

# Blood groups

**Eman naser 3316**

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**At the end of this presentation you will be able to:**

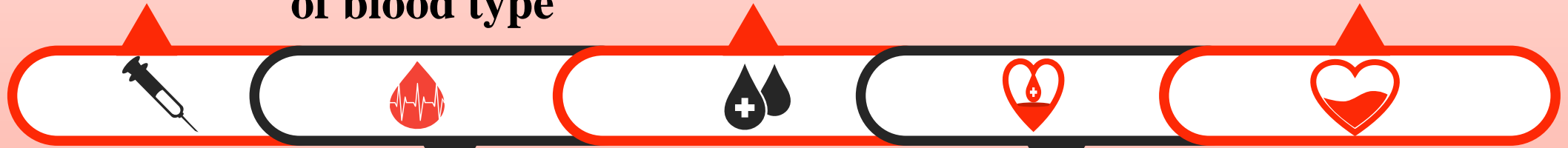
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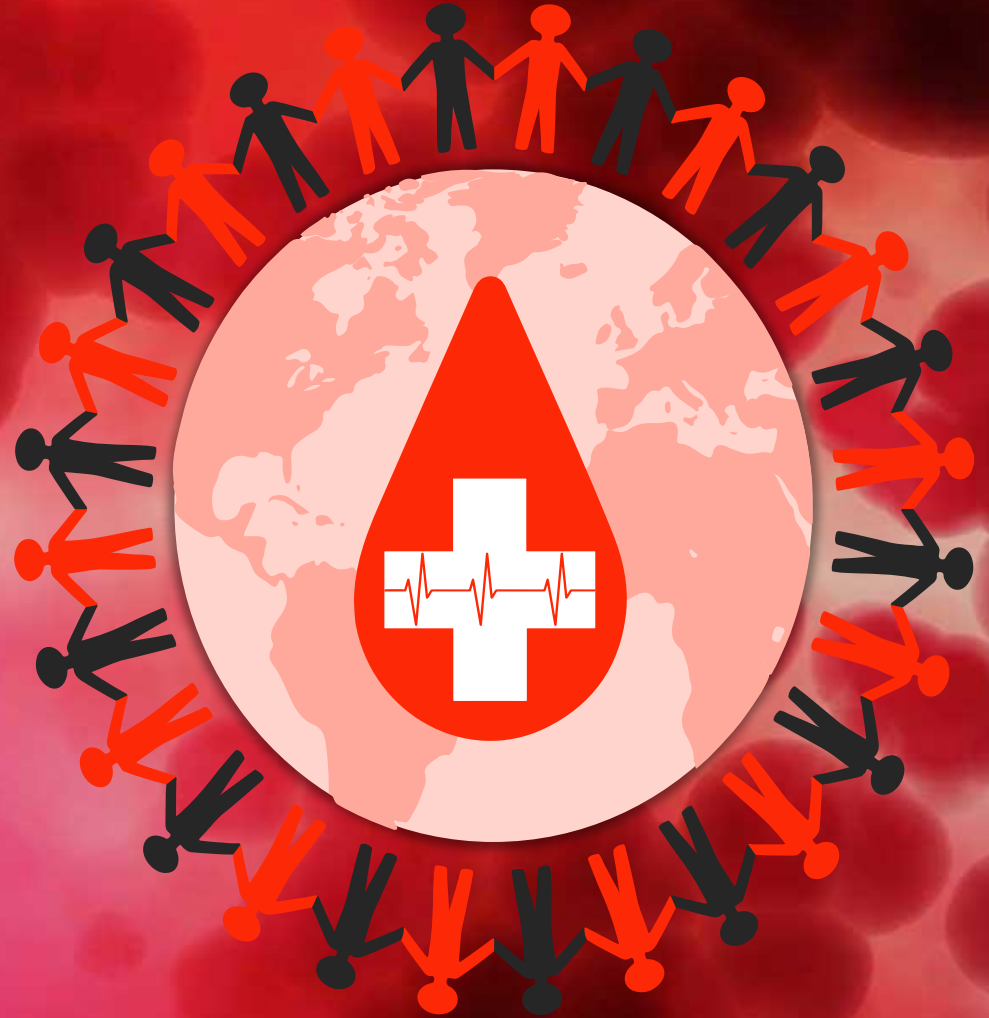
**04**

**blood group  
transfusion**

# Introduction

There are 4 main blood groups (types of blood) – **A, B, AB and O**. Your blood group is determined by the genes you inherit from your parents.

