

BLOOD TYPES/STRUCTURE/TRANSFUSIONS

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BLOOD STRUCTURE



PLASMA

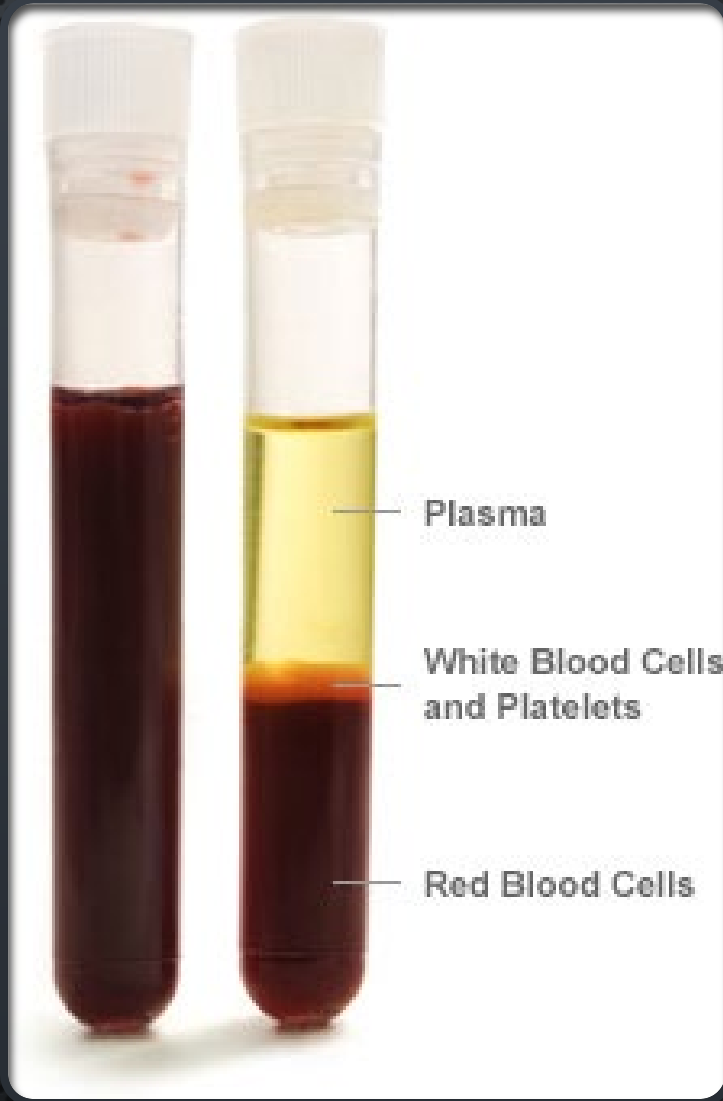


WHITE BLOOD CELLS AND PLATELETS



RED BLOOD CELLS

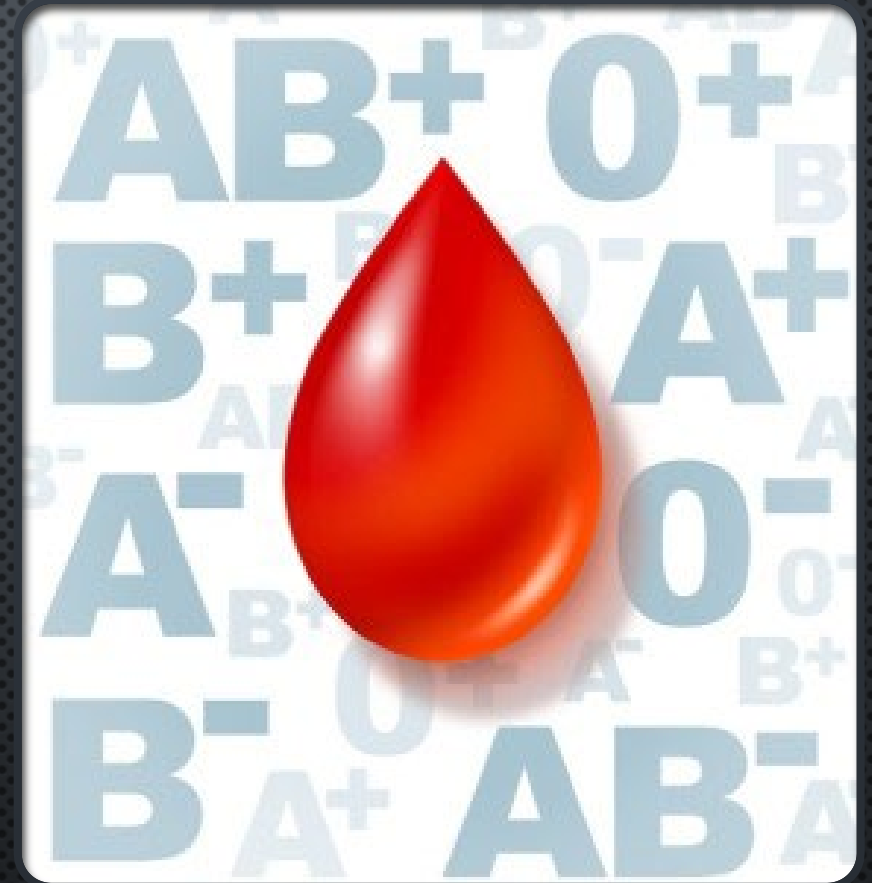
- BLOOD IS MADE UP OF RED BLOOD CELLS, WHITE BLOOD CELLS AND PLATELETS IN A LIQUID (PLASMA)



- RED BLOOD CELLS CARRY OXYGEN AND REMOVE WASTE PRODUCTS
- WHITE BLOOD CELLS HELP FIGHT INFECTIONS IN YOUR BODY
- PLASMA IS THE LIQUID PORTION OF BLOOD
- PLATELETS HELP YOUR BLOOD CLOT WHEN NEEDED

SO, WHAT'S YOUR TYPE?

- THERE ARE FOUR MAIN BLOOD GROUPS:
 - A, B, AB, O
 - BLOOD TYPES VARY BETWEEN INDIVIDUALS
 - EACH PERSON HAS A SPECIFIC STRUCTURE

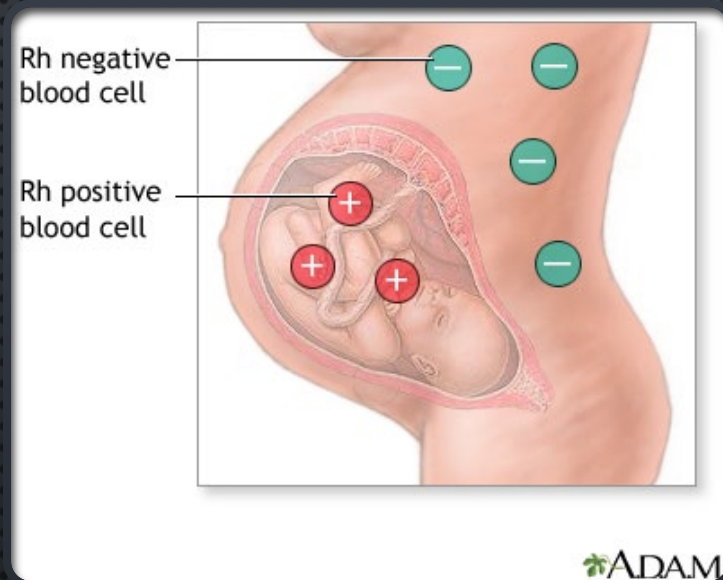


Blood types are also classified by whether they carry a protein called Rh factor.



If your blood carries this protein, it's considered positive and if it doesn't carry it, then it's considered negative.

RH FACTOR



- RH POSITIVE IS MORE COMMON THAN RH NEGATIVE
- IF A WOMAN IS RH NEGATIVE, IT CAN AFFECT HER PREGNANCY
 - RH INCOMPATIBILITY HAPPENS WHEN THE MOTHER IS RH NEGATIVE, AND THE UNBORN BABY IS RH POSITIVE
 - THIS ISN'T AN ISSUE FOR THE FIRST PREGNANCY, BUT SUBSEQUENT PREGNANCIES CAN DEVELOP PROBLEMS
 - THE MOTHER'S BLOOD CANNOT COME IN CONTACT WITH THE BABY'S BLOOD
 - THIS COULD PRODUCE ANTIBODIES THAT CAN DAMAGE THE BABY'S RED BLOOD CELLS RESULTING A LIFE-THREATENING ANEMIA WHERE THE RED BLOOD CELLS ARE DESTROYED FASTER THAN WHAT THEY CAN BE PRODUCED.

