Clinical Skills Lab

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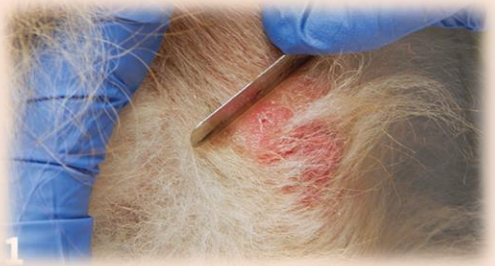
Simulation of sampling for diagnostic purpose in animals

- Blood
- Feces
- Urine
- Milk
- Skin scraping
- Vaginal swab
- Biopsy methods



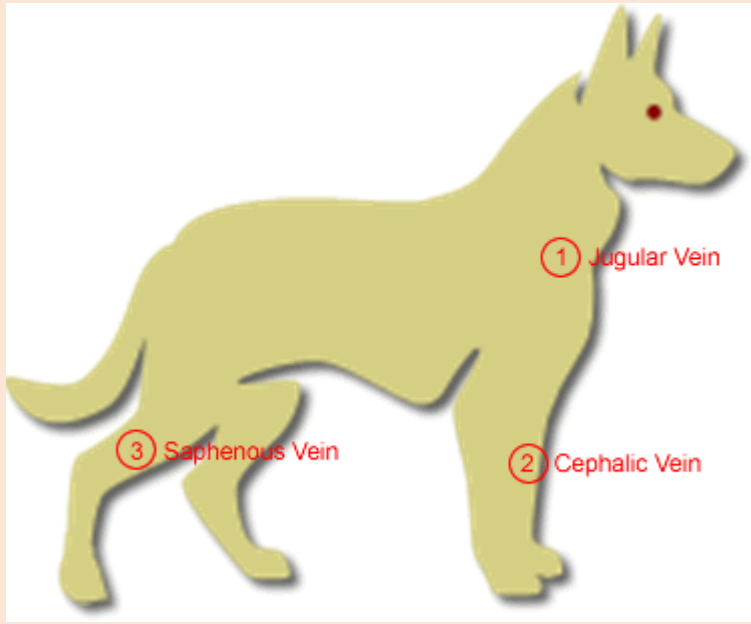

- <u>Points to note before sampling</u>

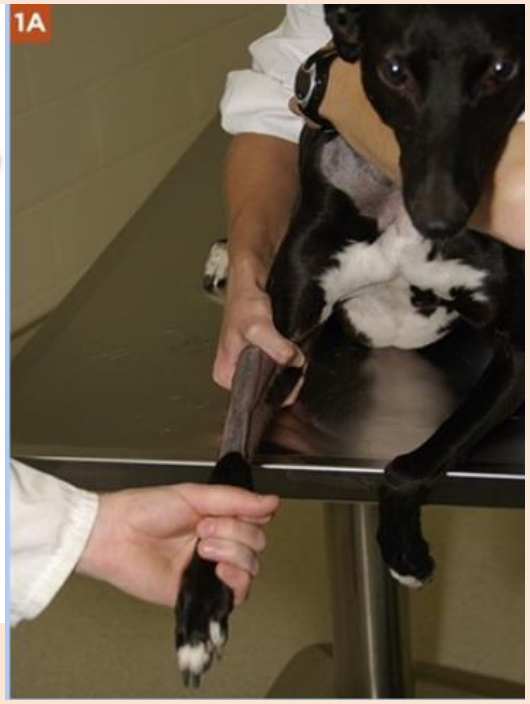
- The samples must be taken by the Veterinarians themselves
- Have to send samples to the lab as soon as possible
- Have to write information such as date, name and type
- Glove
- Protective clothes
- Glasses
- Mask

