**MYCOPLASMOSIS** *(Mycoplasma ovipneumoniae, M. gallisepticum, M. agassizi, and others)*

<table>
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<th>Animal Group(s) Affected</th>
<th>Transmission</th>
<th>Clinical Signs</th>
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<th>Treatment</th>
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<tr>
<td>Sheep, goats, birds, and tortoises most important, others possible</td>
<td>Direct contact between animals most important, fomites possible</td>
<td>Respiratory (pneumonia, coughing), conjunctivitis, polyarthritis</td>
<td>Tends to be chronic; can be severe and result in death.</td>
<td>Difficult to treat but macrolides and fluoroquinolones are most effective.</td>
<td>Vaccination generally not effective. Health screening by culture and PCR. Prevent close contact</td>
<td>Maybe</td>
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**Fact Sheet compiled by:** Anne Justice-Allen  
**Sheet completed on:** 25 February 2011; updated 1 April 2013  
**Fact Sheet Reviewed by:** Tom Besser, Bruce Rideout

**Susceptible animal groups** *M. ovipneumoniae* – bighorn sheep, mountain goats, *M. gallisepticum* – birds especially passerines (house finches) and galliformes, *M. agassizi, M. testudineum* – tortoises. Many other *Mycoplasma* spp. exist and new ones are being identified in connection with disease syndromes in mammals, birds, and reptiles. *Mycoplasma mycoides* cluster – sheep, goats, cattle, others

**Causative organism:** *Mycoplasma* spp. is a bacterium with no cell wall and complex growth requirements which makes isolation difficult. Many of the organisms associated with disease have not been fully characterized because identification has been by molecular methods. A subcategory of mycoplasmas is the hemoplasmas, obligate red blood cell pathogens such as *Mycoplasma ovis*, and *Mycoplasma suis*. Disease caused by hemoplasmas is not considered to be mycoplasmosis. *Mycoplasma mycoides* cluster organisms cause contagious bovine pleuropneumonia, contagious agalactia of sheep and goats and contagious caprine pleuropneumonia and are considered foreign animal diseases in the United States.

**Zoonotic potential:** Maybe, some marine mammal workers have acquired skin infections suspected to be *Mycoplasma* spp. Humans have their own complement of *Mycoplasma* pathogens.

**Distribution:** World-wide, host species dependent

**Incubation period:** 2 to 4 weeks

**Clinical signs:**  
Bighorn sheep, mountain goats – coughing, respiratory distress, otitis, sinusitis, loss of body condition, death in all ages on first exposure, death in neonates and weanlings in subsequent years, population declines, poor recruitment  
Birds – conjunctivitis from mild to severe, death; tortoises – nasal discharge (clear to mucopurulent), conjunctivitis, edema of the eyelids, death.  
Some species (black vultures, skunks) - polyarthritis

**Post mortem, gross, or histologic findings:** Epithelial hyperplasia is observed in the affected tissues, lymphoid aggregates and infiltrates which can progress to fibrosis. Lesions can become suppurative and necrotizing with secondary bacterial invasion.

**Diagnosis:** PCR is most reliable with several protocols available. Culture with specialized media (PPLO, SP4, Friis’, modified Hayflick) may be utilized. Serology is unreliable for individual animal diagnosis but can be used for screening groups of animals.

**Material required for laboratory analysis:** Tissues, especially lung, trachea, and retropharyngeal lymph
nodes; deep nasal or oropharyngeal swabs or washes, middle ear swabs, and sinus swabs; joint fluid or tissue. Swabs should be transported in PPLO or specialized mycoplasmal/viral transport media (consult the laboratory) and should be sent to the lab promptly (should arrive within 72 hours) on gel ice.

**Relevant diagnostic laboratories:**
- National Veterinary Services Laboratory
  (515) 337-7266
- Washington Animal Disease Diagnostic Laboratory – Washington State Univ.
  http://www.vetmed.wsu.edu/depts_WADDL/
  (509)335-9696
- Mycoplasma Research Lab - Dr. Mary Brown
  University of Florida
  (352) 294-4029
  Lab Telephone: (352) 294-4094 or 294-4071
- Texas Veterinary Medical Diag. Lab. – TAMU
  http://tvmdl.tamu.edu/
  (979) 845-3414

**Treatment:** Azithromycin, erythromycin, tulathromycin; enrofloxacin; beta lactam antibiotics are not effective due to an absent cell wall.

**Prevention and control:** Population testing with blocking or competitive ELISA is most appropriate for non-domestic species where other serology methods such as AGID or SN have not been validated. Prolonged quarantine as stress increases shedding and repeated attempts at isolation during this interval.

**Suggested disinfectant for housing facilities:** Following removal of organic debris, diluted bleach (1:10 bleach to water), quaternary ammonium compounds, chlorhexidine can be used for animal surfaces as it should be susceptible to most disinfectants. *Mycoplasma* doesn’t survive well in dry conditions.

**Notification:** *Mycoplasma mycoides* cluster organisms cause contagious bovine pleuropneumonia, contagious agalactia of sheep and goats and contagious caprine pleuropneumonia and are considered foreign animal diseases in the United States. Notification is required.

**Measures required under the Animal Disease Surveillance Plan:** None

**Measures required for introducing animals to infected animal:** Multiple negative cultures/PCR tests from infected animal. Chronic and subclinical carriers highly likely.

**Conditions for restoring disease-free status after an outbreak** Long-term treatment with appropriate systemic antibiotic; see above.

**Experts who may be consulted:**
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References:


