



Contagious Equine Metritis

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Definition	<p>Contagious Equine Metritis (CEM) is a non-systemic, venereal disease of equines that causes short-term infertility in mares and rare abortion. The etiological agent is <i>Taylorella equigenitalis</i>, a fastidious, microaerophilic, Gram-negative coccobacillus. CEM was first recognized in the US when it was found in Thoroughbred stallions and mares in Kentucky in 1978. Several incursions of CEM have occurred in the US. A significant outbreak occurred in 2008-2010 in which over 1,000 exposed horses in 48 states were required to be tested and 23 contaminated stallions and 5 infected mares were ultimately identified and treated. The source of that outbreak was a stallion imported into the US from a CEM-affected country in 2000. The extended duration of the carrier state in this individual emphasizes the need to maintain vigilance and follow protocols proven effective in preventing the introduction and spread of the disease. CEM is an OIE listed equine disease and a transboundary disease in the USA. It is immediately reportable to the United States Department of Agriculture (USDA) and State Animal Health Officials in all 50 states and territories.</p>
Clinical Signs	<p>Asymptomatic stallions carry <i>T. equigenitalis</i> as a commensal organism on their external genitalia. Infection in the mare is confined to the reproductive tract. Mares bred to a carrier stallion by natural cover or AI with contaminated semen can develop a mucopurulent vaginal discharge that may last for up to 2-3 weeks. Infection is characterized by inflammation (often marked) of the oviducts, endometrium, cervix, and vagina. The organism can be recovered from mares for about three months after primary infection and may or may not be accompanied by clinical signs. A mare bred with contaminated semen may have difficulty conceiving on the first or second estrus after exposure. However, subsequent breeding(s) will often result in normal pregnancy. Most mares eventually clear the infection, but a small percentage of mares can become persistently infected carriers for an extended period.</p>
Transmission	<p>Venereal transmission of <i>T. equigenitalis</i> by live cover and by AI with fresh cool-transported semen in extender containing antibiotics or frozen semen has been documented. Stallion-to-stallion transmission can occur through contaminated fomites at semen collection facilities or veterinary clinics. Uncommonly, transmission can occur from mare to foal either in utero or post-parturition.</p> <p>Significant stallion-to-stallion transmission through contaminated fomites was documented in the 2008-2010 multi-state CEM outbreak and several other recent</p>



	<p>U.S. outbreaks. Stringent biosecurity practices must be observed during semen collection or genital handling of stallions to prevent spread of <i>T. equigenitalis</i>. In some cases, <i>T. equigenitalis</i> was found to be transmitted on fomites up to 3 days after the equipment was last used for collection. Cleaning, drying, and disinfection of all collection equipment including but not limited to wash buckets, artificial vaginas, mounting dummies, and any other potential fomites between uses is critical to prevent transmission between stallions.</p>
<p>Diagnostic Sampling, Testing and Handling</p>	<p>Prophylactic, annual testing of stallions prior to the breeding season as a means of reducing the risk of spread has been proposed and is recommended by USDA for active breeding stallions. Mares that develop genital discharge or that “short cycle” after breeding to an untested or imported stallion should be considered for evaluation of <i>T. equigenitalis</i>. Please consult the AAEP Biosecurity Guidelines for Control of Venereally Transmitted Diseases for detailed culturing information.</p> <p><u><i>Transport media and shipping of samples:</i></u> <i>Taylorella equigenitalis</i> can be detected by directly swabbing specific sites in the mare and the stallion, placing each swab in a separate tube of Amies transport medium with charcoal and sending the swab set to a USDA-approved laboratory for testing for CEM. Samples must be shipped on ice packs to arrive cool at the laboratory and be inoculated onto appropriate media within 48 hours of collection. Please consult this USDA/APHIS list of CEM approved laboratories.</p> <p><u><i>Collection of direct swab samples from a stallion for prophylactic annual testing:</i></u> It is recommended that swabs are obtained, wearing disposable gloves, from four sites on the unwashed external genitalia of the stallion:</p> <ol style="list-style-type: none"> 1) The shaft of the penis and prepuce 2) The dorsal diverticulum of the fossa glandis (urethral sinus) 3) The fossa glandis 4) The distal urethra <p><u><i>Collection of direct swab samples from a mare:</i></u> Direct swab samples should be obtained, while wearing disposable gloves, from at least two sites, which should include the clitoral fossa and clitoral sinuses. A standard-sized swab should be used to collect samples from the clitoral fossa, while mini-tipped swabs small enough to enter the clitoral sinuses should be used to sample those sites. One mini-tipped swab can be used to sample multiple clitoral sinuses. A third sample, a deep cervical or endometrial swab, can also be collected in non-pregnant mares. Additionally, unlike stallions, mares produce a short-lived systemic antibody response to <i>T. equigenitalis</i> infection, so a serum sample should also be collected from clinical or recently exposed mares for complement fixation testing (CFT) for <i>T. equigenitalis</i>.</p>



<p>Recommended Action if CEM is Suspected</p>	<p>CEM is an internationally reportable disease. When the carrier status of a particular stallion or infection of a mare is suspected In the United States contact your State and/or Federal Animal Health Official.</p> <p>Federal Area Veterinarians in Charge State Veterinarians</p> <p>All required testing procedures may then be performed under their supervision according to previously established guidelines. The Code of Federal Regulations (CFR) provides rules for CEM quarantine and testing of imported horses. Local state and federal animal health officials will provide current collection and response procedures for suspect cases in domestic equids.</p>
<p>Specific Control Measures and Biosecurity Issues</p>	<p>Please consult the AAEP Biosecurity Guidelines for Control of Venereally Transmitted Diseases for details.</p>
<p>Zoonotic Concerns</p>	<p>There are no zoonotic concerns.</p>
<p>Additional Resources</p>	<p>Diagnostic and epidemiologic analysis of the 2008–2010 investigation of a multi-year outbreak of contagious equine metritis in the United States. Erdmana, MM, et.al. Preventive Veterinary Medicine 2011:101(3–4) 219-228</p>

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