Infectious Disease Guidelines

**Condition:** Contagious Equine Metritis (CEM)

1  **Introduction**

*Causative agent:*

*Taylorella equigenitalis*

Other venerally transmitted equine bacterial pathogens include:
- *Klebsiella pneumoniae* (capsule types 1,2 and 5)
- *Pseudomonas aeruginosa*

*Incubation period:*

2-7 days

*Pathophysiology:*

This is a bacterial equine venereal disease. It results in genital infections of mares and stallions. It is highly contagious and is spread during covering, teasing, via contaminated equipment, on the hands of personnel or in chilled semen.

The pathogen can persist in the clitoral sinus and fossa of mares as well as the fossa glandis, urethral sinus, smegma, terminal urethra, preputial surface and pre-ejaculatory fluid of stallions.

*Clinical signs:*

None in stallions. Mares may develop signs of acute endometritis with an odourless, gray mucopurulent discharge. The endometritis persists for up to two weeks with shortened return to service due to premature luteolysis. This results in temporary infertility.

The organism can also survive in the placenta and infection can be acquired *in utero* or during parturition. A subclinical carrier state in mares also occurs.

2  **Epidemiology**

*Known distribution:*

- Worldwide
- Currently exotic to Ireland
- Major outbreak in North America in 2008
Outbreak in UK in October 2009
Endemic in Eastern Europe

Signalment:
Breeding-age mares and stallions

Risk factors:
- Carrier stallion
- Contaminated equipment
- Chilled semen
- Immunity does not persist

3 Diagnosis

Differential Diagnoses:

Stallions – none

Mares
- Bacterial/fungal endometritis
- Pyometra
- Vaginitis
- Urinary tract infection
- Urine pooling
- Persistent hymen

Diagnostics:

- Mares - isolation of organism from cervical and clitoral fossa and sinus swabs, uterine fluid.
- Stallions – isolation of organisms from urethral fossa, urethral sinus, distal urethra, penile skin and preputial folds

Requires Amies charcoal medium for transport at 4°C and must be plated within 24 hours of collection.

Test breeding of stallions to known CEM-negative mares.

4 Management

Medication & Treatment:

Mares – intrauterine antibiotics: crystalline penicillin (5-10 million IU for 5 to 7 days). Cleansing of the clitoral fossa and sinuses with chlorhexidine scrub 2-4% to remove all smega. Clitoral sinusectomy or clitorectomy in intractable
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cases. Swab 7 days after last treatment and repeat for three consecutive negative results.

Stallions – wash extruded penis in chlorhexidine scrub 2-4% and remove all smegma. Swab every 2 days after end of treatment for 3 sets of swabs.

Prevention:

Good hygiene standards must be maintained. All equipment must be disposed of or cleaned and disinfected between individuals. Disposable gloves should be worn where appropriate and changed between individuals.

Control:

CEM is a notifiable disease in Ireland. It is included in the ITBA Codes of Practice. Animals are classified as high or low risk.

High risk mares are:
- Those from which *T. equigenitalis*, *K. pneumoniae* or *P. aeruginosa* have been isolated
- Those which have visited a premises where *T. equigenitalis*, *K. pneumoniae* or *P. aeruginosa* have been isolated within the previous 12 months
- Those which have been mated with stallions resident outside Ireland, the UK, France, Italy, Germany, Canada or the USA in the last breeding season
- Those who have been in countries other than those listed above in the last 12 months.

All other mares are low risk.

High risk stallions are:
- Those who have not previously been used for breeding
- Those from whom *T. equigenitalis*, *K. pneumoniae* or *P. aeruginosa* have been isolated
- Those who have been on a premises where *T. equigenitalis*, *K. pneumoniae* or *P. aeruginosa* have been isolated within the last 12 months
- Those who have mated a mare who has not been swabbed negative in accordance with the Code of Practice

All other stallions are low risk.

Swabbing protocols:

The low risk mare:
- Clitoral fossa and sinus swabs for aerobic and microaerophilic culture taken in the breeding season before covering
• Endometrial swab for aerobic culture taken during oestrus before covering

The high risk mare:
  • 2x clitoral fossa and sinus swabs for aerobic and microaerophilic culture taken in the breeding season before covering
  • Endometrial swab for aerobic and microaerophilic culture taken during oestrus before covering

All stallions should have swabs taken from three sites:
  1. The urethra
  2. The urethral fossa
  3. The penile sheath

Two sets of swabs should be taken from all stallions before the start of the breeding season at an interval of a minimum of seven days and cultured aerobically and microaerophically.

All teaser stallions should be swabbed, as well as those used to cover mares*.

All swabs must be submerged in Amies charcoal transport medium, which is in date, immediately after collection. They should be clearly labelled to indicate the date and time of collection, the identify of the horse and the site of collection. They are then submitted to an Approved Laboratory for culture within 24 hours of collection.

Veterinary practitioners should produce certificates of swab results on their own headed paper using the format agreed by Veterinary Ireland and the ITBA. Laboratory result sheets do not meet the certification criteria as laid out in the Veterinary Council of Ireland Code of Professional Conduct and should not be submitted as certificates.*

Mare owners, stud farm managers and veterinary practitioners should not accept semen for AI without obtaining evidence that the donor stallion was free from infection at the time of collection*.

* key point