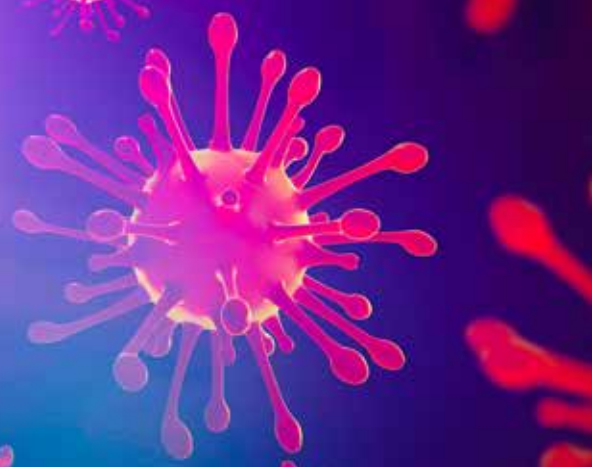


BSAVA Guidance on Testing Small Animals for Covid-19



Introduction

APHA Briefing Note 18/20 provides advice to veterinarians and veterinary diagnostic laboratories on testing for Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) in cats, dogs and mustelids. Based on an extremely small number globally, there is emerging evidence that some animals can become infected with, and may show clinical signs of, Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2), the causative agent of COVID19, following close contact with infected humans (a reverse zoonosis).

The detection of infection with SARS-CoV-2 in animals meets the criteria for reporting emerging infections to the World Organisation for Animal Health (OIE) (of which the UK is a member country). Whilst SARS-CoV-2 is currently not a notifiable disease in animals in the UK (or EU), vets in practice have a professional obligation to report any positive test results to the competent authority to support the UK's international reporting obligations to the OIE. In England and Scotland, from week commencing 22nd February 2021 there exists a legal requirement to report positive cases. Wales and Northern Ireland intend to follow suit therefore please check country requirements. There is currently limited evidence of SARS-CoV-2 circulating in pets or other animals in the UK and there is nothing to suggest animals may transmit SARS-CoV-2 to humans.

To fulfil legislative requirements and the UK's international reporting obligations, Defra has advised that under certain specific circumstances detailed in the APHA briefing document, testing for dogs, cats and ferrets for SARS-CoV-2 may be undertaken at a private veterinary laboratory in the UK at the expense of the client or practice. Tests must only be conducted in the health and welfare interest of the animals with specific clinical signs. To consider testing, a case needs to meet 4 criteria:

- right species (cat/dog/mustelid)
- right signs (fever, respiratory or gastrointestinal)
- other common diagnoses have been discounted
- confirmed contact with Covid-19 within 3 weeks previous to the development of clinical signs.

The type of sample required, which details should be recorded, and what might happen if the test result is positive, are included in the APHA Briefing Note. Clinical signs that are considered consistent with SARS-CoV-2 infection include pyrexia, coughing, dyspnoea, vomiting and diarrhoea. However, these are common clinical presentations of a wide range of other more common infectious and inflammatory conditions. BSAVA has compiled the following guidance to provide further advice in relation to other differential diagnoses that should be considered before testing. This guidance must be used only in conjunction with the full APHA Briefing Note. This BSAVA guidance is only advisory and veterinary surgeons should exercise their own professional judgement based on individual circumstances.

When to suspect Covid-19 in a small animal?

Symptomatic SARS-CoV-2 infection might be suspected in a dog or cat or ferret as described above with any one of three presentations: acute fever and/or acute respiratory signs (such as cough or tachypnoea +/- dyspnoea) and/or acute gastrointestinal signs (such as vomiting or, less likely, small intestinal diarrhoea). Before qPCR testing is performed for SARS-CoV-2, BSAVA recommends other conditions are considered first. Initially, in all species, a careful clinical history is taken (including vaccination history in all species), followed by thorough clinical examination and further tests where clinically relevant. Clinicians should thoroughly document their decision making both when deciding to test, and not to test, for SARS-CoV-2. Laboratories should be contacted for precise sample requirements.

Cats

In cats, conditions that can resemble Covid-19 include:

- cat flu
- feline asthma
- feline coronavirus infection
- toxoplasmosis.

Therefore, in cats with respiratory signs (+/- fever), it is suggested that feline calicivirus, feline herpesvirus and Bordetella infections are considered before SARS-CoV-2 qPCR. The most appropriate test is an oropharyngeal swab. It is also important to exclude 'feline asthma' and chronic bronchitis by taking a careful clinical history and ideally thoracic radiographs. A faecal sample to check for *Aelurostrongylus* may also be warranted. For cats with GI signs, faecal bacteriology on fresh faeces is suggested (and in addition a rectal swab is required for SARS-CoV-2). Feline coronavirus can be excluded by serology and in enteric cases can be tested for using qPCR on faecal samples.

Dogs

In dogs, conditions that might resemble Covid-19 include:

- kennel cough
- angiostrongylosis
- aspiration pneumonia
- tracheal foreign bodies
- early stages of various intestinal infections – including canine coronavirus.

Bordetella infection is the commonest cause of kennel cough and may be expected to present in a similar fashion and exclusion would require culture of an oropharyngeal swab before performing a SARS-CoV-2 qPCR. Canine respiratory coronavirus may also present with similar signs and can be tested for using qPCR. Angiostrongylosis should be considered and testing may be advisable (by antigen test or faecal analysis). For most cases thoracic radiographs will be useful to exclude aspiration pneumonia (e.g. if brachycephalic), bronchopneumonia or chronic bronchitis. For dogs with GI signs, tests for a faecal bacteriology, parasitology and canine parvo- and corona-viruses could be performed on fresh faeces and, in addition, a rectal swab is required.

Mustelids

For mustelids (such as ferrets) with any one of the three presentations (acute fever and/or acute respiratory signs (such as cough or tachypnoea +/- dyspnoea) and/or acute gastrointestinal signs (such as vomiting or, less likely, small intestinal diarrhoea) – before SARS-CoV-2 qPCR is run it is suggested that vaccination history against canine distemper virus is checked and any history of influenza signs in the household should be considered. Bacterial infections (especially after bites from others) should be excluded and generally the response to antibiotics should be assessed (even in absence of abscesses). If submandibular lymph nodes are enlarged, then fine needle aspirates are recommended before SARS-CoV-2 qPCR testing.

What to do whilst waiting for results

Whilst waiting for the results of the SARS-CoV-2 qPCR test to return, it is likely to be worth considering postponing other investigations that carry a high risk of aerosolisation (such as bronchoscopy or bronchio-alveolar lavage). Depending on local practice policy, animals may be barrier nursed if hospitalisation is required and if not then can be nursed at home. However, as there are no known cases of transmission from a domestic pet to a human being, more extensive use of PPE is unlikely to be justified unless required for other reasons.

What to do if the result is positive

When you receive the result of a SARS CoV-2 test it is important to remember that no test is perfectly sensitive or specific and, when dealing with rare diseases, there is a higher chance that a positive result is in fact a false positive. If you do have a positive, then you and the laboratory should follow the advice in the **APHA Briefing Note 18/20**.

Currently there is no therapy for SARS-CoV-2 that would be considered as effective or safe to use in small animals.

Take home message

- Check the case meets the four criteria as defined in **APHA Briefing Note 18/20**.
- Covid-19 can be added to your differential list for certain clinical signs in animals from affected households but it should not be top of that list
- Only test for SARS-CoV-2 if other common causes of the clinical signs have been ruled out
- In the event of a positive finding, report your findings in line with APHA and relevant legislative requirements.