HELP DOGS GO FROM PAINFUL TO PLAYFUL

Choose **remarkably flexible, reliably effective** osteoarthritis treatment with **METACAM®** (meloxicam) anti-inflammatory pain relief.

Metacam®
(meloxicam)

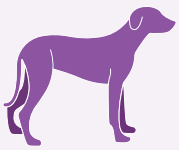
IMPORTANT SAFETY INFORMATION: METACAM® (meloxicam oral suspension) is for use in dogs only. METACAM (meloxicam) Solution for Injection is approved for use in dogs or cats (not indicated for osteoarthritis in cats). **Repeated use of meloxicam in cats has been associated with acute renal failure and death. Do not administer additional injectable or oral meloxicam to cats.** As a class, cyclooxygenase inhibitory NSAIDs like METACAM may be associated with gastrointestinal, kidney, or liver side effects. Dogs should be evaluated for pre-existing conditions and currently prescribed medications prior to treatment with METACAM, then monitored regularly while on therapy. Concurrent use with another NSAID, corticosteroid, or nephrotoxic medication should be avoided or monitored closely. For full product information, please see full prescribing information.

Boehringer Ingelheim

OSTEOARTHRITIS: A PROGRESSIVE DISEASE

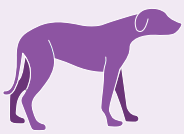
In the United States, 1 in 5 dogs - some as young as 2 years old - suffers from osteoarthritis (OA)[1,2] Once a dog has OA, the disease is irreversible and progressive. The time it takes for OA to progress varies depending on things like the underlying cause of disease, and risk factors like obesity. Fortunately, diagnosing OA and initiating therapy don't have to wait until your patient is in obvious pain – there are many opportunities along the way to help affected dogs.

Early multimodal intervention that includes **METACAM®** (meloxicam) pain relief and weight management reduces pain and inflammation, improves mobility and enhances quality of life.



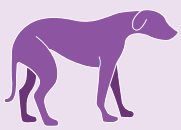
STAGE 0-1 PRE-OSTEOARTHRITIS

- Signs are absent or mild (e.g., "bunny-hopping")
- **Recommend: regular vet checkups, possible screening**
- **METACAM** NSAID is not required



STAGE 2 MILD

- Signs develop over months to years
- **Recommend: monitoring, diagnostics, early intervention**
- **METACAM** NSAID can manage pain/inflammation, and help slow disease progression



STAGE 3 MODERATE

- Pain and joint deterioration are obvious
- **Recommend: diagnostics and intervention**
- **METACAM** NSAID is required to manage pain/inflammation and support mobility

STAGE 4 SEVERE

- Clear signs of pain/nearly-constant pain
- **Recommend: diagnostics and intervention**
- **METACAM** NSAID is critical to reduce pain/inflammation and help preserve quality of life

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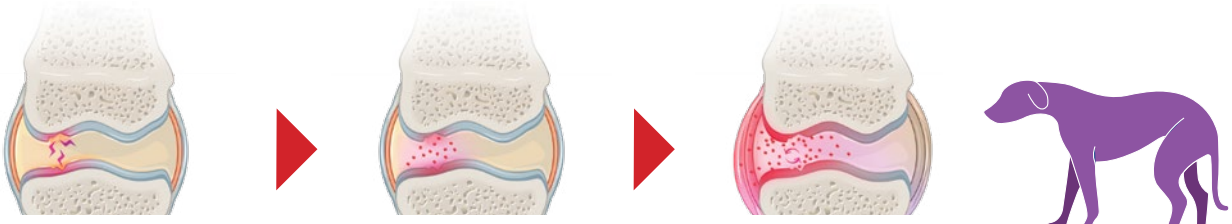
THE IMPORTANCE OF INFLAMMATION CONTROL

Joint pain and inflammation are part of a vicious cycle that, left untreated, leads to further joint damage, worsening pain and decreased quality of life in dogs. Fortunately, treating inflammation early with a trusted NSAID like **METACAM®** (meloxicam) can help break the cycle, alleviating pain and inflammation and helping to slow the progression of OA.