WHICH RESULTS IN 8 COMMON BLOOD TYPES

A+

A-

B+

B-

AB+

AB-

O+

O-

WHERE DO YOU GET YOUR TYPE?

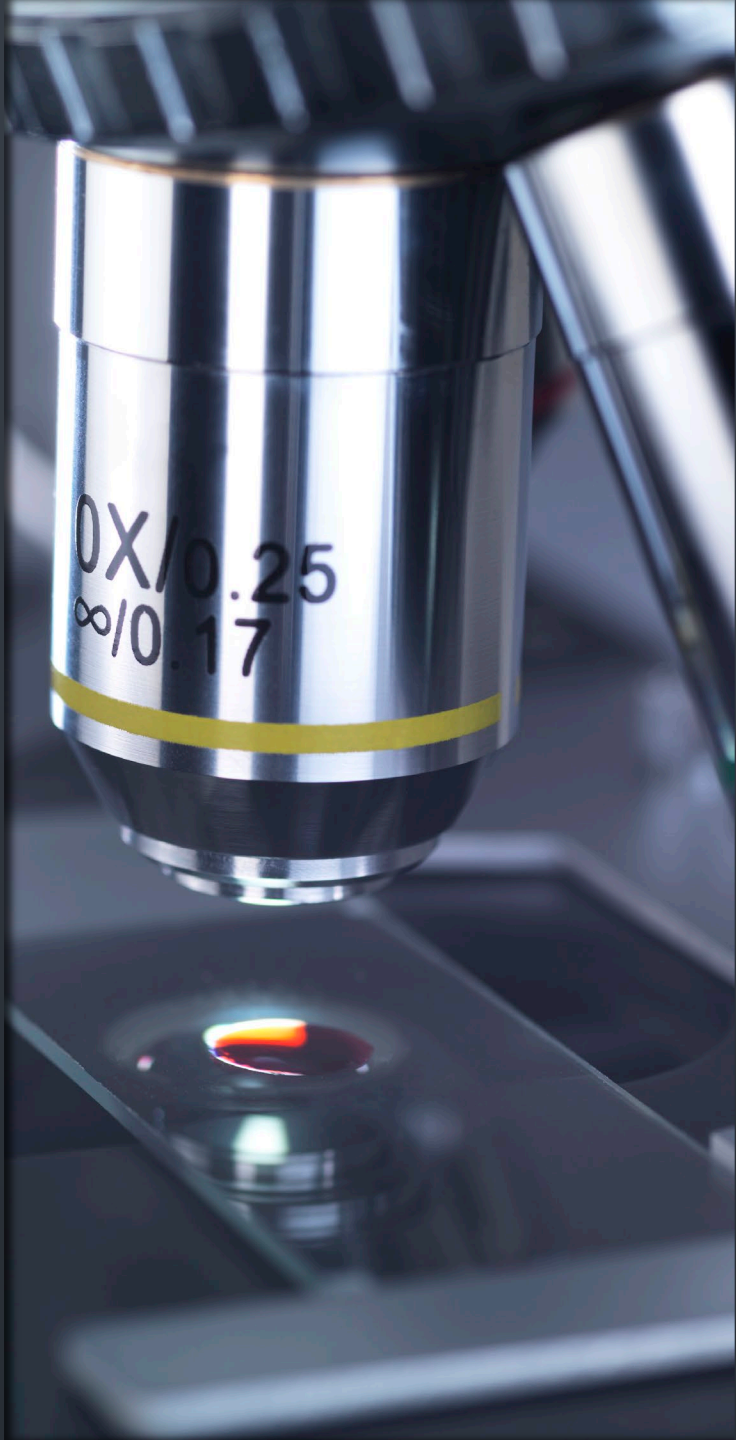
MOM

+

DAD

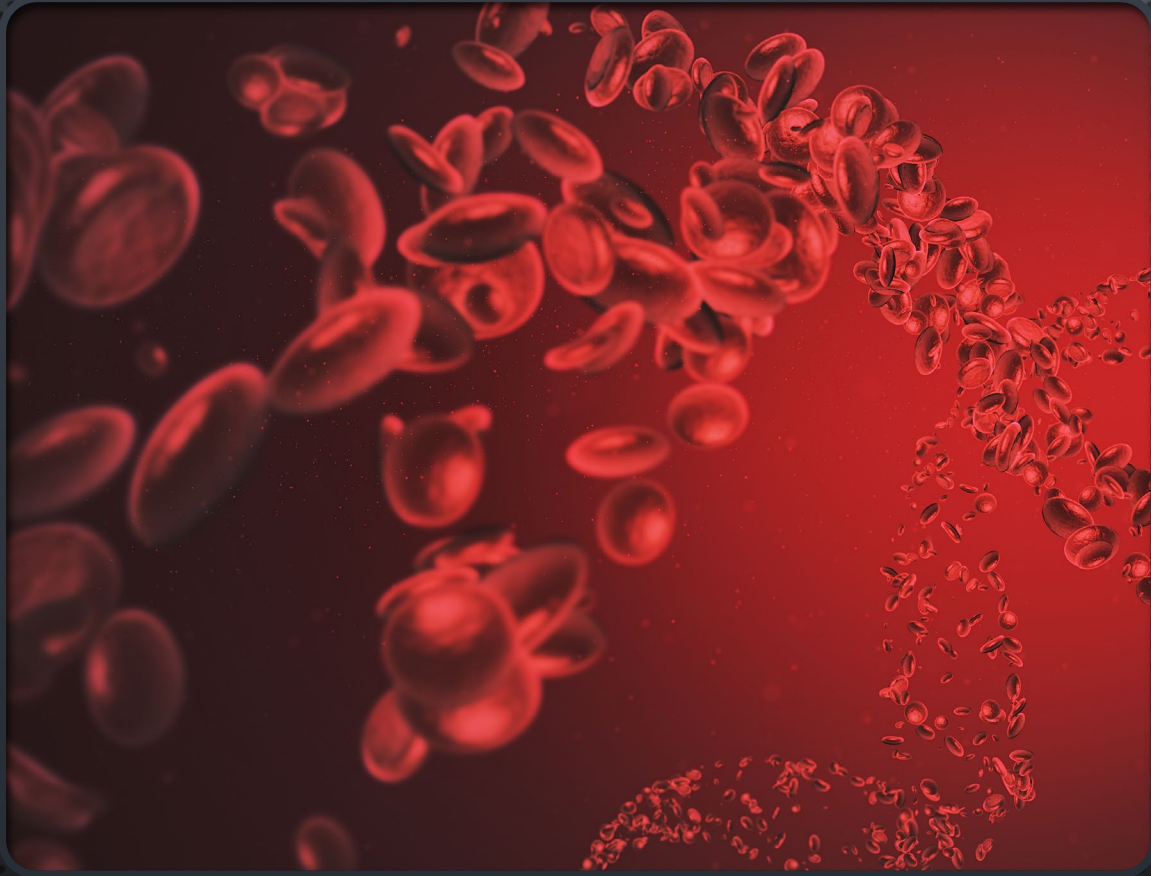
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YOU!



A LOT OF POSSIBILITIES

- JUST LIKE YOU INHERITED YOUR EYE COLOR FROM YOUR PARENTS, THAT'S ALSO HOW YOU GET YOUR BLOOD TYPE.
- HOWEVER, THERE ARE QUITE A FEW POSSIBILITIES, SO YOU MAY NOT HAVE THE EXACT BLOOD TYPE AS WHAT YOUR MOM OR DAD HAS.





