Guideline SK 9

Selection of Blood Components for Transfusion and Special Transfusion Requirements

1.0 Principle

1.1 To select appropriate blood components for transfusion in adults and children.

1.2 To select blood components for patients with special transfusion requirements.

2.0 Definitions

2.1 Special Transfusion Requirements – blood components which have undergone modifications or with attributes necessary to meet unique patient needs.

2.1.1 Blood component modifications include irradiation, washing, pooling or dividing.

2.1.2 Blood component attributes include, but are not limited to, autologous red blood cells, phenotypically-matched red blood cells, IgA deficient plasma, and HLA or HPA matched apheresis platelets.

3.0 Scope and Related Policies

3.1 Neonates have very specific transfusion requirements which fall outside the scope of this guideline. Refer to *'Transfusion Best Practice Recommendations for Neonatal Patients – Saskatchewan'* available on www.saskblood.ca.

3.1.1 In Saskatchewan, neonatal transfusions should only be performed in hospitals with neonatal intensive care units (NICU). In exceptional circumstances, such transfusions may be authorized outside of the NICU environment at the direction of a neonatologist. Approved by the Senior Medical Officer Committee on May 11, 2011.

3.2 For the purposes of transfusion medicine in Saskatchewan, a child is defined as less than 18 years of age and a female of childbearing age is defined as less than 50 years of age, including infants and children. (Approved by the Senior Medical Officer Committee on May 11, 2011)

Selection of Red Blood Cells

3.3 Patients shall be transfused with ABO group-identical red blood cells or ABO group-compatible red blood cells. WCDAA TM.8.2.3; CSA 10.7.1

3.4 ABO group-identical red blood cells shall not be issued until there are two separate and identical blood groups on file that are collected from two different phlebotomies. Patients without an ABO blood group on file (who have never been typed and screened before) shall receive Group O, Rh specific red blood cells. WCDAA TM.8.1.5; CSA 10.6.1.3

3.5 Rh positive patients may receive red blood cells that are either Rh positive or Rh negative. WCDAA TM.8.2.3; CSA 10.7.3

3.6 Rh negative patients should receive Rh negative red blood cells. If Rh negative red blood cells are not available, consider the patient's sex and age before selecting Rh positive red blood cells. WCDAA TM.8.2.3; CSA 10.7.3

3.6.1 Females less than 50 years of age and males less than 18 years of age who are Rh negative or of unknown Rh status shall receive Rh negative red blood cells. If Rh negative red blood cells are in short supply or an Rh negative woman of childbearing potential receives Rh positive red blood cells, the on-call Transfusion Medicine Physician shall be notified immediately.

Note: See step 3.15.1 for requirements relating to RhIg.

3.6.2 Male patients 18 years of age or older and females 50 years of age or older who are Rh negative or of unknown Rh status may receive Rh positive red blood cells in circumstances of massive transfusion or when Rh negative red blood cells are in short supply, provided that the decision or policy has been approved by the on-call Transfusion Medicine Physician.

3.7 Females less than 50 years of age should receive Kell (K) negative red blood cells whenever possible to minimize the risk of alloimmunization. In situations of life-threatening bleeding where Kell negative red blood cells are not available, Kell positive or Kell status unknown red blood cells may be administered. WCDAA TM.8.1.5, CSA 10.7.4

3.8 When clinically significant red cell antibodies (other than anti-A and anti-B) are found or the patient's history contains a record of such antibodies, red blood cells lacking the corresponding antigen should be selected for transfusion and shall be demonstrated to be compatible by a crossmatch method designed to detect such antibodies. Any exception shall be approved by the on-call Transfusion Medicine Physician. WCDAA TM.8.1.5; CSA 10.7.5

3.8.1 The red blood cells shall be crossmatch compatible. Transfusion of crossmatch incompatible red blood cells shall be approved by the on-call Transfusion Medicine Physician.

