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New Price List

We have reviewed our price list (enclosed) and have made adjustments. Our in-house tests have increased in line with CPI.

Some of the tests that have to be sent to external laboratories have had more of an increase to reflect the costs of transport (especially frozen samples). Vetnostics still remains extremely cost competitive compared to other laboratories. As a policy we try to keep our send away tests as low priced as possible (compared with our competitors) to allow veterinarians to investigate their cases as comprehensively as possible.

The new price list will be effective from 14th September 2009.

This list - which includes 95% of tests - or our fully comprehensive list can be emailed as an Excel or pdf file to you.

If you have any further queries or would like an Excel file version of our price list, please contact Vetnostics Manager Shaun Hickey on (07) 3121 4013 or **shaun.hickey@qml.com.au**.

REMEMBER OUR CONTACT NUMBER 1300 VET QML (1300 838 765)

Our QML Pathology Vetnostics contact number 1300 838 765 has been in operation for over 12 months. For a fast, efficient service, this number will take you directly to the following options:

1 - Results enquiries
2 - Added tests
3 - Speak to a Pathologist
4 - All other enquiries/Vetnostics Manager.

Calls will be charged at local rates from landlines. Mobile charges may vary.

Website

www.qml.com.au/vetnostics.asp

This site provides links to detailed information on many of our tests, access to our newsletters and the ability to order supplies.

Requesting Tests not Listed on our Request Form

These tests need to be requested in the space under OTHER TESTS and **NOT** as part of the history, otherwise our touch typists may not enter the information as a specific requested test and the test will not be carried out.

Cytology Sample Collection and Preparation for Veterinary Practitioners

Dr Brett Stone and Dr George Reppas have recently published an article in The Veterinarian Magazine (August 2009) focusing on appropriate cytological collection and preparation techniques. The aim of this article is to increase the quality of cytological submissions which should then increase the likelihood of a meaningful cytological description, resulting in a more accurate cytological diagnosis. This article will also be available on the QML Pathology Vetnostics website within the coming weeks.

Discounts for Vets and their Staff

We believe that we offer very competitive discounts to veterinarians and their staff for their own pets. This will be maintained throughout 2009 and 2010, and we will have a 50% discount except on referral tests performed by external laboratories where a discount will not apply.

Seminars

Brett Stone has given several seminars in 2008 and 2009, both in Brisbane and regional areas. We will continue these in 2009 and 2010.

If you would like to discuss the possibility of holding a seminar in your region or would like to provide further information regarding topics you would like covered, please contact Dr Brett Stone at the Brisbane Laboratory on **1300 VET QML** *or* **drbrett.stone@qml.com.au.**

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Dr Sue Foster
Veterinary Medical Consultant

Utilise our Veterinary Medical Consultant Service

Dr Sue Foster (Vetnostics Medical Consultant) is available to discuss canine and feline medical cases. Sue can be contacted after 10.00am weekdays by phoning 0423 783 689. If leaving a voicemail message please also leave the relevant QML Pathology Vetnostics laboratory number so that Sue can review the results before returning your call.

TOXOPLASMOSIS - IS IT A CONCERN?

Toxoplasma gondii is a protozoan parasite that infects virtually all warm-blooded animals including humans. Domestic cats are the definitive host for the parasite but infection does not necessarily result from contact with cats or cat faeces.

When cats become infected with toxoplasmosis they pass unsporulated (non-infectious) oocysts (eggs) in faeces for 1 – 2 weeks. These non-infectious eggs mature in 1 – 5 days to become infectious (sporulated oocysts) and the sporulated oocysts survive for months to years. People can become infected by ingestion of these sporulated oocysts in contaminated soil or water.

However, most people become infected from ingesting the tissue cysts in meat. When animals (and people) become infected with toxoplasmosis, they may end up having tissue cysts in their body. Ingestion of poorly cooked meat (usually pork, goat or lamb) or failing to wash hands thoroughly after handling raw meat is probably the most common means of human infection with toxoplasmosis.

The majority of people never realise that they have been infected as the signs are self-limiting fever, enlarged lymph glands and malaise (just not feeling well). However, toxoplasmosis can cause serious disease in the unborn foetus, a major concern for pregnant women, and can also cause severe disease in immunosuppressed people (e.g. on chemotherapy or with AIDS). In immunosuppressed people, infection is usually due to a reactivation of tissue cysts in the person's own body (e.g. from prior chronic infection not new infection). In pregnant women, infection of the foetus occurs after acute (new) infection. Stillbirths and serious foetal damage (especially eye and brain damage) can result.

