

**Vetpath** is a specialist veterinary laboratory dedicated to providing our clients with the finest laboratory diagnostic service. A team of veterinary pathologists and medical scientists with extensive experience in veterinary diagnostic pathology forms the core of the Vetpath team.

# VN News

**FEBRUARY 2017**

## *Encephalitozoon cuniculi*

*Encephalitozoon cuniculi* is an intracellular spore-forming parasite that primarily affects rabbits. The distribution of this organism is worldwide, and it has been reported in Australia.

*E. cuniculi* has been confirmed in other species including sheep, horses, dogs, cats and other pocket pets. Zoonotic potential exists, however infection primarily occurs in immunosuppressed people. The risk of infection is minimal in healthy people who practice good hygiene after handling rabbits.

The spores of *E. cuniculi* have a firm capsule that allows the parasite to survive in the environment for up to 4 – 6 weeks. Infection usually occurs

with ingestion of food contaminated with urine or faeces, and inhalational or vertical transmission are also possible. The parasite is distributed around the body and leads to inflammatory disease in various tissues including the kidney, lens and nervous tissue.



**Figure 1:** Cataract in a rabbit.

Clinical signs are usually absent or mild after infection of immunocompetent hosts. Disseminated infection in immunocompromised patients often results in granulomatous encephalitis and/or nephritis. Rabbits commonly present with neurological signs such as a head tilt, nystagmus, ataxia, paralysis and hind limb paresis. Urinary incontinence and scalding can precede neurological signs, and can be accompanied by polyuria, weight loss and anorexia.

Uveitis, lens rupture and cataract can be found and are often unilateral.



**Figure 2:** Head tilt in a rabbit.

Definitive diagnosis requires histological assessment of affected tissues. Serological testing for antibodies to *E. cuniculi* is also useful, however the presence of antibodies does not differentiate between exposure and infection. Serology is performed twice a week at Vetpath and requires 1ml of whole blood in a plain clotted tube (red top). Microscopic identification of spores in urine is possible, however the intermittent nature of urine shedding decreases the usefulness of this test.

**Reference:** Pellett S. Companion Animal. May 2016, Vol 21, No 5.

## Antibiotic sensitivity panels

Vetpath uses multiple panels for antibiotic sensitivity in bacterial cultures. These panels have been developed over many years and are continually reviewed and updated as new antibiotics are made available.

We endeavour to remain up to date with current drug therapies and we welcome feedback from clinicians regarding availability and suitability of antibiotics in their patients. This is particularly the case for more specialized panels such as those for unusual patients (eg pocket pets and birds) or for particular sites of collection (such as eyes, skin or milk). Let us know if you regularly use an antibiotic that is not currently included in a sensitivity panel. We would also like to hear if particular drugs are no longer available or if a new drug has been released.

Your suggestions will help us to provide you with the most useful therapeutic information for your patients.



## How should samples for culture be submitted?

The best method of submitting a specimen for culture often depends on the tissue being sampled. The methods described below can be used for bacterial or fungal culture.

### Swab

Sterile swabs are ideal for culturing external surfaces such as the ear canal or skin. Swabs can also be used to culture small volumes of fluid when the remaining sample is needed for cytology. The transport media will preserve the swab for up to 3 days after collection. The swab should be stored at room temperature until submission to the laboratory.



### Blood tube

Serum tubes (red top) can be used for small volume fluid samples. EDTA helps preserve cells for cytology, but these tubes are not suitable for culture due to the bacteriostatic nature of EDTA. Serum tubes do not contain transport media and should therefore be submitted as soon as possible to ensure the viability of organisms. Also note that the air in the tube may



inhibit growth of anaerobic organisms.

### Sterile pot

A sterile urine pot can be useful for submitting fluids or tissue culture samples. The piece of biopsied tissue can be placed on a piece of sterile gauze that has been moistened with sterile saline. The pot should be sent to the lab as soon as possible.



### Blood culture bottle

Paediatric blood culture bottles are used for blood culture, as well as culture of body fluids such as synovial fluid or body cavity effusions. The bottles take 1 – 4ml of fluid, and the sample should not be refrigerated after collection. For blood culture, collection of two samples from different sites during a period of peak pyrexia will increase the chance of a positive culture. These two samples will be charged as a single culture fee.



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