3.8.2 The transfusion service/laboratory is not required to repeat the blood supplier's phenotyping of donor red blood cells if the blood supplier provides phenotyping. WCDAA TM.8.1.5

Selection of Platelets

3.9 The donor plasma in platelets should be ABO compatible with the patient's red cells. A policy shall be place concerning group substitution when ABO compatible platelets are not available. WCDAA TM.8.2.5; CSA 10.7.8

3.10 Rh negative females less than 50 years of age and males less than 18 years of age should preferentially receive platelets that are Rh negative. See step 3.15.1 for requirements relating to RhIg. Jim Pattison Children's Hospital (JPCH) / RUH TML Policy

Selection of Plasma

3.11 Plasma selected for transfusion shall be ABO compatible with the patient's red cells but does not require a crossmatch. WCDAA TM.8.2.4; CSA 10.7.6

3.12 A policy shall be in place concerning ABO compatibility of cryoprecipitate components. WCDAA TM.8.2.4; CSA 10.7.7

3.12.1 Cryoprecipitate selected for transfusion is preferred to be ABO compatible but it but is not required for adult patients. Neonates and children should be given ABO compatible units when possible, or as defined by transfusion service/laboratory policy. Rh compatibility is not considered.

Emergency Release

3.13 When there is insufficient time to complete the ABO and Rh group of the recipient or a sample cannot be obtained: WCDAA TM.8.1.7; CSA 10.9.3.2

3.13.1 Group O red cells shall be issued. For females less than 50 years of age, see 3.6.1 and 3.7 for Rh and Kell considerations. WCDAA TM.8.1.7; CSA 10.9.3.2

3.13.2 If platelets are required, any blood group of platelets may be issued.

3.13.3 If plasma is required, group AB plasma should be issued. If AB plasma is unavailable, the use of group A plasma may be considered at the discretion of the on-call Transfusion Medicine Physician.

Rh Immune Globulin (RhIg) Prophylaxis after Transfusion of Red Blood Cells or Platelets

3.14 The transfusion service/laboratory shall have a policy for RhIg administration whenever Rh positive red blood cells or platelets are transfused to an Rh negative patient. WCDAA 8.4.2; CSA 11.9.7

3.14.1 Prophylactic RhIG should be considered whenever Rh negative females less than 50 years of age and males less than 18 years of age are exposed to Rh positive red blood cells or platelets to prevent the formation of anti-D, providing their plasma does not contain anti-D. Transfusion Medicine Physician consultation is recommended.

Special Transfusion Requirements

3.15 Establishments that pool, irradiate or wash blood, are required to register with Health Canada for those activities. Establishments whose only transformation activity is to pool cryoprecipitate are not required to register. Blood Regulations Section 30

3.16 All cellular blood components have undergone pre-storage leukoreduction and are considered ‘CMV safe’. CMV seronegative cellular blood components are indicated in the setting of intrauterine transfusion only. NAC’s Statement regarding the Appropriateness of Use of Cytomegalovirus (CMV) Seronegative versus CMV Safe Product

3.17 Patients with HLA antibodies and demonstrated refractoriness should receive HLA matched apheresis platelets.

3.17.1 If HLA matched platelets are unavailable and HLA antibody specificity is unknown, buffy coat platelet pools should preferentially be selected for transfusion.

3.17.2 If HLA matched platelets are unavailable and the patient HLA antibody specificity is known, apheresis platelets which are HLA antigen negative relative to the reported antibodies may be preferentially selected.CBS Customer Letter # 2020-10 Transfusion Medicine Physician consultation is recommended.

3.18 Patients with HPA antibodies, a history of post-transfusion purpura or neonatal alloimmune thrombocytopenia should receive HPA matched apheresis platelets. Transfusion Medicine Physician consultation is recommended.

