BLOOD TRANSFUSIONS

MISSY FOX, CVT, CWR

CROW CLINIC

SANIBEL, FL

WWW.CROWCLINIC.ORG

Physical exam – know your normal color for species

Normal pink MM

Abnormal pale MM

Abnormal pale MM

Normal pink MM

Normal pink MM

Normal light-pink MM

Abnormal pale MM

Other signs of anemia

- WEAKNESS
- OPEN-MOUTH BREATHING
- LETHARGY
- SLOW CRT
- THREADY-VEINS
- LOW BODY TEMP
- ANOREXIA

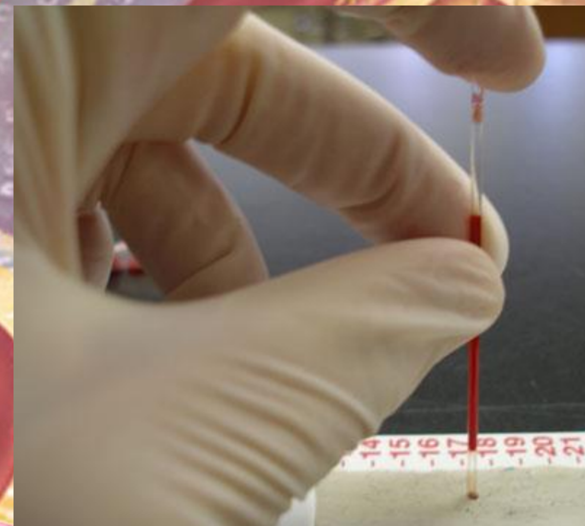
Acute or chronic ?

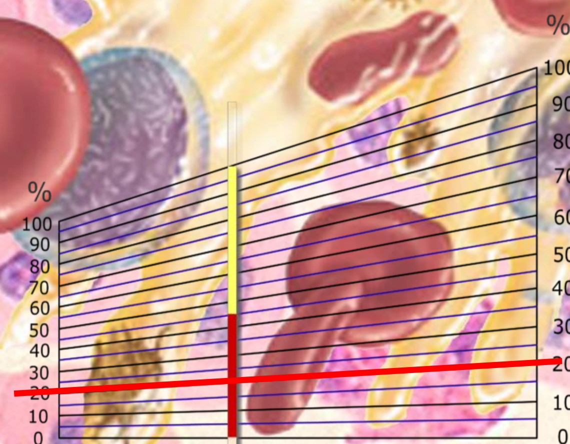
<u>Acute</u> loss can be from trauma or surgery

<u>Chronic</u> loss can be part of a disease process
- Anemia of chronic dz develops more rapidly
- Nutritional deficiencies (iron, B12, folate) from starvation
- Coagulopathies (rodent poison), immune mediated, bleeding tumors and gastric ulceration (red tide)
- External (feather lice/mites)
- Internal parasites should be excluded as causes

