



**VETERINARY MEDICINE** // // // // // // //

# Small Ruminant Dermatology Issues

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## Objectives

Diagnosing what are the most common dermatology problems in sheep and goats and their treatment

- External parasites
- Migratory intermittent parasites
- Fungal –ringworm; club lamb
- Viral –ORF
- Bacterial
- Nutritional

What causes fly strike and how to treat it

Use the resources around you



## OBSERVE FIRST

- Observe the evenness of the density of hair coat or fleece. "Wool break" (areas of wool loss) can be caused by a high fever or some other severe stress
- Alopecia or asymmetry around the body can be from rubbing against the feeders or other areas
- Alopecia on the top of the head arises from head butting

\* Scrapie – should be on differential list in an animal with pruritus, chronic weight loss, and wool loss. In adults it also presents with varying degrees of ataxia (Eradication program and genetic testing for susceptibility)



**Fig 7: Hairloss on the limb of a goat caused by rubbing against a pen structure such as metal bars (Matthews 2016). Picture copyright Wiley and Sons**



# PARASITES



## ECTO-PARASITES

- Ticks
- Lice
- Mange
- Larval migration - coronary band area



## External Parasites – TICKS

- Usually not large infestations – head, neck, ears, inguinal and axillar areas (unless a bad year like this one)
- Can disseminate blood borne pathogens:
  - Lyme disease
  - Anaplasma
  - Tick paralysis (rare)
- Early removal is essential (check animals thoroughly once/week)
- Removing vegetation where ticks hide (mowing)



## External Parasites – TICKS TREATMENT

Injectable ivermectin

- 0.3 mg/kg
- Takes 3 days to start working







### External Parasites – LICE

- Usually animals with a rough dry hair coat
  - Weaker animals
- Hair chewing or rubbing – itching
  - Head, neck and dorsal area
  - Patchy alopecia
  - Fleece damage
- Not common in sheep
- Both chewing and sucking lice in goats
  - Sucking lice can cause anemia





## External Parasites – LICE TREATMENT

### Goats:

- Topical Ultraboss 1.5cc/50 lbs
  - (no more than 18 cc total)
- Topical cydectin 1cc/15 lbs
- Repeat treatment 2 weeks after
- Improve body condition and nutrition

Spread out on dorsum opening hair  
(like flea medication)





## External Parasites – MANGE

### Site dependent

Several types -most (except demodex) are eradicated in sheep in the USA, but still occur in goats.

- Psoroptic
- Sarcoptic
- Sheep Itch (*Psorergates ovis*)
- Chorioptic
- Demodectic



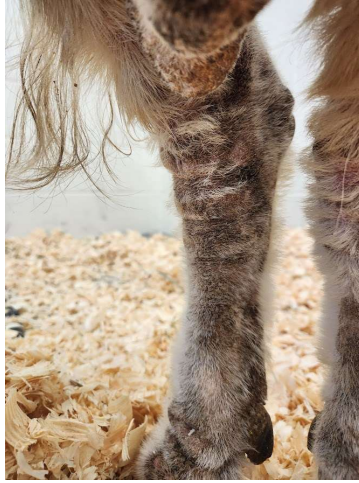
## Parasites – EXTERNAL

### MANGE – SITE DEPENDENT

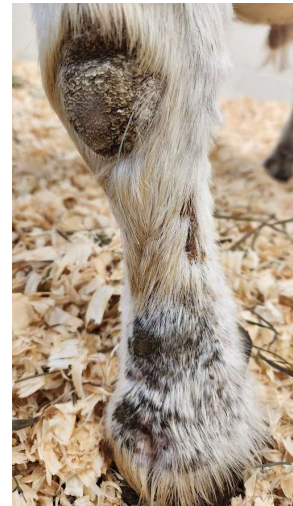
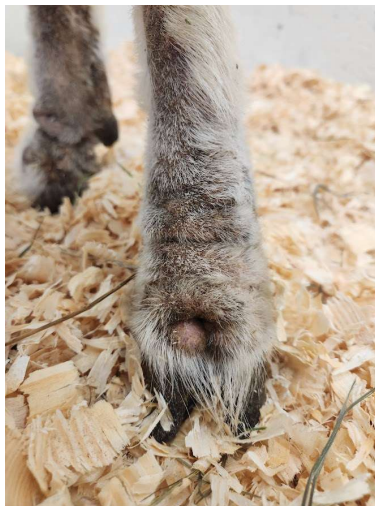
- Extensive mange on adult goat