3.19 The transfusion service/laboratory shall have a written policy indicating which patients or categories of patients are to receive irradiated cellular blood components. The transfusion service/laboratory shall have a written policy with respect to permitted storage periods for irradiated blood components. WCDAA TM.8.3.1; CSA 11.7.1

3.20 Once it has been determined that a patient requires irradiated cellular blood components, there shall be a mechanism in place to ensure that all future cellular blood components for that patient are irradiated, as long as clinically indicated. WCDAA TM.8.3.1; CSA 11.7.2

3.21 Although stocking irradiated red blood cells is not encouraged, these units may be released for transfusion to patients who do not have a requirement to receive irradiated blood components (provided that there is compliance with required storage conditions and re-release policies). WCDAA TM.8.3.1; CSA 11.7.3

3.22 Red blood cells may be irradiated up to 28 days after collection and should be transfused as soon as possible, but no later than 14 days after irradiation and no later than 28 days after collection. WCDAA TM.8.5.11; CSA 7.12.6, CBS CL # 2017-05

3.23 Platelets may be irradiated at any time during their 7 day storage period. Once the platelets are irradiated, they may continue to be stored up to their standard expiry date. Guidance Document: Blood Regulations

3.24 A permanent label shall be applied to irradiated cellular blood components identifying: WCDAA TM.8.5.11; CSA 8.6.5.2

a) that the blood component has been irradiated

b) the facility performing the radiation

c) the new expiry date, if changed

3.25 The irradiating facility shall maintain a record of the date of irradiation. CSA 7.12.7

3.25.1 Irradiated blood components for intrauterine or neonatal recipients shall have a written policy with respect to permitted storage periods. CSA 10.9.1.9

3.26 Policies, processes and procedures shall be established for red cells-washed to ensure the final product shall have: WCDAA TM.8.5.3; CSA 7.5.3.1, 7.5.3.2

a) almost all of the plasma was removed

b) 75% of the original red cells remaining

c) hematocrit not greater than 0.8 L/L

3.27 Red blood cells prophylactically matched for the Rh (D, C, c, E, e) and Kell antigens should be provided to patients with Sickle Cell Disease, Thalassemia, and congenital and immune bone marrow failure disorders.

3.27.1 Extended antigen matching (Rh, Kell, Duffy, Kidd, S) of red blood cells should be considered for patients with red blood cell alloantibodies with chronic transfusion requirements.

3.27.2 The on-call Transfusion Medicine Physician should be consulted for discussion regarding prophylactic red blood cell matching in patient situations other than those described.

3.28 If the transfusion service/laboratory does not have established policies, processes and procedures for patients with special transfusion requirements, consult with the on-call Transfusion Medicine Physician to authorize all requests.

3.29 A standard operating procedure shall be in place to ensure that autologous blood components are used prior to the transfusion of allogeneic blood components. WCDAA TM.14.2.5; CSA 12.4.2

Exceptional Release of Non-Conforming Blood Components

3.30 Blood components shall not be used after their expiration date unless such use has been approved in writing by the on-call Transfusion Medicine Physician. WCDAA TM.8.2.2; CSA 10.7.2

4.0 Materials

4.1 Selected blood components, modified blood components or blood components for special transfusion requirements.

4.2 Related resources available online at www.saskblood.ca:

- Transfusion Best Practice Recommendations in Adult Patients – Saskatchewan
- Transfusion Best Practice Recommendations for Neonatal Patients - Saskatchewan
- Transfusion Best Practice Recommendations for Pediatric Patients – Saskatchewan
- Blood Group Compatibility Poster
- Special Requirements for Blood Components in Saskatchewan
- Guideline SK 10 Emergency Release of Red Blood Cells and Plasma
- Guideline SK 15 Use of Autologous and Directed Blood Components
- Guideline SK 27 Emergency Neonatal Red Blood Cell Transfusion

5.0 Quality Management

5.1 Females less than 50 years of age should receive Kell negative red blood cells whenever possible. SHA Memo – Routine Use of Kell Negative Red Blood Cells (RBCs) for Females of Childbearing Potential, January 20, 2020; CSA 10.7.4

5.1.1 Kell unknown red blood cells transfused to a female less than 50 years of age shall undergo retrospective Kell typing.

