GOAT DISEASES

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MAHARASHTRA, INDIA
# PESTE-DES-PETIS RUMINANTS (PPR)

<table>
<thead>
<tr>
<th>Causal Organism</th>
<th>Transmission</th>
<th>Symptoms</th>
<th>Treatment</th>
<th>Prevention</th>
</tr>
</thead>
</table>
| Para-myxovirus    | Through nasal secretions and respiratory by indirect means and direct contacts | • High fever  
• Oral Necrosis  
• Catarrh  
• Nasal discharge  
• Diarrhea  
• High mortality due to dehydration and respiratory problems | No effective treatment | • Vaccination  
• Control of outbreaks by quarantine  
• Slaughter of sick and exposed goats  
• Disinfection  
• Prevent secondary infection |
# Foot and Mouth Disease (FMD)

<table>
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<tr>
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</thead>
<tbody>
<tr>
<td>Picornavirus</td>
<td>• Direct contact</td>
<td>• Small lesions on tongue and mouth</td>
<td>Antibiotic treatment to check secondary bacterial infection</td>
<td>• Vaccination</td>
</tr>
<tr>
<td></td>
<td>• Contaminated feed, bedding, tools, fence, manure</td>
<td>• Typical vesicles on dental pad</td>
<td></td>
<td>• Control of outbreaks by quarantine</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Inter-digital cleft with pronounced foot lesions</td>
<td></td>
<td>• Segregation of sick animals</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Salivation</td>
<td></td>
<td>• Disinfection and sanitizing measures</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Lameness</td>
<td></td>
<td>• Prevent secondary infection</td>
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</tbody>
</table>

- **Prevention:**
  - Vaccination
  - Control of outbreaks by quarantine
  - Segregation of sick animals
  - Disinfection and sanitizing measures
  - Prevent secondary infection
## GOAT POX (Capri pox)

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<tbody>
<tr>
<td>Pox virus</td>
<td>• Inhalation and through broken skin • Material contaminated with discharge</td>
<td>• Temperature • Blisters and pustules on various parts of body, skin around mouth, nostrils, eyes, ears, udder and teat are affected • Discharge from eyes and nose</td>
<td>• Use of antibiotic for early healing. • Washing of lesion by H2O2 • Apply antiseptic cream</td>
<td>• Vaccination • Isolation</td>
</tr>
</tbody>
</table>

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## BLUE TONGUE

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<tr>
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</thead>
</table>
| Orbi virus      | • Insect borne  
• Culicoides midges | • Depression and sluggishness  
• High rise of temperature  
• Odema of muzzle, lips, oral and nasal mucus membrane  
• Excessive salivation  
• Ulcers in oral mucosae  
• Swelling of tongue and bluish in look  
• Off-feed  
• Lameness due to coronitis and pain in hooves | • Use of antibiotic to prevent secondary infections | • Destructions of breeding sites of midges  
• Isolation  
• Smoking and spraying with insecticide |
# Contagious Ecthyma

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</thead>
</table>
| Pox virus       | • Direct contact  
                  • Contaminated feed, bedding, tools, fence, manure | • Swelling as red spots at  
              • mouth commisures, lips  
              • and nostrils  
              • Vesicles followed by  
              • pustules forming scabs  
              • Loss of body conditions  
              • membrane  
              • Death due to starvation  
              • and pneumonia | • Use of antibiotic to prevent secondary infections.  
              • Application of antiseptic cream on lesions | • Isolation of sick animals |

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# Anthrax

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</table>
| *Bacillus anthracis* | - Water and food contaminated with blood  
- By insect bite  
- Wound  
- Infections | - High Fever  
- Blood tinged foamy discharge from mouth, nose  
- Off-feed  
- Dullness  
- Ceases ruminating  
- Bloat  
- Death | -                                      | - Hygienic measures  
- Annual vaccination  
- Disinfection of walls, floors |
### BLACK QUARTER (B Q)

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<thead>
<tr>
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</thead>
</table>
| *Clostridium chauvoei* | • Water and food contaminated with blood  
• Wound infections | • Rise in temp  
• Limping gait  
• Septicemia  
• Gas gangrene | No specific treatment | • Sanitation  
• Isolation  
• Vaccination |

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# HAEMORRHAGIC SEPTICAEMIA (HS)

