The anti-emetic maropitant is a Neurokinin antagonist that has been studied for multiple effects in dogs and cats. The primary indication for use of this drug for dogs and cats is the prevention of vomiting.

Following the launch of Cerenia™ Maropitant has been studied by researchers to elucidate the NK-1 antagonist properties including the effect of reducing pain.

In review, Maropitant (Cerenia™) is a novel, selective neurokinin1 (NK-1) receptor antagonist that was shown to prevent emesis induced by syrup of ipecac it was not different (P > 0.05) from ondansetron but was superior to metoclopramide or chlorpromazine. Maropitant was effective (P < 0.0001 relative to control) in preventing vomiting caused by stimulation of either central or peripheral emetic pathways.

Subsequently, Maropitant has been shown to prevent vomiting, retching and nausea associated with intramuscular hydromorphone administration in dogs. (Kraus) In another study, R. Johnson’s research showed that maropitant treated dogs had a statistically lower incidence of vomiting/retching when compared untreated dogs. The conclusions were that Maropitant prevented vomiting/retching associated with acepromazine-hydromorphone premedication in dogs but does not decrease the incidence of GER or alter esophageal pH during inhalant anesthesia.

In a study on the effect of Maropitant for pain caused by traction on ovarian ligament, the minimum alveolar concentration of Sevoflurane was lower in dogs and cats treated with Maropitant. Thus Maropitant decreased the anesthetic requirements during visceral ovarian and ovarian ligament stimulation in cats by 15%; a higher dose had no additional effect. Boscan and colleagues also studied this in dogs. The effect of epidural and intravenous use of the
neurokinin-1 (NK-1) receptor antagonist maropitant on the sevoflurane minimum alveolar concentration (MAC). The conclusion and clinical relevance was that Maropitant decreased the MAC of sevoflurane when administered intravenously to dogs but not after epidural administration. Maropitant decreased the anesthetic requirements during visceral stimulation of the ovary and ovarian ligament in dogs and cats. Results suggest the potential role for neurokinin 1 receptor antagonists to manage ovarian and visceral pain.

Although it is clear that Maropitant is both safe to use in anesthetized dog and cats and will prevent vomition associated with emetogenic medications, there is not clear evidence that it is an analgesic. The simultaneous use of maropitant and other anesthetic drugs is effective in making the other drugs at least work better for pain relief and without attendant vomition.

Many animals will benefit from the synergistic effects of maropitant and drugs for anesthesia/pain relief.

When it is important that the surgical patient not vomit and where return to eating is important the use of maropitant is indicated.

Situations that might fit these criteria are:

1. Bradycephalic breeds
2. Intestinal foreign body
3. Gastric tumors
4. Vulnerable airway patients
5. GI disease pancreatitis

Cerenia™ maropitant is an important adjunct to improving anesthetic management of both dogs and cats.

An additional part of research on the effect of Maropitant looked at when dogs returned to eating following surgery. In the study 16 dogs were in each group and the dogs premedicated with
Maropitant eat sooner than dogs that did not receive Cerenia™. At the 20 hours following surgery less than half of the dogs in the non-maropitant group had eaten, while over 90% of the dogs in the Cerenia™ group had eaten.

Maropitant has several advantages for the surgical patient. First the dog or cat will not vomit due to the premedication. All animals should be anesthetized with the presumption that there might be food in the stomach. Although we routinely fast dogs and cats prior to anesthesia to prevent vomition and aspiration, seeing the animal vomit does not guarantee that the stomach is empty and the animal will not vomit. The use of Cerenia™ is effective in preventing vomition from emetogenic drugs. Secondly, the return to eating is a positive event toward returning the animal to normal nutrition and appeasing the owner’s concerns on how the pet is feeling.

The use of Cerenia™ is compatible with drugs used for anesthesia and pain relief. As mentioned earlier, Maropitant is associated with better analgesia and the ability to reduce the dose of other anesthetic drugs.