**Parasites – EXTERNAL**  
**MANGE – site dependent**

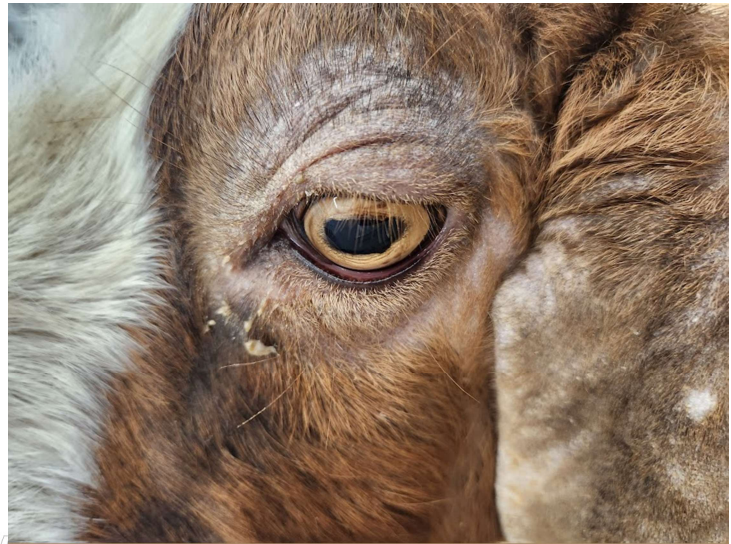


**Parasites – EXTERNAL**  
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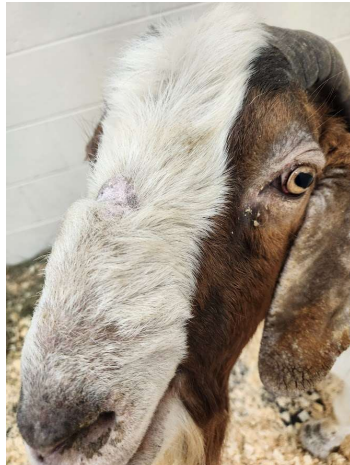
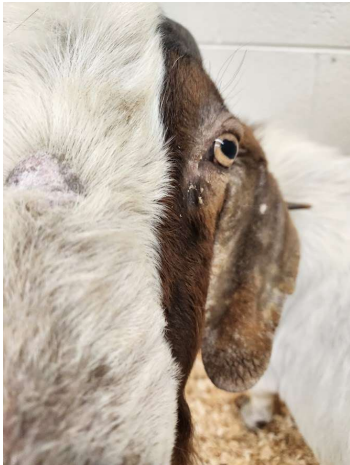




**Parasites – EXTERNAL**  
**MANGE – site dependent**



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**Parasites – EXTERNAL**  
**MANGE – site dependent**



## Parasites – EXTERNAL

### MANGE – site dependent

Mange type	Affected area	Initial lesion	Chronic lesion	Pruritus	Alopecia	TX and CX
Chorioptic	Distal limbs (back of pastern) , scrotum and ventral area	Papules	Crusting and scabbing	Yes/rare	Yes	Injectable macrocyclic lactones Can be transmitted by llamas. The llamas don't show signs, but are carriers. So, treat them too!
Sarcoptic (reportable) *Zoonotic	Legs, face (eyes), and ears	Erythema and papules	Hyperkeratosis, weight loss, reduced milk yield Whole body in goats	Severe	yes	Injectable macrocyclic lactones Skin scrapes must be VERY deep
Psoroptic (reportable)	Ears, can expand to neck and trunk	Papules	Ear canal exudate, hyperkeratosis of affected skin	Head shaking and scratching	Mostly on ears	Injectable macrocyclic lactones Mite can live 3 weeks off host

