

Blood Banking & Transfusion Medicine 101

Sections extracted from presentation

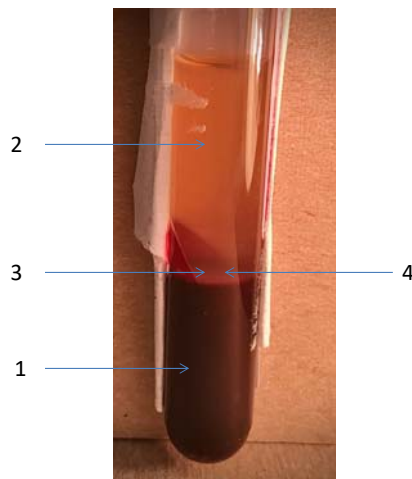
ABO Typing, Antibody Screening, Identification & Crossmatching Why is This Important

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What is Blood?

- Blood has 4 major components:
 1. Red Blood Cells (RBCs)
 2. Plasma
 3. White Blood Cells (WBCs)
 4. Platelets



What is an ABO?

- An *ABO* or *Blood Type* references the ABO blood group system, one of 36 blood group systems!¹
 - Hundreds of antigens on RBCs.
- The ABO blood group system is the most important blood group system.
- The four blood types are: O, A, B, AB



1. Fung M, Eder A, Spitalnik S, Westhoff C. AABB Technical Manual. 19th ed. Bethesda: AABB, 2017; 262 p.

What is an ABO?

	Type O	Type A	Type B	Type AB
Antigen		A	B	AB
Antibody	Anti-A Anti-B	Anti-B	Anti-A	No antibodies
Transfuse RBC ABO Group	O	A or O	B or O	AB or A or B or O
Transfuse Plasma ABO Group	O or A or B or AB	A or AB	B or AB	AB



ABO Prevalence (%) in the US Population

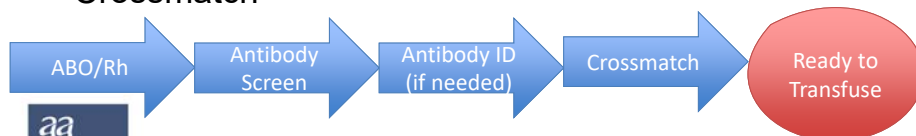
ABO Group	European Ethnicity	African Ethnicity
O	45	49
A	40	27
B	11	20
AB	4	4

AABB Technical Manual, 19 ed. Table 10-1 page 267



Blood Bank Testing

- Hold
- Type and Hold
 - “Type” or “ABO/Rh” or “Blood Type”
- Type and Screen
 - ABO & Rh Type
 - Antibody Screen
 - Antibody Identification if needed
- Crossmatch



Computer/Electronic Crossmatch

- Can be used if:
 - System is validated to ensure only ABO-compatible RBCs are given.
 - Two determinations of the patient's ABO group are made
 - The system contains the DIN, component name, ABO & Rh group, the confirmed donor unit's ABO group, two unique patient identifiers, the patient's ABO, Rh, ABS result and compatibility interpretation.
 - A method to verify correct entry of data before release of blood.
 - System contains logic to alert users of discrepancies or incompatibility.



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