



Clinical examination

**Examination of the animal to put my hand
on the affected system of the body to
approach accurate diagnosis**

Dr/ Marawan Elfky

▶ **N.B:** Care must be taken by the examiner

during examination to protect himself from:

❖ **Dangerous animal by control of the animal**

❖ **Zoonotic diseases by wearing gloves and**

disinfection of the hand.

Control of the animal

- 1. Equine: Ear & Lip Twitch, Raise fore limbs.**
- 2. Canine and Feline: Owner, Muzzle, Narcotic agent in case of vicious animal.**
- 3. Camel: Tying all legs and mouth by ropes.**



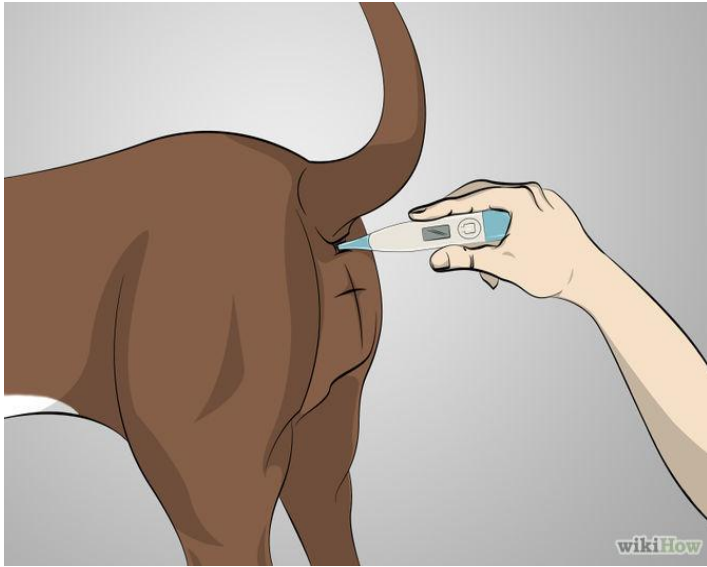






Temperature

1. Control animal and raise tail
2. Shake thermometer till 35°C or bellow (don't handle it at bulb part)
3. Lubricate it especially in case of equine and small ruminants.
4. Introduce thermometer through anal opening then tilt it to be in contact with rectal mucosa.
5. Wait for 1 to 1.30 minutes
6. Remove thermometer and clean it by cotton piece not water
7. Record temperature.



Pulse

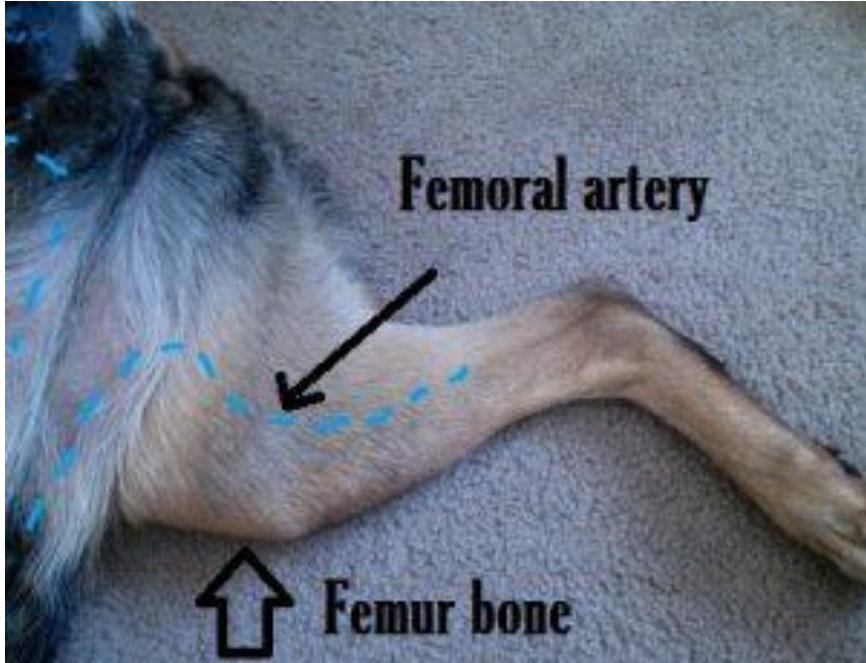
1. Superficial artery
2. Tips of the finger
3. Against hard structure
4. Strong rhythmic
5. With Normal rate