\*Eprinex seems to work better than ivermectin



## Parasites – EXTERNAL

### MANGE – site dependent

Mange type	Affected area	Initial lesion	Chronic lesion	Pruritus	Alopecia	TX and CX
<i>Psorobia ovis</i> ( <i>Psorergates</i> ) Sheep Itch	Epidermis of trunk, withers and sides	Alopecia	Crusts, scales along trunk	Severe	Yes	Injectable macrocyclic lactones
Demodectic	face, limbs, back	Nodules	Follicular caseation due to blocked follicles	Rare	yes	Spreads to kids, not usually to adults Injectable macrocyclic lactones

- All new animals should be thoroughly examined and quarantined before mixing with flock





### Parasites – EXTERNAL EAR MITES

- Dark wax accumulation in ears
- More common in LaMancha goats
- In older animals a bad infestation can cause inflammation, hematomas and even suppurating abscesses
  - *Psoroptes ovis*- sheep
  - *Psoroptes cuniculi* – goats
- Injectable macrocyclic lactones



### Parasites – EXTERNAL Migratory L3 LARVAE

- Hook worm
- Strongyloides
- Transitory coronary band inflammation



# FUNGAL



## **FUNGAL - Dermatophytosis (Ring worm, lumpy wool, club lamb, club fungus)**

- *Trichophyton verrucosum*
- *Trichophyton mentagrophytes*
- *Microsporum canis*
  - Crusty wart like lesions, circular alopecic lesions
  - Pruritic
  - Transmission is direct or via fomites
  - Self resolves in 4-6 weeks
  - Common in show animals



## FUNGAL Candidiasis

- Yeast
- Diagnosed in goats but not sheep
- CS: alopecia, scales, crusts, greasy skin, skin lichenification
- Compromised immune system or malnutrition are most common predisposing factor
- DX: cytology
- TX: fixing nutrition will help the animals fight the infection



# VIRAL





## VIRAL ORF – Contagious Ecthyma

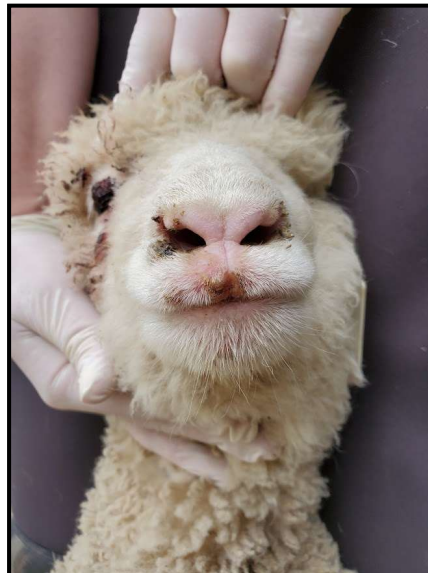
- Poxvirus that can remain infective in the environment
- Outbreaks happen 10-14 days after pasture change on places where there is superficial trauma (small cuts) where the virus can enter the body
- High morbidity but low mortality
- CS: proliferative lesions that scab over at the hoof/horn junction, mouth area, and even around the eyes
  - Lesions persist for one to 2 months and heal over
  - Lambs affected may not want to nurse due to pain or mother may have scabs over teats and not allow nursing due to pain
  - Can get complicated with secondary bacterial infections
- DX: observation of lesions
- TX: only of secondary bacterial infections with penicillin or oxytetracycline
- Prevention: disinfection and cleaning of premises (pens)

**\*Zoonosis – wear gloves and disinfect materials!!**



<https://www.nadis.org.uk/disease-a-z/sheep/contagious-pustular-dermatitis-orf/>

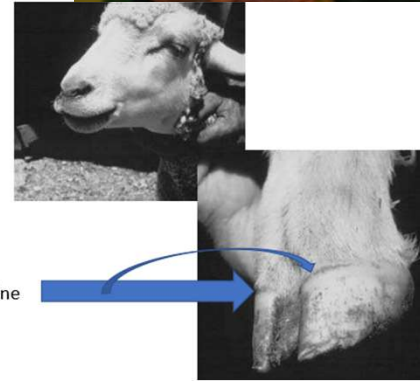
## VIRAL ORF – Contagious Ecthyma



<https://www.nadis.org.uk/disease-a-z/sheep/contagious-pustular-dermatitis-orf/>

## VIRAL Bluetongue - Orbivirus

- Passed by midges – tropical and subtropical areas
- Causes congestion of the buccal and nasal mucosa and the coronary bands
  - Primary vascular damage
  - Local edema
  - Vascular thrombosis
- Death and wool loss
- CX is through limiting animal movement during the active vector season



