

Deracoxib

BRAND NAME: DERAMAXX

AVAILABLE IN
25 mg, 50 mg, 75 mg and 100 mg
CHEWABLES

BACKGROUND

Deracoxib is a member of the class of drugs known as NSAIDs (non-steroidal anti-inflammatory drugs), the same class as such common over-the-counter remedies as Advil (Ibuprofen), Aleve (Naproxen), and aspirin. This class of drug is used for pain relief successfully in humans but the development of safe NSAIDs for pets has only been achieved relatively recently.

The problem with the pet use of NSAID's made for humans has been unacceptable (even life-threatening) side effects:

- Stomach ulceration - even perforation and rupture of the stomach can occur. This is not only painful but life-threatening.
- Platelet deactivation - platelets are the cells controlling the ability to clot blood and, as a general rule, it is preferable not to promote bleeding. We would prefer platelets to remain active and able to function should we need them.
- Decreased blood supply to the kidney - this could tip a borderline patient in to kidney failure.

The veterinary profession had been in need of an NSAID that could effectively relieve pain without the above risks. In 1997, Pfizer Animal Health released the first NSAID for dogs in the U.S. as the answer to this need. Since then, numerous other NSAIDs for dogs have gained FDA approval and been marketed. Long gone are the days when aspirin was the only option.

This new plane of safety was made possible by new biochemical knowledge. Many of the biochemicals responsible for the pain and inflammation we want to alleviate are produced by an enzyme called "cyclo-oxygenase 2." The goal is to inhibit this enzyme without inhibiting its counterpart "cyclo-oxygenase 1." Both enzymes produce prostaglandins but we want to keep our constitutive prostaglandins that help maintain our bodies (these come from COX-1) but not make the inflammatory prostaglandins (the come from COX-2).

In the past, NSAIDs could not distinguish the COX enzymes and inhibited them both. With the development of "COX preferential" NSAIDs, we can inhibit mostly COX-2 and largely leave COX-1 alone. The introduction of COX-2 preferential NSAIDs has reduced stomach and intestinal side effects by 50% in humans and has made FDA approval of certain NSAIDs possible for pets. The "coxib" class of NSAID's takes things a step further. The coxib class is actually "COX selective," not merely "COX preferential," which means that at usual doses it completely inhibits COX-2 and completely leaves COX-1 alone, potentially making a safer drug. Deracoxib is a member of the coxib class.

HOW THIS MEDICATION IS USED

Deracoxib is used in the treatment of pain either for short term or long term use with different dosing schedules depending on how the drug is to be used. In addition to pain relief, deracoxib has been found to show efficacy in suppressing bladder cancer (Transitional Cell Carcinoma). This effect appears to be separate from its pain relieving properties.

Deracoxib is approved only for canine use. It has two dosing schedules: a lower dose for long term use as a COX-selective NSAID and a higher dose for acute pain that is COX-preferential and should only be used for seven days or less.

Cats are more sensitive to NSAID side effects than dogs and require different pain relief regimens. **This drug should not be used in the cat.**

All NSAIDs, even the COX-2 selective ones, have some potential for reactions. Deracoxib would not be appropriate for a dog with kidney or liver disease so screening tests are needed and monitoring tests are recommended. A dog that is potentially a candidate for long term use of deracoxib should have a complete examination by the veterinarian, a screening blood panel to establish baseline biochemical values, and ideally some kind of recheck testing two weeks after starting deracoxib. This is because most adverse reactions, unusual as they may be, occur within this initial time frame and it is important that they be recognized before they get out of hand. After this initial period, complete blood panels should be screened every six months, an important step with any medication for long term use, not just the NSAIDs.

SIDE EFFECTS

Stomach upset: vomiting, diarrhea, and/or appetite loss are the important side effects to watch for, especially in the three weeks or so after beginning long term deracoxib. These symptoms can have multiple meanings so it is important to sort them out.

- Some dogs are simply sensitive to NSAIDs, despite the COX-selective nature of deracoxib described above. These dogs simply need nausea relief in the short term and a different pain management regimen after recovery.
- Some dogs have an unrecognized liver problem. Deracoxib is removed from the body by the liver which means that the liver on deracoxib has extra work. This is not a problem for a normal liver but a diseased liver could be tipped into failure from the extra load. This is why screening tests are so important prior to long term use.
- Another problem manifesting with upset stomach is an idiosyncratic hepatopathy (a liver condition that is not dose-dependent or predictable in any way). While this only occurs in 1 in 5000 dogs, it is a more serious problem which likely would require hospitalization.

If a dog on deracoxib develops an upset stomach, discontinue the medication and report the problem to your veterinarian. It is prudent to check liver enzymes (a blood test) to rule out the two liver side effect issues that could manifest with upset stomach.

Other side effects typically require other pre-existing conditions that could be made worse by giving an NSAID (even a COX-selective one). See the Concerns and Cautions section.

INTERACTIONS WITH OTHER DRUGS

Multiple drugs of the NSAID class should not be used concurrently as the potential for NSAID side effects increases. This means greater chance of exactly what we had hoped to avoid by using a COX-selective NSAID instead of a non-selective NSAID: stomach irritation/ulceration, altered kidney function, inappropriate bleeding. For similar reasons, NSAIDs should not be used in conjunction with corticosteroid hormones such as prednisone, dexamethasone, etc. A 5-7 day rest period is recommended when changing over to deracoxib from another NSAID or vice versa. Aspirin poses an exception due to its strong platelet inactivating abilities so 10-14 days is recommended when switching to carprofen from aspirin. Allow at least one week between prednisone and deracoxib.

If deracoxib is used concurrently with phenobarbital, it is especially important that appropriate liver monitoring be performed. (Our hospital recommends bile acids testing every 6 months for dogs on phenobarbital.) These two drugs interact such that neither may work well if they are used together.

ACE inhibitors such as enalapril or benazapril may not be as effective in the presence of NSAIDs. (ACE inhibitors are used in the treatment of hypertension or heart failure.) This is because ACE inhibitors depend on the dilation of blood vessels in the kidneys and such dilation can be interfered with by NSAIDs).

CONCERNS AND CAUTIONS

Deracoxib is available as a chewable tablet which is highly palatable to animals. This increases the potential for accidental overdose should a pet gain access to a large amount of chewable tablets.

Keep chewable deracoxib out of the reach of children and pets.

Deracoxib has not been tested in pregnant or nursing females and thus is not recommended for use in such individuals, particularly since COX-2 is important in reproductive function.

NSAIDs should not be used in dogs with pre-existing liver or kidney disease. In order to screen for pre-existing liver or kidney disease it is a good idea to run a blood chemistry panel prior to starting long term therapy with an NSAID.

ANY DOG ON LONG TERM MEDICATION OF ANY KIND SHOULD PROBABLY HAVE BLOOD CHEMISTRY RECHECKS EVERY 6 MONTHS.

The blood pressure related side effects that have made COX-2 selective NSAIDs controversial in humans are not significant factors in canine use.

Deracoxib should not be used in patients with pre-existing GI ulcerations.

Deracoxib has been tested for safety in puppies as young as 4 months of age but not younger. Safety has not been evaluated in younger puppies.

To read the product insert for Deracoxib, visit:

www.deramaxx.com/content/Clinic_Insert.pdf

For more information on this product, visit:

www.deramaxx.com

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Additional drug and general pet care information can be found on our world wide web site:

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