



Pentobarbital Euthanasia

Presented by Wendy Blount, D.V.M.

Pentobarbital

- Barbiturate
- Suppresses the nervous system (brain)
- Ideal euthanasia solution must reach the brain quickly
- Euthanasia solution is carried to the brain by the blood
- Blood is pumped forward by the heart
- Ideal euthanasia solution must stop the brain prior to stopping the heart
- **The brain is the destination of the ideal euthanasia solution**
- [SDS Pentobarbital](#)

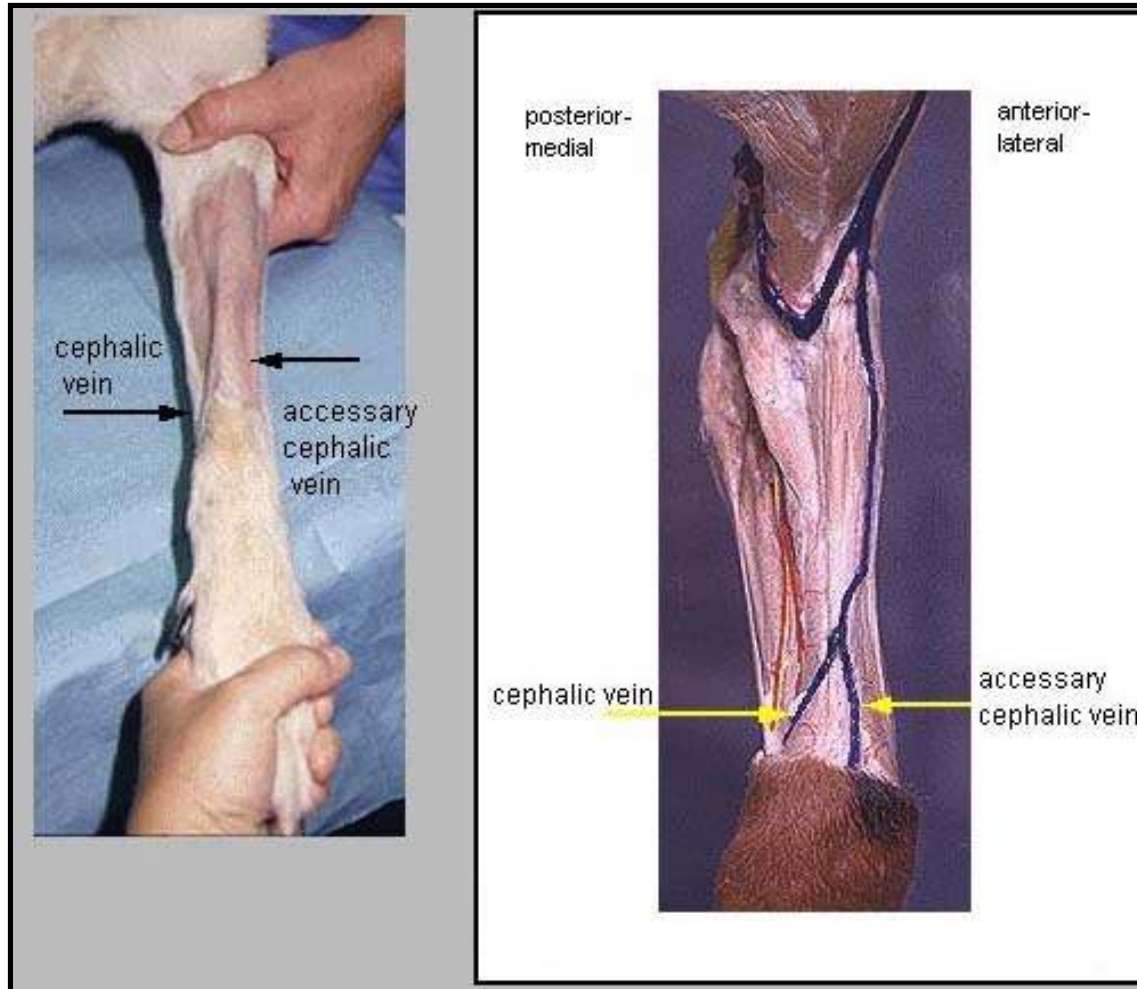


Venous Access

- Dogs
 - **cephalic vein** often used (top of front leg)
 - or **lateral saphenous vein** (outside of rear leg)
 - **Lateral ear vein** in the basset hound or rabbit (outside edge of outer surface of ear)
- Cats
 - Some like cephalic vein
 - Some like **medial saphenous vein** (inside of rear leg)
- **Jugular vein** (neck)



