



Alfaxan[®]

Repeatable. Reliable. Relax.

**Safety of Alfaxan[®]
in dogs and cats**



Alfaxan[®] Anaesthetic Injection

Safety of **Alfaxan**[®] in dogs and cats

Alfaxan[®] **Injectable Anaesthetic** is registered for the induction and/or maintenance of anaesthesia in dogs and cats. It can be used for maintenance of anaesthesia by either Constant Rate Infusion (CRI) or repeated bolus administration.

It is marketed in many countries around the world including Australia, New Zealand, UK, Ireland, France, Germany, Spain, Canada and the Netherlands. In Australia where it was first registered, it has been marketed for over 10 years. A survey of anaesthetic use throughout Australia conducted in 2011 showed that **Alfaxan**[®] is now used in over 50% of all inductions in dogs and over 75% of all inductions in cats.^[1]

For veterinarians who are yet to use **Alfaxan**[®] the first question is, "How safe is the product?" Whilst authorities frown upon use of the word "safe" when speaking of any drug - especially anaesthetic agents - extensive trial work has been done examining the safety of **Alfaxan**[®] in both dogs and cats and it is presented below.

These data, along with the product's track record since its introduction over ten years ago, should give veterinarians a high degree of comfort when considering the addition of the product to their anaesthetic protocols.

Over-dosage studies

A. Single, acute over-dosage

Acute tolerance to over-dosage with **Alfaxan**[®] has been demonstrated at up to **10 times** the

recommended dose of 2 mg/kg in dogs and up to **5 times** the recommended dose of 5 mg/kg in cats.^[2, 3]

B. Repeated over-dosage

Repeated overdosing of **Alfaxan**[®] at **5 times** the recommended rate in dogs and **5 times** the recommended rate in cats, at 48 hour intervals on 3 occasions over 7 days, caused no adverse effects.^[4, 5]

The tolerance to such high levels of over-dosage in dogs and cats - either as a single dose, or in a schedule of repeated over-dosage - demonstrates that, used as recommended, **Alfaxan**[®] is a stress-free anaesthetic agent.

Tissue tolerance

Alfaxan[®] does not cause tissue irritation after perivascular, subcutaneous or intramuscular injection.^[6]

This is important when a product is new to the clinic and staff may be inexperienced in its use. The lack of tissue reaction is due to the fact that **Alfaxan**[®] is a clear, aqueous, pH neutral, iso-osmolar solution. In fact the product is registered for intramuscular (IM) injection in the cat, proof of its lack of irritancy.

Age tolerance

Alfaxan[®] can be used to supply anaesthesia in juvenile patients - puppies and kittens from 6 weeks of age.^[7, 8]

Whilst surgery on very young animals may be infrequent, it is useful for veterinarians and practice managers to



know that with **Alfaxan**[®] they have an anaesthetic agent that will cover this age cohort – there is no need to have specialised products.

Sighthounds

Alfaxan[®] has been proven to be a reliable and effective anaesthetic induction agent in sighthounds.^[9]

Greyhounds and other breeds in this group have shown differing responses to sedation and anaesthesia when compared with other dog breeds. Use of **Alfaxan**[®] in sighthounds - as the paper cited above demonstrates – is incident-free and similar to that seen in other breeds. Premedication agents however, have the capacity to significantly increase the duration of anaesthesia seen in these animals.

Caesarean section

Alfaxan[®] has been proven to be reliable and effective as an anaesthetic induction agent in canine Caesarean section.^[10]

In a controlled GCP multi-site investigation, involving four veterinary hospitals, 48 bitches receiving **Alfaxan**[®] for anaesthetic induction were compared to 26 bitches receiving propofol for anaesthetic induction prior to performance of Caesarean sections. Analysis of anaesthetic induction scores, puppy survival and puppy vigour data showed **Alfaxan**[®] to be equal to, or better than propofol.

Thus **Alfaxan**[®] can be used with confidence in Caesarean sections.

Cardio-vascular and respiratory function

Alfaxan[®] has minimal effect on cardiovascular function.^[2, 3]

When **Alfaxan**[®] is used for induction, blood pressure is well maintained and this provides acceptable tissue perfusion - important in sustaining normal tissue/organ function.

Alfaxan[®], when administered as recommended, causes minimal dose-dependent respiratory depression.^[11, 12]

When **Alfaxan**[®] is administered for induction, in accordance with the label, patients tend to breathe spontaneously, which allows smooth transition to gaseous maintenance.

Compatibility

Alfaxan[®] has been proven compatible with the major groups of premedication agents.^[7-9, 11, 12, 14-25] This means, in practical terms, the introduction of **Alfaxan**[®] to the clinic does not alter the premedication protocols which are in place.

In fact it is strongly recommended that anxiolytics, premedicants and pain modulation agents are used as part of every procedure to ensure optimal induction, transition, anaesthesia and recovery.

Muscle relaxation

Alfaxan[®] provides good muscle relaxation^[2, 3], therefore there is no need for adjunctive muscle relaxants.

General

Alfaxan[®] is based on alfaxalone, a neuroactive steroid, very similar in structure to progesterone (though it does not have its pharmacological activity). Alfaxalone acts on the neuronal cell membrane chloride ion transport by binding to the GABA_A cell surface receptors. Due to its similarity to endogenous steroids, which have well-developed metabolic pathways, alfaxalone is eliminated rapidly from the body via the bile and urine. It is cleared within a few hours.^[13]

Based on the above studies and a wealth of field experience, veterinarians can incorporate **Alfaxan**[®] into their anaesthetic procedures for dogs and cats with a high level of confidence.

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