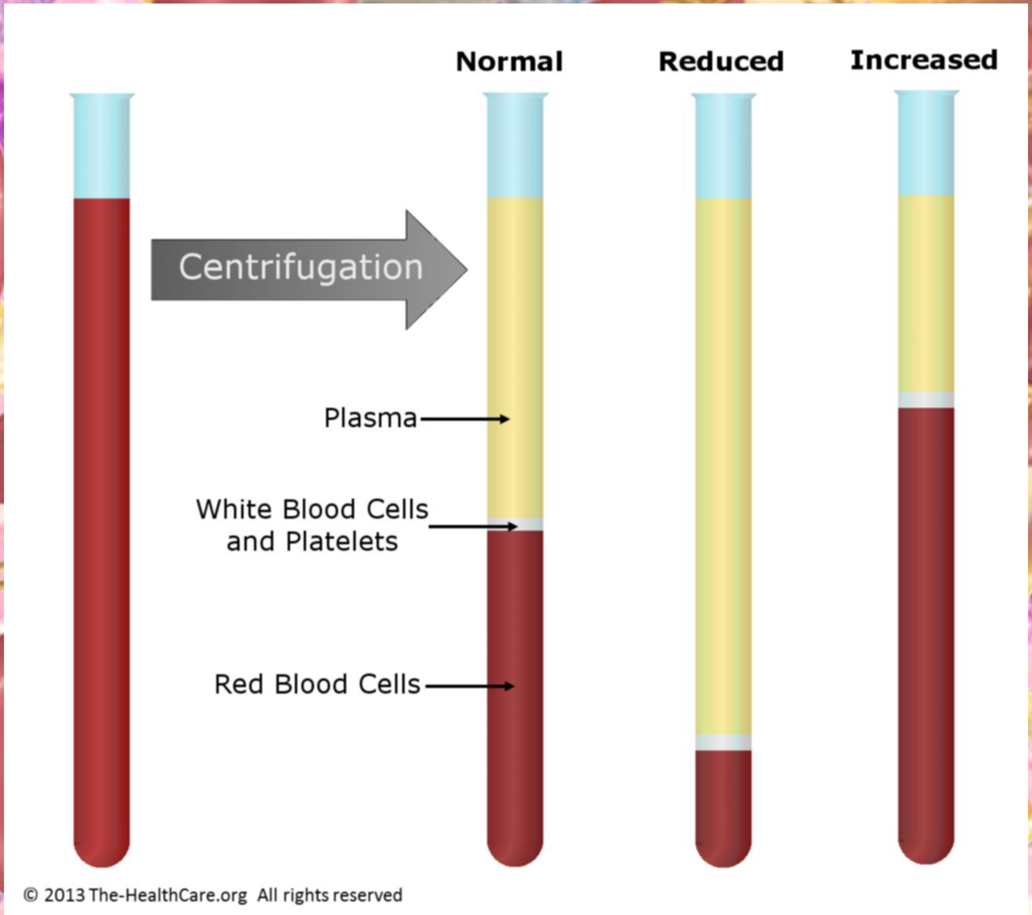
Mild-mod hemorrhage up to 25% loss of blood volume, fluids
Mod – severe greater than 25% loss of blood volume, transfuse

Simple equipment needed





Diagnostics



Hemoglobin is the protein inside **red blood cells** that carries oxygen. **Red blood cells** also remove carbon dioxide from your body, transporting it to the lungs for you to exhale.

Birds:

More resistant to hypovolemic shock

Pigeons can lose up to 50% more blood than dogs before dying

Avian RBC's live ~30 days; so up to 5% polychromasia is normal

PCV 20% or higher, iron dextran 10mg/kg IM, repeat 7-10 days.

Vitamin B12 0.25-0.5 mg/kg IM q7d.

PCV lower than 15-18% give iron and B12. See if there is a patient or ambassador to donate. Look at the clinical picture.

Reptiles:

Reptile RBC's can live ~600-800 days. Can vary with species and environment.

PCV 11% or higher, iron dextran 12mg/kg IM, repeat 1-2 x week.

Vitamin B12 0.05 mg/kg IM.

PCV lower than 10% iron dextran 12mg/kg IM, repeat 1-2 x week.

Vitamin B12 0.05 mg/kg IM. See if there is a patient or ambassador to donate.

Mammals:

Mammal RBC's can live ~120 days.

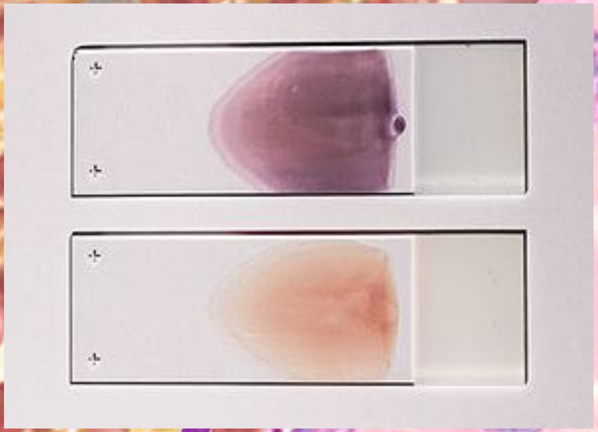
PCV 20% or higher, iron dextran 10mg/kg IM, repeat 7-10 days.