Hemorrhagic line

<https://www.nadis.org.uk/disease-a-z/sheep/contagious-pustular-dermatitis-orf/>

## BACTERIAL

## BACTERIAL

### *Dermatophilosis (Streptothricosis, Lumpy wool Disease, Rain Scald, Rain Rot)*

- *D. congolensis*
  - Obligate parasite of ruminant skin
  - Carrier animals spread the bacteria
  - 2 week incubation period
- Predisposed by: skin damage, excessive moisture, concurrent disease or stress that compromises the immune system
- CS: follicular and non-follicular papules, crusts in the coronary band (sheep – strawberry foot rot), scabs on ears and tail
- Clean and apply aluminum spray, keep stock dry, improve nutrition, clean the area from scabs
- Can be treated with systemic antibiotics (penicillin, ceftiofur or oxytetracycline)



<https://www.nadis.org.uk/disease-a-z/sheep/contagious-pustular-dermatitis-orf/>

## BACTERIAL

### *Staph aureus*

- Caused by opportunistic bacteria that are normal skin commensals
- Skin break – laceration from suckling
- Extends and causes pustules – impetigo looking
- Let heal by itself, or mild topical cleanse with topical antiseptic and let dry
  - Apply aluminum spray

**\*Zoonosis – wear gloves and disinfect materials**



<https://www.nadis.org.uk/disease-a-z/sheep/contagious-pustular-dermatitis-orf/>



## BACTERIAL STAPH AUREUS

**\*Zoonosis – wear gloves and disinfect materials!!**

- Eye scab, facial dermatitis, necrotic ulcerative dermatitis, staphylococcal dermatitis
  - Late winter or spring
  - Skin trauma
  - Contagious
  - Deep skin ulceration
  - Cleaning area and keeping dry



## BACTERIAL CASEOUS LYMPHADENITIS – C. PSEUDOTUBERCULOSIS

- Affects lymph nodes primarily causing abscessation that spreads through abscess rupture and purulent material
  - Can also affect brain and spinal cord, testes, epididymis, udder, lung, lymphnodes in the thoracic and peritoneal cavity, liver, and kidney
- Most common cause of carcass condemnation
- Selective culling is best



**\*Zoonosis – wear gloves and disinfect materials!!**



**BACTERIAL  
SKIN NICKING - SHEARING**

- Secondary infections from cuts during shearing
- Can become bad if left untreated
- Clean wound and apply aluminum spray



**FLY STRIKE**



## FLY STRIKE

Fleece rot (wet fleece in warm temperatures), or small injuries attract flies that lay eggs, causing fly strike

- Feet, perineum, wounds



## WHAT TO DO NOW...

1. Observe animals – affected animals will appear painful (constant discomfort) and sometimes lethargic
2. Clip the area
3. Wash off maggots
4. Apply aluminum spray
5. Apply fly spray-around
6. Give pain medication and antibiotics if secondary infection present
7. Keep an eye out and if possible shear everyone





# NUTRITIONAL



## NUTRITIONAL ZINC DEFICIENCY

**Very rare!**

- Parakeratosis
- Wool loss
- Excessive salivation
- Reproductive problems
- Sheep are able to absorb Zn efficiently and ewe's milk is rich in it
- Multimin can be used if needed to supplement or oral formulations, but good pasture and mineral should have enough



## NUTRITIONAL COPPER DEFICIENCY

- Poor haircoat
- Must be careful especially with sheep to not cause copper toxicity while trying to fix the deficiency
- Rare if the right mineral is used in goats and sheep
- Toxicity can be caused by cattle mineral or feed (mostly to sheep)



## QUESTIONS?



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