Collection of blood samples

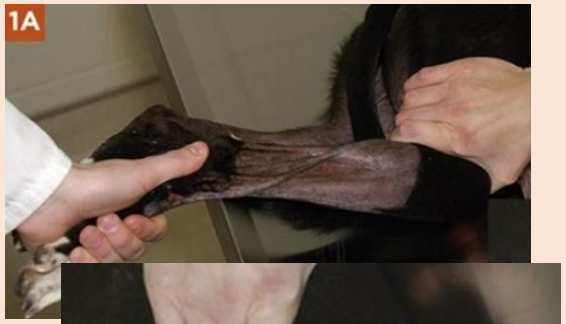
- Hematological analyzes
  - (leucocyte indices, erythrocyte indices, platelets)
- Biochemical analyzes
  - (liver enzymes, kidney parameters, electrolytes, glucose, etc.)
- Hormone analysis
  - (thyroid, cortisol, progesterone, etc.)

- Equipment
  - Needle 20-22 gauge
  - Injector
  - Blood tube
  - Tourniquet
  - Alcohol
  - Cotton
  - Glove


1 Jugular Vein
2 Cephalic Vein
3 Saphenous Vein


1A


1B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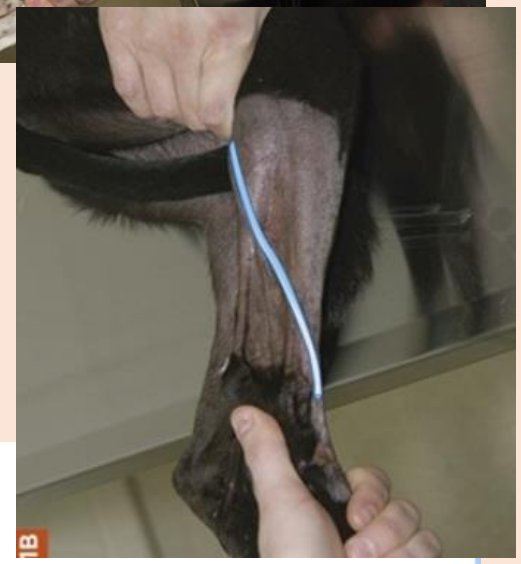
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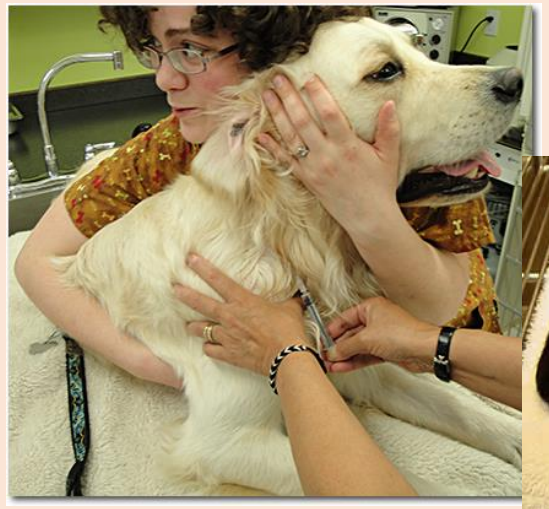
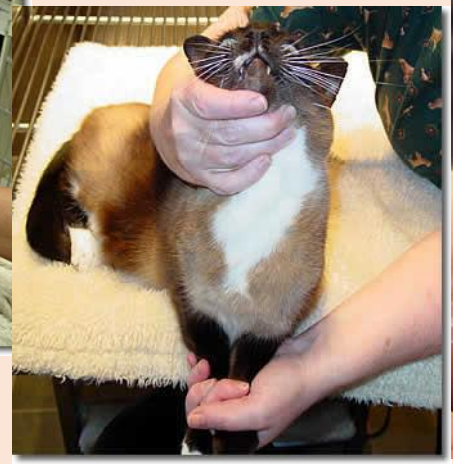
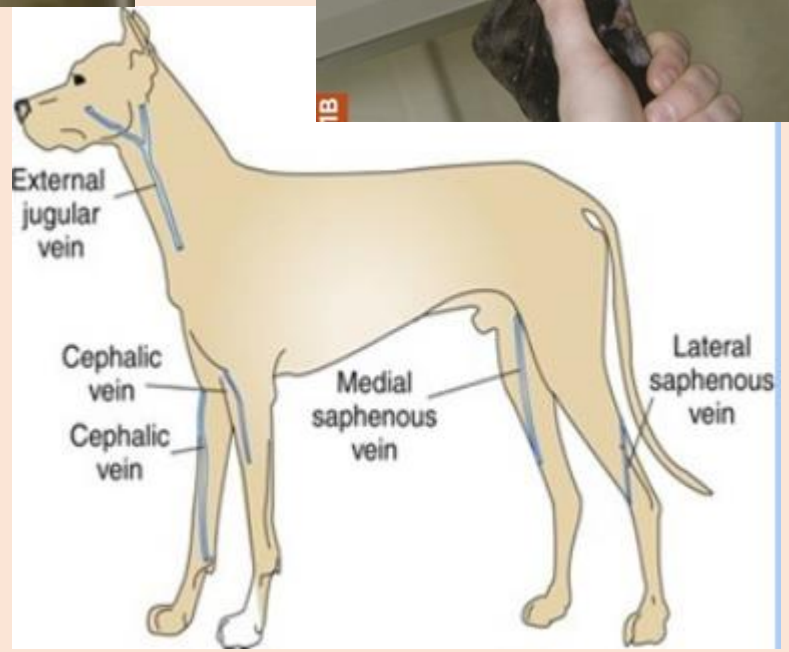
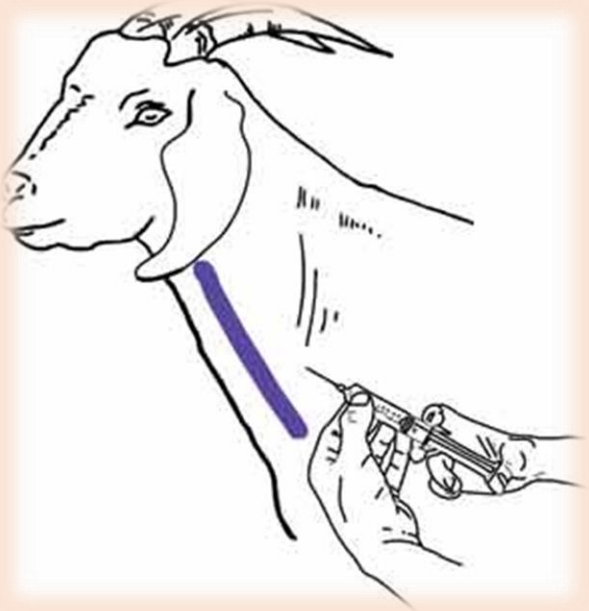
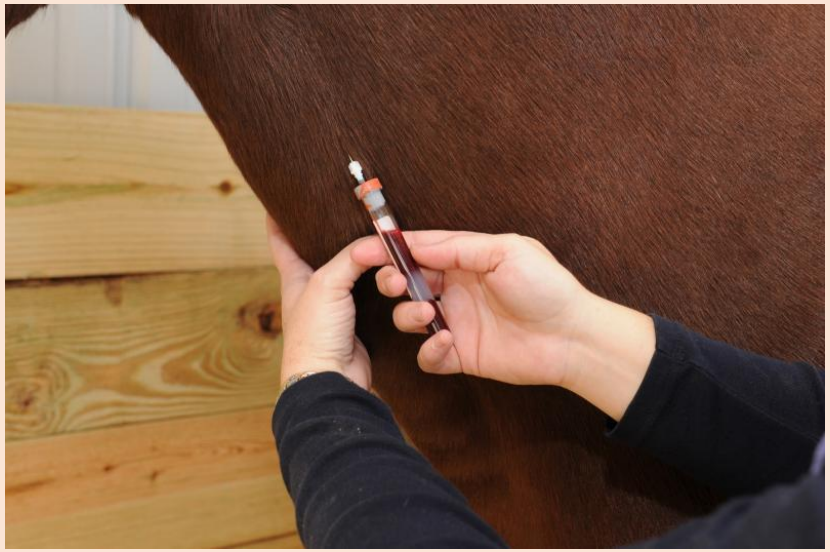