Blood groups were discovered by Karl Landsteiner in 1900



# The importance of knowing your blood type



It is necessary to know your blood type.

- if you need a blood transfusion or
- plan to donate.
- The test is also done to see if you have a substance called Rh factor (Rh) on the surface of your red blood cells. Your blood type depends on the genes you inherit from your parents.





# The blood types

Your blood group is identified by antibodies and antigens in the blood

There are two systems for determining blood types:

- The ABO system
- The Rh system



# The ABO system

There are 4 main blood groups defined by the ABO system:

**blood group A** – has A antigens on the red blood cells with anti-B antibodies in the plasma

**blood group B** – has B antigens with anti-A antibodies in the plasma

**blood group O** – has no antigens, but both anti-A and anti-B antibodies in the plasma

**blood group AB** – has both A and B antigens, but no antibodies

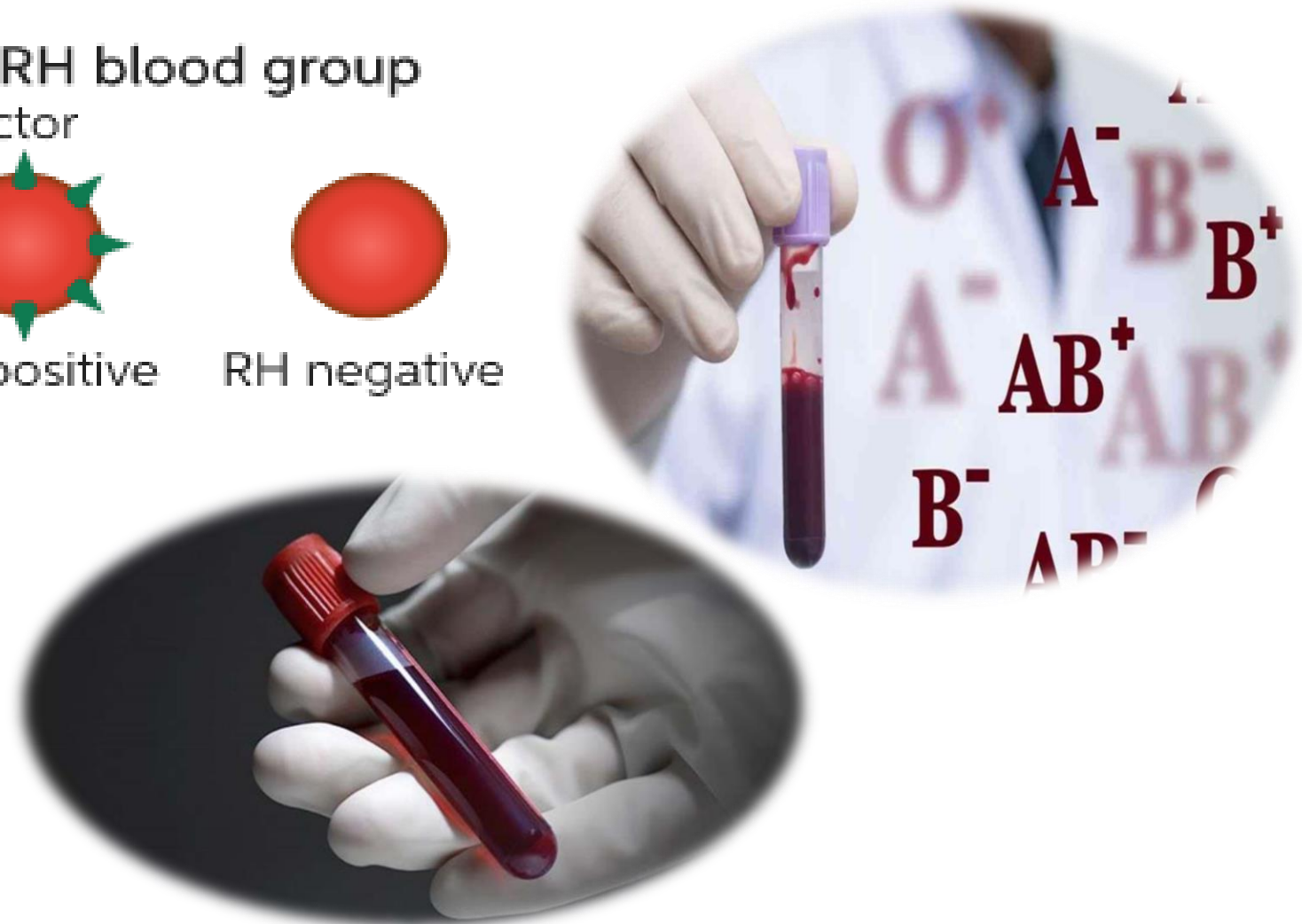
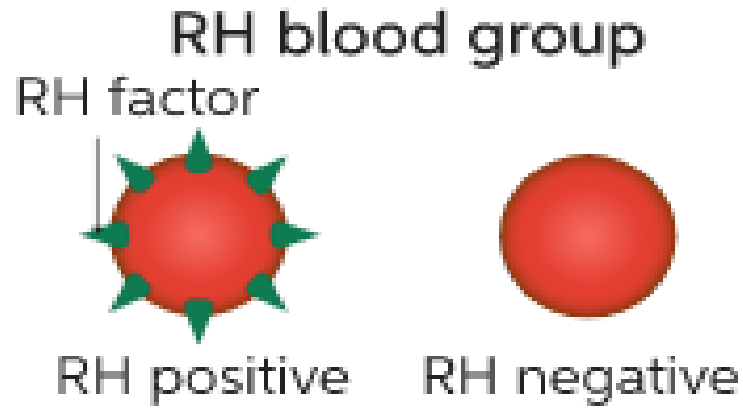
## ABO BLOOD GROUP SYSTEM

