Transfusionists Talk – Transfusion Made Bloody Easy

TRANSFUSION PRACTICE STANDARDS: THE HOW & WHY OF BLOOD ADMINISTRATION

June 24, 2026

Pre/Post Transfusion Knowledge Questions and the Answers with Rationale
and
Responses to Additional Questions from Participants

Pre/Post Transfusion Knowledge Questions and the Answers with Rationale

1. You are an RN working in the Emergency Department (ED).
An MHP for an unidentified motor vehicle accident client, a 25-year-old of childbearing potential, seems to be resolving (uncrossmatched blood, 2 units RBC, group O, Rh negative, K negative, remain in the 3rd MHP cooler).
Then a 65-year-old male client with acute GI bleeding (discharged last week after a GI bleed) is admitted to ED. His vital signs are very unstable, he is being intubated, MHP is ordered.

As per ED MD's order, would you transfuse the uncrossmatched blood, 2 units RBC, group O, Rh negative, K negative remaining from the motor vehicle accident client to the GI bleed client?

a) Yes
b) No

Answer: b) No

Rationale:

When a blood order is received, TML selects, labels, and issues a certain blood component or blood product for each specific client (including an unidentified client) based on client information and available blood inventory. Tracking for traceability is also documented by TML.
Blood must be transfused to only the designated recipient.

2. Blood Component (exception, including solvent detergent [S/D] plasma) transfusion administration to a stable client, not actively bleeding, non-urgent indication, suggested infusion rate information includes:

Component	Rate of Infusion for 1 unit /1 dose
Red Blood Cells	**Over 2 hours**
Platelets	**Over 60 minutes**
Plasma	**Over 30 to 120 minutes**
For clients with TACO risk, slower rate of infusion.	
If tubing primed with 0.9% NaCl, then re-prime with blood so client receives all of test dose.	
Adults: first 15 minutes, infusion rate 50 mL/hour (i.e., test dose volume is 12.5 mL). Neonates/Pediatrics: first 15 minutes infusion rate 1 mL/kg/hour to a maximum of 50 mL/hour.	
Complete transfusion within 6 hours of removal from temperature-controlled environment (time of issue from TML or removal from cooler).	

a) True
b) False

Answer: b) False

Rationale:

As per the information included in the presentation, only the final row of information in the table, “Complete transfusion within **6** hours of removal from temperature-controlled environment (time of issue from TML or removal from cooler)” is incorrect.
The correct statement is Complete transfusion within **4** hours of removal from temperature-controlled environment (time of issue from TML or removal from cooler).

Responses to Additional Questions from Participants

1. **Is the pre-transfusion diuretic indicated for ACS patients in particular?**

Response:
For any client at risk of Transfusion Associated Circulatory Overload (TACO), pre-transfusion diuretic should be considered as a TACO prevention strategy. This is not specific to ACS clients.

2. **Can RhIG be used for transfusion in cases where Rh negative blood is not available?**

Response:
Assuming this question pertains to the following clinical scenario:

a) administering uncrossmatched blood, i.e., Massive Hemorrhage Protocol (MHP)
The Provincial MHP Toolkit addresses this in statement 29.
"If the blood group is unknown, O Rh D-negative red blood cells should only be used for female patients of childbearing potential (age <45)
O Rh D-negative stocks are insufficient to allow all patients of unknown blood group to be supported with O Rh D-negative RBCs until the blood group is resulted in the laboratory information system. The risk of alloimmunization in an Rh D-negative patient after exposure to Rh D-positive RBCs in the setting of major bleeding is 20%.[73,74] Immunization to the D-antigen is only relevant for females who wish to have future pregnancies. Over 99% of births occur in women under the age of 45 years,[75] and hospital MHPs should restrict the use of O Rh D-negative RBCs for women under this age. For conscious women, efforts should be made to determine their age early in the course of care so that the transfusion medicine service can be instructed to supply the optimal Rh D-type of blood."

Whenever uncrossmatched blood is given, the blood sample for group and screen testing should be collected ASAP.
When uncrossmatched blood has been transfused and then the client's group and screen test identifies that incompatible blood has been transfused, the TML Medical Director is notified. The Medical Director and the client's most responsible prescriber would determine any next steps depending on the precise details of the scenario (minor or major incompatibility, number of units transfused, extent of bleeding).

b) client is Rh D-negative and only Rh D-positive platelets are available for transfusion
Bloody Easy 5.1 Blood Transfusions, Blood Alternatives and Transfusion Reactions A Guide to Transfusion Medicine addresses this p. 29.

- ABO/Rh-identical platelets are preferred, but ABO/Rh non-identical platelets may be transfused when ABO/Rh-identical platelets are not available.
- Rh-negative patients of childbearing potential require Rh immunoglobulin (RhIG) when Rh-positive platelets are transfused to avoid formation of anti-D antibody.
  - Each platelet unit contains less than $10x10^8$ red blood cells.
  - Each 120 ug of RhIG covers 12 mL whole blood (6 mL RBC) and lasts approximately 21 days.
- RhIG is not recommended for males, and females of non-childbearing potential, because risk of immunization from platelets is low (about 1%) and passive anti-D complicates compatibility testing and may delay transfusion.[49]

3. **Do IV and central lines have the same sizes for gauges or are central lines one size?**

Response:

Peripheral IV catheter needle gauge ranges from 14 to 26 (14 is largest; 26 is smallest).

Central venous access devices (CVAD) include peripherally inserted central catheters (PICC), implanted ports and central venous catheters (CVC). CVAD sizes are variable, categorized based on the number of lumens and the manufacturer, as well as the client population (intended use of the catheter). The catheter diameter is generally measured in French (Fr), where 1 Fr = 0.33 mm. The overall CVAD size ranges from 3 to 16 Fr approximately; the majority of adult CVAD, between 4 and 9 Fr.

4. **If an IV line "blows" after a transfusion has started, after stopping the infusion and starting a new IV line, can I re-spike the unit and infuse for the remainder of the unit as long as it is within the 4 hours or do I discard the unit?**

Response:
If the IV site needs to be re-established after part of a blood unit has been transfused, disconnect the blood tubing & maintain sterility by cleaning & capping the tubing distal end. Re-start the IV as per hospital policy & procedure. The unit of blood tubing can be connected to the new, patent IV site & transfused, rate as ordered. The transfusion must be completed within 4 hours from time of issue (removal from temperature controlled environment); outside this time frame discard any remainder. Changing the blood tubing or discarding the unit is not necessary unless it inadvertently became contaminated.

References:
Please refer to the references listed in the presentation.