4.3.4, 4.3.6.2, 14.4.2

7.0 Procedure

7.1. **Pre-Transfusion:**

7.1.1. Verify signed consent has been obtained and is documented on the patient's health record.

7.1.2. Verify the physician/authorized health practitioner's comprehensive transfusion order.

7.1.2.1. Refer to Guideline SK 2 Transfusion Orders from the Physician/Authorized Health Practitioner.

7.1.3. Confirm group and screen is valid within the time limits defined by the transfusion service/laboratory.

7.1.4. Confirm blood component or product availability with the transfusion service/laboratory.

7.2. **Administration at Bedside:**

Note: For pediatric patients, refer to facility policies, processes and procedures.

7.2.1. Confirm patient is wearing a hospital identification band, and where applicable, a SK TSIS band. Check if legible.

7.2.2. Assemble equipment and supplies.

7.2.3. Confirm emergency medications to treat anaphylaxis are available in the patient's care area and emergency equipment (e.g. oxygen, suction) is available at the bedside.

7.2.4. Explain procedure to patient and advise the patient to immediately report any signs/symptoms of an adverse reaction.

7.2.5. Assess the patient for symptoms prior to the transfusion that might be confused with an adverse reaction and document findings on patient health record.

7.2.6. Assess or initiate venous access.

7.2.6.1. If a new venous access is required, then choose an appropriate vascular access device based on the patient's condition and transfusion needs. Types of venous access devices include:

- Short peripheral catheters: use 20-24 gauge based on vein size and patient preference. When rapid transfusion is required, a larger-sized catheter gauge is recommended (14-18 gauge).
- Central venous access devices (including PICC lines): acceptable for transfusions; recognize that with centrally inserted catheters, infusion speeds may be faster than with peripheral inserted IV catheters.
- Umbilical venous catheters or small saphenous vein catheters (24 gauge): are commonly used in neonatal/pediatric patients.

7.2.7. Prime administration set and tubing with compatible IV solution. Filters should be completely wet and the drip chamber 1/3 to ½ full prior to initiating the transfusion. Ensure fluid levels remain above filter at all times.

Notes:

- See step 4.6 for compatible IV solution specified for the blood component or plasma protein product.
- For neonates/pediatric patients, prime the administration set and tubing with the blood component or plasma protein product.

7.2.8. Connect the administration set to the vascular access device (VAD) hub or access site with a luer-locking mechanism to ensure a secure junction. Ensure patency.

7.2.9. Obtain baseline vital signs within 30 minutes pre-transfusion.

7.2.10. Administer pre-medication if ordered and flush access line.

7.2.11. Obtain blood component(s) or plasma protein product(s) from the transfusion service/laboratory.

7.2.12. Visually inspect the blood component or plasma protein product for abnormalities. Document on the appropriate record.

7.2.12.1. Refer to Guideline SK 7 Visual Inspection of Blood Components and Plasma Protein Products.

7.2.13. In the presence of the patient and immediately prior to initiation of transfusion, perform a two-person verification process and document that all identifying information linking the patient and the blood component or product matches and is correct.

7.2.13.1. Patient and blood component or plasma protein product identifiers include:

- Patient's surname, first name, HSN/MRN or alternate unique identification number and TSIN
- ABO/Rh of patient and blood component
- Unit number or lot number
- Special requirements (irradiated, washed)
- Component/product expiry date

7.2.13.2. Compare and check the patient and component/product identifiers on following as applicable:

- Patient health care record/outpatient form
- Transfusion order
- Patient's identification band and SK TSIS band
- Compatibility tag/label
- CBS label or product manufacturer label

7.2.13.3. Document the two-person bedside checking process.

7.2.14. If any discrepancies are found, do not proceed with the transfusion and contact the transfusion service/laboratory immediately.

7.2.15. Attach the blood component or product to the administration set and initiate the flow.

7.2.16. Transfuse slowly 50 ml/hour for the first 15 minutes, where possible. Refer to component or product monograph for specific details.

