

**U.G. (4<sup>th</sup> Year B.V.Sc. & A.H.) Class**

## **Examination of Skin**

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- 1. History**
- 2. Visual appraisal of the skin**
- 3. Manual appraisal of the skin**
- 4. Distribution of skin lesions**

The skin has been described as the largest organ in the body

It defends the body it covers and is involved in the maintenance of homeostasis including water conservation.

The condition of the skin is a reflection of the general health of the animal, deteriorating in cases of ill health, ill thrift and debility.

A detailed clinical examination of the patient and of its skin are essential parts of the process of diagnosis and should enable the health status of the patient's body and its skin to be determined.

In some conditions such as jaundice, skin becomes yellowish in color, which helps in diagnosis.

The skin has three main layers: the epidermis, dermis and subcutis.

# HISTORY

The general history of the case will have been considered at an earlier stage in the process of diagnosis.

The *history of the herd* and a knowledge of the geographical area may provide useful information for the clinician.

In areas where **copper deficiency** occurs, changes in coat colour may be seen.

The *history of the patient*, including recent contacts with other cattle at shows or markets, may also be important.

Recent changes in diet and management should be noted.

Poor nutrition can give rise to a dull, dry, thin and brittle coat.

# Visual appraisal of the skin

The whole body surface is methodically inspected initially from a distance and then more closely, looking for areas of abnormal skin or hair which will later be subjected to closer scrutiny.

Healthy animals have lick marks on their skin, especially over the flank and shoulders.

**Pruritus**, for example that caused by heavy louse infestation, may cause excessive grooming and the presence of more lick marks than normal.

# Manual appraisal of the skin

Manual appraisal will enable the clinician to detect lesions which are not immediately visible, for example beneath matted hair.

Enlargement of lymph nodes may be detected at this stage e.g. in theilariosis.

*The thickness of the skin* and the presence of any subcutaneous oedema or infection should also be noted. The average skin thickness in adult cattle is **6 mm**.

*Pathological thickening of the skin* occurs in a number of skin conditions, including sarcoptic mange.

Manual examination of the skin will also allow assessment of *skin turgor* – its resilience and flexibility.

Picking up a skin fold between finger and thumb and releasing it provides a general assessment of the animal's state of hydration.

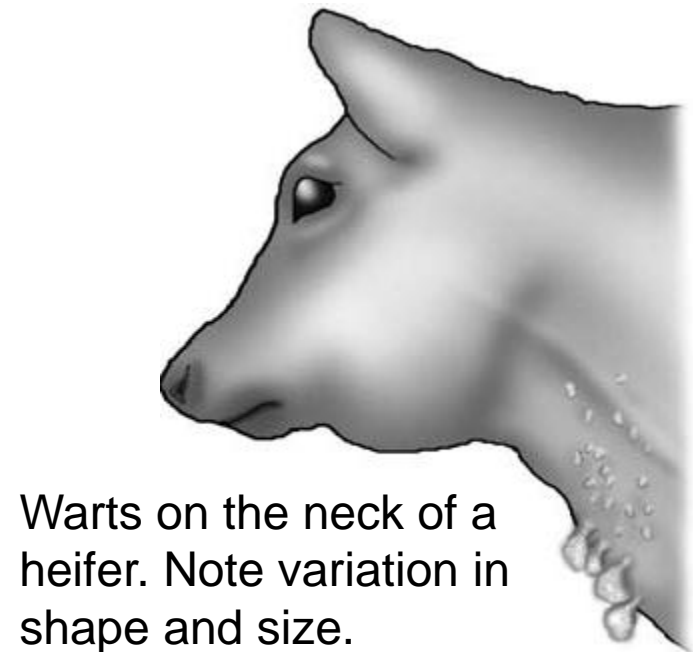
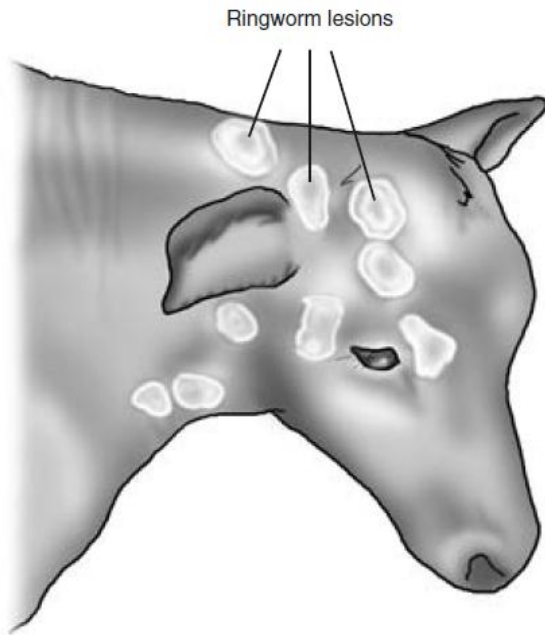
In a well hydrated animal the pinched skin falls immediately back into place; in a dehydrated animal the return to normal is delayed.