Cephalic Vein



Cephalic Vein

- Assistant grasps the front leg on the opposite side just below the elbow
- Rolls vein to the side (laterally -- away)
- Holds animal's the head toward the assistant, away from the euth tech



Lateral Saphenous Vein

- Dogs Only - Too small in the cat
- Dog in it's side – lateral recumbency



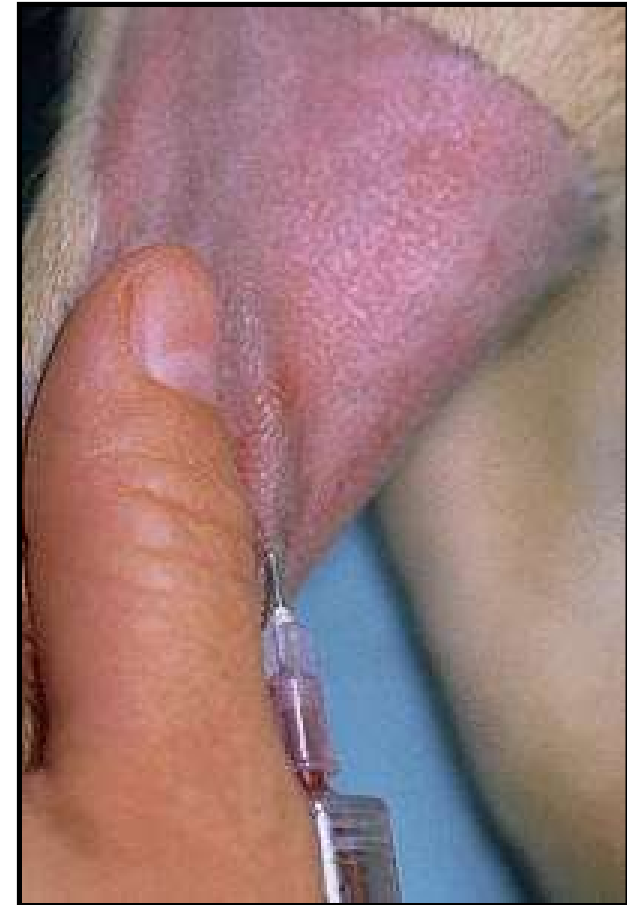
Lateral Saphenous Vein

- Assistant holds vein off just below the knee (stifle), from behind



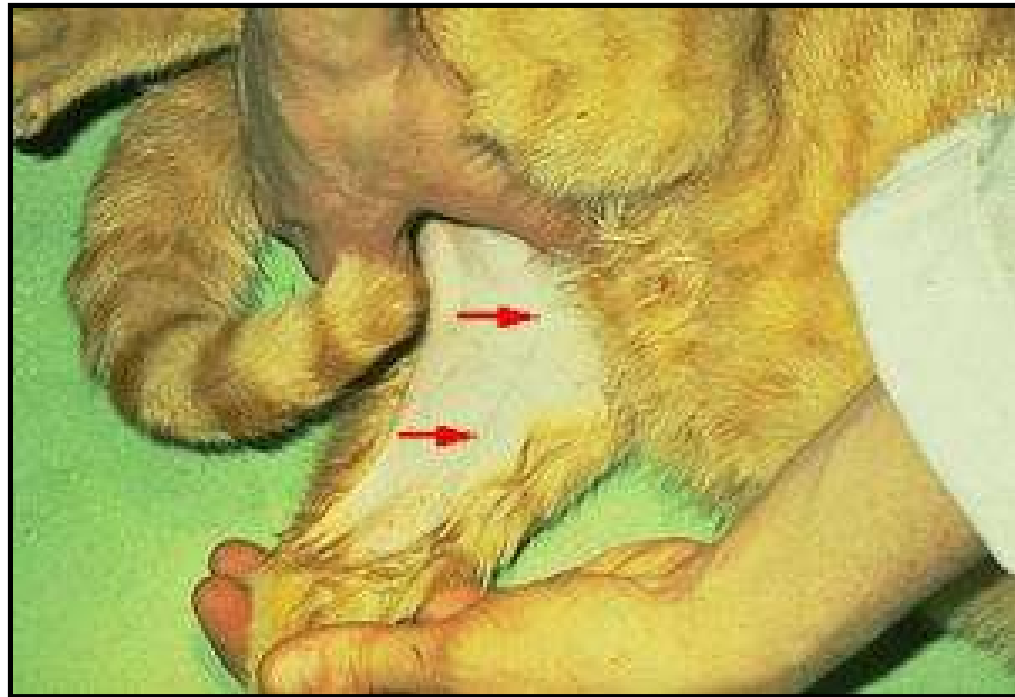
Lateral Saphenous Vein

- Assistant holds vein off just below the knee (stifle), from behind
- The vein rolls – stabilize with the thumb
- Entering the vein higher up on the leg than in the picture results in less rolling



Medial Saphenous Vein

- Cats Only -Too small in the dog
- Cat in it's side – lateral recumbency



Medial Saphenous Vein

- Assistant “Stretches” the cat
 - Scruff with one hand
 - Hold off vein and restrain upper back leg with other hand
- Euth Tech restrains the lower rear leg



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Medial Saphenous Vein

- Good for fractious cats
- Work away from the head and front claws
- Assistant holds vein off by putting pressure on the inner surface, high up on the thigh