5.1.2 Transfusion of Kell positive red blood cells to a female of less than 50 years of age shall be reported as a critical incident.

5.2 Each transfusion service/laboratory shall have a policy for the management of Rh negative patients who receive blood components containing Rh positive red cells. Rh incompatible transfusions should be tracked and reviewed as a quality indicator. CSA 11.9.7; NAC Position Paper: Utilization and Inventory Management of Group O Rh(D) Negative – Red Cells; CBS O Rh negative red blood cells utilization and inventory management best practices

5.3 The transfusion service/laboratory shall have a quality improvement system in place to monitor positive compliance with the policies, processes and procedures for selection of blood components and provision of special transfusion requirements. This could be done through random audits of record keeping systems and /or other quality improvement mechanisms. CSA 4.6.1.1, 4.6.3.1

5.4 A formal, documented training program that includes both initial and ongoing training of personnel in the necessary skills related to their responsibilities in selecting blood components and carrying out special transfusion requirements 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

5.5 A formal competency assessment program shall be in place for all personnel involved in the selection of blood components and provision of special transfusion requirements. 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

6.0 Procedure

6.1 Review the following criteria when selecting blood components for transfusion:

- Appropriateness of the component requested
- Availability of the component requested
- Availability of autologous or directed blood components
- Patient ABO/Rh type
- Patient antibody screen result
- Patient's age and gender
- Diagnosis, if available
- Amount and type of blood components available
- Date and/or time of intended transfusion
- Special transfusion requirements
- Patient history of antibodies

6.2 Choose autologous prior to allogeneic blood for patients pre-identified to have these components available.

6.2.1 If autologous is no longer available (e.g. is transfused or outdated), the request for transfusion using allogeneic blood must be confirmed by the ordering physician/authorized health practitioner.

6.3 Check the expiry date for all blood components selected.

Red Blood Cell Compatibility:

6.4 Select ABO identical red blood cells whenever possible. ABO compatible red blood cells may be required if the transfusion service/laboratory cannot provide sufficient quantities of the patient's blood group.

6.5 Select Rh identical red blood cells whenever possible.

6.5.1 Rh positive patients may receive Rh positive or Rh negative red blood cells depending on inventory.

6.5.2 Rh negative patients should receive Rh negative red blood cells as follows:

6.5.2.1 Females less than 50 years of age and males less than 18 years of age, except in emergency situations when Rh negative red blood cells are not available. Discussion with the on-call Transfusion Medicine Physician shall take place in such situations.

6.5.2.2 Any patient with (or a history of producing) anti-D.

6.5.2.3 All other Rh negative patients may receive Rh positive blood in emergency situations provided they do not have an anti-D.

6.6 If ABO and Rh identical red blood cells are not available, then select ABO and Rh compatible red blood cells as outlined in the table below.

Patient's ABO/Rh	1st Choice	2nd Choice	3rd Choice	4th Choice
O negative	O negative	none	none	none
O positive	O positive	O negative	none	none
A negative	A negative	O negative	none	none
A positive	A positive	A negative	O positive	O negative
B negative	B negative	O negative	none	none
B positive	B positive	B negative	O positive	O negative
AB negative	AB negative	A negative	B negative	O negative
AB positive	AB positive AB negative	A positive A negative	B positive B negative	O positive O negative

6.7 Select Kell negative red blood cells for the following patients as follows:

6.7.1 Females less than 50 years of age who have a Kell negative phenotype except in emergency situations when Kell negative units are not available.

6.7.2 Any patient with (or a history of producing) anti-K.

6.8 Crossmatched red blood cells for females less than 50 years of age must be group identical or compatible and should be Kell antigen negative whenever possible.

6.8.1 Selection of a group compatible, Kell negative unit is preferable to selection of a group identical unit with unknown Kell status for these patients.