- THE MOST COMMON BLOOD TYPE IN THE UNITED STATES IS O+
- THE LEAST COMMON BLOOD TYPE IN THE UNITED STATES IS AB-
- O- BLOOD HAS THE HIGHEST DEMAND

O+

O-

A+

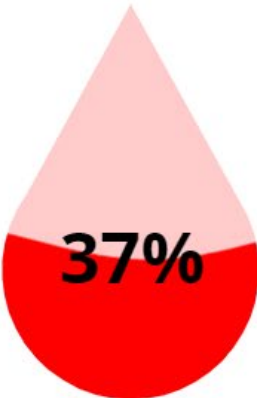
A-

B+

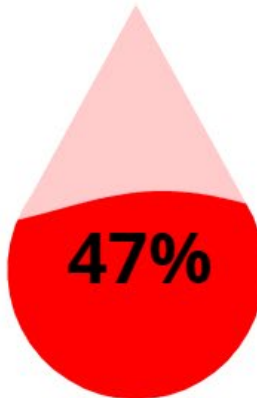
B-

AB+

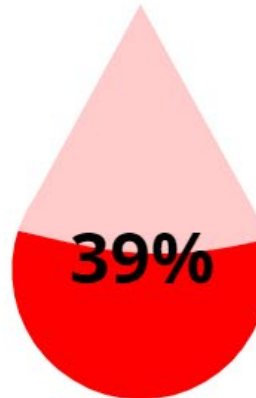
AB-



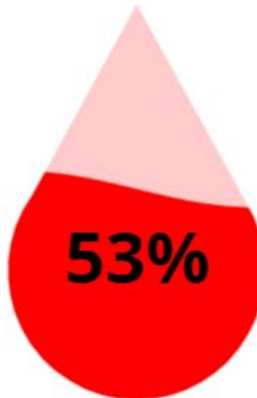
Caucasian



African-American



Asian



Latino-American

O+

O-

A+

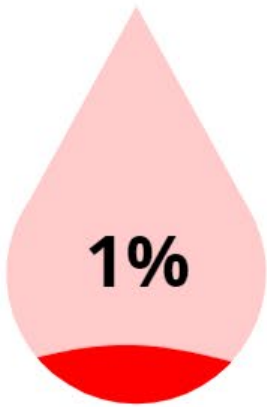
A-

B+

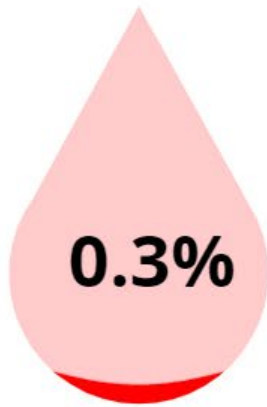
B-

AB+

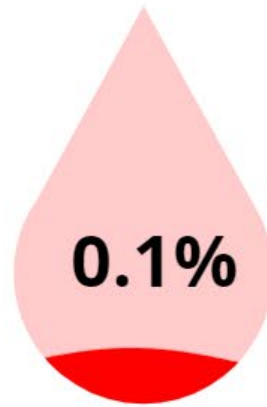
AB-



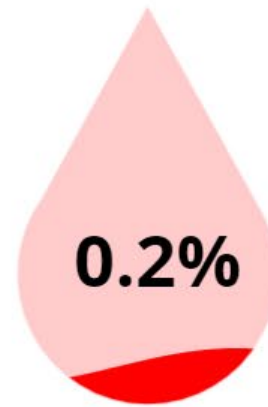
Caucasian



African-American



Asian



Latino-American

O+

O-

A+

A-

B+

B-

AB+

AB-

8%

4%

1%

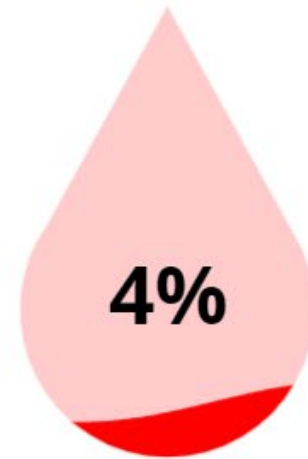
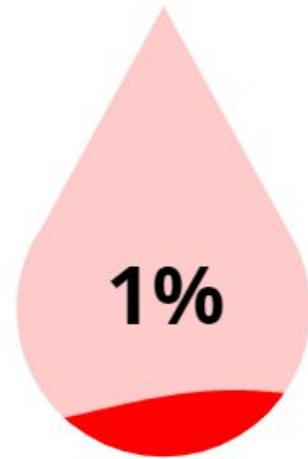
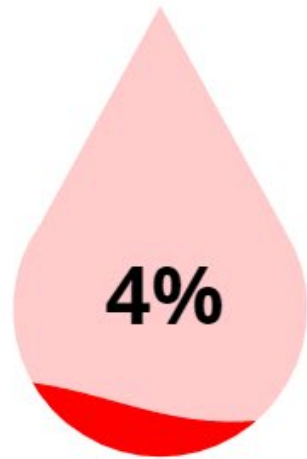
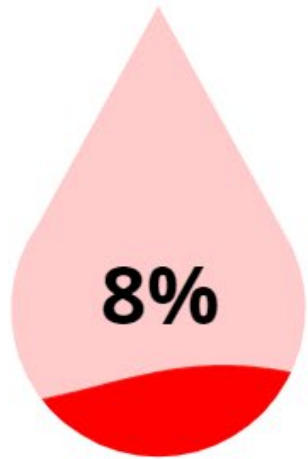
4%