Jugular Vein

- The largest accessible vein in the body
- Can use larger needle in inject fast
- Difficult to locate in obese animals
- May be the only visible vein when blood pressure low



Jugular Vein

- Assistant holds head up with one hand
- And restrains front legs with the other hand if necessary
- Euth Tech holds vein off at the thoracic inlet



Jugular Vein



Jugular Vein

- The practical lab video says you must point the needle toward and inject the solution toward the heart
- You must have the animal on its side to do this
- That technique is fine, but not necessary
- Direction of blood flow will carry drug to the heart, no matter which way the needle is pointed when you inject



Other Techniques

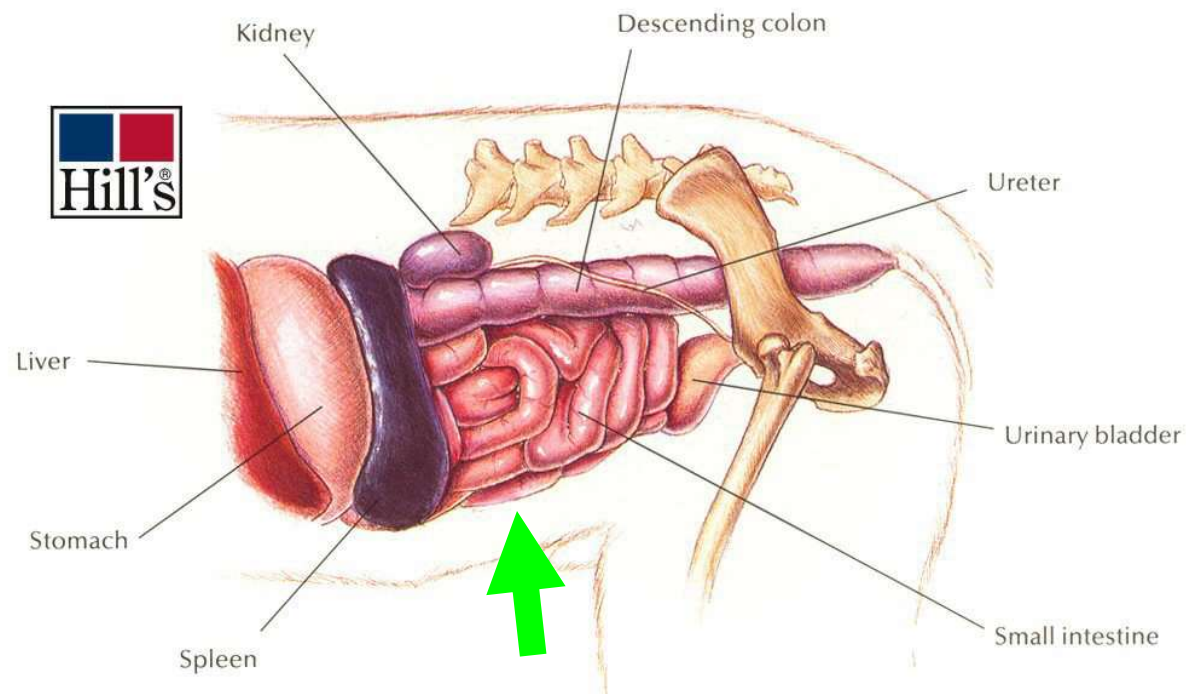
- IP – intraperitoneal
 - For very young or very small animals
 - Euth solution takes too long to reach the brain in animals >15-20 pounds
 - Injection technique
 - On the ventral (underside) midline
 - 1-2 inches behind the umbilicus (belly button)
 - Longer time before death (up to 30 minutes)
 - Larger volume of pentobarbital needed (3 cc per 10 pounds body weight)
 - Smoother if sedated first