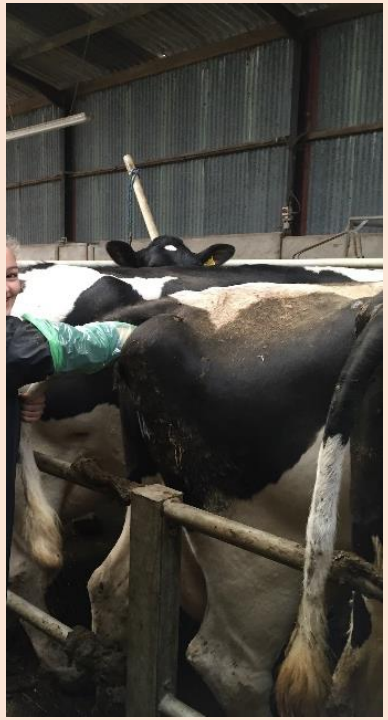

External jugular vein
Cephalic vein
Cephalic vein
Medial saphenous vein
Lateral saphenous vein

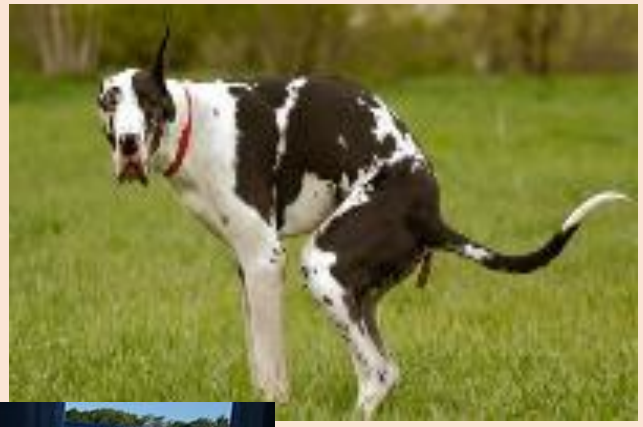




Collection of Fecal Samples

- Parasite examination
- Toxicological analysis





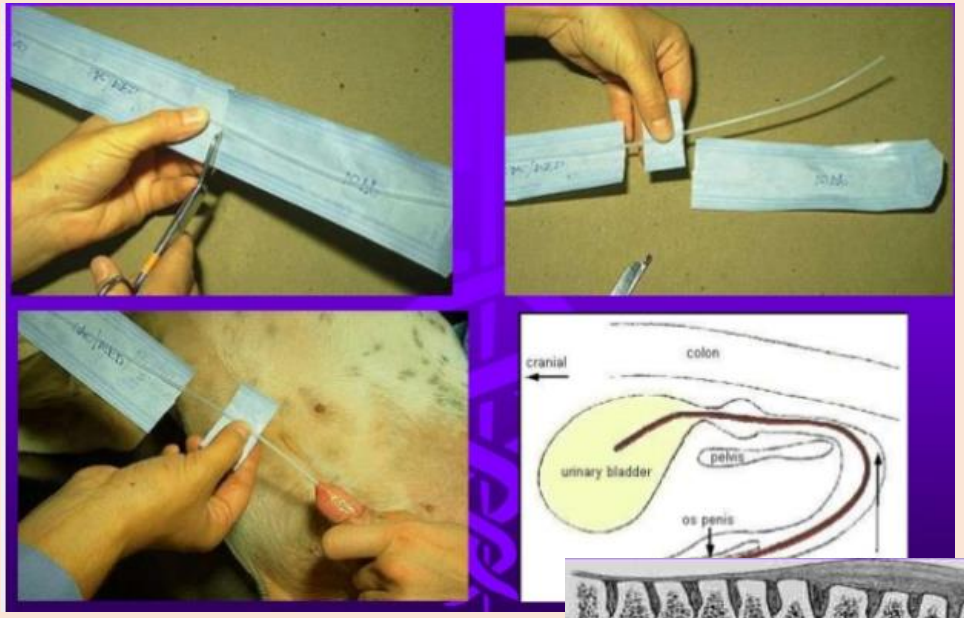
- Equipment
  - Glove
  - Collection container