# Distribution of skin lesions

This is of diagnostic importance. Lesions caused by photosensitisation are commonly seen in lightly pigmented areas on the dorsal parts of the body which are exposed to sunlight.

Ringworm lesions in calves are particularly common on the head and neck, but also occur elsewhere.



Warts on the neck of a heifer. Note variation in shape and size.

# Description of the skin lesions

Lesions may be primary or secondary. *Primary lesions* are the direct result of the skin disease.

## Primary lesions

**Macule** – flattened area of colour change less than 1 cm in diameter; no skin thickening.

**Papule** – flat circumscribed area, mostly rounded and often raised with a necrotic centre; overall size less than 1 cm in diameter; may be associated with the hair follicles

**Nodule** – a papule more than 1 cm in diameter

**Plaque** – solid raised flat topped mass more than 1 cm in diameter

**Tumour** – large nodular structure, often of neoplastic origin

**Vesicle** – fluid filled blister less than 1 cm in diameter (vesicles larger than 1 cm are called bullae)

**Pustule** – pus filled vesicle.



*Macule*



*Papule*



*Nodular dermatitis*

## **Secondary lesions**

**Scale** – accumulation of loose, dry fragments of superficial skin layers.

**Crust** – dried accumulation of debris including blood and pus

**Erosion** – loss of superficial epidermal layers with intact inner layers.

**Excoriation** – erosion or deep ulcer of traumatic origin.

**Ulcer** – deep erosion penetrating the epidermal basement membrane.

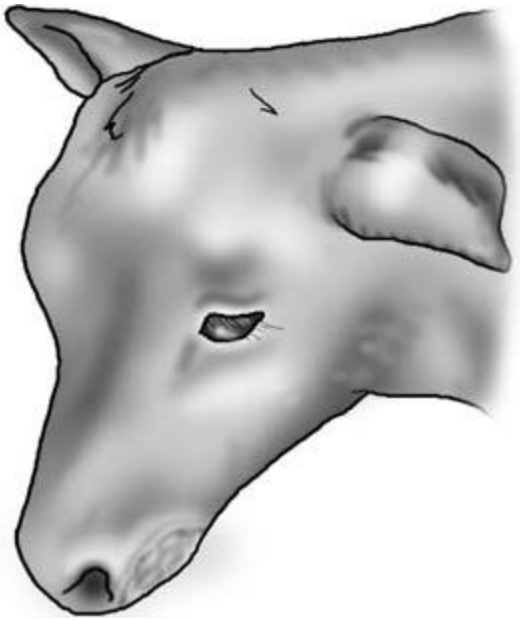
**Scar** – fibrous tissue replacing damaged skin