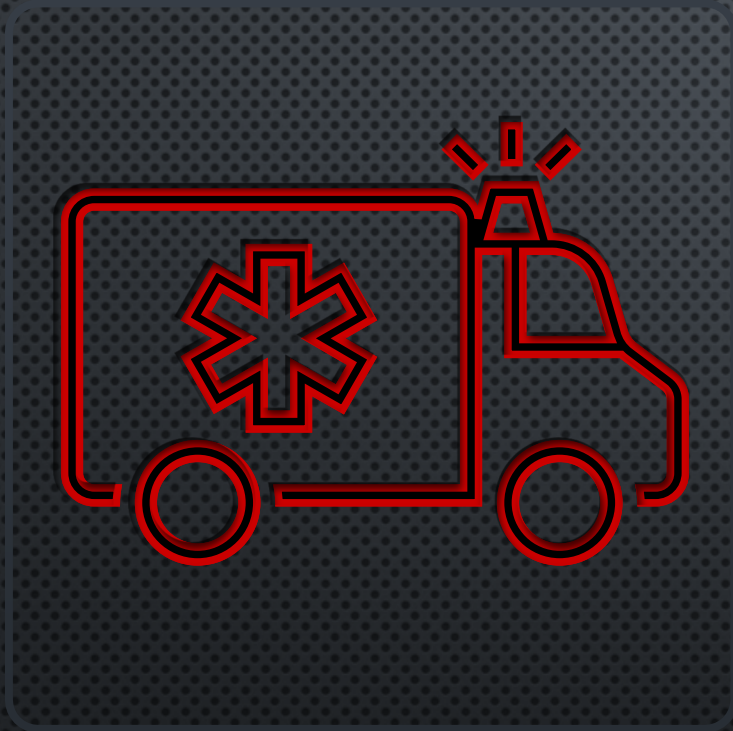
Caucasian

African-American

Asian

Latino-American
































WHY DOES ALL THIS MATTER?

- IT'S IMPORTANT TO KNOW BLOOD TYPES WHEN DONATING AND RECEIVING ANY BLOOD PRODUCTS.
- NOT ALL BLOOD TYPES ARE COMPATIBLE.
- RECEIVING BLOOD FROM A DONOR THAT CONTAINS ANTIGENS/PROTEINS THAT YOUR BLOOD DOESN'T CARRY OR RECOGNIZE, COULD RESULT IN A LIFE-THREATENING SITUATION.

