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Topic - Blood Grouping

Blood typing is a test that determines a person's blood type. The test is essential if you need a blood transfusion or are planning to donate blood. Not all blood types are compatible, so it's important to know your blood group. Receiving blood that's incompatible with your blood type could trigger a dangerous immune response..

The blood types-

The ABO blood typing system groups your blood into one of four categories:

- **Type A**
- **Type B**
- **Type AB**
- **Type O**

Your blood type is determined by what kind of antigens your red blood cells have on the surface. Depending on the presence or absence of two agglutinogens A and B in erythrocytes and two specific agglutinins anti-A and anti - B in the serum, human blood groups are designated as A,B,AB ,O. Which are as follows-

Blood Types				
Blood Type	Antigen on red blood cells	Antibodies in plasma	Can receive blood from	Can donate blood to
A	A	anti-B	O and A	A and AB
B	B	anti-A	O and B	B and AB
AB	A and B	neither	O, A, B, and AB	AB only
O	neither	anti-A and anti-B	O only	O, A, B, and AB

Blood types are further organized by Rh factor:

Rh-positive: People with Rh-positive blood have Rh antigens on the surface of their red blood cells. People with Rh-positive blood can receive Rh-positive or Rh-negative blood.

Rh-negative: People with Rh-negative blood do not have Rh antigens. People with Rh-negative blood can receive only blood that is also Rh-negative.

Agglutination reaction in case of blood grouping-

The blood will agglutinate if the antigens in the patient's blood match the antibodies in the slide. A antibodies attach to A antigens - they match like a lock and key - and thus form a clump of red blood cells. These are also commonly referred to as anti A antibodies, anti B antibodies, and anti Rh antibodies.







































Fig- serum used in case of blood grouping

Procedure-

1. A clean grease free slide was taken.
2. The left index finger was cleaned with cotton dipped in alcohol(ethanol).

3. Then with the the help of pricking niddle, the finger was pricked.
4. Then three drops of blood was taken in the slide.
5. Anti-A ,anti -B and Anti-Rh serum were added at the the respective slide on the drops of blood.
6. Blood and serum of the slide was mixed thoroughly with the help of stick.
7. The slide was then kept on a white paper and observe.

Observation-

Anti-A	Anti-B	Anti-D	Control	Blood type
				O-positive
				O-negative
				A-positive
				A-negative
				B-positive
				B-negative
				AB-positive
				AB-negative
				Not valid

Conclusion-

Your blood type can be determined in a matter of minutes. Once you know your blood type, you can donate blood and receive transfusions from donors in the compatible blood groups.