6.9 Ensure the type and screen is in date unless emergency units are requested or autologous units will be issued.

6.10 Check the patient record for clinically significant antibodies.

6.10.1 When clinically significant red cell antibodies are found or the patient has a past history of such antibodies, select red blood cells that do not contain the corresponding antigen (i.e. antigen negative) for transfusion.

Release of Crossmatch Compatible and Uncrossmatched Red Blood Cells

6.11 Complete pre-transfusion testing prior to the release of red blood cells. In order of preference, red blood cells must be selected for issue as follows:

6.11.1 Crossmatch compatible (all pre-transfusion testing completed satisfactorily).

6.11.1.1 If crossmatch compatible red blood cells cannot be found, crossmatch incompatible red blood cells may be used if the need for transfusion outweighs the risk of transfusing incompatible units. In this situation, the treating physician/authorized health practitioner must contact the on-call Transfusion Medicine Physician for authorization.

6.11.2 Group identical uncrossmatched (testing for ABO/Rh complete on a current specimen, antibody detection tests incomplete).

6.11.3 Emergency uncrossmatched (urgency of the transfusion requirement prevents the initiation or completion of pre-transfusion testing). O Rh positive or O Rh negative uncrossmatched red blood cell units could be released.

Emergency Release

6.12 In emergency situations when pre-transfusion testing has not been initiated or completed, and the patient's blood group is unknown, select red blood cells as follows:

6.12.1 Uncrossmatched Group O Rh negative, Kell negative red blood cells for females less than 50 years of age.

6.12.2 Uncrossmatched Group O Rh positive red blood cells for females 50 years of age or older.

6.12.3 Uncrossmatched Group O Rh negative red blood cells for males less than 18 years of age.

6.12.4 Uncrossmatched Group O Rh positive for all other patients without anti-D.

6.12.5 Refer to Guideline SK 10 Emergency Release of Red Blood Cells and Plasma.

Platelet Compatibility:

6.13 Select ABO/Rh identical platelets if possible, but ABO/Rh non-identical platelets may be transfused when ABO/Rh identical platelets are not available.

6.14 If ABO identical platelets are not available, select ABO compatible platelets as outlined in the table below.

Patient's ABO	1st Choice	2nd Choice	3rd Choice	4th Choice
O	O	A	B	AB
A	A	AB	none	none
B	B	AB	none	none
AB	AB	none	none	none

6.15 If ABO identical or compatible platelets are not available, it is acceptable to transfuse ABO incompatible platelets if warranted by the patient clinical condition. Contact the on-call Transfusion Medicine Physician for assistance when required.

6.16 Rh positive patients can receive either Rh positive or Rh negative platelets based on inventory.

6.16.1 Rh negative patients should receive Rh negative platelets when possible. Females less than 50 years of age and males less than 18 years of age should receive Rh negative platelets if they are Rh negative or unknown blood type.

6.16.2 If Rh positive platelets must be used, RhIg prophylaxis should be administered within 72 hours of platelet transfusion.

Plasma Compatibility:

6.17 Select ABO identical or compatible plasma for transfusion. Rh compatibility is not considered.

Patient's ABO	ABO
O	O, A, B or AB
A	A or AB
B	B or AB
AB	AB

6.18 In emergency situations when pre-transfusion testing has not been initiated or completed and the patient's blood group is unknown, select Group AB plasma.

6.18.1 If Group AB plasma is unavailable, contact the on-call Transfusion Medicine Physician for consideration of Group A plasma.

Cryoprecipitate Compatibility:

6.19 Select ABO cryoprecipitate for adults and children as outlined in the table below (the order list indicates the preferred choice ABO).

Patient's ABO	ABO
O	O, A, B (then AB)
A	A, B, O (then AB)
B	B, A, O (then AB)
AB	A*, AB
Unknown	A, B, O (then AB)

6.20 For patients with an unknown blood group, select group A cryoprecipitate Group AB cryoprecipitate should be reserved for neonates only.

Note: *Group AB pediatric and adult patients should receive group A cryoprecipitate (to preserve group AB cryoprecipitate for neonates).