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</thead>
</table>
| *Pasturella haemolytica* | • Fatigue from journey predisposing factor.  
• Direct by contact 
• Contaminated feed and water | • High fever  
• Swelling in neck region  
• Labored breathing  
• Eyes swollen  
• Tongue enlarge  
• Off-feed  
• Difficulty in swallowing  
• Death within 24 hr. | Use of Sulphonamide and antibiotics such as Penicillin | • Segregation  
• Vaccination |
## ENTRITIS OF KIDS

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</thead>
<tbody>
<tr>
<td><strong>E-coli</strong></td>
<td>• Contaminated food and water</td>
<td>• Yellow diarrhea</td>
<td>Use of antibiotics and electrolytes</td>
<td>• Provide clean water and kaolin</td>
</tr>
<tr>
<td><strong>Campylobacter</strong></td>
<td></td>
<td>• Abdominal pain</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Clostridium perfringens</strong></td>
<td></td>
<td>• Kids stop sucking, collapse and die</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Hemorrhagic enteritis caused congestion and ulceration of mucosa of intestine</td>
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<td></td>
</tr>
</tbody>
</table>

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## ENTEROTOXAEMIA

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</table>
| *Clostridium perfringens* Type A and D | • Contaminated food and water  
• Discharge by affected animals | • Dullness  
• Oral frothing  
• Jaws movement  
• Abdominal pain  
• Staggering gait  
• Chewing of dirt  
• Irregular breathing  
• Twitching of muscles  
• Convulsions  
• Grinding of teeth  
• Coma  
• Death | No use of treatment | • Multi-component Clostridial vaccine 2 to 4 week before kidding, again to new born at 3 to 4 months age followed by booster dose after 15 to 20 days.  
• Annual vaccination |

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## FOOT ROT

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</tr>
</thead>
<tbody>
<tr>
<td><em>Fusiformis necrophorus</em></td>
<td>Wet, Marshy and badly drained pastures.</td>
<td>Lameness</td>
<td>Apply 10% Chloramphenicol in 70% alcohol in foot.</td>
<td>Proper trimming of misshapen over growing hooves using sterilized instruments</td>
</tr>
<tr>
<td><em>Fusiformis nodosus</em></td>
<td>Insanitary conditions of stalls</td>
<td>Painful swelling on foot between cleft</td>
<td></td>
<td>Keep proper sanitation and hygiene</td>
</tr>
<tr>
<td><em>Clostridium pyogens</em></td>
<td>Foot injury</td>
<td>Rapid loss of body weight</td>
<td>Driving goats through foot bath containing 5% Copper Sulphate solution.</td>
<td>Keeping floor dry</td>
</tr>
<tr>
<td><em>E-Coli</em></td>
<td></td>
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<tr>
<td><em>Staphylococi</em></td>
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<td></td>
</tr>
</tbody>
</table>
# Navel Ill/Joint Ill

<table>
<thead>
<tr>
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<th>Treatment</th>
<th>Prevention</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Clostridium pyogens</td>
<td>• Use of unclean tools</td>
<td>• Slight fever</td>
<td>• Streptopenicilline is use early stage effective</td>
<td>• Colostrums feeding of young ones</td>
</tr>
<tr>
<td>• Fusibacterium</td>
<td>• Dirty pens</td>
<td>• Lameness</td>
<td></td>
<td>• Proper disinfection of navel ill with iodine</td>
</tr>
<tr>
<td>• Necrophorus</td>
<td>• Wet floor</td>
<td>• One or more joint release grayish white pus</td>
<td></td>
<td>• General sanitation and hygiene in pens</td>
</tr>
<tr>
<td></td>
<td>• Badly drained pastures</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## BRUCELLOSIS

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</table>
| *Brucella melitensis* | • Licking of aborted fetus  
• Eating placenta  
• Organism enter through mouth, inhalation and through skin | • Abortion occurs in late pregnancy  
• Before abortion animal is uneasy | • Isolation and give rest  
• Treatment is not effective | • Periodic test and eliminations  
• Burn foetus, placenta and bedding  
• Disinfect the place with 2% lysol |

*Brucella ovis*

*Brucella melitensis*

A stillborn fetus with necrotic placenta.