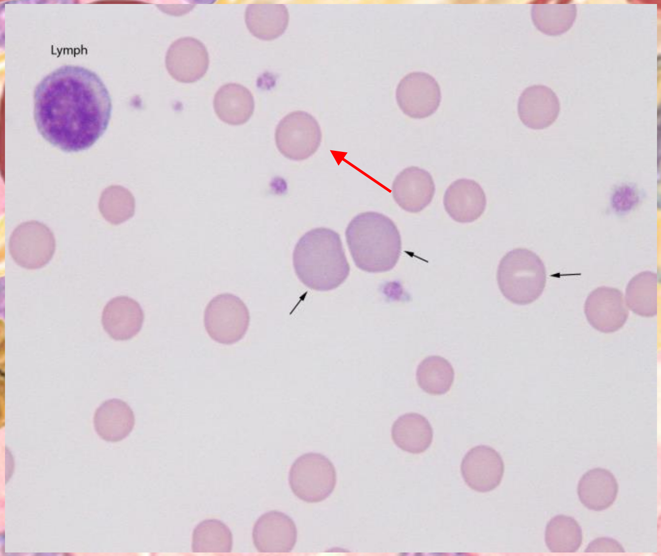
Vitamin B12 0.25-0.5 mg/kg IM q7d.

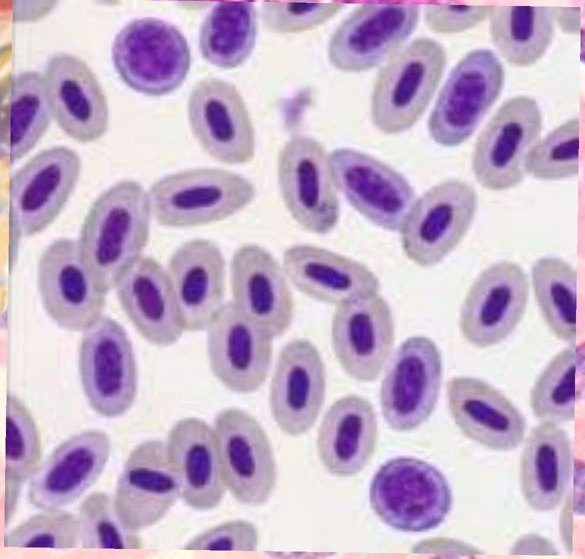
PCV lower than 15-18% give iron and Vitamin B12. See if there is a patient or ambassador to donate. Look at the clinical picture.

Ideal to use the same genus

IS THERE REGENERATION? IS THE BODY RESPONDING TO THE ANEMIA?







Steps:

1. Place catheter on recipient. Give 2mg/kg diphenhydramine IM
2. Heparinize with (0.15ml/ml of blood) in syringe and butterfly catheter (use 22-23 gauge needle minimum.)
3. Sedate or hood donor.
4. You will need 3 people. One to restrain, one to hold butterfly catheter in place so you don't lyse the RBC's and one to pull back the syringe plunger. You can only take 1% of BW.
5. Once you obtain the blood, rock the blood back and forth in the syringe to avoid clotting.
6. Give iron dextran and 5% BW SQ fluids to donor. Place in cage to relax. Give great diet in PM.
7. Place hemofilter (18 micron) on the syringe before running it through the tube. Make sure the syringe is kept vertical or you will get bubbles. You can run through filter into another syringe to avoid bubbles which can be fatal. **Do not use on reptiles.**
8. Prime the tube and hook it up to the patient's catheter.
9. Place syringe in the syringe pump.
9. Take HR before you start the transfusion, so you know if patient starts to have changes in HR. Take heart rate every 5 minutes for 15 mins. You can also look in the cage and make sure the patient is not becoming tachypneic. If they start to have anaphylaxis stop the transfusion. If the HR and RR stays the same give the transfusion over 4 hours.