THE EFFECTS OF INFLAMMATION

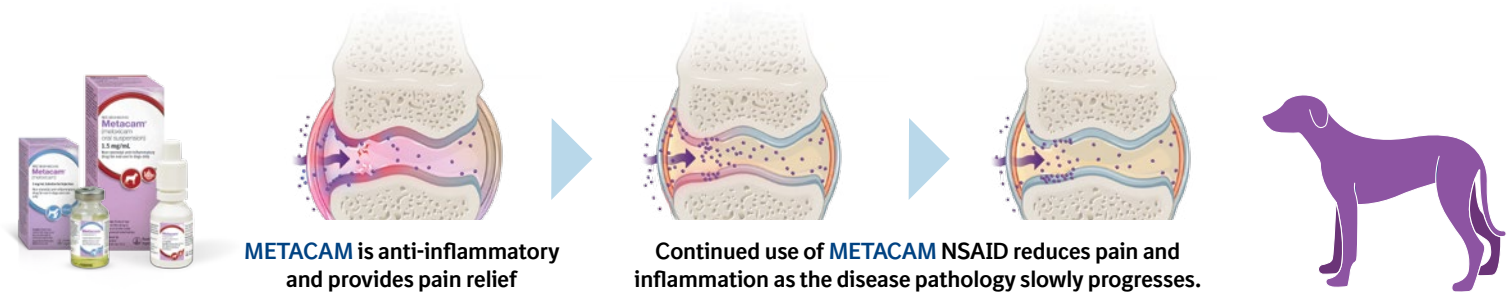


Mechanical stress caused by joint injury, conformation issues or overuse leads to cartilage degradation

Inflammatory mediators from bone, cartilage and synovial cells are released

Inflammatory mediators promote synovitis and further amplification of the inflammatory response

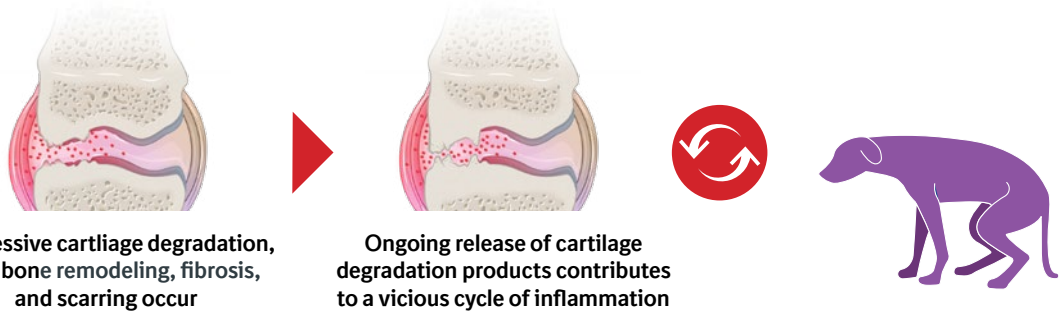
WITH LONG-TERM TREATMENT



METACAM is anti-inflammatory and provides pain relief

Continued use of METACAM NSAID reduces pain and inflammation as the disease pathology slowly progresses. Pain control also promotes mobility.

WITHOUT LONG-TERM TREATMENT



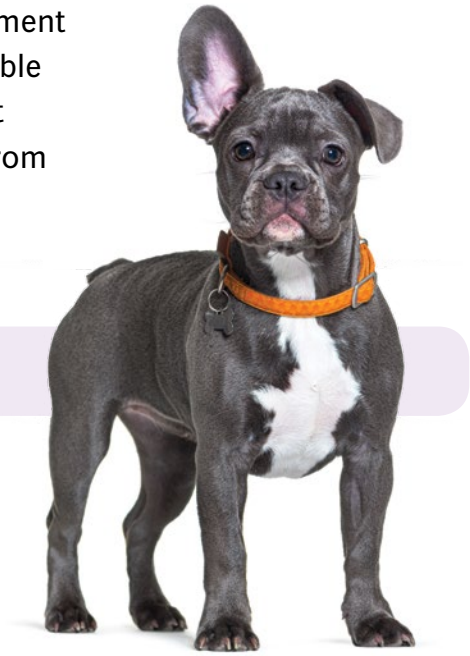
Progressive cartliage degradation, with bone remodeling, fibrosis, and scarring occur