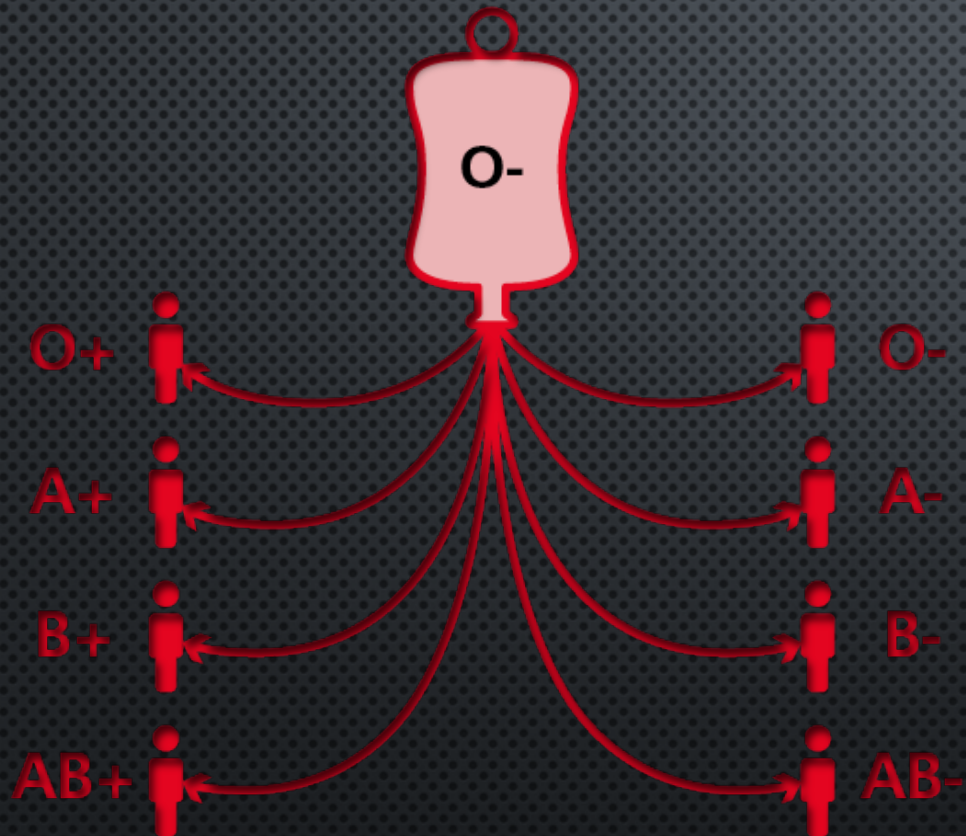
Which blood types are compatible?

BLOOD TYPES YOU CAN RECEIVE

	<i>O-</i>	<i>O+</i>	<i>B-</i>	<i>B+</i>	<i>A-</i>	<i>A+</i>	<i>AB-</i>	<i>AB+</i>
<i>AB+</i>								
<i>AB-</i>								
<i>A+</i>								
<i>A-</i>								
<i>B+</i>								
<i>B-</i>								
<i>O+</i>								
<i>O-</i>								

BLOOD TYPES

YOU'RE EVERYONE'S TYPE



- O- BLOOD IS CONSIDERED THE UNIVERSAL DONOR. ANYONE, REGARDLESS OF THEIR BLOOD TYPE, CAN RECEIVE THIS TYPE OF BLOOD SAFELY.
- O- BLOOD IS USED IN EMERGENCY SITUATIONS WHEN THERE ISN'T TIME TO FIND OUT WHAT THE PERSON'S BLOOD TYPE IS.



- AB+ IS CONSIDERED THE UNIVERSAL RECIPIENT BECAUSE A PERSON WITH THIS BLOOD TYPE CAN SAFELY RECEIVE ANY BLOOD TYPE WITHOUT HAVING A SEVERE IMMUNE REACTION.

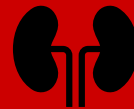
WHAT HAPPENS IF YOU RECEIVE AN INCOMPATIBLE BLOOD TYPE?



It can cause a severe, life-threatening reaction.



Your immune system reacts as if those donor cells are foreign invaders and will attack them.



The donated blood turns useless in a person's body and can launch a massive immune system and clotting response that can result in:

- Shock
- Kidney failure
- Circulatory collapse
- Death

BLOOD TRANSFUSION RISKS/SIDE-EFFECTS

- THERE ARE RISKS ASSOCIATED WITH COMPATIBLE BLOOD TRANSFUSIONS, TOO.
- SOME OF THESE RISKS/SIDE-EFFECTS HAPPEN IMMEDIATELY AS THE TRANSFUSION STARTS, WHILE OTHERS CAN BE DELAYED DAYS, WEEKS, OR UP TO A MONTH.

MOST COMMON SIGNS AND SYMPTOMS:



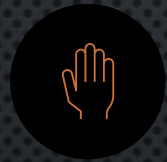
Fever



Chills



Hives



Itching



Trouble Breathing



Low Blood Pressure



Bloody Urine



Sense of Impending
Doom (like something
bad is about to
happen to them)



WHAT SAFEGUARDS ARE IN PLACE TO
AVOID THESE ISSUES?