Touching cats is an extremely unlikely way to acquire toxoplasmosis and because of this, there is no correlation with toxoplasmosis and cat ownership. Similarly, veterinary health care providers are no more likely than the general population to be infected with toxoplasmosis, and people with HIV infection who own cats are no more likely to acquire toxoplasmosis than those who do not. There is one obvious conclusion from this: **THERE IS NO REASON TO REMOVE CATS FROM THE HOUSES AND LIVES OF PREGNANT WOMEN.**

There is every reason to take sensible precautions:

1. Wear gloves when gardening and wash hands thoroughly after any gardening
2. Wash any produce from the garden very carefully
3. Gloves should be worn whenever raw meat is handled and hands washed thoroughly afterwards
4. Litter boxes should be cleaned daily to prevent any sporulated oocysts (it takes at least 1 day for eggs to become infective). Removing sporulated (infective) oocysts is very difficult but if oocysts do not have time to sporulate, it is not a problem
5. Ideally, immunosuppressed people or pregnant women should not be cleaning the litter box but where this is impractical, ensure any faeces are removed promptly, ensure the litter box is not left longer than 24 hours before cleaning, use gloves when cleaning the litter box and wash hands thoroughly after removing the gloves
6. Washing hands thoroughly after any cat handling.

NO CAT SHOULD EVER HAVE TO BE EUTHANASED OR REHOMED DUE TO HUMAN PREGNANCY.

S Foster BVSc MVetClinStud FACVSc (Feline Medicine) Registered Feline Specialist (WA)

References:

1. Feline Zoonoses Guidelines from American Association of Feline Practitioners. Journal of Feline Medicine and Surgery 2005: 7, 243 – 274
2. Toxoplasmosis. By Dubey JP and Lappin MR In: Green CE (ed) Infectious Diseases of the Dog and Cat, Saunders, Philadelphia, 1998: 493-503

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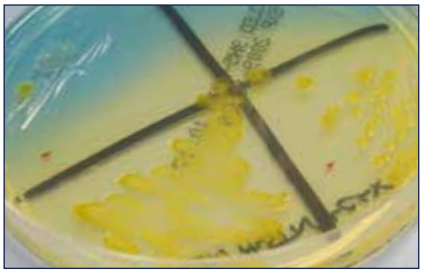

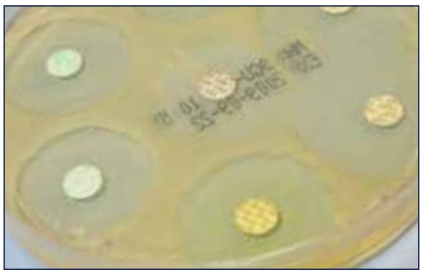

URINE CULTURES

Urine culture can be an invaluable tool in the diagnosis and treatment of acute and recurrent urinary tract infections (UTIs) in dogs and cats. Bacteria most commonly associated with urinary tract infections in the dog are *Escherichia coli, Klebsiella, Staphylococcus, Enterococcus, Proteus, Pseudomonas, Enterobacter,* and *Streptococcus*[1]. *E. coli, Enterococcus faecalis* and *Staphylococcus felis* (coagulase-negative) are the most common isolates from feline urinary tract infections[2,3].

Proper sample collection and transport is essential for getting a diagnostic culture result. Voided samples are generally considered contaminated due the presence of bacteria from mid to distal urethra, vaginal vault, and prepuce. Cystocentesis is the gold standard method to collect samples for culture and/or cytology. Catheterised samples are second best. Samples should be collected in an aseptic manner and transported in a sterile container (not syringes) for culture as soon as possible. Refrigeration before submission to the laboratory is essential for preservation of cell integrity and to prevent bacterial multiplication. Delays of greater than 12 to 24 hrs in processing compromises results. It is not advisable to place urine in a media bottle for culture even when the animal has been on antibiotics as any normal flora or contaminants can easily overgrow significant bacteria or a single bacterium can grow to large numbers and made to look significant even when it is not.

Contamination of cystocentesis samples can occur from improper technique (skin flora), or inadvertent sampling of gut (mixed bacteria). Results should always be correlated with clinical history and presence of leucocytes within the urine (sign of urinary tract inflammation in response to bacteria). Greater than 10 white blood cells per high-powered field (wbc/hpf) is considered significant. Growth of bacteria without indications of inflammation in the urine (<10 wbc/hpf) should be interpreted in relation to history and clinical findings in the individual patient since other disease conditions like hyperadrenocorticism and FIV infection can suppress the inflammatory response in affected animals.