Collection of Urine

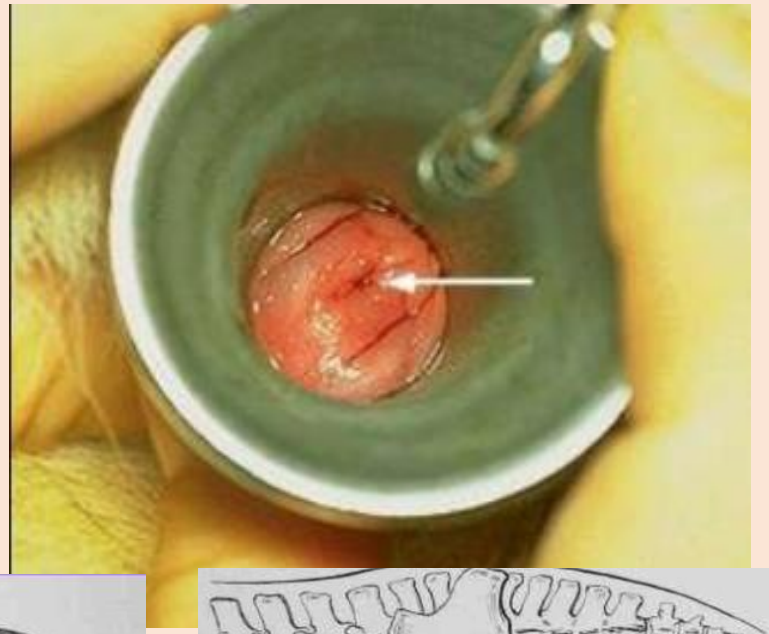
- Urinary tract infections
- Urinary tract stones
- Diagnosis of diabetes
- Toxicological / Pharmacological analyses
- Doping control

- Cystosynthesis / catheters

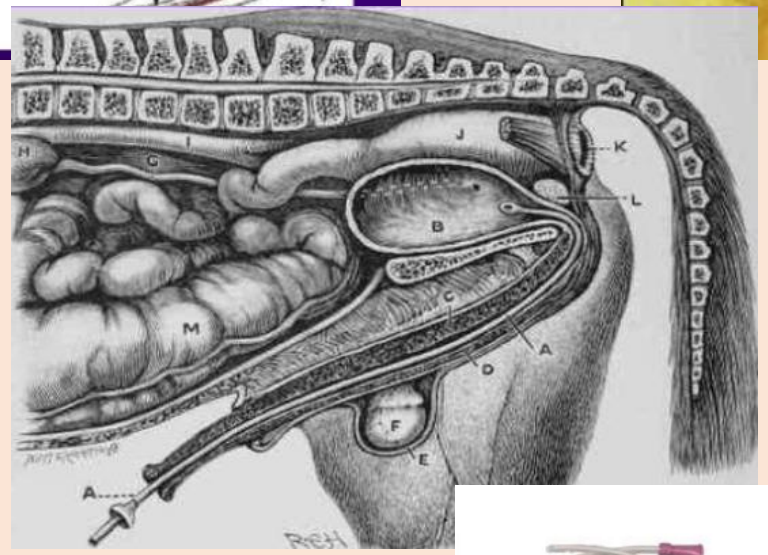
- Equipment
  - Glove
  - Urine catheter
  - Injector
  - Urine collection container
  - Alcohol
  - Cotton