	GROUP A	GROUP B	GROUP AB	GROUP O
Red Blood Cell Type				
Antibodies in Plasma	 Anti-B	 Anti-A		 Anti-A and Anti-B
Antigens in Red Blood Cell	 A antigen	 B antigen	 A and B antigen	 None

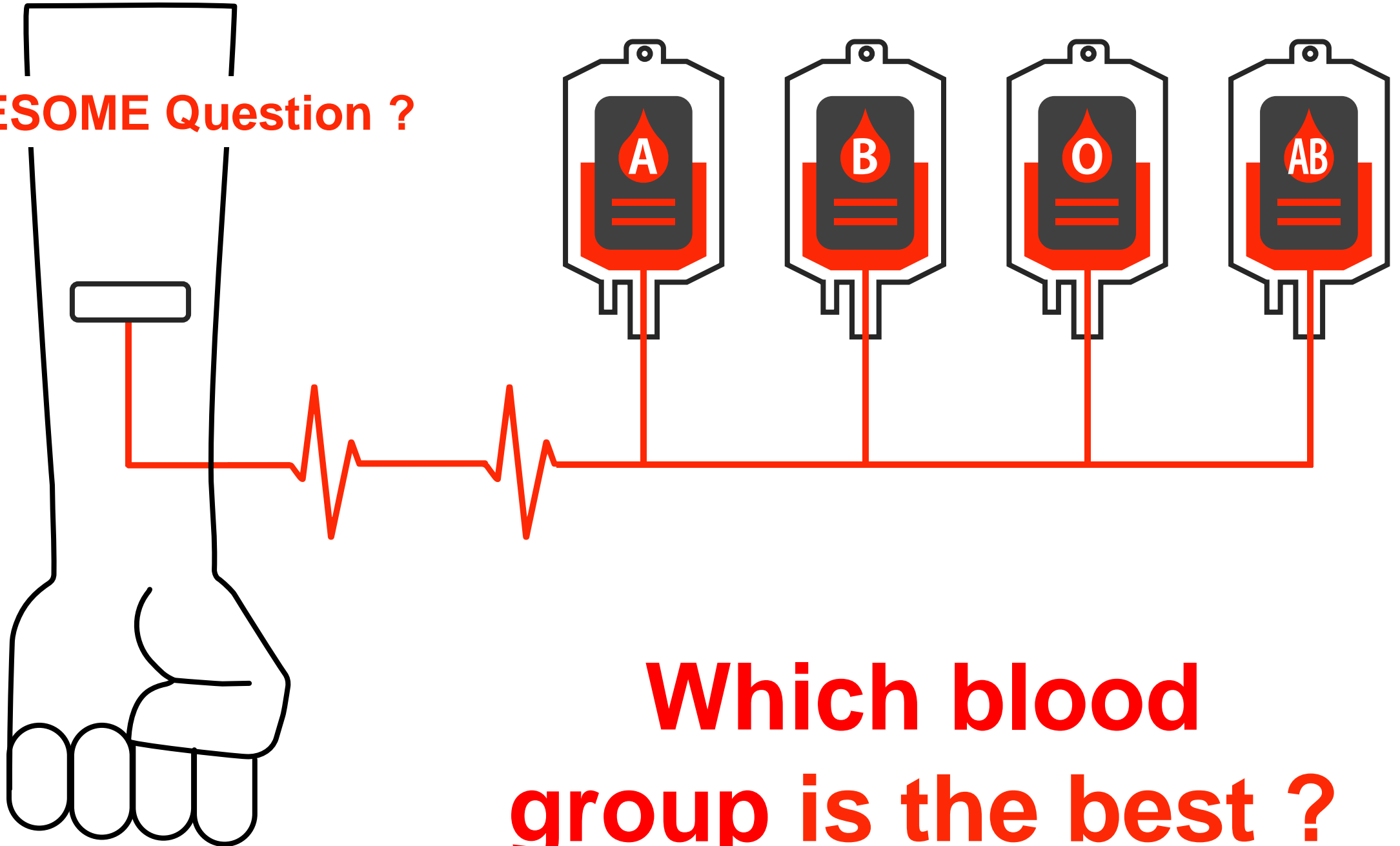
# The Rh system

Red blood cells sometimes have another antigen, a protein known as the RhD antigen. If this is present, your blood group is RhD positive. If it's absent, your blood group is RhD negative

- A RhD positive (A+)
- A RhD negative (A-)
- B RhD positive (B+)
- B RhD negative (B-)
- O RhD positive (O+)
- O RhD negative (O-)
- AB RhD positive (AB+)
- AB RhD negative (AB-)