7.2.17. Document date and time the transfusion was started.

7.2.18. Monitor patient closely for the first 15 minutes.

7.2.19. Obtain and document the patient's 15 minute vital signs and assess for signs of a transfusion reaction.

7.2.20. **Stop** the transfusion immediately if any signs or symptoms of an adverse reaction present. Inform the physician/authorized health practitioner and obtain management directives.

7.2.21. Adjust/increase the flow rate to the prescribed rate if there are no signs of a transfusion reaction during the 15 minutes. Document increase in rate.

7.2.22. Continue to monitor the patient throughout the transfusion and check the IV site and flow rate. Document repeat vital signs. See Guideline SK 14 Patient Monitoring during the Transfusion/Infusion Procedure.

7.2.23. Transfusion must be complete within 4 hours of issue from transfusion service/laboratory or removal from temperature-controlled storage device.

7.2.24. If the transfusion is not completed at 4 hours, discontinue the infusion and see step 7.3.1.

7.3. **Post-Transfusion:**

7.3.1. Upon completion of the transfusion (and in the absence of a transfusion reaction), flush the administration set with the compatible IV solution.

7.3.2. Disconnect the administration set from the patient.

7.3.3. Document date and time the transfusion was completed.

7.3.4. Obtain and document the patient's post transfusion vital signs.

7.3.5. Dispose of blood components or plasma protein product containers and administration sets following established policy and procedure.

7.3.6. Continue to assess the patient for symptoms of reactions that might occur up to 6 hours post transfusion, or as clinically indicated, or as per facility policy and procedure.

7.3.6.1. Out-patients or their care givers should be provided with an information sheet detailing:

- Signs and symptoms of transfusion reactions
- Information on what to do if they experience a reaction
- Contact information for reporting reactions

7.4. As per transfusion service/laboratory policy and procedure:

7.4.1. Complete required information on the component/product tag attached to the unit/vial.

7.4.2. Place health care record copy in patient's health care record.

7.4.3. Return product tag to transfusion service/laboratory.

7.5. Complete and provide to the patient, written notification of the administration of blood components or plasma protein products. Document action in patient's health record.

8.0 Procedural Notes

8.1. All patients should be transfused in clinical areas where they can be appropriately observed and monitored, and where staffs are trained in the administration of blood components and the management of transfused patients, including the emergency treatment of anaphylaxis.

8.2. Review the product monograph before administering plasma protein products.

8.3. In emergency situations it may be necessary to administer various blood components and products concurrently. This should be done using separate IV access.

8.4. If additional blood components or products are required, maintain intravenous access infusing the appropriate compatible IV solution between blood components or products to keep the vein open.

8.5. When administering multiple units of blood components and plasma protein products restart the vital signs and decrease rates as per facility policies, processes and procedures.

9.0 Reporting

9.1. Report any suspected transfusion reactions to the requesting physician/authorized health practitioner and the transfusion service/laboratory.

10.0 Documentation

10.1. Document on the patient's health care record:

- All orders or interventions related to the transfusion procedure or reaction.
- Patient education
- Pre-transfusion clinical assessment including any medication related to transfusion preparation, e.g. diuretics, antihistamines
- Names of the two qualified transfusionists who performed the patient and blood component / product identification checks at the patient's bedside
- Vital signs and patient assessments
- Type of blood component or plasma protein product transfused/infused
- Blood component unit number(s) or plasma protein product lot number(s)
- Date and time transfusion initiated and completed
- Date and time if transfusion interrupted and reinitiated
- Transfusion rate and volume transfused
- All signs and symptoms of an adverse reaction, notifications (e.g. patient's physician/authorized health practitioner, transfusion service/laboratory) and management of any adverse reactions if applicable. Refer to facility policy and procedure for reporting adverse reactions.
- Patient notification of the administration of blood components or plasma protein products
- Where required, results of any completed follow-up laboratory testing

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Facility endorsement if guideline is used as a Standard Operating Procedure (SOP)

Approved by: _____ _____
(Senior Management) (Senior Management)

Facility effective date: _____
(Date of implementation)