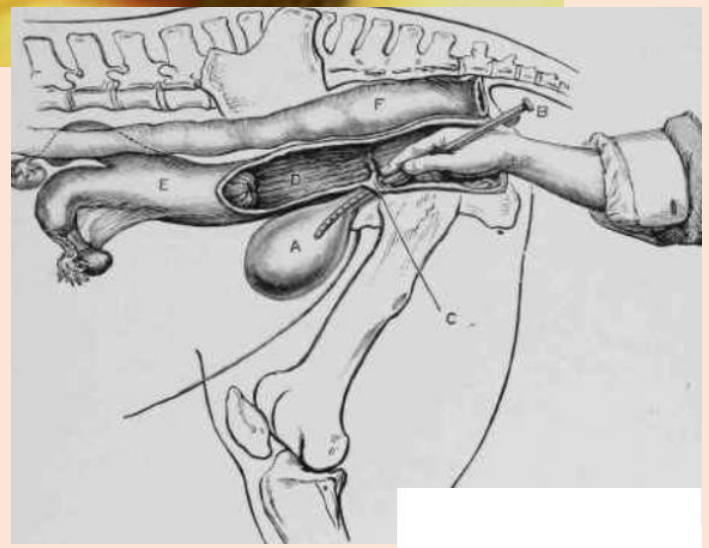
Dog



Bitch



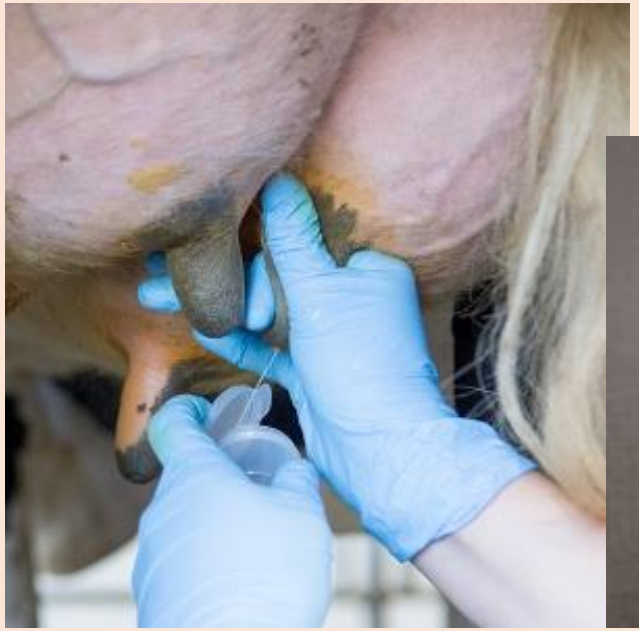
Stallion

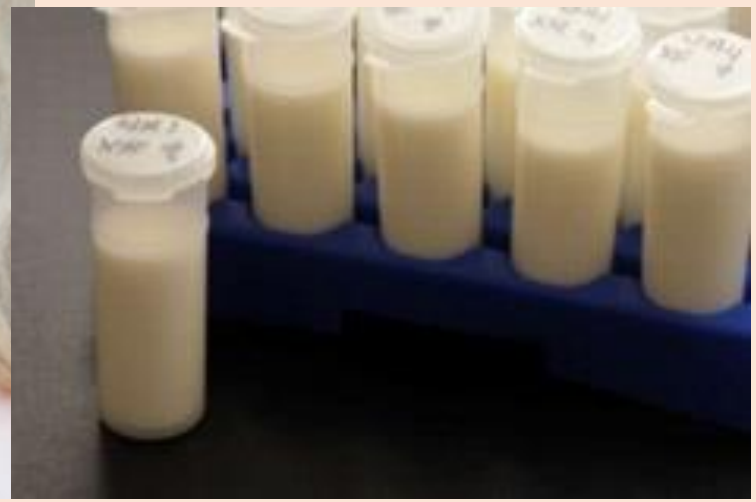


Mare

Collection of milk samples

- Mastitis diagnosis
- Bacteriological examination
- Determination of milk quality





- Equipment
  - Glove
  - Clean towel
  - Disinfectant
  - Alcohol
  - Cotton
  - Milk sample container

1. Wear gloves.

2. Remove (forestrip) 3 or 4 streams of milk from the quarter being sampled to minimize chances of sample contamination from bacteria in the teat end.

3. Brush any dirt, debris, or bedding particles from the udder and teats. Predip with an effective teat dip (for example, 0.5% iodine or 4% hypochlorite) leaving the predip on the teat for at least 20 to 30 seconds before removal.