Respiration

1. Normal type
2. Paper sheet in front of the nostril
3. Gloves applied on the mouth



Items	Temp.	Pulsation		Respiration	
		Site	Rate	Type	Rate
Equine Horse Donkey Foal	37:38	1-External maxillary a: at medial aspect of mandible. 2-Median a: at medial aspect of upper extremity of fore limb.	28:40	Costoabdominal	10:14
	37:38		45:65		
	37.5:38.5		70:80		
Pet animal Dog small breeds: Dog large breeds: Cat	38.9	1-Femoral a: at medial aspect of femur	90:120	Costal	Dog 15:30 Cat 20:30
	37.5:38.5		65:90		
	37.5:39.2		110:130		
Camel Adult Calf	36.8	1- Posterior tibial a: at medial aspect of tibia	30:50	Abdominal	5:12
	39.2				



A yellow starburst graphic with a red outline, containing the text "Area of Auscultation and percussion".

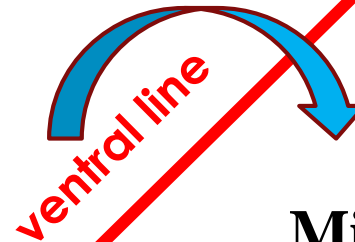
**Area of Auscultation
and percussion**

Dorsal line

**Posterior angle of
the scapula**

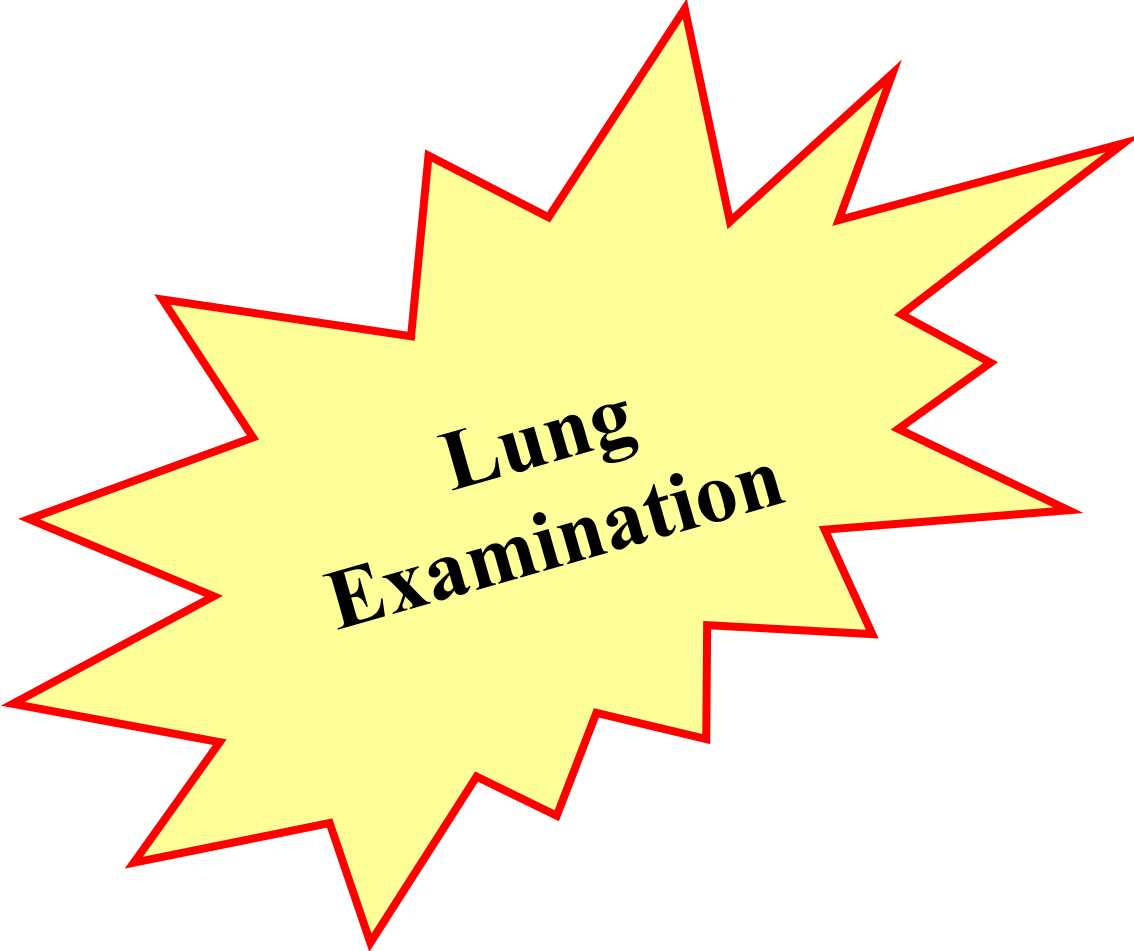
2nd last I.c space

anterior line



- 7th rib in pet animal
- 11th rib in equine (number of ribs in equine 18 except Arabian horse 16)
- 8th rib in camel

**Olecranon process
of ulna**

A yellow starburst graphic with a red outline, containing the text "Lung Examination".

