

# Anesthetic Considerations in Senior and Geriatric Dogs

Specific steps should be taken when placing senior and geriatric dogs under general anesthesia to minimize overall risk. Peri-anesthetic intravenous fluid therapy should be tailored to a patient's individual needs, with special consideration being given to those with compromised renal function, dehydration and/or decreased water intake due to underlying disease or potential anxiety in hospital. All patients undergoing sedation or general anesthesia will benefit from pre-oxygenation prior to starting their procedure.

Drug protocols should be tailored to the patient based on their overall health status and pre-anesthetic work-up (See *position statement "Pre-anesthetic screening in senior and geriatric dogs"*). Geriatric patients may have lower requirements for injectable and inhalant anesthetics, but all cases are to be assessed on an individual basis.

A trained and dedicated veterinary technician who is well-educated and comfortable managing senior and geriatric patients under anesthesia should be assigned to the case. They should prepare for potential complications related to the patient's health and procedure and be ready to intervene as necessary (i.e. hypotension, hemorrhage, pain etc.). Specific considerations for the senior patient include minimizing mobility complications through gentle handling, utilizing padding and trying to keep the patient in a more comfortable position during the procedure. Senior dogs with lower body condition and/or muscle scores may be more prone to hypothermia, thus proactive warming techniques should be emphasized in this patient population. Active warming should be utilized as needed during and after the procedure. Recovery scores for senior dogs improve with decreased time spent under anesthesia, thus anesthetic time should be kept to a minimum by ensuring the veterinarian is experienced with the specific procedure, focused and ensuring all possible intraoperative needs are anticipated ahead of time. Preoperative checklists can be useful for this purpose.

Perioperative antibiotics and pain management should be provided if indicated. Analgesics should be given based on the anticipated pain associated with the procedure as well as evaluation of the patient in the postoperative period. Validated pain scales should be utilized to provide a more objective assessment, and the patient should be reassessed frequently to document response to therapy. Analgesic drugs may have an increased effect in senior or geriatric dogs based on differences in metabolism and protein-binding – dose adjustments should be considered if the patient has decreased metabolic function or lower serum total protein. Since senior and geriatric dogs may have more prolonged recovery, they may need to spend more time in the hospital for care and monitoring. Referral to a 24-hour facility may be needed. On the other hand, those patients with cognitive dysfunction or anxiety in the hospital may benefit from minimizing the amount of time away from their owners, or they may benefit from short-term anxiolytic therapy to facilitate hospitalization. These factors should be considered when scheduling procedures on senior and geriatric patients.