Ongoing release of cartilage degradation products contributes to a vicious cycle of inflammation

may be associated with gastrointestinal, kidney, or liver side effects. Dogs should be evaluated for pre-existing conditions and currently prescribed medications prior to treatment with METACAM, then monitored regularly while on therapy. Concurrent use with another NSAID, corticosteroid, or nephrotoxic medication should be avoided or monitored closely. For full product information, please see full prescribing information.

METACAM® (meloxicam) PROVIDES TRUSTED PAIN RELIEF

Get unmatched flexibility and powerful osteoarthritis control with METACAM® (meloxicam) - the trusted name in OA management for over 15 years with millions of doses sold.[3] With injectable and oral suspension formulations, veterinarians can count on **METACAM** NSAID for safe, simple and effective relief from joint pain and inflammation, that also helps slow the progression of OA.[1]



SAFE

- Trusted name in OA management for over 15 years with millions of doses sold[3]
- More clinical studies than any other NSAID[1-2,4-7]
- Can be titrated to the **Lowest Effective Dose**[1,5-8]

SIMPLE

- Palatable and well-accepted by dogs for easier precision dosing[7]
- Can be added to dogs' food minimizing the stress of administration
- **METACAM** NSAID syringes facilitate accurate dosing for dogs of all sizes
- METACAM® (meloxicam oral suspension) is manufactured using the micro-ionization process, which means the active ingredient is equally distributed throughout the bottle. This allows for consistently accurate dosing.

EFFECTIVE

- Licensed for chronic musculoskeletal disease (osteoarthritis)[1†]
- Reduces pain and improves mobility and clinical scores, with 24-hour pain relief at the site of inflammation[1,5-8]

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FLEXIBLE TITRATION WITH METACAM® (meloxicam)

We're here to help you and your canine patients find the lowest effective dose of METACAM® (meloxicam oral suspension). The titration schedule below has been updated in line with best clinical practice.

LOWEST EFFECTIVE DOSE TITRATION SCHEDULE

1. As you begin treatment, **talk to pet owners about the flexibility of METACAM NSAID that allows for down-titration** and get them involved in their pet's care to help boost compliance.
2. **Kick off the Painful-to-Playful protocol and initiate therapy** with an IV or Sub-Q* dose of METACAM® (meloxicam) Solution for Injection in-clinic and send them home with a maintenance dose of 0.1 mg/kg METACAM (meloxicam oral suspension).
3. **Evaluate** the pet's clinical response for approximately the first 4 weeks.
4. **If clinical signs are improved, reduce the maintenance dose** by approximately 10%.
5. Based on regular pain assessments, veterinarians can adjust to the **Lowest Effective Dose.**

Determining the lowest effective dose

Maintain the patient long-term at the lowest dose that controls pain and inflammation. If clinical signs reappear, return to the previous dose in the titration schedule. It is recommended that the long-term dose is not lower than 50% of the maintenance dose.

*Results with IV will be much more rapid than Sub-Q. IV administration is recommended.

may be associated with gastrointestinal, kidney, or liver side effects. Dogs should be evaluated for pre-existing conditions and currently prescribed medications prior to treatment with METACAM, then monitored regularly while on therapy. Concurrent use with another NSAID, corticosteroid, or nephrotoxic medication should be avoided or monitored closely. For full product information, please see full prescribing information.