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## LISTERIOSIS

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</table>
| *L. monocytogene* | Contaminated pasture, grass, feed, water and silage. | • Placentitis  
• Abortion, Still birth  
• Death of new born  
• Metritis  
• Septisaemic hepatitis.  
• Splenitis, Pyrexia  
• Fever, Diarrhea  
• Dullness, Off-feed  
• Circling movement  
• Nasal discharge  
• Conjunctivitis  
• Protrusion of tongue  
• Salivation | • Use of antibiotics and sulphonamides | • Prevent stress  
• Follow sanitation  
• Hygiene to prevent contamination |

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## COCCIDIOSIS

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</table>
| *Eimeria sp.*   | • Contaminated feed and water, pasture with sporulated oocyst | • Unformed faeces  
• Loose motions  
• Faeces mix with blood  
• Dehydration  
• Loose body weight  
• Rough hair coat  
• Anemia  
• Low appetite  
• Slight fever | • Sulphamezathine 5 days orally  
• Amprolium dreanching for 3 days  
• Nitrofurazone sulphate for 4 days | • Avoid humid conditions  
• Sanitation  
• Proper hygiene of sheds |
# FASCIOLIASIS (TREMATODES)

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</thead>
<tbody>
<tr>
<td><em>F. gigantica</em></td>
<td>Contaminated food, water with snail</td>
<td>Off-feed</td>
<td>Oxyclozanide</td>
<td>Proper land drainage</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Weak, anemic, edema under lower jaw</td>
<td>Carbon tetrachloride</td>
<td>Use of CuSo4 for killing snails in ponds</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pregnant animals may abort</td>
<td>Niclozamide</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Swollen liver</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Persistent diarrhea</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Exhaustion</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dehydration</td>
<td></td>
<td></td>
</tr>
</tbody>
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*Image credits:*
- "The stages of the liver fluke look much different from each other" by Karen Christensen, 2003
- Photographs by Dr. Sachin Teka.
# SMALL LIVER FLUKE

<table>
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<tr>
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</table>
| *Dicrocoelium dendriticum*           | • Contaminated feed with snails and ants as a first & secondary hosts | • Low feed intake  
• Keep standing distended  
• Abdomen is painful upon manipulation  
• Death in few days. | • Albendazole  
• Refoxanide | • Proper land drainage  
• Use of CuSo4 for killing snails in ponds |

# NEMATODES (ROUND WORM)

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</table>
| *Cooperia*  
*Strongyloides*  
*Bunostomum*  
*oesophagastomum* | • Infective stage of eggs of worms larvae are eaten up by grazing animals in spring or rainy season | • Diarrhea  
• Soiling of hind quarter  
• Bottle jaw  
• Paleness of mucus membrane  
• Inflammation of intestine  
• Low feed intake  
• Poor growth  
• Mortality range 1 to 13 % | • Albendazole  
• Fenbendazole  
• Livamisole  
• Morental  
• Ivermectin | • Prevent pasture contamination with eggs specially in monsoon, kidding / lambing season |

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</thead>
<tbody>
<tr>
<td><em>Monezia expansa</em></td>
<td>Infective stage of eggs of worms larvae are eaten up by grazing animals in spring or rainy season</td>
<td>Loss of condition, Unthriftiness</td>
<td>Fenbendazole, Piperazine, Albendazole</td>
<td>Ploughing of grazing area and cross grazing with large animals</td>
</tr>
</tbody>
</table>
# NASAL BOTS

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| Larvae of fly    | Fly deposits larvae in the nostril which develop to third stage in upper part of nasal passage, sneezed out in the soil | • Shaking head  
• Pus containing nasal discharge  
• Sticking the nose and drying causing problem in smooth inhalation.  
• Reduced grazing and loss in body weight. | • Annual dosing in first week of June, 7.5 mg Rafoxanide per kg. orally | • Use of Nitroxinil in winter for further removal of wintering larvae |
| Oestrus ovis     |                                                                              |                                                                                                                   |                                                                           |                                                                            |

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## ECTOPARASITE

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| **Tick**        | Contact, bedding sheds | Ticks transmit a few protozoan, bacterial, viral and rickettsial infection | • Cypermethrine  
• Deltamethrin  
• Amitraz | • Regular dipping of animals  
• Spraying or dusting of sheds with insecticide |
| **Lice**        |              |          |           |            |

*Dr. Sachin Tekade*
# Ringworm

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| *Trichophyton verrucosum* | • Moist and insanitary conditions, bedding  
                            • Overcrowding                  | • Lesions on the skin as circular, raised crusts and local thickening of skin  
                            • Irritation on affected part  
                            • Pruritis                      | Oral administration of Griseofulvin @ 5 to 7.5 mg per kg BW for 7 to 10 days | • Cleaning and disinfection of sheds  
                            • Use fungicide                  |

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