**Lung
Examination**

A. Lung auscultation:

- Should preceded by artificial hyperpnoea (exercising or walking the animal).
- Normal auscultation of the lung is vesicular sound which resembling to “V” sound with inspiration and “F” sound with expiration.
- If fluid, crackles, or wheezes are heard, it is considered abnormal.

B. Lung Percussion:

- Resonant sound.





**Heart
Examination**

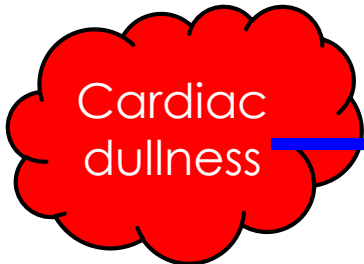
Dorsal line

Posterior angle of the scapula

2nd last I.c space

ventral line

anterior line

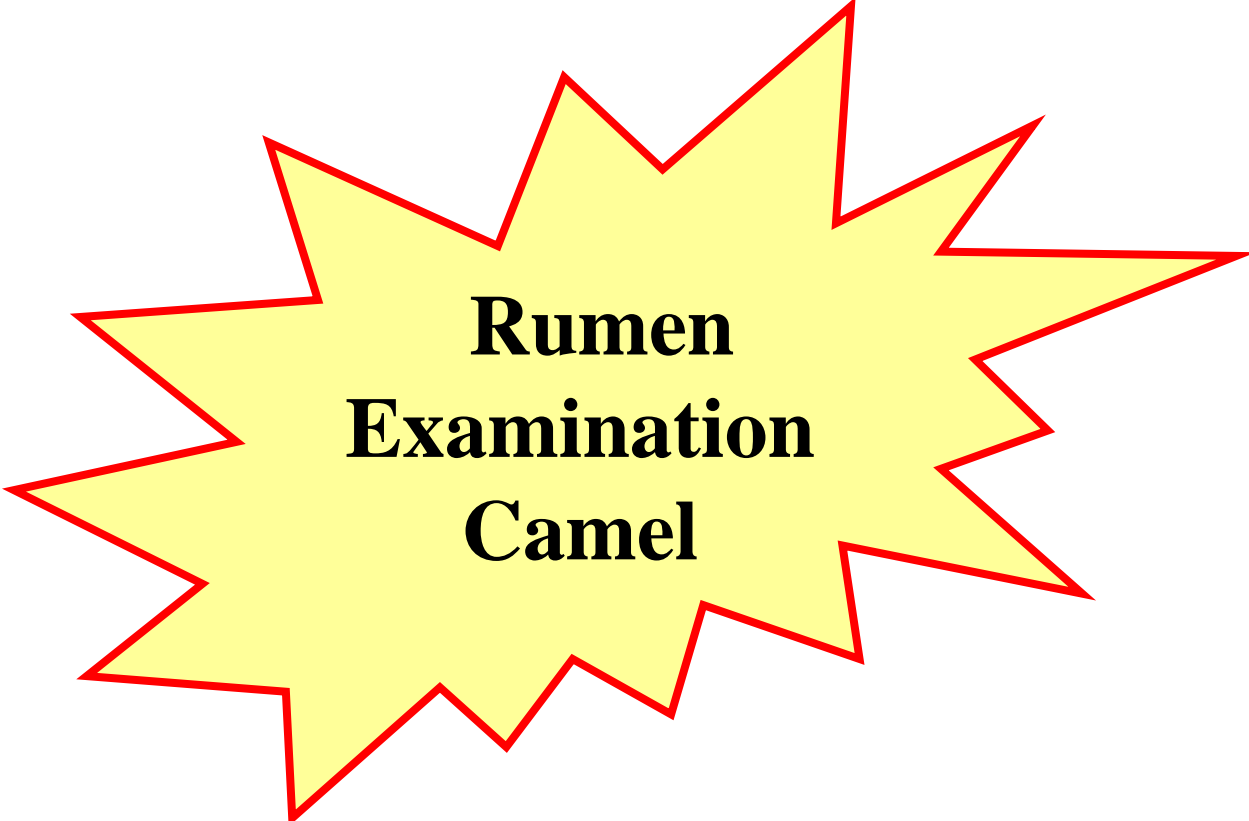


Cardiac dullness

Olecranon process of ulna

- 1. Auscultation:** Lubb-Dupp sound
- 2. Percussion:** Dull sound (Gas free organ)





