Masimo Pulse Oximetry

Heads and Tails Above the Rest in Veterinary Settings

Masimo animal health

Name of Reporting Veterinarian	Bob Klostermann, DVM
Title, Organization	Consultant, University of Wisconsin, Madison
Patient Event	Raven, domestic shorthair, suffering from feline stomatitis

The Situation

An adult 7.1 lb female domestic shorthair cat suffering from feline stomatitis required full mouth extraction of distal to #104, #204, #304, and #404. During the procedure, a 5-way anesthetic monitor with Masimo's SET® pulse oximetry was used with a Masimo TF-I transflectance sensor. The sensor was vet-wrapped at the base of the tail with the infrared light being emitted dorsally to bounce off the coccygeal vertebrae.

The patient was induced with an intramuscular drug combination of dexmedetomidine (0.06 mg), butorphanol (1.2 mg), and ketamine (1.5 mg). The patient was masked and induced with isoflurane at 2% and maintained between 1% and 2.5% during the 90-minute surgical procedure. In addition, the patient was monitored post-operatively during recovery with a Masimo Rad-5® handheld pulse oximeter.

Bob Klostermann, DVM

Masimo SET® provides accurate measurements during low perfusion.

The Problem

The most common pulse oximetry sensor application sites for animals in order of preference are the tongue, ear, or paw. The tongue poses access problems during oral surgery and other locations lack consistent readings during anesthesia, especially when using Alpha2 drugs, which frequently result in vasoconstriction, hypotension, and reduction in cardiac output. Combined with limited sensor application sites, a consistent and accurate SpO_2 measurement is difficult to obtain. Post-operatively, cats and dogs dislike having devices attached to their tongues, ears, and paws, and often gnaw or wrest free of monitoring equipment, triggering drop-off alarms. False alarms and high-maintenance of these devices due to active animals eventually diverts and desensitizes the staff, resulting in adverse events.

The Masimo Difference

Masimo SET® pulse oximeters measure-through motion and low perfusion conditions (compared to conventional pulse oximeters that often "freeze" or extend averaging times before alarming falsely). This allows Masimo SET® to maintain accurate pulse rates and SpO_2 readings from the base of the tail, pre- and post-anesthesia, providing better access to the mouth when performing oral surgery. Moreover, patients are far more tolerant of monitoring from the base of the tail, meaning Masimo pulse oximeters have far fewer drop-offs and subsequent false alarms in post-op. Masimo's equipment works consistently and gives the entire staff and surgeon a lot more peace of mind with consistent, accurate readings and minimal drop-off alarms. Because of this efficacy, Masimo's oximetry technology increases the likelihood of improved outcomes for four-legged patients. Masimo's tip clip and transflectance sensor also work remarkably well orally for monitoring other surgical procedures.

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All accuracy specifications and claims are based on human volunteer studies with sensors placed on specifically determined sites for a given sensor type. Accuracy may vary for SpO_2 depending upon species, sensor type, and monitoring site. Refer to operator's manual for complete description, instructions, warnings, cautions, and specifications.

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