THE PAINFUL-TO-PLAYFUL PROTOCOL

The **METACAM®** (meloxicam) Painful-to-Playful protocol was developed to help your patients benefit from long-term control of osteoarthritis pain and inflammation. Plus, your clinic will enjoy a protocol designed to help boost compliance and grow your pharmacy sales.

FOLLOWING THE PAINFUL-TO-PLAYFUL PROTOCOL IS EASY AS 1-2-3

1

First, start by providing rapid pain relief to your patient in the clinic with METACAM® (meloxicam) Solution for Injection

Put the power of pain relief back in your hands. By administering **METACAM** NSAID sub-q/IV pet owners will notice immediate pain relief in their pets while still in the clinic.*

2

Next, send them home with the right concentration of METACAM® (meloxicam oral suspension)

Pet owners won't need to give a loading dose and will be able to maintain the same level of pain and inflammation control with a convenient once-a-day dosing regimen at home.

3

Set up regular follow-up appointments or calls

Because OA is a chronic and progressive disease, it's important to do regular checks to ensure the dog is receiving the appropriate treatment, dosage and pain relief. During the routine follow-ups, you can work towards finding the **Lowest Effective Dose** for the pet and ensure their OA plan remains optimal should they develop other conditions.

*Results with I/V will be much more rapid than sub-q. I/V administration is recommended.

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THE PAINFUL-TO-PLAYFUL PROTOCOL BENEFITS EVERYONE

THE BENEFITS

PETS

- Provides pets with immediate pain relief
- Goes to work to tackle the equally important inflammatory component of OA
- Improves mobility and willingness to exercise

PET OWNERS

- Offers peace of mind that pets are no longer in pain
- Provides convenient, affordable long-term management of OA pain
- Gets owners involved in their pet's health-care, so they feel like part of the team
- Establishes a convenient once-a-day regimen that preserves quality of life and boosts the human-animal bond

VETERINARIANS

- Keeps you in control of patient care
- Sets patients and your pharmacy up for success
- Enhances compliance and encourages regular check-ins with your patients

Scan to see more of the story behind the Painful-to-Playful Protocol

may be associated with gastrointestinal, kidney, or liver side effects. Dogs should be evaluated for pre-existing conditions and currently prescribed medications prior to treatment with METACAM, then monitored regularly while on therapy. Concurrent use with another NSAID, corticosteroid, or nephrotoxic medication should be avoided or monitored closely. For full product information, please see full prescribing information.

Metacam®
(meloxicam)

TO HELP DOGS GO FROM PAINFUL TO PLAYFUL, CHOOSE SAFE, SIMPLE AND EFFECTIVE OSTEOARTHRITIS MANAGEMENT WITH METACAM® (meloxicam) PAIN RELIEF AND INFLAMMATION CONTROL.

Talk to your Boehringer Ingelheim sales representative for more information and ongoing support.

References:

1. METACAM® Summary of Product Characteristics (SPC). European Medicines Agency website. Available at: https://www.ema.europa.eu/en/documents/product-information/metacam-epar-product-information_en.pdf. Accessed December 29, 2020.
2. Renberg WC. Arthritis (Osteoarthritis). In: Tilley LP, Smith FWK, ed.'s. Blackwell's Five-Minute Veterinary Consult: Canine and Feline. 6th Edition. Hoboken: Wiley-Blackwell; 2016:113-114.
3. Data on file at Boehringer Ingelheim.
4. Höhner, F. Safety and efficacy of Meloxicam (Metacam®) for the use as an perioperative analgesic in 3714 dogs. *Prakt Tierarzt*. 2004;85:328–334.
5. Doig PA, Purbrick KA, Hare JE, McKeown DB. Clinical efficacy and tolerance of meloxicam in dogs with chronic osteoarthritis. *Can Vet J*. 2000;41:296–300.
6. Peterson KD, Keefe TJ. Effects of meloxicam on severity of lameness and other clinical signs of osteoarthritis in dogs. *J Am Vet Med Assoc*. 2004;225:1056–1060.
7. Moreau M, Dupuis J, Bonneau NH, Desnoyers M. Clinical evaluation of a nutraceutical, carprofen and meloxicam for the treatment of dogs with osteoarthritis. *Vet Rec*. 2003;152:323–329.
8. Johnston L, Narbe R. Preferential accumulation of meloxicam in inflamed synovial joints of dogs. *Vet Rec*. 2012;170:207.

