

**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

**MARCH 2020**

## **Quality management – is it important?**

Quality management including quality control and external quality assurance are integral components of a well-functioning laboratory, both referral and in-house.

Quality management is the program undertaken by a laboratory to maintain and improve laboratory performance and minimize error. This program includes quality control (QC) procedures that monitor the performance of laboratory instruments. QC is designed to detect analytical error and at reference laboratories, is performed at least once daily on all analytes. Commercially produced QC materials containing known quantities of analytes are used. If the results

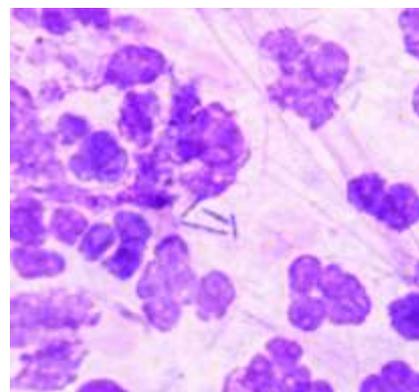
fall outside of the acceptable range for a particular analyte, patient results cannot be reported until the source of error has been resolved and the repeated QC results are acceptable.

In addition to daily or twice daily QC procedures, most referral laboratories participate in external quality assurance programs (EQAP). These programs ensure that the results being reported are similar to those from other laboratories. Vetpath participates in several EQAP that cover multiple areas including haematology, biochemistry, microbiology, endocrinology, cytology and histopathology.

While QC and EQAP are routine practices in referral laboratories, they are often overlooked for in-house analysers. Reliable laboratory data is essential when it is being used for diagnostic and management decisions for your cases. Remember that an instrument's ability to measure an analyte does not guarantee the accuracy of the result.

## **Down the microscope!**

A 1 year old dog presented with a firm submandibular swelling. The mass was aspirated and smears were submitted for cytology.



The smears revealed the presence of severe neutrophilic inflammation with a filamentous, beaded bacterial population. Occasional neutrophils contained phagocytised bacteria.

What are your differential diagnoses for this lesion?

Answer over the page....

## Antibody titre testing for canine parvovirus

Antibody titre testing for Canine parvovirus (CPV), distemper virus (CDV) and adenovirus (CAV) was discussed in a recent webinar (Antibody testing in Clinical Practice, Biogal.com). In this webinar Professor Ford spoke about antibody testing in the USA.

In the USA up to 15% of dogs vaccinated at 16 weeks are not immunised. Maternal antibody from immune mothers can last for up to 16 weeks, and this interferes with the vaccine. It is therefore recommended that in high risk dogs (e.g. attending shows, kennels) antibody testing is done at 18 weeks, 2-4 weeks after the last dose of initial vaccination, and if they are negative, re-vaccinate. If they remain negative after this, they may be genetic non-responders (e.g. some Doberman and Rottweilers, possibly American pit bull terriers), and these dogs remain susceptible to infection for life.

Maternal antibody can be present at levels too low to be detected serologically, and still interfere with vaccination, so testing dogs before 18 weeks of age is not recommended. At 18

weeks, dogs are still not immunologically mature, therefore a 1 year vaccination is recommended. Presence of antibodies at 1 year may confer long term immunity, though this has not yet been fully tested.

**Vaccinate or test?** If a mature dog has antibodies detected on a test, this means that memory B cells are present in germinal centres, ready to respond to infection, and they are likely to confer immunity to that dog for several years. In dogs that have suffered an allergic vaccination reaction, this often declines with age. An arthus test can be performed if concerned, where 0.1 mL of vaccine is given intradermally and any reaction observed. In animals with immune-mediated disease, vaccination may not be the cause, but could re-activate disease. In dogs that have had an adverse vaccination reaction it is therefore worth testing.

**At what age can you stop vaccination?** If a dog reaches 8-9 years and is antibody positive, further vaccination is probably not required. If negative, the dog should be vaccinated. Dogs with systemic illnesses e.g. Cushing's disease, can be tested and if positive for antibodies, vaccination can be delayed, if negative, vaccination is at your discretion. The length of immunity varies depending on the disease (and animal). The following are considered likely: CDV 9 years, CPV for life (dog and cat), CAV 8-9 years.

## Down the microscope!

The filamentous beaded morphology of the bacteria is suggestive of *Nocardia* or *Actinomyces* spp.

Identification of the bacteria would require culture with Gram staining. These bacterial species may require extended incubation for growth. The **non-healing wound culture** performed at Vetpath will provide extended culture time, as well as a Ziehl Neelson stain to evaluate for acid-fast bacteria.

Please let the lab know if you suspect the presence of a slow growing bacterial species such as *Nocardia* or *Actinomyces* spp to help our staff select the most appropriate culture method.



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### Vetpath Laboratory Services

RECEPTION SERVICE +61 8 9259 3600

LOCAL OFFICE PICK-UPS +61 8 9259 3666

AFTER HOURS SERVICE 0418 916 436

FACSIMILE +61 8 9259 3627

EMAIL [enquiries@vetpath.com.au](mailto:enquiries@vetpath.com.au)

WEBSITE [www.vetpath.com.au](http://www.vetpath.com.au)

### VETERINARY PATHOLOGISTS

Jenny Hill BVSc (Hons) Dip ACVP

John Jardine BVSc MResVet (Path) Dip ACVP MRCVS

Celia Smuts BVSc MVS MSc PhD Dip ACVP

Jason Stayt BSc BVSc Dip ACVP

Leanne Twomey BSc BVMS (Hons) PhD Dip ACVP

Audra Walsh BSc BVSc Dip ACVP