4. Dry each teat thoroughly and remove the predip using a single, dry paper or cloth towel per cow with particular emphasis on the teat end.

5. Double-check to ensure that the teats and udder are clean and dry.

6. For 15 to 20 seconds, carefully and vigorously scrub the teat end and orifice with a cotton or cloth gauze pad moistened (but not dripping wet) with 70 to 80% ethyl or isopropyl alcohol. Use a separate swab for each teat being sampled, even within the same cow. Continue to clean the teat end until the swab is completely clean and white. In order to prevent recontamination of teat ends, clean the teats on the far side of the udder first and followed by the teats on the near side of the udder.

7. Open the collection vial immediately before the sample is taken. Do not let the teat end touch the container or let skin debris or dirt enter the container. Do not put the cap on the floor. Keep the cap upside down and do not touch the inside of the cap so that no debris contaminates the inside of the cap. Hold the collection vial at a 45° angle to keep debris (hair, manure, dirt) from accidently falling into the collection vial. Turn the teat toward the collection vial, striving for direct streams of milk into the vial. The teat should never touch the collection vial or cap. Sample as rapidly as possible, starting with the teats on the near side of the udder followed by the teats on the far side of the udder.

8. You only need to collect 3 to 5 ml of milk (a few streams). Do not fill the collection vial. Attempting to fill the collection vial increases the likelihood of contamination. In addition, if a full collection vial is frozen, it may burst. Immediately place cap on container and seal so it is air tight.

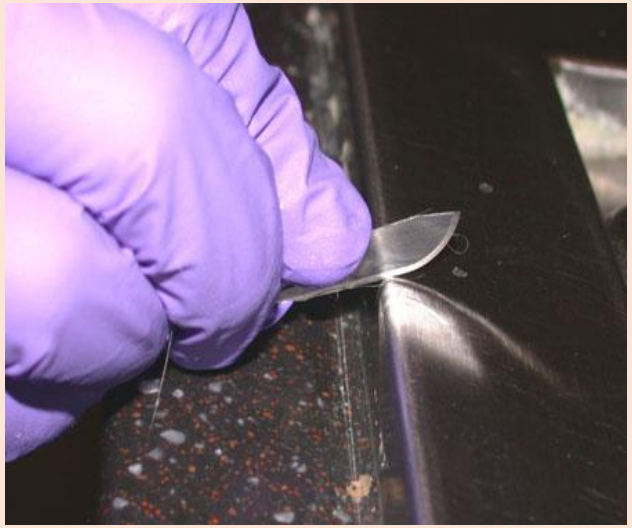
9. Label the sample vials using a waterproof marker that will not come off during transport to the laboratory. Be sure to identify both the cow and quarter from which the sample was obtained. Designate each quarter sampled as RF (right front), RR (right rear), LF (left front), or LR (left rear).

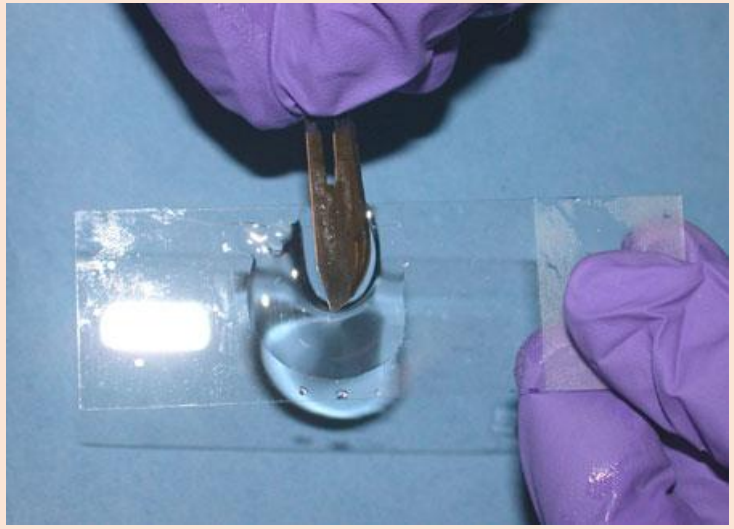
10. Immediately place collection vial on ice and keep refrigerated or on ice until delivered to the lab. Best results are obtained if samples are chilled or placed on ice during transport to the laboratory. When samples cannot be delivered to the laboratory within 24 hours, they should be frozen.