**Fissure** – split in the superficial skin layers often caused by drying and thickening

**Keratosis** – overgrowth of dry horny keratinised epithelium

**Pigment changes** – hyper- or hypopigmentation

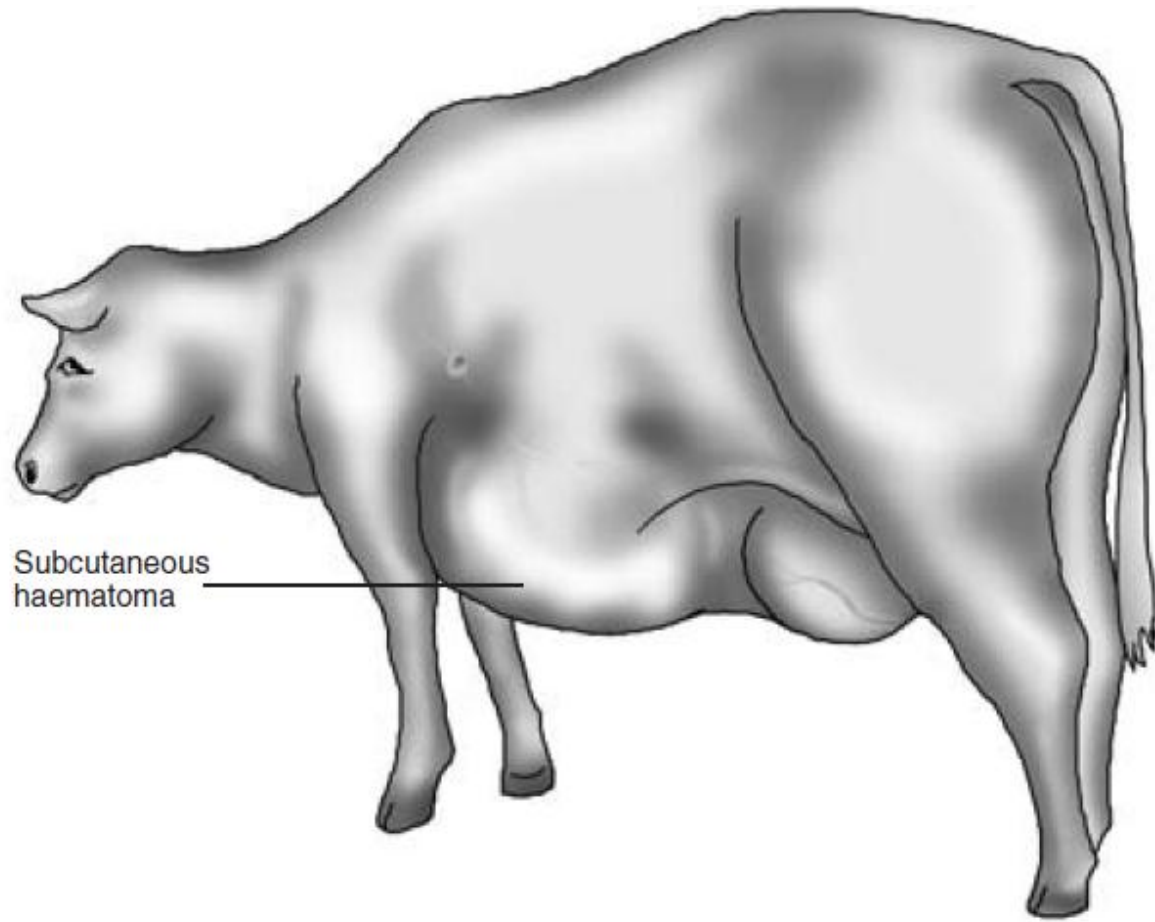
**Alopecia** – hair loss.



Skin lesion on left lip caused by *Actinobacillus lignieresii*.

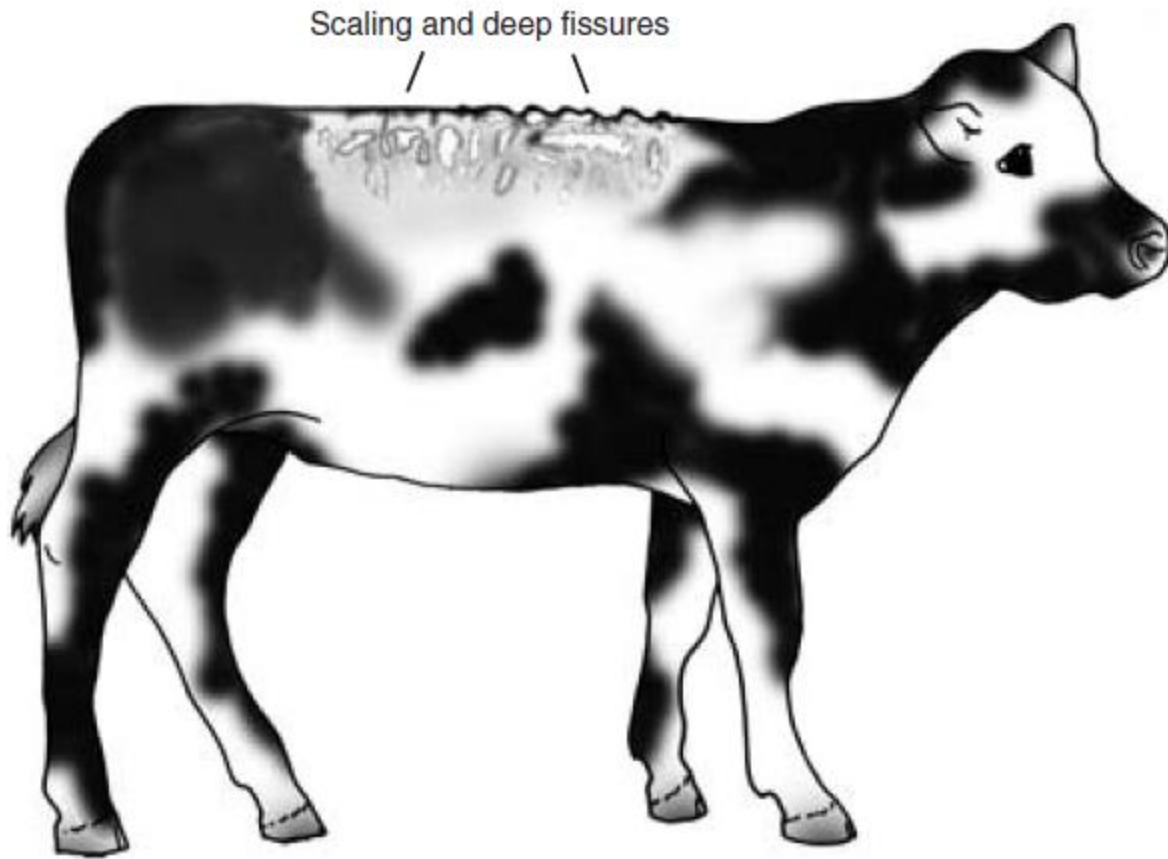


Lesions of papular stomatitis on the muzzle of a heifer.