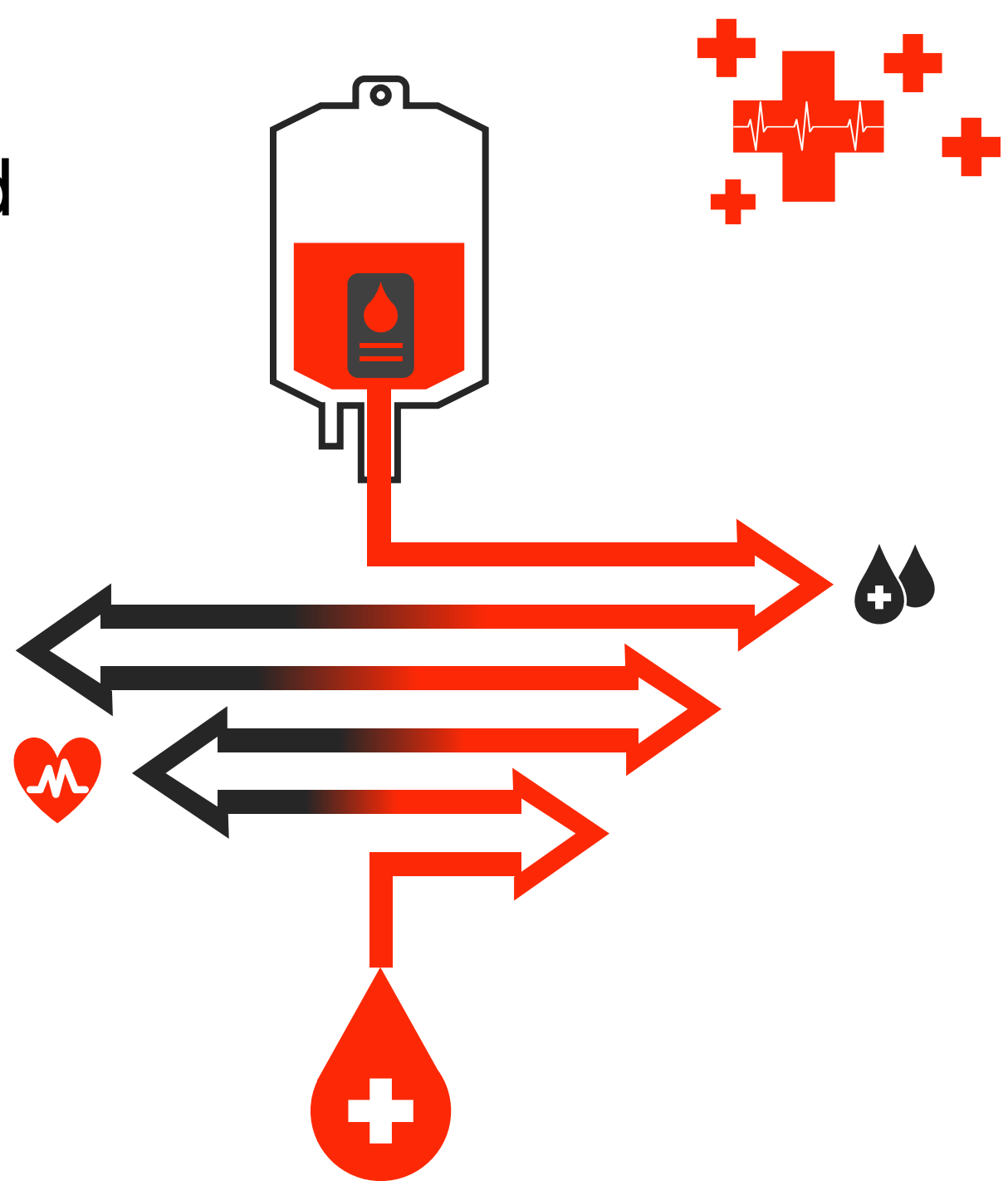
**AWESOME Question ?**



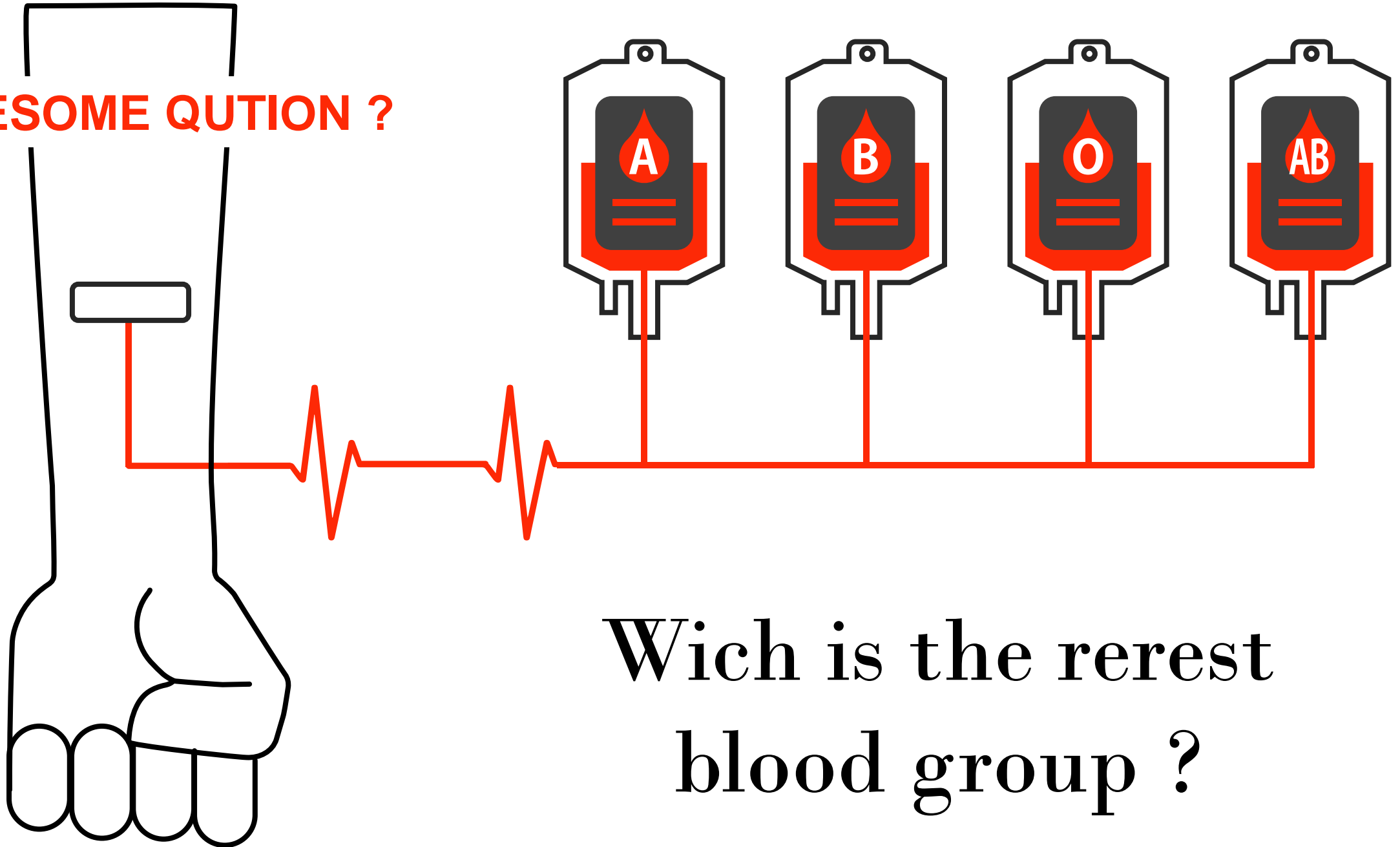
**Which blood  
group is the best ?**



“The (O-) blood is the best blood type among all blood types in terms of blood donation.”



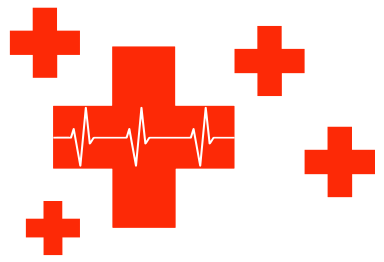
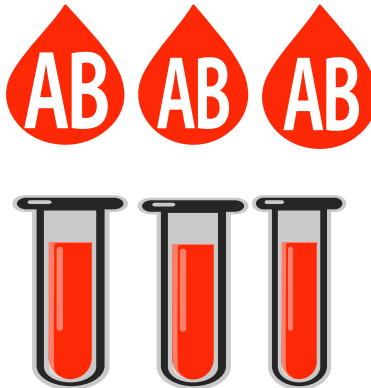
AWESOME QUTION ?



Wich is the rereest  
blood group ?

The blood type (**AB-** )  
**negative** is the rarest of  
the eight blood groups

Only **1%** of people  
worldwide have this  
type.