medfusion 2001
medex

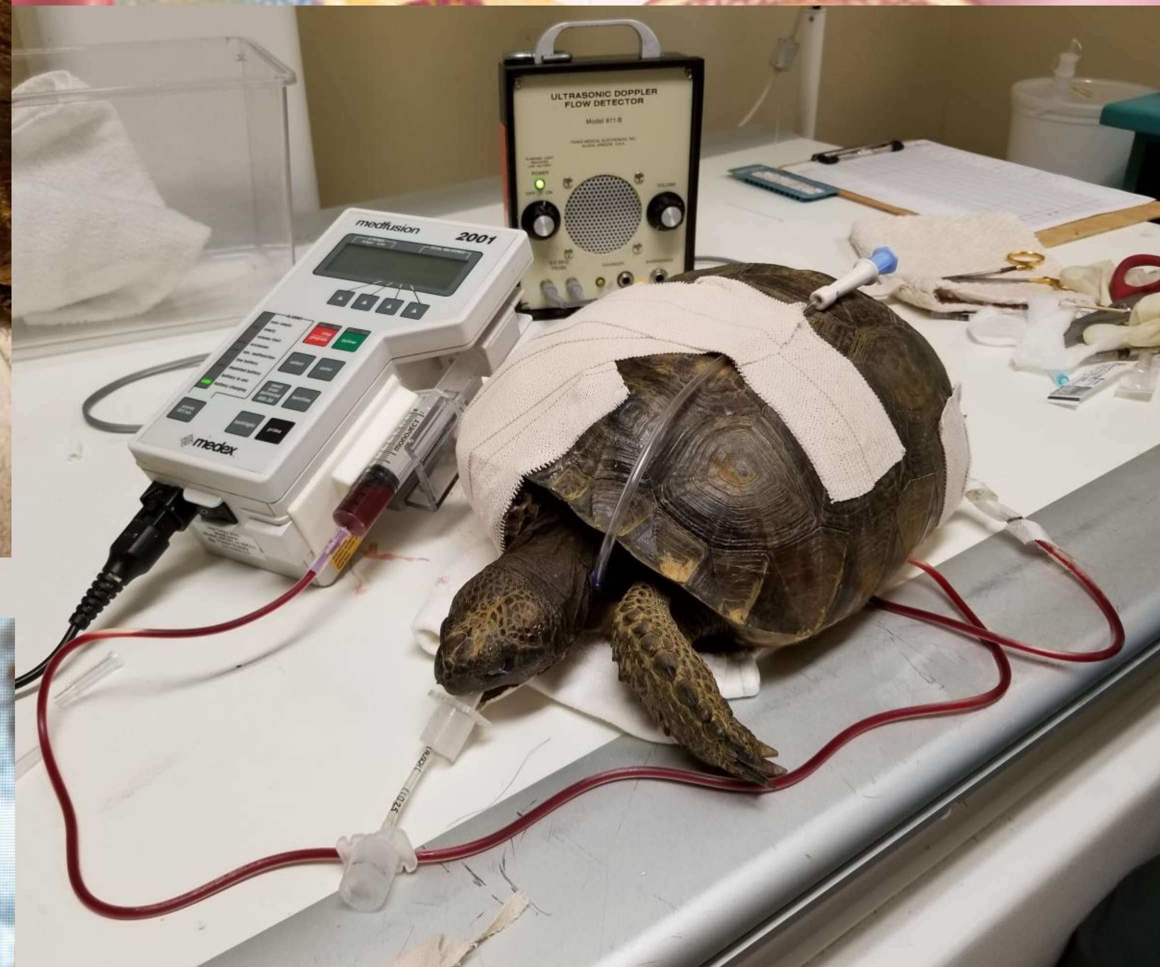
Best places for catheter placement

Jugular vein

Medial metatarsal vein

Basilic vein

IO Catheter


ULTRASONIC DOPPLER
FLOW DETECTOR
Model 811-B
medfusion
2001
medex

Bridge Catheter – Last resort