

A large teal graphic element consisting of a diagonal line that splits the page into a white upper-left section and a teal lower-right section.

**BLOOD
TRANSFUSIONS
AT AAVEC**

TERMINOLOGY

ANTIGEN: A substance or molecule that when introduced into the body can stimulate an immune response.

ANTIBODIES: A protein released in the body in response to immune stimulation, to identify and neutralize foreign objects.

BLOOD TYPING: a test that reveals what type of blood a patient has. This depends on the presence of certain antigens on their red blood cells.

CROSSMATCHING: a compatibility test used to check for harmful interactions between the patient's blood and the donor's blood.

TERMINOLOGY

FRESH WHOLE BLOOD: Has electrolytes, platelets and RBCs within 6 hours of collection

WHOLE BLOOD: after 6 hours of collection significant losses in clotting factors

pRBCs: Has red blood cells only

FFP: Has clotting factors and plasma proteins only

CRYOPRECIPITATE: Has factors VIII, XIII, vWF, and fibrinogen

AHR: Acute Hemolytic Reaction

CANINE **BLOOD** TYPES

DEA: Dog Erythrocyte Antigen

DEA 1.1 Negative

- Most Common
- Can ONLY receive negative blood
- Considered “Universal” Donors

DEA 1.1 Positive

- 33 – 45% of Population
- Considered “Universal” recipients meaning they can get receive both negative and positive blood.