**blood group transfusion**





**Donor**

**Recipient**

**O**



**O**

**A**



**A**

**B**

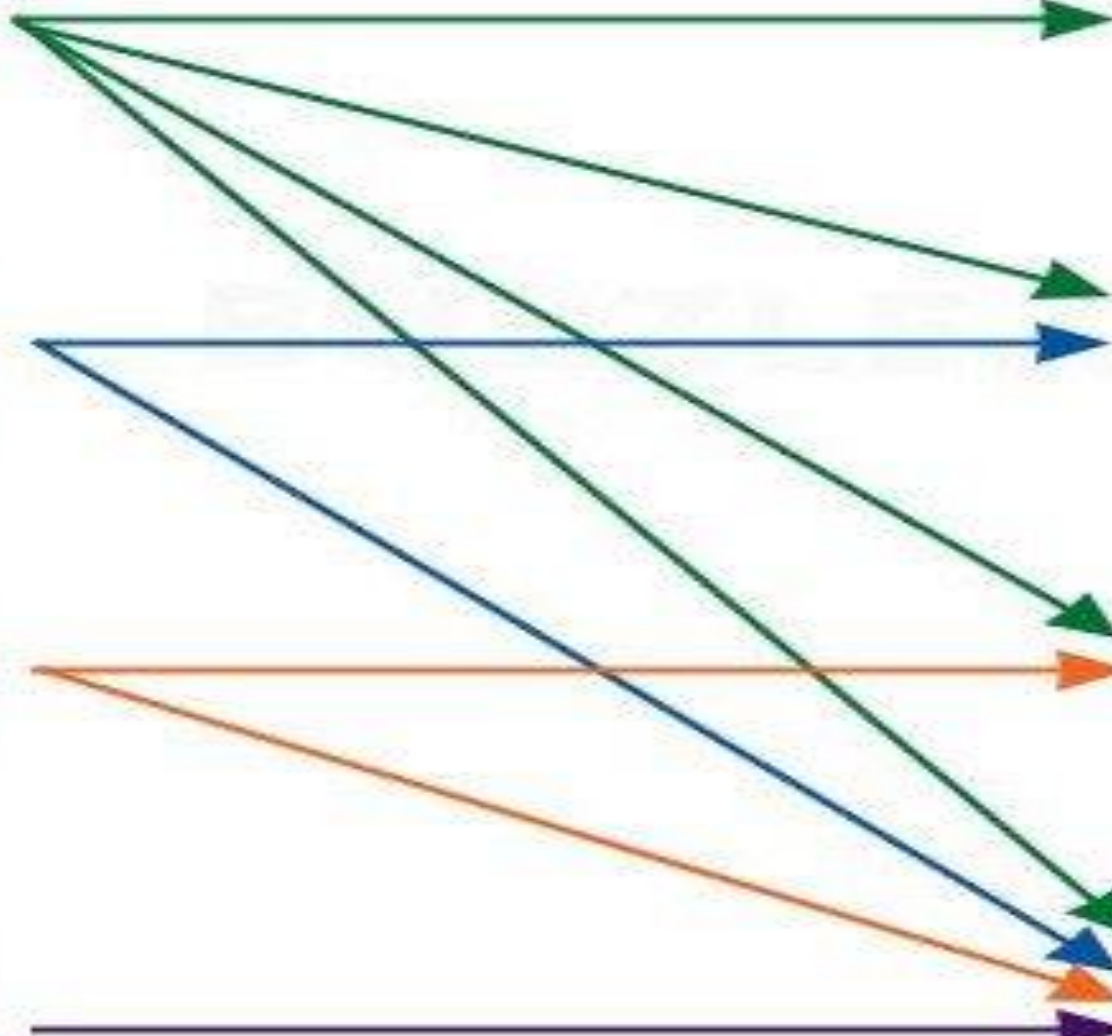


**B**

**AB**



**AB**



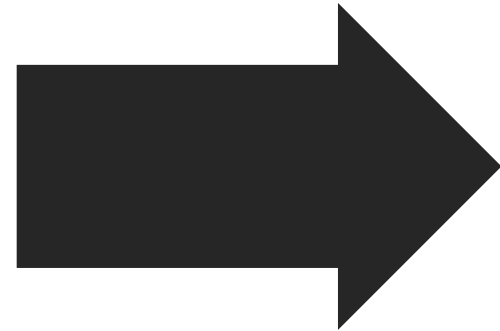


# Summary

**blood group** is identified by antibodies and antigens in the blood, were discovered by Karl Landsteiner in 1900, There are two systems for determining blood types