**Rumen
Examination
Camel**

*Rumen examination can occur in the
left hunger fossa by:*

1- Auscultation :

- **Gurgling or booming sound** in the normal rate of 2-5 / 2 *min.* (the sound result from the movement of fluid and food particles in the rumen which imposed by gas bubbles).
- **Increase;** diarrhea, early stage of tempany, vagal indigestion,..... etc.
- **Decrease;** febrile condition, abomasal displacement, simple indigestion, mild impaction,..... etc.
- **Absent;** acute impaction, severe tempany, abomasal impaction, ruminitis,.....etc.

2- Palpation :

- **Normally Resilient.**
- **Abnormal palpation as in case of:**
 - **Doughy ----- impaction.**
 - **Emphysematous ----- Tympany.**
 - **Painful ----- Peritonitis, traumatic reticulitis.**

3- Percussion:

- **Normally resonant sound.**
- **Abnormal percussion as in case of:**
 - **Dull ----- Impaction**
 - **Tympanic ----- Tympany.**

Paranasal sinuses

(frontal and maxillary)

- **Normal percussion:** Tympanic sound
- **Abnormal percussion:** Dull sound in case of sinusitis or empyema
- **Normal Palpation:** no swelling
- **Abnormal palpation:** swelling





**Mucous
membranes**

5 in female (oral – nasal – conjunctival – rectal – vaginal)

4 in male (oral – nasal – conjunctival – rectal)

1. Normally: rosy red – free from wound, ulcer, vesicles and discharges – shinny.

2. Abnormally:

▶ **Congested:** Fever – inflammation

▶ **Pale:** Anemia – heavy parasitism

▶ **Cyanosed:** Cardiovascular & respiratory diseases

▶ **Yellowish:** Jaundice – Fascioliasis – late stage of hemolytic anemia

▶ **Petechial haemorrhage:** Septicemic Cases

▶ **Dirty:** Toxicity

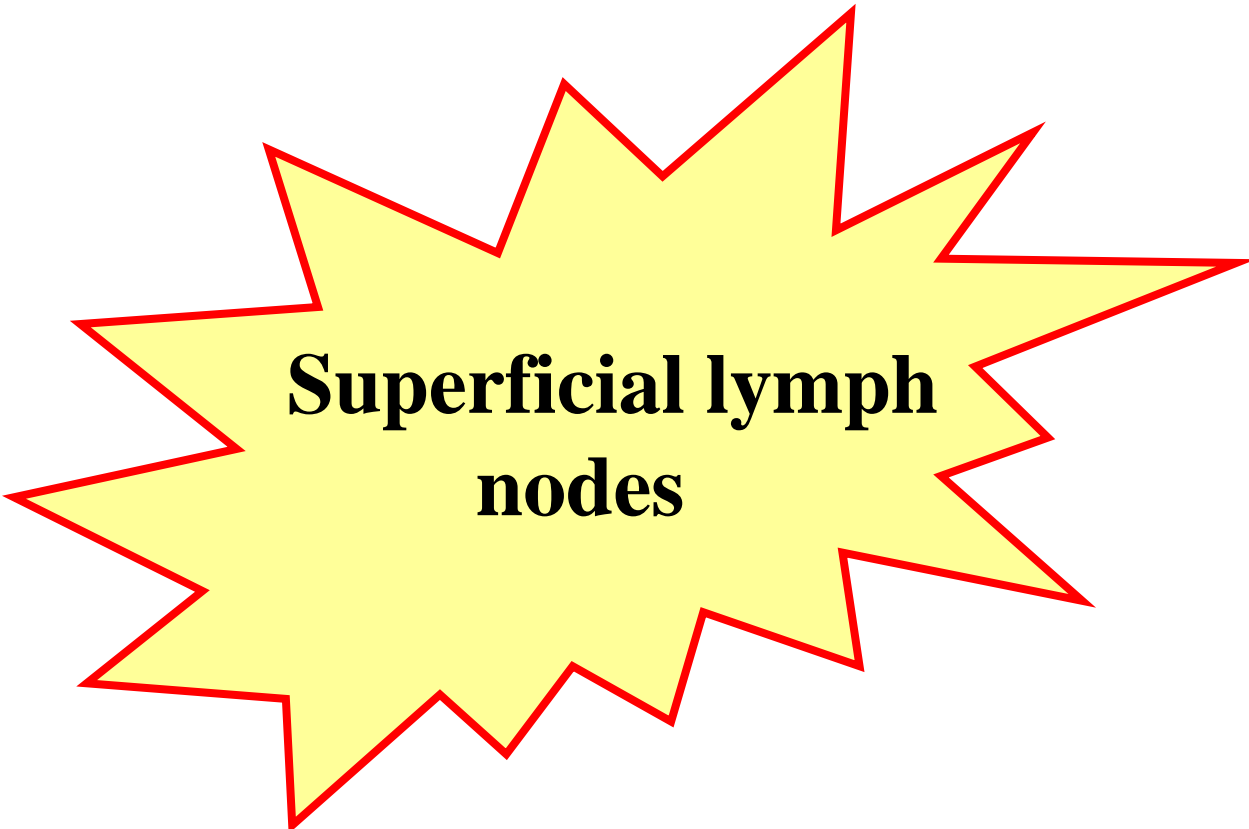
▶ Contain ulcer, vesicle, wound or discharges