Other Techniques

- IP – intraperitoneal
 - Inject far enough back to avoid the liver and spleen
 - Inject far enough forward to avoid the bladder



Other Techniques

- IC – intracardiac
 - Fastest of all methods
 - Painful – only for unconscious animals
 - Technically difficult
 - Confirming unconsciousness
 - Press on cornea of the eye to make sure there is no blink reflex
 - Pinch web between toes with fingernails or hemostat firmly to make sure no withdrawal reflex





Other Techniques

PO – per os – by mouth

- Takes at least one hour, not always fatal
- Can be given in food to a dangerous animal
- IV injection can be added if needed, after anesthetized
- Fatal Plus powder in #1 gelatin caps (bitter taste) - 1/8 tsp per 10 lbs body weight
- Devastating results if ingested by accident
- **NOT LEGAL IN THE STATE OF TEXAS**
- HSUS and AHA consider acceptable
- AVMA – generally unacceptable as sole means of euthanasia, but OK for sedation

(Brenna)

Other Techniques



Other Techniques

IT – intrathecal

- Injection directly into the spinal cord, at the base of the skull
- Is often done in small birds and pocket pets, for which IV or IC is nearly impossible
- **NOT LEGAL IN THE STATE OF TEXAS**
- Considered unacceptable by HSUS





Unacceptable Techniques

- IH – intrahepatic – in the liver
- IR – intrarenal – in the kidney
- IS – intraspleen – in the spleen
- extremely painful
- slower than IC – similar to IV injection
- Much faster than IP

Calculations

- Sodium pentobarbital
 - 98% powder (Fatal Plus II)
 - 39% – 1cc per 10 pounds
 - 26% (Sleepaway) – 1 cc per 6 pounds
 - 2cc per first 10 pounds, then 1cc per additional 10 lbs
 - Round up to the nearest 10 pounds
 - Add a 0.5cc if near the increment
 - Example – 15 lb animal needs 2 cc
 - Example – 20 lb animal 2.5cc to be safe
 - Draw up 2nd syringe and have ready in case 2nd dose needed (butterfly catheters help)
- 39% solution = 390 mg/ml pentobarbital
- 98% powder = 1040 mg (1.04g)/teaspoon





Choosing Your Solution

- Many prefer a colored solution so it can not be confused with other injectable drugs
 - Soccumb and Fatal Plus premixed are blue
 - Beuthanasia, Euthasol, Somnasol are bright pink
 - Dangerous uncolored solutions
 - Sleepaway is clear
 - Fatal Plus powder is straw colored
- You will need to work with a veterinarian to use schedule III drugs containing phenytoin (pink)
 - Beuthanasia, Euthasol, Somnasol