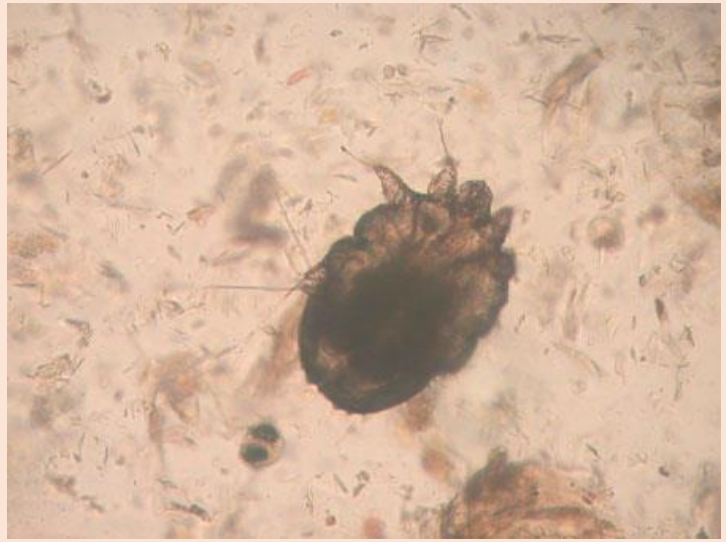
Collection of skin scrapping

- Parasitic diseases (scabies,fungal infections)
- Hormonal diseases

- Equipment
  - Glove
  - Lancet
  - Glycerine
  - Slides

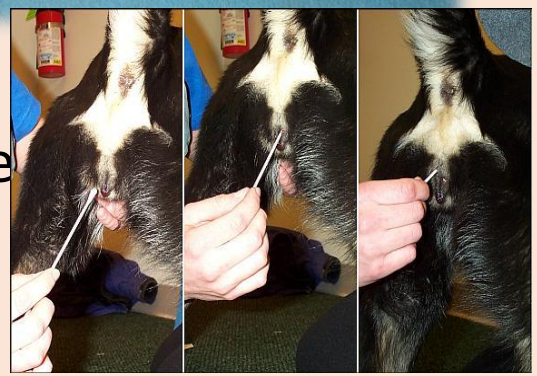






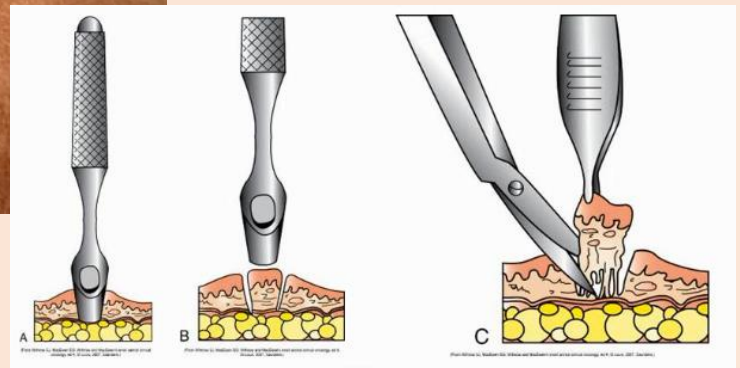
Collection of swab samples

- Nose
  - Nasal infections (Aspergillosis)
- Ear
  - Ear scab and infections
- Vagina
  - Vaginal infections and tumors
  - Determination of sexual cycle period
  - Determination of appropriate mating / insemination time



Biopsy samples

- Dermatological lesions
- Tumors
  - Needle aspiration
  - Punch biopsy



- Equipment
  - Glove
  - Injector
  - Biopsy devices
  - Sample container