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**Superficial lymph
nodes**

The most important examined L.Ns

1- Prescapular L.Ns : in front of scapula just above the shoulder joint (absent in camel and replaced by inferior cervical L.N).

2- Prefemoral L.N (Precrural L.N) in front of femur just above the Stifle joint (absent in dogs).

3- Supramammary LN:

in the preium at the posterior base of the female udder.

Palpated by the both hands from the upper third of udder.

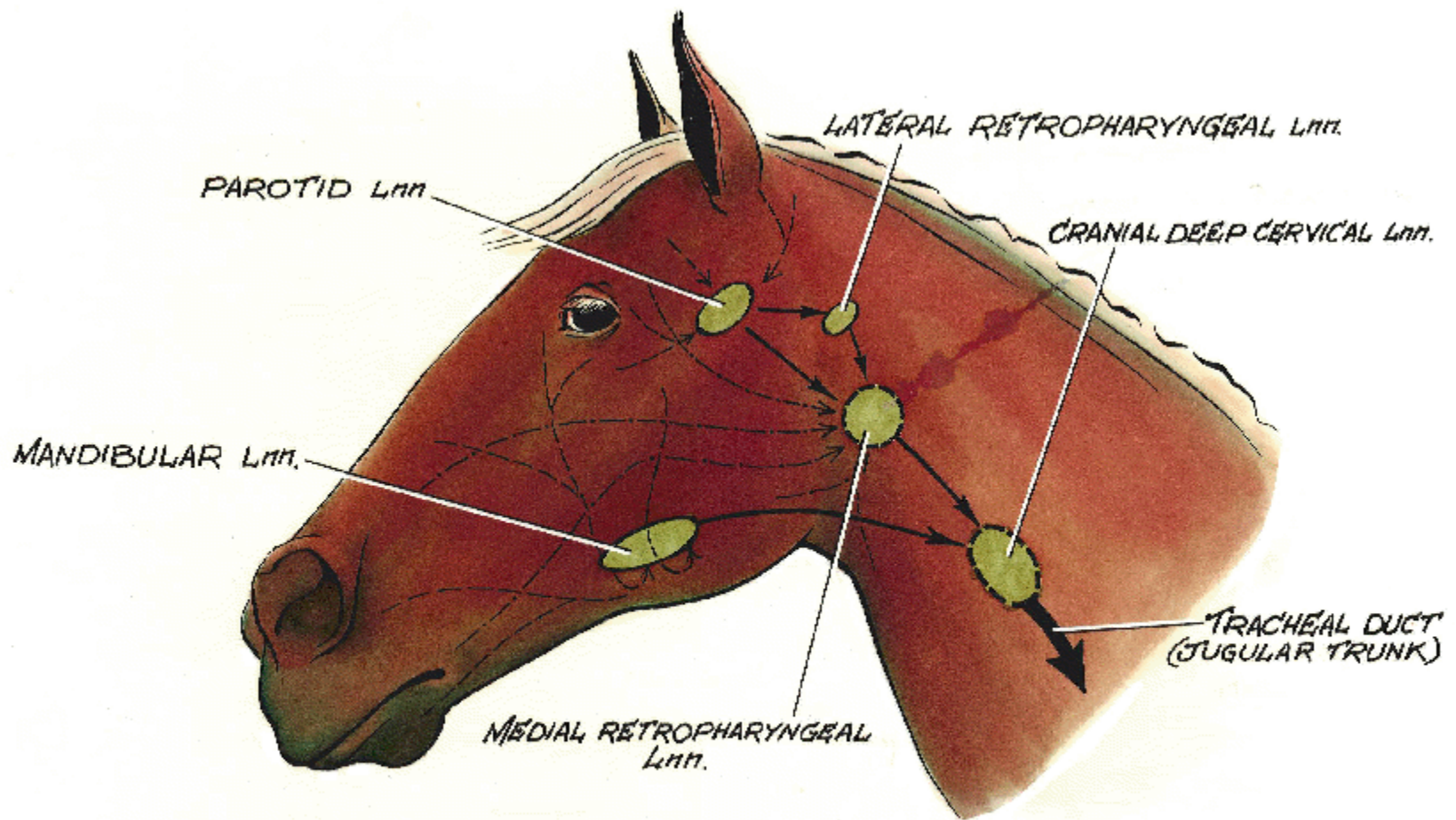
The most important examined L.Ns

4- Superficial inguinal L.Ns: at the base of the male scrotum.

5- Sub-maxillary L.Ns : lies behind the inter-maxillary space near to the angle of the jaw.

6- Retropharyngeal L.Ns : lie posterior to the pharynx.

7- Sub-parotid or Para-pharyngeal L.Ns : lie under parotid salivary gland.




LYMPH NODES OF PAROTID, MANDIBULAR, AND RETROPHARYNGEAL LYMPHOCENTRES AND CRANIAL PART OF DEEP CERVICAL LYMPHOCENTRE OF HORSE'S HEAD.



Items	Normal	Abnormal
Size	Larger in young animal than old animal	Enlarged
Consistency	Firm	Fluctuating Abscessation Hard, Caseation and Calcification
Pain	Painless	Painful
Lobulation	Lobulated	Non-Lobulated
