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Visual Inspection of Blood Products - Blood Bank

Document Type: Procedure

I. PURPOSE AND OBJECTIVE:

This document will provide policies related to the visual inspection of blood products when determining whether a blood product is suitable for transfusion.

II. POLICIES:

A. The Blood Bank is required to visually inspect all blood products, and document the visual inspection at the following defined intervals. The table below lists the defined intervals at which all blood products must be visually inspected, and the method(s) by which the inspection is documented. The table also includes the corresponding Computer Documentation Manual flow (CDM) and the corresponding Transfusion Medicine Operating Procedure.

Required Intervals for Visual Inspection	Method of Documentation	Procedure	CDM
Upon receipt from the supplier or outside facility	In the "condition" field in the Blood Bank computer. During computer downtimes, on *Downtime Unit Receipt and Processing Worksheets.*	Receiving Blood Components from an Outside Source into Inventory	*Batch Delivery*
Upon dispense from the Blood Bank	In the "condition" field in the Blood Bank computer, and in the *Dispensing Documentation* section on F-1566, *Record Of Transfusion Form.*	Dispensing Blood Components	*Issue Units*
Upon return from issue	In the Blood Bank computer, and in the *Return Documentation* section on F-1566, *Record Of Transfusion Form*.	Return of Blood Products from Issue	*Return from Issue*
Upon transfer to another facility	In the "condition" field in the Blood Bank computer, and on the applicable transfer form.	*Transfer of Blood Components to Outside Facilities*	*Transfer Units*

B. At each of the required intervals for the visual inspection, the condition COND field in the Blood Bank computer system shall be documented as either:

1. “OK (visual inspection passes),” for a satisfactory visual inspection, or
2. “NOT OK (not OK to place in stock/issue),” for an unsatisfactory visual inspection.
   Note that documentation of the COND field as “NOT OK” will automatically place the unit in quarantine.

C. The American Red Cross (ARC) Visual Inspection Reference Guide
   A copy of the American Red Cross Visual Inspection Reference Guide is located in each Blood Bank. This guide provides definitions and causes of these conditions, and includes color photographs of blood products with both normal and abnormal appearances. This guide may be used by persons who handle blood components to identify components that have an unusual appearance.

D. Satisfactory Visual Inspection
   A satisfactory visual inspection of a blood product includes the following:
   1. The blood product must have a normal appearance, and must meet the criteria for acceptability as defined in the American Red Cross Visual Inspection Reference Guide. (See also *Conditions that May Cause a Blood Product’s Safety to be Questioned*, below).
   2. The label must be complete, affixed to the blood product, and legible.
   3. The container must be inspected to ensure that it is intact, and the container closure has not been disturbed. There are no obvious signs of leakage that could indicate a broken container, leaking weld or seal, etc.
   4. The blood product must not be expired.

E. For RBC products:
   1. A comparison of the segment to the contents of the container is made to inspect for hemolysis.
   2. At least one sealed segment of integral donor tubing remains attached to the container. Any removed segments may be reattached after confirming that the tubing identification numbers on both the removed segment(s) and the container are identical.

F. For platelet products:
   1. The platelet must contain 2 mL or less of donor RBCs. If the red color / tint of the platelet in question is darker than the standard in the American Red Cross Visual Inspection Guide then the platelet is considered to be a “bloody platelet,” and the platelets must be crossmatch compatible with the recipient.
   2. The platelets must demonstrate evidence of swirling. Refer to Transfusion Medicine policy, Platelet Storage.
   3. All group O apheresis platelets not collected by Versiti Michigan must have the appropriate titer attribute added in the Blood Bank computer system.
      Refer to Transfusion Medicine policy, Selection of Platelets, Plasma, and Cryoprecipitate for Patients Greater than Four Months Old.

G. Conditions that May Cause a Blood Product’s Safety to be Questioned
   Many conditions can make a blood product unsafe for transfusion or cause the safety of the blood product to be questioned. When these conditions are observed, the technologist must determine whether the blood product meets the criteria for acceptability as defined in the American Red Cross Visual Inspection Reference Guide. These conditions include, but are not limited to:
   1. Hemolysis

2. Lipemia
3. Icterus
4. Particulate matter; for example clots, fibrin strands, aggregates, white particulate matter, flocculent material and cold agglutinins.
    a. Although all blood components must be transfused through a filter designed to remove clots and aggregates, any blood product with visible clots is unsuitable for transfusion and should be discarded.

    Note: It is common for lipid precipitates to form in units of liquid plasma if the units are un-agitated for prolonged periods of time. If this occurs, the liquid plasma may be gently manipulated to break up the lipid precipitates. If the precipitates break up upon manipulation, the liquid plasma is still acceptable to use.
5. Discoloration; for example due to oral contraceptives, icterus, drug therapy, possible bacterial contamination, or the presence of RBCs or hemoglobin.
6. Foreign objects; for example, when a part of the collection set has become detached. Any blood product in which a foreign object is observed is unsuitable for transfusion and should be discarded.
7. Bacterial contamination. Any blood product with suspected bacterial contamination is unsuitable for transfusion and should be discarded. Possible signs of bacterial contamination are listed in the following table:

Component	Possible Signs of Bacterial Contamination
RBCs	▪ Product appears darker than the segment ▪ Unusual color (for example, purplish in color) ▪ Gas bubbles ▪ A zone of hemolysis above the red cell mass ▪ Plasma or supernatant is murky, purple, brown, or red ▪ Clots or fibrin strands
Plasma & Cryoprecipitate	Clots, fibrin strands or murky appearance
Platelets	Clots, fibrin strands or unusual color

H. Unsatisfactory Visual Inspections
If any part of the visual inspection is unsatisfactory, the following apply:

1. A variance report should be submitted.
2. For platelets, refer to *Evaluation of Platelet Suitability for Transfusion based on Swirling, Temperature, and Time in Transfusio*n Medicine policy, Platelet Storage.
3. The applicable components should be immediately placed into quarantine or discarded, as appropriate. Refer to Transfusion Medicine policy, Blood Product Quarantine or Discard.

III. REFERENCES:

1. College of American Pathologists Transfusion Medicine Checklist, current edition
2. AABB, *Standards for Blood Banks and Transfusion Services*, current edition.

3. American Red Cross (ARC) Visual Inspection Reference Guide, 2006

Attachments

No Attachments

Approval Signatures

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Applicability

Dearborn, Farmington Hills, Grosse Pointe, Royal Oak, Taylor, Trenton, Troy, Wayne