Special Transfusion Requirements:

6.21 Refer to the SaskBlood 'Special Requirements for Blood Components in Saskatchewan' for the list of eligible patients.

6.22 Submit orders for blood components with special transfusion requirements to CBS as required.

7.0 Reporting – N/A

8.0 Documentation – N/A

9.0 References

9.1 BC Provincial Blood Coordinating Office. Transfusion Medicine Medical Policy Manual. 1st Edition. Section 6.0 Special Product Selection. https://www.pbco.ca/index.php/resources/manuals/tm-medical-policy-manual. Accessed October 6, 2017.

9.2 Callum, JL; Pinkerton, PH; Lima, A; Lin, Y; Karkouti, K; Lieberman, L; Pendergrast, JM; Robitaille, N; Tinmouth, AT; and Webert, KE. Bloody easy 4: blood transfusions, blood alternatives and transfusion reactions. Fourth Edition, 2016. Toronto, ON: Ontario Regional Blood Coordinating Network.

9.3 Canadian Blood Services. Clinical Guide to Transfusion. Chapter 11. Massive Hemorrhage and Emergency Transfusion. https://professionaleducation.blood.ca/en/transfusion/clinical-guide-transfusion. Accessed October 6, 2017.

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9.6 Canadian Blood Services. Clinical Guide to Transfusion. Chapter 18. Platelet Transfusion, Alloimmunization and Management of Platelet Refractoriness. https://professionaleducation.blood.ca/en/transfusion/clinical-guide-transfusion. Accessed October 6, 2017.

9.7 Canadian Blood Services. Customer Letter # 2018-46. 'Routine K1 (Kell) Phenotype Testing'. 2018-11-19. www.blood.ca. Accessed January 17, 2020.

9.8 Canadian Blood Services. Customer Letter # 2018-12. 'Further Information; Health Canada Approval, Changes to Red Blood Cell Extended Antigen Printing on the End Label. 2018-03-12. www.blood.ca. Accessed January 20, 2020.

9.9 Canadian Blood Services. Customer Letter # 2017-22. 'Changes to Recommendations for the Provision of CMV Seronegative Blood Products'. 2017-06-15. www.blood.ca. Accessed October 19, 2017.

9.10 Canadian Blood Services. Customer Letter # 2017-36. 'Further Information – Changes to the Provision of CMV Seronegative Blood Products'. 2017-09-06. www.blood.ca. Accessed October 19, 2017.

9.11 Canadian Society of Transfusion Medicine. Standards for Hospital Transfusion Services. Version 4. April 2017.

9.12 Canadian Standards Association. Blood and blood components. CAN/CSA-Z902:20. March 2020.

9.13 Former Saskatoon Health Region area. Selecting and Issuing Platelets for Transfusion – SOP, Document #: TML-22 v #:12. Accessed January 6, 2021.

9.14 Former Saskatoon Health Region area. Selecting and Issuing Plasma and Cryoprecipitate for Transfusion – SOP. Document #: TML-21 v #:7. Accessed November 27, 2017.

9.15 Former Saskatoon Health Region area. Selecting and Issuing Red Blood Cell Units for Transfusion (Non-Neonatal) – SOP. Document #: TML-20 v #:14. Accessed January 6, 2021.

9.16 Newfoundland and Labrador Provincial Blood Coordinating Program (NLPBCP). NLBCP-002 Blood Components Substitution in Adults. Effective Date 2021-01-22. https://www.gov.nl.ca/hcs/files/bloodservices-pdf-guide-blood-comp-sub-adults.pdf. Accessed January 6, 2021.

9.17 Nova Scotia Provincial Blood Coordinating Program. Guide to Blood Component and Blood Product Administration. http://www.cdha.nshealth.ca/nova-scotia-provincial-blood-coordinating-program-7. Accessed January 6, 2021.