(ABO and RH) system, The ABO system There are 4 main blood groups defined by the ABO system: (A, B, AB, o groups), The Rh system is divided into (A+), (A-), (B+), (B-), (AB+), (AB-), (O+), (O-), The best blood type is (o-), The rarest blood type is (AB-negative)

# Reference



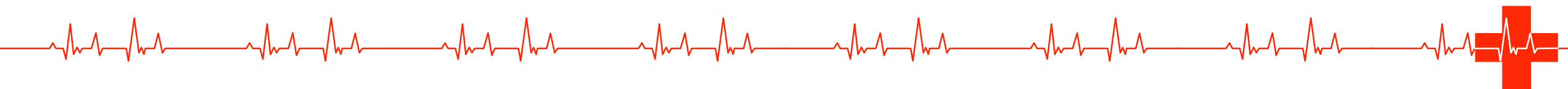
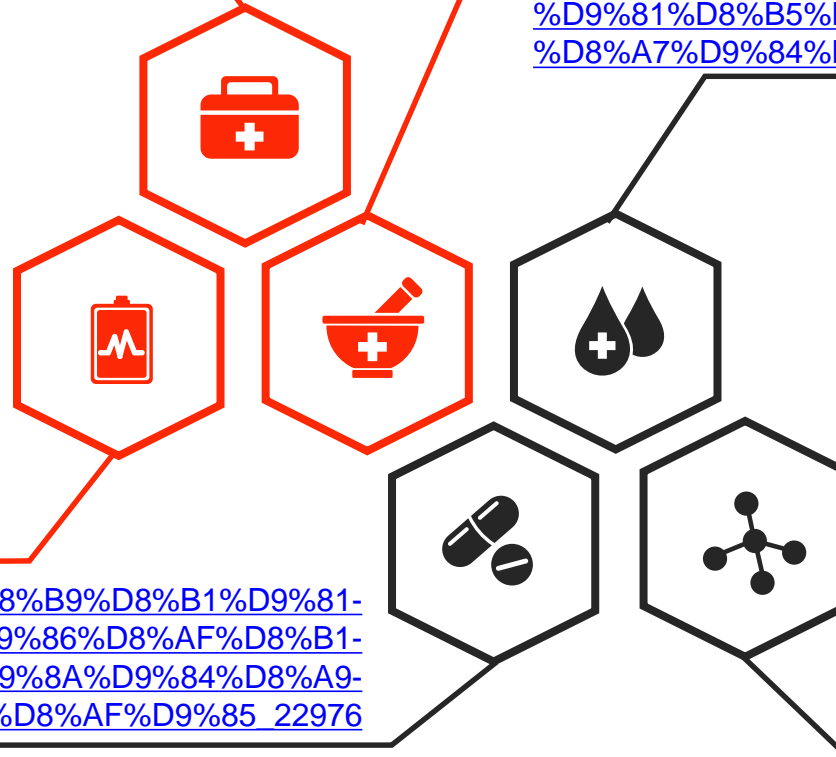
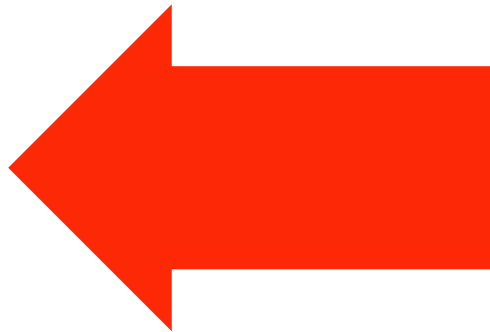
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THANK YOU