Euthanasia Time Table

- Time to unconsciousness
 - 1-3 minutes when injected IV
 - 5 minutes when injected IP
- Time to respiratory arrest
 - 1-3 minutes when injected IV
 - 5-7 minutes when injected IP
- Time to cardiac arrest
 - 3-5 minutes when injected IV
 - Usually 12-15 minutes, but up to 30 minutes when injected IP



Sharing Pentobarbital

- It is permissible to borrow or lend pentobarbital when supplies are low
- Must fill out the proper paperwork

Schedule II drugs

- Receiving shelter completes DEA Form 222 and sends copies 1 and 2 to the providing shelter.
- The providing shelter completes left side of the form
 - quantity being "sold"
 - date of "sale."
- The green copy (2) is sent to the local DEA office
- The same process must be followed when the receiving shelter replaces donated drug(s).
- Keep records for 2-5 years.



Sharing Pentobarbital

Schedule III Drugs

- (Beuthanasia-D and Euthasol)
- handled by standard invoice
 - number of bottles "sold";
 - buyer's and seller's names, addresses, and DEA numbers
 - date of the sale
 - strength of the drug
 - Trade name of the product
 - size of the bottle (in milliliters).
- Both parties involved need to keep this record for 5 years (DVM must be involved).

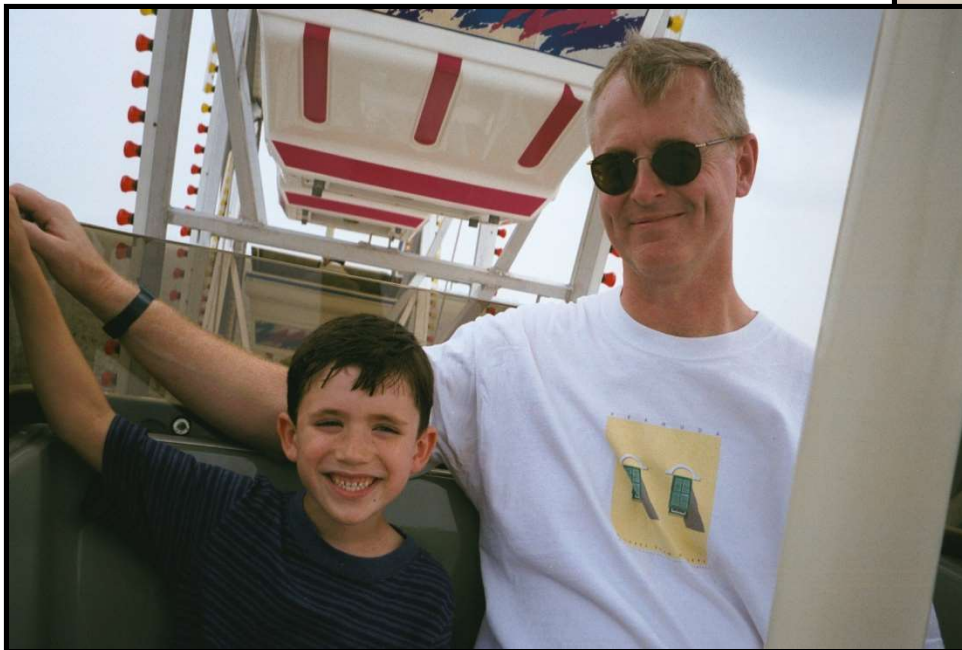


Safeguarding Pentobarbital

- Euthanasia solution has been used to commit suicide and murder
- Be extremely careful to keep this drug locked up, as you would a gun
- Euth techs and veterinarians know how to kill with this drug
- All they need is motive and access
- There is also potential for abuse, or monetary gain by selling on black market
- Secondary poisoning of pet and wildlife can occur

Safeguarding Pentobarbital

- Wendi Davidson DVM
- Eligible for parole 2019



Rick &
Jake