Temp.	of body temperature	Hot
Movement	Movable	Immobile

(Skin examination)

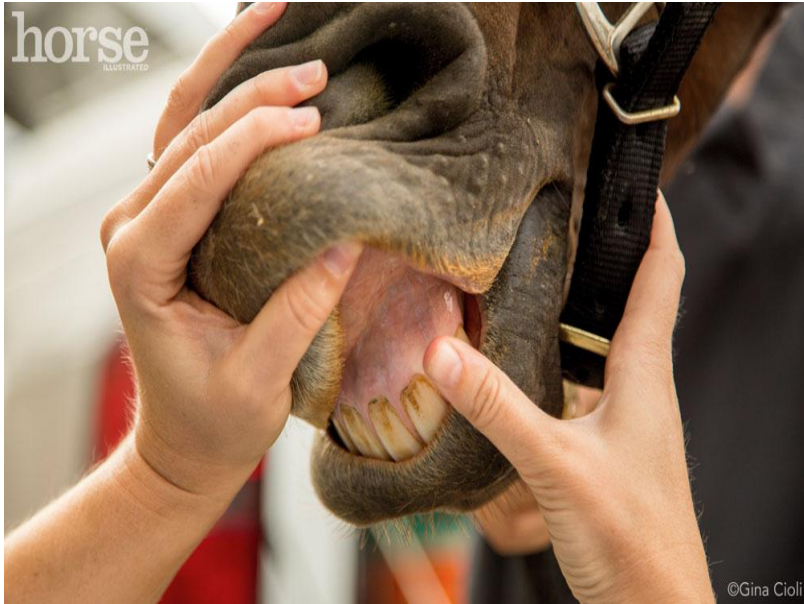
- **Normally:** free from wound, erosions, alopecia, ectoparasites with shiny appearance
- **Abnormally:** Wound, Alopecia (if regular → Ring Worm and if irregular → Mange)



**Capillary refilling
time (CRT)**

Definition :

- ❖ The amount of time the gum takes to return to normal after being “blanched out”.
- ❖ **Normal CRT is *less than 2 sec.***
- ❖ **If longer than 2 sec** the blood circulation through out the body may be affected due to shock, dehydration or cardiovascular problems.





Checking Hydration (Skin Tent)

Definition :

- ❖ Catch skin of neck, eye or tail fold and estimate time of returning to normal position
- ❖ **Normal:** return at once
- ❖ **Abnormal:** delayed in case of dehydration and according to time the degree of dehydration is recorded.





**Jugular Vein pulsation
(jvp)**

- Normally the jugular vein not pulsated but in some condition it may be seen pulsated at the jugular furrow on the animal neck.
- This condition (pulsation) may be:

False:

Physiological as in case of debility or thin animal.