TYPE & CROSS TESTING DONE

This is a blood test that is performed prior to blood donation (for non-emergent situations)

Type is performed to determine the type of blood from the donor and the recipient

Cross match is done by taking a small amount of the donor's blood and mixing it with the recipient's blood. This is examined under a microscope to determine if they are compatible.

STRICT PROTOCOLS ARE IN PLACE FOR BLOOD & BLOOD PRODUCT(S) TRANSFUSIONS

- SOME OF THESE INCLUDE:
 - MUST HAVE AN ORDER FROM PHYSICIAN TO TRANSFUSE BLOOD OR BLOOD PRODUCTS
 - TWO RN'S MUST VERIFY PATIENT INFORMATION, AS WELL AS SPECIFICS FOR DONATED BLOOD AND INSPECT BLOOD/BLOOD PRODUCT(S) THAT WILL BE USED
 - RIGOROUS PROTOCOLS FOR PATIENT VITAL SIGNS, SET UP, ETC.
 - NURSE STAYS WITH PATIENT AND MONITORS PATIENT AND PATIENT'S VITAL SIGNS FOR SPECIFIC TIMEFRAME

WHAT ARE DONATED BLOOD & BLOOD PRODUCTS USED FOR?

- IT'S USED TO TREAT PATIENTS WITH MEDICAL CONDITIONS LIKE:
 - ANEMIA
 - CANCER
 - BLOOD DISORDERS
 - SURGERY
 - SEVERE BLOOD LOSS

DONATED BLOOD IS TYPICALLY SEPARATED INTO DIFFERENT PARTS

- DONATED BLOOD IS MADE UP OF NUMEROUS COMPONENTS SUCH AS:
 - RED BLOOD CELLS
 - PLATELETS
 - PLASMA
- SEPARATING WHOLE BLOOD INTO COMPONENTS ABOVE ENABLES PATIENTS TO RECEIVE WHAT THEY NEED.
- MOST BLOOD TRANSFUSIONS ARE NOT WHOLE BLOOD. SEPARATING THE COMPONENTS ALLOWS FOR THE SPECIFIC NEED TO BE GIVEN.

RED BLOOD CELLS

- USED FOR:
 - SEVERE TRAUMA
 - BLEEDING ULCERS
 - MAJOR SURGERIES WITH LARGE AMOUNTS OF BLOOD LOSS
 - SICKLE CELL ANEMIA
 - PEOPLE WHO LOSE SIGNIFICANT AMOUNT OF BLOOD
- RED BLOOD CELLS ARE INDICATED IN MORE THAN 70% OF ALL TRANSFUSIONS!



PLATELETS

- USED TO:
 - TREAT OR PREVENT BLEEDING IN PATIENTS WITH PLATELET DISORDERS
 - PRIOR TO SPECIFIC PROCEDURES TO PREVENT BLEEDING
 - PATIENTS WHO DO NOT HAVE ENOUGH OF THEIR OWN PLATELETS
 - TREAT SIDE-EFFECTS OF CANCER TREATMENTS
- DONATED PLATELETS MUST BE USED WITHIN 5 DAYS!



PLASMA

- USED FOR:
 - SEVERE TRAUMA
 - BURN
 - SHOCK
 - ADULTS & CHILDREN WITH CANCER
 - LIVER OR CLOTTING DISORDERS
- DONATED PLASMA CAN BE FROZEN AND STORED FOR UP TO A YEAR!



- INTERESTED IN SEEING A SHORT CLIP OF A BLOOD TRANSFUSION?
- CLICK THE LINK TO SEE FOR YOURSELF: [WHAT DOES A BLOOD TRANSFUSION LOOK LIKE? - YOUTUBE](#)

INTERESTED IN DONATING BLOOD?



Will-Burt is hosting its second onsite blood drive on Thursday, August 31st!



Keep an eye on the TV's and my blog for more information and sign ups.

REFERENCES

- WWW.REDCROSS.ORG
- WWW.MAYOCLINIC.ORG
- WWW.CCF.ORG
- WWW.NCBI.GOV
- WWW.MEDICALNEWSTODAY.COM