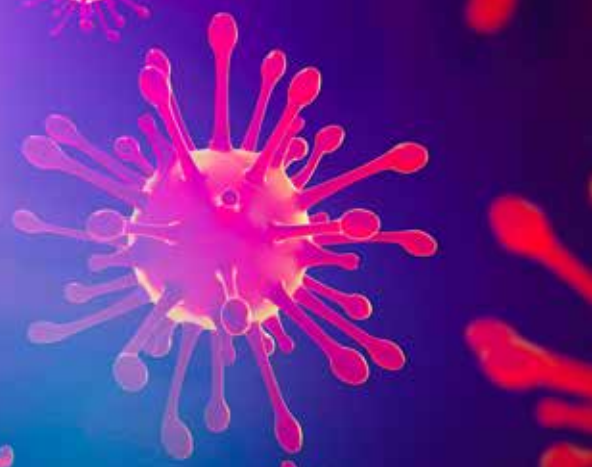


# Administration of anaesthetics during the COVID-19 pandemic



Anaesthesia for routine procedures such as neutering should be stopped during the current restrictions. There will however be the need for anaesthetics for emergency and urgent procedures on welfare grounds.

The potential prioritisation of some drugs and even more so oxygen cylinders into human medicine means that we must be prepared and able to revert back to using some more basic anaesthetic techniques.

This will mean that the conversation about anaesthetic risk needs to change and there may be considerably more animals in high risk categories where euthanasia should be considered an option on humane grounds. As much of this as possible should be discussed over the telephone and documents such as consent forms should be emailed to clients to be read and signed in advance if at all possible.

Although dogs and cats cannot as far as we know host the virus, particular care should be exercised when performing a physical examination prior to anaesthesia and suitable social distancing and hygiene recommendations should be followed. This may necessitate the administration of sedatives and premedication with limited or no examination if a patient is not compliant and the increased risk in this eventuality should be discussed and included in informed consent.

## Anaesthetic risk

### ASA adapted veterinary categorisation

Category	Description
I	Young healthy animal presenting for elective procedure e.g. neutering
II	Healthy animal presenting for procedure associated with pathology not involving major organ systems e.g. Cruciate repair or Imaging and hemilaminectomy
III	Animal with diagnosed problem that does not yet require medication, or is very well controlled by medication e.g. low-grade heart murmur exercising normally
IV	Animal with diagnosed problem that is unstable or not well controlled by medication e.g. unstable diabetic
V	Patient that is severely decompensated and unlikely to survive next 24 hours e.g. GDV

From the above chart only patients in category I and II would be deemed a low anaesthetic risk, although this risk is still increased without the ability to provide supplementary oxygen. Patients in category III will be at greater risk of death or complications especially if not able to be supported with oxygen, and patients in category IV and V should not be anaesthetised. In the absence of an oxygen supply, either conservative management and medical stabilisation to improve risk where possible and ethical could be considered for ASA IV patients and euthanasia may have to be the recommended course of action for ASA V patients.

## Questions to ask before selection of anaesthetic cases

1. Is the ASA category of the patient suitable for the likelihood of a good outcome?
2. Is there an alternative to anaesthesia which would be safer or more humane?
3. Do you have the necessary skills to perform anaesthesia using available agents and support?
4. Can you ensure the animal is still monitored and supported appropriately e.g. pulse oximetry, blood pressure measurement, intubation for BOAS breeds?
5. Can you utilise local anaesthetics to supplement the injectable general anaesthesia?
6. Can you complete the procedure in a reasonable time? (20-30 minutes)
7. Have you discussed the increased risks appropriately with the owner and completed informed consent?

## Anaesthetic options available

Recommendations to conserve your oxygen supplies would be to switch to using rebreathing systems wherever possible and if you have access to capnography, use this with non-rebreathing systems to reduce flow to minimum safe values. Calculation of gas flow should be performed for each patient and based on ideal body weight and the breathing system selected\*. Be aware that soda lime may also become scarce as the situation progresses.

\*Refer to the *BSAVA Manual of Canine and Feline Anaesthesia and Analgesia* (3rd edition; Chapter 5) for recommended flow rates.

Propofol containing preservative is **not recommended for prolonged infusions**. Propofol even without preservative can also cause significant respiratory depression and may lead to hypoxaemia if administered as an infusion without oxygen supplementation. Appropriate patient monitoring should be available and tracheal intubation is advised. A propofol infusion should **only be used in dogs**.

Alfaxalone can be used to provide short general anaesthesia in both dogs and cats. It should be administered intravenously after premedication including an analgesic. Top up bolus doses or an infusion can also be used to prolong anaesthesia in both dogs and cats.

Ketamine combined with an alpha-2 agonist and an opioid administered intramuscularly can provide general anaesthesia suitable for ASA I or II patients for a limited period. This would be an acceptable protocol for neutering and other short procedures. Top-ups of lower doses of ketamine can be given intravenously to prolong the anaesthetic time if required. Appropriate patient monitoring should be available along with the ability to intubate the trachea to protect the patient's airway.

## Monitoring of patients under anaesthesia

Although the method of administering an anaesthetic is modified the patient should still be continually monitored in the same way whilst under general anaesthesia.

Anaesthetised patients with BOAS should **always have their trachea intubated** to protect the airway from collapse and obstruction even if oxygen is not able to be provided. The increased risk should be discussed with the client.

Equipment to measure physiologic variables such as pulse oximetry for heart rate and oxygen saturation of arterial blood and a doppler or oscillometric blood pressure monitor should be used if available. Pulse oximetry in the absence of oxygen supplementation is **even more important**.

Minimum requirements would be a regular and repeated assessment of heart rate by either digital palpation of pulses or oesophageal stethoscope and a continual assessment of spontaneous breathing. Apnoea in an animal without supplemental oxygen will result in adverse consequences much more quickly than in an animal that has their trachea intubated and is breathing 100% oxygen. Anaesthetic depth should be monitored as usual.

The ability, drugs and equipment to perform cardiopulmonary resuscitation (CPCR) should be readily available.

## Discharges post procedure

The animal should not be discharged until fully recovered as is current recommendation. Considering that animals may take longer to recover from an injectable only protocol than from inhalants you may need to modify your discharge procedures and timing for these cases.

A conversation over the telephone should replace the usual discharge instructions and detailed instructions on postoperative care and administration of further medications should be emailed or texted to the owner rather than printed on paper to minimise viral transmission risk.

## Further information

Please also refer to the RCVS guidelines issued on the website

<https://www.rcvs.org.uk/setting-standards/advice-and-guidance/coronavirus-covid-19/>

For further information about preparation for general anaesthesia, checklists and monitoring guidelines please go to the AVA website here <https://ava.eu.com/resources/checklists/>

For further information and recommendations for cardiopulmonary resuscitation (CPR) please visit the RECOVER website <https://recoverinitiative.org/>