STANDARD OPERATING PROCEDURE FOR DETERMINING SPECIMEN SUITABILITY
1.0 Principle

1.1 Define the criteria of pre-transfusion testing and specimen suitability.

2.0 Scope and Related Policies

2.1 The Transfusion Medicine Laboratory shall accept only specimen(s) and requisition(s) that are complete, accurate and legible. Any discrepancies or errors must be resolved as defined in your facility policies and procedures.

3.0 Materials

3.1 Requisition(s) or electronic order entry

3.2 Specimen(s)

4.0 Quality Control

4.1 Samples that do not meet the established criteria are not used for pre-transfusion testing.
5.0 Process Flowchart

5.1 Process Flow

- Perform PPI
  - Are there two accurate patient identifiers?
    - YES: Compare requisition with specimens
    - NO: Collect new specimens
  - Does information on requisitions and specimens match?
    - NO: Collect new specimens
    - YES: Is sample documentation complete?
      - NO: Obtain required information
      - YES: Is there sufficient information to process samples?
        - NO: Obtain required information
        - YES: Perform patient history check
          - Is age of specimen acceptable?
            - NO: Collect new specimen
            - YES: Is specimen appearance normal?
              - NO: Consult with Sr. Technologist on sample suitability
              - YES: Proceed to testing sample
                - Is specimen suitable for testing?
                  - YES: Proceed to testing sample
                  - NO: Collect new specimen

6.0 Procedure

6.1 There shall be unequivocal identification of the recipient before drawing blood samples. Two patient identifiers are required. If inaccuracies or discrepancies are discovered blood samples shall not be collected until the inaccuracies or discrepancies are resolved.

6.2 Compare the requisition and specimen label in the presence of the recipient to ensure the following information is identical:

   6.2.1 Recipient’s first and last name
   6.2.2 Recipient’s identification number

6.3 Check the specimen label for:

   6.3.1 Date and time of collection
   6.3.2 Identification of the phlebotomist (name, initials or computer ID.).
       • If the date and time of collection or identification of the phlebotomist are not documented, obtain this information from the phlebotomist.

6.4 Check the requisition for the following information necessary to process a request for transfusion:

   • Recipients family and given names
   • Recipients identification number
   • Recipient’s date of birth
   • Recipient’s location
   • Test and product ordered
   • Required volume/dosage
   • Date and time of request
   • Date and time of intended transfusion, if applicable
   • Diagnosis and reason for transfusion/infusion
   • Name of requesting physician
   • Transfusion/infusion history, if applicable
   • Priority
   • Special Requirements (e.g. CMV negative, irradiate), if applicable.
6.5 Perform patient history check to verify the age of the specimen:

6.5.1 All testing of Transfusion Medicine specimens must be collected every 96 hours for compatibility testing if the recipient(s):
- Has been transfused with a blood component containing red cells within the last 3 months.
- Has been pregnant in the last 3 months.
- Transfusion or pregnancy history is questionable or unavailable.

6.5.2 The recipient’s transfusion history must be reviewed to confirm that the date of collection and date of the transfusion/infusion are within the acceptable time period. If the time period is not acceptable, another specimen must be collected.

6.5.3 For recipient’s who have not been transfused or pregnant in the past 3 months, specimens can be used for a time specified by the Transfusion Medicine Laboratory policy. If subsequently transfused, the 96 hour rule applies after first exposure to blood and blood components containing red blood cells.

6.5.3.1 After transfusion the recipient’s pre-transfusion blood specimen shall be stored at 1°C - 6°C for at least 7 days.

6.6 Specimen Appearance:

6.6.1 Visually check the appearance of the specimen

6.6.1.1 If abnormal plasma color such as red, brown or dark amber consult with senior technologists to determine if clinically significant. Specimens not suitable for testing must be documented and action taken according to facility operating procedure(s).
6.7 Specimens with any of the following conditions/criteria must be recollected:
   - gross hemolysis
   - collection in inappropriate tube
   - grossly contaminated with blood on the outside of the tube
   - ‘appearance’ of contamination with IV fluid
   - altered specimen label
   - non-matching patient identifiers on specimen label and requisition

7.0 Reporting
   7.1 Rejected specimens must be documented and notification given to the appropriate personnel as dictated by hospital policy.
   7.2 Document abnormal specimen appearance on the patient worksheet or in the laboratory information system (LIS).

8.0 Procedural Notes
   8.1 Abnormal plasma colour such as red, brown or dark amber may indicate the presence of intravascular or delayed hemolysis.
   8.2 The use of hemolyzed or lipemic specimens may cause erroneous results. Hemolyzed specimens may mask antibody-induced hemolysis; therefore recollection of a non-haemolysed sample is suggested. If hemolysis is due to antigen-antibody reaction it should be recorded in the patient’s transfusion medicine history.
   8.3 Agglutination in the EDTA specimen could be caused by the presence of a cold autoagglutinin. Warming the specimen may be required.
   8.4 Very low hematocrit may be due to contamination with IV fluid. If this is verified, collect another specimen.
   8.5 Specimens collected from infusion lines are accepted if properly collected. Follow facility operating procedure(s) for the collection of specimens from infusion lines.
References