True:

Pathological as in case of pericarditis or tricuspid valve insufficiency.

True and false jugular vein pulsation can be differentiated by digital obliteration of or pressure over jugular vein in the jugular furrow to obliterate the pulse wave in the middle or lower third of the neck:

False:

True:

The pulse remain (not originated from jugular vein)

The pulse disappeared after the digital pressure (originated from JV)







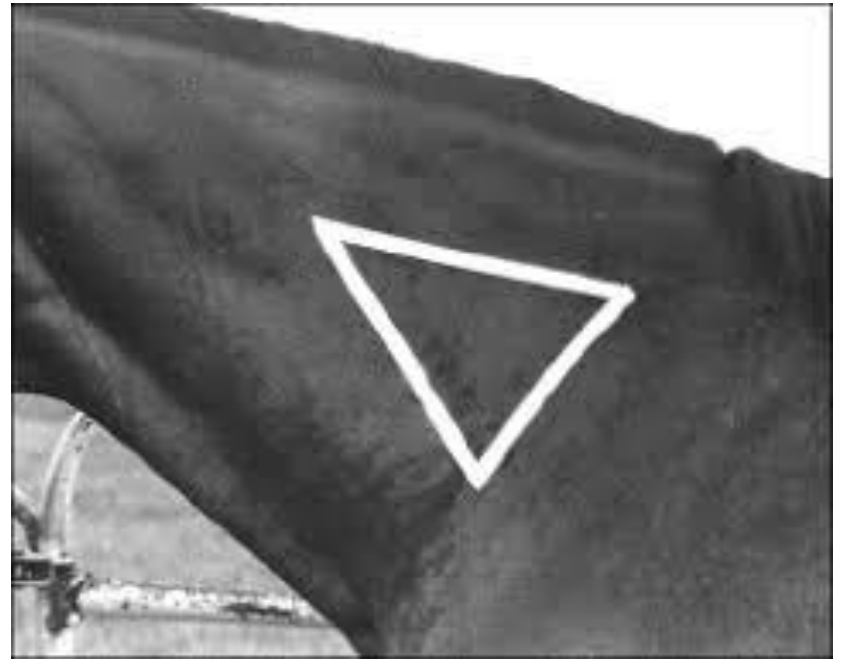
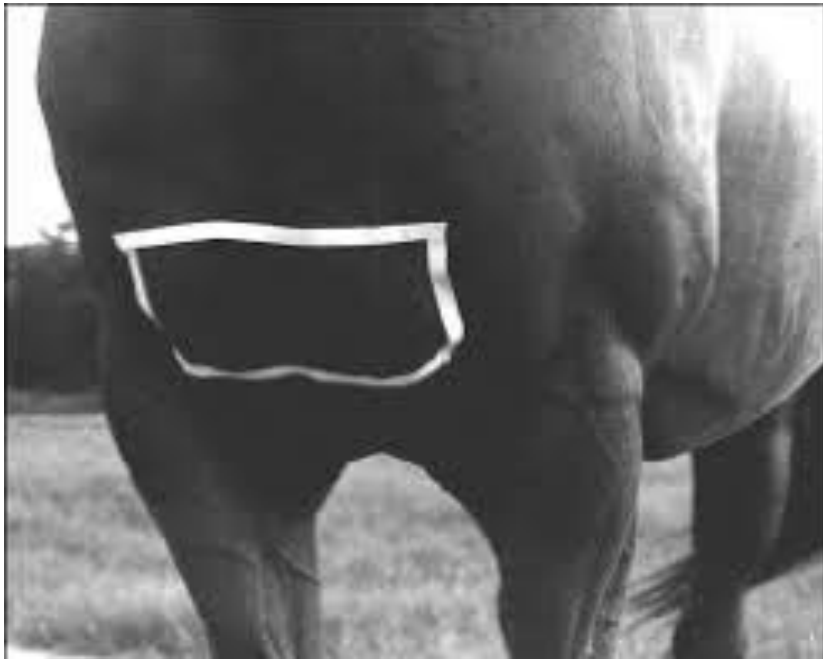
Sites of injections

❖ **I/M: Gluteal – Neck – Thigh – Buttock.**

❖ **S/C: at area of more skin (in front of shoulder and flank region). Catch fold of skin – introduce needle in triangular area (free movement of needle).**

