What Are Blood Types?

Worksheet

Blood types are determined by the ABO and Rh antigen systems. ABO types (A, B, AB, O) depend on which antigens are present; Rh type (+ or) depends on the Rh factor protein. Mismatched transfusions cause hemolysis (destruction of red blood cells) and can be fatal.

Questions

1. Which antibody does a person with type A blood have in their plasma?

A) Anti-A
B) Anti-B
C) Anti-AB
D) None

2. Can a type O person receive type O+ blood safely?

A) Yes, always
B) No, Rh mismatch causes hemolysis
C) Only in emergencies
D) Requires testing first

3. What happens if incompatible blood is transfused?

A) Nothing, all blood is safe
B) Antibodies attack donor red cells, causing hemolysis
C) Blood stays in circulation forever
D) Blood type changes

4. Type AB+ blood can donate to which blood types?

A) Only AB+
B) AB+ and O+
C) All blood types
D) None (cannot donate)

5. A patient with blood type O receives a transfusion of type O+ blood. Will this cause a transfusion reaction?

6. A person with type AB+ blood needs a transfusion. Which blood types can they safely receive?

7. An Rh mother pregnant with an Rh+ baby receives RhIG injection. Why is this given?

8. Define: What are the four ABO blood types?

9. Define: What does the Rh factor represent?

10. Define: What is a universal donor blood type?

Answer Key

1. B) Anti-B - Type A has A antigen on red cells, so plasma contains anti-B antibodies to protect against B blood.

2. B) No, Rh mismatch causes hemolysis - Rh recipients develop anti-Rh antibodies to Rh+ blood (especially after prior transfusion). Type O should receive only O.

3. B) Antibodies attack donor red cells, causing hemolysis - Recipient antibodies destroy donor cells, releasing hemoglobin and causing acute hemolytic transfusion reaction.

4. C) All blood types - AB+ has both A and B antigens; it is a universal donor. Any recipient can receive AB+ plasma and cells.

5. Type O red blood cells have no A or B antigens (O) and no Rh factor (). Type O+ donor blood has no A or B antigens (O) but has Rh factor (+). The Rh+ blood may cause a reaction in an Rh recipient (especially after prior exposure). Type O should receive only O blood (universal donor).

6. Type AB blood has both A and B antigens; plasma has no anti-A or anti-B antibodies. AB+ can receive: A+, B+, AB+, and O+ (all positive types). AB+ are 'universal recipients' - they can receive any Rh+ blood type.

7. During delivery, fetal Rh+ blood may enter mother's circulation. If not treated, mother develops anti-Rh antibodies. In future pregnancies, these antibodies attack the fetus, causing hemolytic disease (erythroblastosis). RhIG (Rh immunoglobulin) destroys fetal cells, preventing sensitization.

8. A, B, AB, and O - determined by the presence of A and/or B antigens on red blood cells.

9. The Rh (D) antigen on red blood cells. Rh+ means present; Rh means absent.

10. Type O - has no A, B, or Rh antigens, so it can be given to anyone in emergencies.