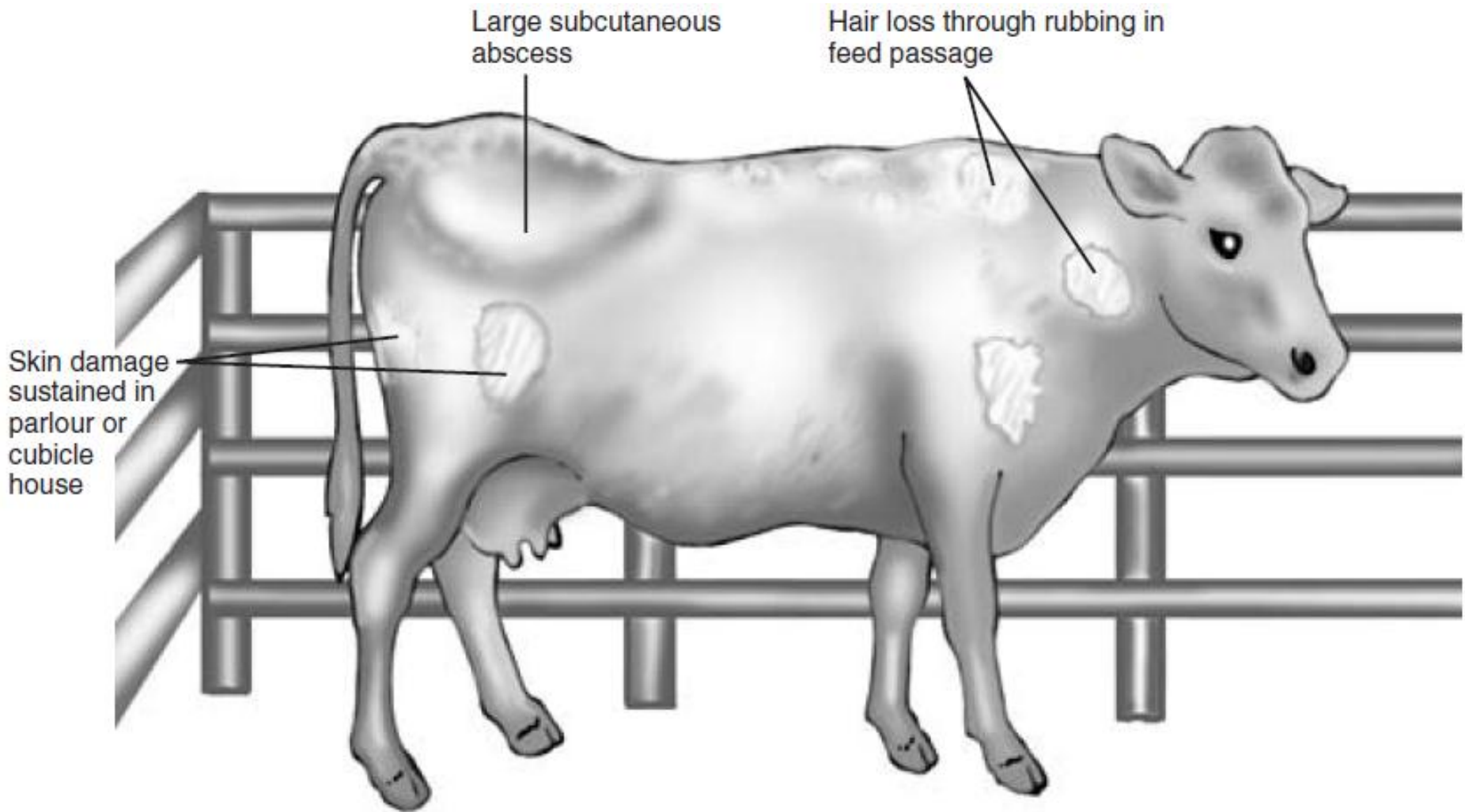


Subcutaneous  
haematoma

Large subcutaneous haematoma caused by damage to the external abdominal vein.



Calf with photosensitisation. Note lesions on unpigmented part of the back



**Skin of cow showing damage sustained in her environment**



# THANK YOU

## Coronavirus: How to stay safe



Wash your  
hands  
regularly



Sneeze/  
cough into  
a tissue



Bin it!  
Throw your  
tissues away  
immediately



Sneeze/  
cough inside  
your elbow