❖ **I/D: Like S/C but no free movement of needle.**





Intra Venus

❖ **Cattle : Jugular vein and milk vein.**

❖ **Camel and equine: Tibial vein & jugular vein**

❖ **Dog and cate**

→ **Fore limb in radial or cephalic vein.**

→ **Hind limb in saphenous and recurrent tarsal
vein**



Skin examination

Indications

1. Diagnosis of some ectoparasitic diseases as mite, lice, tick, fleas and filariasis
2. Mycotic diseases as Ring worm (Dermatophytosis & Dermatomycosis)
3. Bacterial diseases as dermatophilosis (Moist exudative dermatitis)
4. Viral diseases (Pox, ORF and LSD)

Diagnosis of mange

- 1. Definition:** Chronic contagious diseases of all animals and human transmitted by direct and indirect contact and characterized by irregular areas of alopecia with sever itching and pruritis.

Field diagnosis

Case history:

- ❖ Previous case of infection in the herd
- ❖ Previous treatment of mange in herd
- ❖ History of introduction of new animal
- ❖ Cleaning and disinfection program

Clinical signs & PM:

- ❖ Presence of irregular areas of alopecia with severe itching and pruritus of skin
- ❖ Thickening and folding of skin
- ❖ Poor general animal condition
- ❖ Rough coat and skin erythema







Lab. diagnosis

A. Sample

- ❑ **Skin scraps** (Sample must be collected from periphery of the lesion or edges until blood oozing using sharp scalpel)
- ❑ Touch skin by mineral oil or dip scalpel in oil or glycerin to avoid cuts in skin
- ❑ Hold fold of skin between healthy and affected part, then scraping the crusts of fold by the sharp scalpel in one direction to avoid destruction of etiological agents till blood oozing.
- ❑ Collect skin scraps in sterile petri dish then make:

B. Lab procedures

1. Direct microscopic examination:

- Put skin scraps on clean dry glass slide then add few drops of KOH or NaOH 10% to dissolve greasy materials and nitrogenous substances
- Examine under microscope "10x" to detect mite movement

2. Heat Sedimentation test :

- Put skin scraps in clean dry test tube then add 10ml KOH or NaOH 10%
- Gentle heating not boiling for 3:5 minutes to dissolve any nitrogenous material
- Discard supernatant and examine 1 drop of sediment on glass slide under microscope "10x" to detect presence of mite.

Diagnosis of ring worm

1. **Definition:** Highly contagious infectious disease of all animals and human caused by fungi (Trichophyton – Microscporum) characterized by regular circular areas of alopecia without itching nor pruritis.

Field diagnosis

Case history:

- ❖ Previous case of infection in the herd
- ❖ Previous treatment of ring worm in herd
- ❖ History of introduction of new animal
- ❖ Cleaning and disinfection program

Clinical signs & PM:

- ❖ Circumscribed area of alopecia covered by grayish white crust without itching nor pruritus of skin.



A kitten with ringworm



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Lab. diagnosis

A. Sample

□ **Skin scraps:** (Mackenzie brush technique)

Collected by brushing affected area of skin by sterile brush against paper sheet.

□ Plunked hair.

□ Put skin scraping in petri dish then make:

B. Lab procedures

1. Direct microscopic examination:

- ❑ Put skin scraps on clean dry glass slide then add few drops of NaOH or KOH 10% to dissolve any greasy materials and nitrogenous substances or stained by lactophenol blue.
- ❑ Mild gentle heating then put cover slide then examine under microscope "10x" to detect fungal spores which present around hair follicles.

2. Culture examination:

- Need complete aseptic condition by washing affected area by soap and water then dry by filter paper then disinfection by alcohol 70%
- Collect skin scraps by brushing affected area of skin by sterile brush against paper sheet then put skin scraping in petri dish

2. Culture examination:

- Inoculate skin scraps on surface of sabouraud dextrose media (SDA) containing:
 - yeast extract as growth promoter for fungi
 - Chloramphenicol inhibit growth of bacteria
 - Cyclohexamide suppress growth of saprophytic fungi
- Incubate at 37°C at pH 6.9 for 5 days

2. Culture examination:

□ Results:

1. Fungal growth +ve ring worm.
2. Not discard –ve plates before 5 weeks as trichophyton need 5 weeks to grow while microsporum need 5 days only to grow.

□ Another media called Dermatophyte test media (DTM) similar to SDA but contain phenol red (growth of white colored colonies with red color of surrounding media)

3. Wood's light:

- Used for diagnosis of Ring worm in long hair breeds of dog and cat
- Introduce dog or cat into dark room or box then expose hair to UV light
- Metabolites of fungus exposed to UV react with it producing yellow green fluorescent light indicate +ve ring worm