Feline **BLOOD** TYPES

TYPE A

- 94 – 97% of Cats

TYPE B

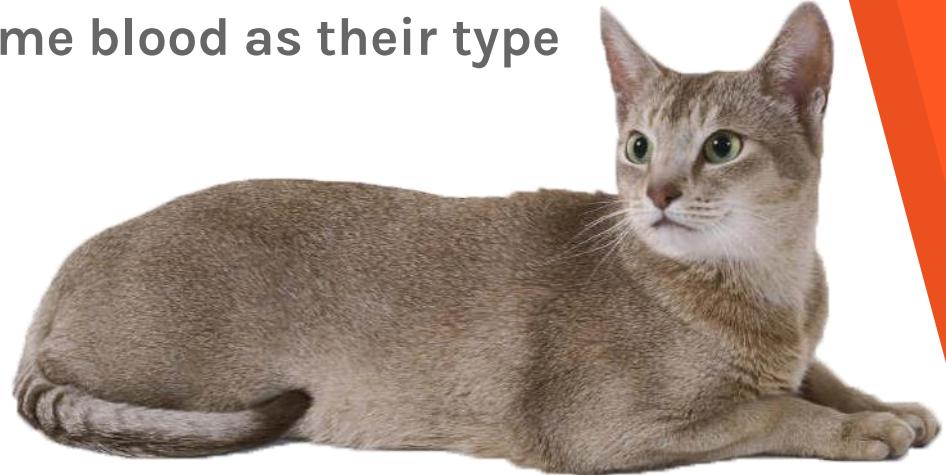
- Rare

TYPE AB

- Rarest

THERE IS NO UNIVERSAL DONOR

Cats must receive the same blood as their type

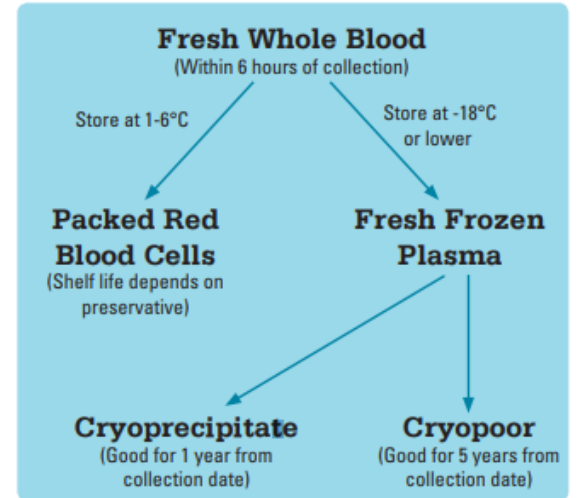
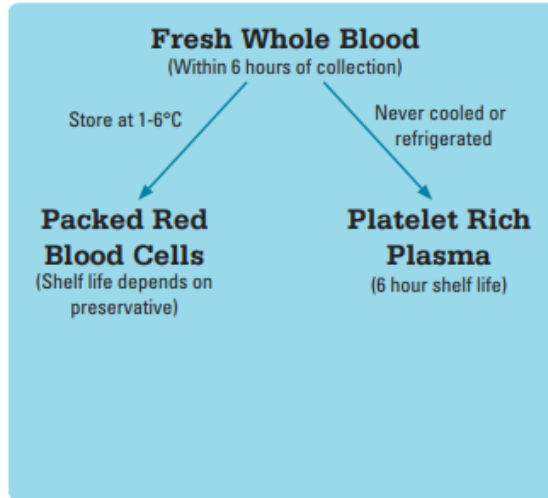
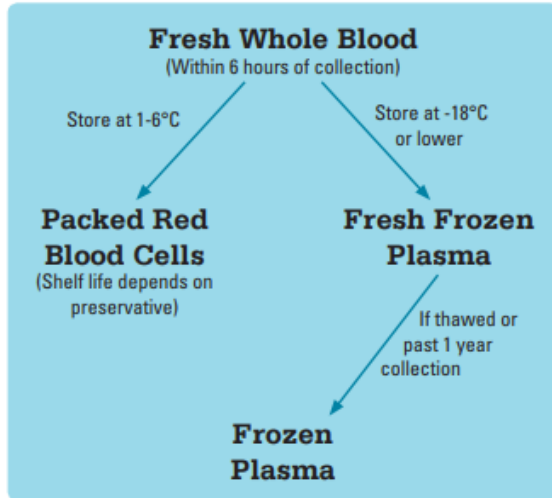


ANIMATION ON BLOOD TYPES



* This is representing human blood, but it is similar to animal blood in how antigens and antibodies work

Blood Products Breakdown



[* Full Blood Product Sheet Link](#)

FRESH FROZEN PLASMA

- Plasma is separated from RBCs
- For Coagulopathy - all factor deficiencies and hypoproteinemia
- Administer through a fluid pump
- Kept Frozen: Defrosted in warm (Not Hot) water. Takes about 20 mins to thaw
- Administer immediately after thawing. Must be used within 24 hours of thawing.
- Must have a filter



PACKED **RED** BLOOD CELLS

- Red blood cells are separated from everything else.
- Given for symptomatic deficit of oxygen carrying capacity due to red blood cell loss
- Refrigerated, Filtered
- Cannot be administered through fluid pumps, only syringe and manual drip sets



MANUAL DRIP SETS

- Manual blood filter administration sets are located to the right of the blood fridges in the top drawer.
- Catches fibrin debris
- Roll the clamp until you reach the correct number of seconds between each drop
- It needs to be flushed at the end with 0.9% Sodium Chloride
- Uses gravity instead of a pump to administer blood product



Picture is representative of component type

CALCULATING MANUAL DRIPS

Doctor orders are to administer 175 mL of pRBCs over 4 hours.

1. **Determine your rate:**
 $175 \text{ mL} \div 4 = 43.75$ (**44 mL / hr**)
2. $44 \text{ mL} \times 10 = 440$ minutes
3. $440 \text{ min} \div 60 \text{ minutes} = 7.3$ Seconds
4. $60 \text{ seconds} \div 7.3 \text{ seconds} = 8.2$ seconds
5. **You should have 1 drop of blood about every 8 seconds.**

ACUTE **HEMOLYTIC** REACTION

Potentially fatal complication usually occurring in the first 24 hours.

As little as 20 – 30 mL of incompatible RBCs can cause:

- Agitation, Tachycardia
- Nausea , Vomiting
- Dyspnea , Fever
- Facial Swelling
- Hypotension

MONITORING VITALS

1st HOUR

Check

- Temperature
 - HR or PR
 - RR / RE
 - CRT / MM
 - Facial Swelling
- every 15 minutes

2nd HOUR

If vitals in the 1st hour were within normal limits you can decrease the frequency.

Monitor vitals every 30 minutes for the 2nd hour.

EVERY HOUR AFTER

If vitals in the 2nd hour were within normal limits you can further decrease the frequency.

Monitor vitals every 60 minutes until transfusion is complete.



THANKS!

Any questions?

You can email me at sgarcia@aavec.com