

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

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FIV testing

When selecting the most appropriate FIV test for your patients, several factors should be taken into consideration including the patient's age and vaccination status, as well as the brand of antibody test being used.

FIV infection is considered to be life-long and can be divided into three phases. The initial phase (primary infection with viraemia) lasts weeks to months, during which the cat may be unwell and have a peripheral lymphadenopathy. The second phase can last many years with minimal viral replication and the cat is usually asymptomatic. During the final phase, viral replication increases and leads to clinical disease.

Cats can be screened for FIV infection using antibody or PCR

testing. Antibodies to FIV can be present due to infection or vaccination. Some brands of antibody test kits will cross-react with vaccination-derived antibodies. Two brands, **Anigen** (used at Vetpath) and **Witness**, do not detect vaccination-induced antibodies, and can be used in vaccinated cats.

However, this is only the case if the primary vaccination course has not been in the previous 6 months. Cats that have a positive result within 6 months of the primary course of FIV vaccinations should have a PCR test for confirmation.

Maternal antibodies can also be detected by the FIV antibody tests and therefore care should be taken when interpreting a positive result in a patient less than 6 months of age.

The FIV PCR test is highly specific, however has been found to be slightly less sensitive than the Witness and Anigen tests, and therefore is not recommended as first-line testing.

It should be noted that the FIV vaccine is not considered 100% protective, and efficacy has been reported as low as 56%. Regular testing for FIV prior to re-vaccination should be considered to ensure infection has not occurred since the previous vaccine was administered.

References:

1. ME Westman et al. Comparative Immunology, Microbiology and Infectious Diseases 2015 Oct; 42:43-52.
2. ME Westman et al. Journal of Feline Medicine and Surgery, online access, 2017 Oct; 19(10):1055-1064.
3. ME Westman et al. Australian Veterinary Journal, 2019 Mar; 97(3): 55-55.



Blood sample haemolysis

Blood samples travelling to Vetpath from interstate and overseas are often exposed to extreme temperatures during summer. This can cause haemolysis in blood samples that may render the sample unusable.

The blood sample below has been centrifuged. The serum is markedly haemolysed and almost the same colour as the erythrocytes. This serum sample cannot be used for testing.



Centrifuging the blood sample and separating the serum from the erythrocytes will prevent haemolysis. The serum should be sent with an ice pack, preferably overnight. If a centrifuge is not available, you may be able to submit the sample to another SVS laboratory for centrifugation. Or, you can centrifuge four small tubes and combine the serum.

Does needle size matter for fine needle aspirates?

The goal of fine needle aspiration is to obtain sufficient, intact cells with minimal haemodilution that can be smeared onto a slide in a monolayer.

Needle size can have an effect on both cell preservation and the degree of blood contamination. Needles larger than 22-gauge can result in excessive haemorrhage, as well as aspiration of tissue core biopsies that can be too dense for cytological evaluation. Needles smaller than 25-gauge can result in cell lysis and increased cellular debris.

A recent study published in *Veterinary Clinical Pathology* evaluated whether there was any advantage of using a 22- or 25-gauge needle for aspiration of a variety of tissues. The paper concluded that the ability to make a cytological diagnosis was similar when using 22- or 25-gauge needles. There was however, more blood contamination with the larger sized needles and increased cell lysis with the smaller needles.

The recommendations of the study were:

1. 25-gauge needles are recommended for most

tissues, particularly those that are highly vascular.

2. 22-gauge needles are recommended for tissues that may be fragile, e.g. lymphoma.

Gentle smearing of aspirated material onto a slide is just as important as the selection of needle size. The best method of slide preparation is to place a spreader slide perpendicular to the main slide and allow gravity to provide the only pressure during smearing.



References:

1. Arai S et al., *Vet Clin Path* 2019; 48:287 – 292.
2. Valenciano AC and Cowell RL. *Cowell and Tyler's Diagnostic Cytology and Haematology of the Dog and Cat*, 4th ed. 2014.



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