9.18 Ontario Regional Blood Coordinating Network (ORBCoN). Ontario Regional Blood Coordinating Network Transfusion Technical Resource Manual (OTTRM). Component Selection and Preparation. https://transfusionontario.org/en/category/toolkits/ottrm/. Accessed January 6, 2021.

9.19 SaskBlood. Transfusion Best Practice Recommendations in Adult Patients – Saskatchewan. Version 3, November 5, 2020. https://saskblood.ca/transfusion-best-practice-recommendations/. Accessed January 6, 2021.

9.20 The National Advisory Committee on Blood and Blood Products (NAC). Position Paper: Utilization and Inventory Management of Group O RH (D)-Negative Red Cells. December 1, 2016. http://www.nacblood.ca. Accessed October 6, 2017.

9.21 Western Canada Diagnostic Accreditation Alliance (WCDAA) Standards for Diagnostic Laboratory Accreditation: Transfusion Medicine, Version: February 2020 – v8.

10.0 Revision History

Date Revised: January 19, 2021	
Section Number	**Summary of Revision**
3.0	• Rearranged policy section so that relevant standards are grouped according to blood component type and special requirements.
3.0 and 5.0	• Updated sections for current WCDAA standards and CAN/CSA-Z902:20
3.1	• Added reference to *'Transfusion Best Practice Recommendations for Neonatal Patients – Saskatchewan'*
3.4	• NEW content. ABO group-identical red blood cells shall not be issued until there are two separate and identical blood groups on file that are collected from two different phlebotomies. Patients without an ABO blood group on file (who have never been typed and screened before) shall receive Group O, Rh specific red blood cells.
3.6.1	• Revised content. • Added inclusion of Rh negative males less than 18 years of age to receive Rh negative red blood cells. • Added Note: See step 3.15.1 for requirements relating to RhIg.
3.6.2	• NEW content. Male patients 18 years of age or older and females 50 years of age or older to receive Rh positive red blood cells during massive transfusion or when Rh negative red blood cells are in short supply.
3.8.2	• Revised wording as per WCDAA Standards for Diagnostic Laboratory Accreditation: Transfusion Medicine
3.10	• NEW content. Rh negative females less than 50 years of age and males less than 18 years of age to receive Rh negative platelets. See step 3.15.1 for requirements relating to RhIg.
3.12 (previous version)	• Deleted step. Not applicable. Plasma positive for RBC antibodies is sent for fractionation.
3.13.2.	• NEW content. If platelets are required, any blood group of platelets may be issued.
3.13.3	• NEW content. If AB plasma is unavailable, the use of group A plasma may be considered at the discretion of the on-call Transfusion Medicine Physician.
3.14.1	• Revised content. Recommendations for prophylactic RhIG administration to include Rh negative males less than 18 years of age after transfusion of Rh positive red blood cells or platelets.
3.13.1	• Step 6.20 from previous version moved to step 3.13.1
3.15.2	• NEW content for selecting HLA antigen negative platelets when HLA matched platelets are unavailable. Referenced CBS CL 2020-10.
3.25.1	• NEW content for policy requirement for permitted storage period of irradiated blood components for intrauterine or neonatal patients
3.30	• Step 6.5 from previous version moved to step 3.30
4.2	• Added new resources available online at http://www.saskblood.ca
5.1.1 & 5.1.2	• NEW content for managing situations when women of

	child bearing potential receive Kell positive red blood cells
5.2	• NEW content for the management, tracking and review of Rh incompatible transfusions
6.5.2.1	• NEW content. Added males less than 18 years of age when selecting Rh negative red blood cells
6.12.3	• NEW content. Added males less than 18 years of age when selecting uncrossmatched red blood cells in emergency situations.
6.13-6.16	• Revised for better flow, separated ABO and Rh compatibility instructions for platelets. Revised platelet compatibility table.
6.18.1	• New content for consulting on-call Transfusion Medicine Physician when AB plasma is unavailable for emergency transfusion
6.23 (previous version)	• Deleted. Duplication of content in Section 3.0.
9.0	• Updated references