We perform quantitative culture using calibrated loops and a variety of agar plates, some quite specialised. Each plate is incubated overnight before examination and reporting. Negative cultures are incubated another 24 hrs. Initial antibiotics tested for dogs and cats are enrofloxacin, amoxycillin/clavulanic acid, sulpha/trimethoprim, cephalexin, ampicillin (extrapolate for amoxycillin as well) but others will be tested for specific isolates. Samples are also cultured for purity and if the culture grows mixed bacteria, the sensitivity is repeated for the individual bacteria in pure cultures.

Urine culture results are correlated with microscopy findings and significance is assessed according to method outlined by Love[4] and Barteges[5]. In brief, most isolates, equal or greater than 10^6/L in cystocentesis samples are considered significant unless mixed with greater than 2 bacteria in samples without inflammation. If samples are very mixed, then samples may have been contaminated at collection but this needs to be correlated with the clinical history for significance. For example, if the animal has had an indwelling urinary catheter, this may allow ascent of bacteria into the bladder and a significant mixed infection in a cystocentesis sample. In voided samples, mixed cultures less than 10^8/L in dogs and less than 10^7/L in cats are more often contaminants although there is evidence that significant urinary infections in cats can involve lower bacterial counts[5,7]. Please tell us what the collection method is so we can appropriately assess significance.

Sensitivity testing is performed using disc diffusion susceptibility. After 16-18 hrs of incubation on specialised agar, the diameters of the zones of complete inhibition are measured to the nearest millimeter. The organism is reported to be either susceptible or resistant. Intermediate susceptibility is available for some antibiotics. These are normally reported as resistant. However, with the increased prevalence of multi-resistant bacteria in recurrent UTIs, certain antibiotics that fall into the intermediate category may be effective in recurrent UTIs due to increased concentrations of the antibiotic in the urine. We are currently looking at changing reporting on these antibiotics for multi-drug resistance. If your urine culture report does not identify any intermediate sensitivity results for multi-drug resistant organisms, please enquire about this with one of our pathologists. Detection of multi-drug resistance is complicated and if we suspect this, further testing may be required to verify some initial reported sensitivity results.

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Increasingly we are seeing urinary bacterial isolates with multi-drug resistance. These include *Enterobacteriaceae (Klebsiella spp, E coli* and others) with extended-spectrum β-lactamases (ESBLs), staphylococci with methicillin-resistance, highly resistant *Enterococcus* spp and *Pseudomonas* spp. Affected animals typically have a history of concurrent disease (hyperadrenocorticism, diabetes mellitus, recurrent urinary infections, multiple antibiotic use or debilitating disease). ESBLs are enzymes that mediate resistance to extended-spectrum (3rd generation) cephalosporins like Convenia®, ceftazidime and cefotaxime and this infers resistance to most beta-lactam antibiotics. The development of multi-drug resistance (MDR) by bacteria is a complex discussion beyond the scope of this article; however, a predisposing factor is empirical antimicrobial use (more prevalent with certain antimicrobials e.g. fluroquinolones) as well as exposure to multiple antibiotics. Prevention of the development of MDR bacteria is suggested by ensuring the necessity of antimicrobials for treatment of a urinary problem (i.e. correct clinical signs and positive urine culture from cystocentesis sample not voided samples), choosing the correct antimicrobial for the cultured pathogen, and ensuring that adequate drug concentrations are reached within the urinary tract for the treatment period required[6]. Therapeutic culturing of urine (3-7 days after instigating treatment and while on therapy) can be of use in certain situations to ensure the selected antibiotic is achieving the goal of killing the pathogenic bacteria involved in the urinary tract infection[6].

Convenia® (cefovecin sodium) is a new extended-spectrum (3rd generation) bactericidal cephalosporin antibiotic developed for treatment of skin and urinary tract infections in dogs and cats. In Australia, it is labelled for use in urinary tract infections in dogs associated with *E. coli, Proteus mirabilis* and *Staphylococcus intermedius* and urinary tract infections in cats associated with susceptible strains of *E.coli*. It is not effective for urinary tract infections associated with *Pseudomonas* spp, *Enterococcus* spp. or *Enterobacter* spp. Vetnostics is currently developing guidelines for adding this antibiotic to the sensitivity panel of urine cultures for dogs and cats when indicated by culture results. In the mean time, a general rule is that if the bacteria's reported as sensitive to cephalexin it will be sensitive to Convenia®. However, amoxycillin is still one of the most useful drugs in treating UTI and is less likely to induce MDR. Convenia, amoxicillin-clavulanate and fluoroquinolones should really only be used when first-line antimicorbials such as amoxycillin are not appropriate and on the basis of culture and sensitivity due to the concern re-emerging MDR.

Adapted by Dr Brett Stone from original article by Dr Kristen Todhunter and Dr Angela Begg.

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