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Boehringer Ingelheim

Package Insert for Dogs

Metacam®

(meloxicam)

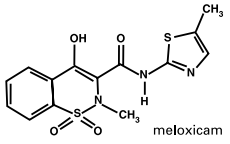
5 mg/mL Solution for Injection

Non-steroidal anti-inflammatory drug for use in dogs and cats only

Caution: Federal law restricts this drug to use by or on the order of a licensed veterinarian.

Warning: Repeated use of meloxicam in cats has been associated with acute renal failure and death. Do not administer additional injectable or oral meloxicam to cats. See Contraindications, Warnings, and Precautions for detailed information.

Description: Meloxicam is a non-steroidal anti-inflammatory drug (NSAID) of the oxicam class. Each mL of this sterile product for injection contains meloxicam 5.0 mg, alcohol 15%, glycofurol 10%, poloxamer 188 5%, sodium chloride 0.6%, glycine 0.5% and meglumine 0.3%, in water for injection, pH adjusted with sodium hydroxide and hydrochloric acid.



meloxicam

Indications: Dogs: METACAM Injection is indicated in dogs for the control of pain and inflammation associated with osteoarthritis.

Dosage and Administration: Carefully consider the potential benefits and risk of METACAM and other treatment options before deciding to use METACAM. Use the lowest effective dose for the shortest duration consistent with individual response.

Dogs: METACAM Injection should be administered initially as a single dose at 0.09 mg/lb (0.2 mg/kg) body weight intravenously (IV) or subcutaneously (SQ), followed, after 24 hours, by METACAM Oral Suspension at the daily dose of 0.045 mg/lb (0.1 mg/kg) body weight, either mixed with food or placed directly in the mouth.

Contraindications: Dogs with known hypersensitivity to meloxicam should not receive METACAM Injection.

Warnings: Not for use in humans. Keep this and all medications out of reach of children. Consult a physician in case of accidental ingestion by humans. For IV or SQ injectable use in dogs. All dogs should undergo a thorough history and physical examination before administering any NSAID. Appropriate laboratory testing to establish hematological and serum biochemical baseline data is recommended prior to, and periodically during use of any NSAID in dogs.

Owner should be advised to observe their dogs for signs of potential drug toxicity.

Precautions: The safe use of METACAM Injection in dogs younger than 6 months of age, dogs used for breeding, or in pregnant or lactating bitches has not been evaluated. Meloxicam is not recommended for use in dogs with bleeding disorders, as safety has not been established in dogs with these disorders. Safety has not been established for intramuscular (IM) administration in dogs. When administering METACAM Injection, use a syringe of appropriate size to ensure precise dosing. As a class, cyclo-oxygenase inhibitory NSAIDs may be associated with gastrointestinal, renal and hepatic toxicity. Sensitivity to drug-associated adverse events varies with the individual patient. Dogs that have experienced adverse reactions from one NSAID may experience adverse reactions from another NSAID. Patients at greatest risk for renal toxicity are those that are dehydrated, on concomitant diuretic therapy, or those with existing renal, cardiovascular, and/or hepatic dysfunction. Concurrent administration of potentially nephrotoxic drugs should be carefully approached. NSAIDs may inhibit the prostaglandins that maintain normal homeostatic function. Such anti-prostaglandin effects may result in clinically significant disease in patients with underlying or preexisting disease that has not been previously diagnosed. Since NSAIDs possess the potential to induce gastrointestinal ulcerations and/or perforations, concomitant use with other anti-inflammatory drugs, such as NSAIDs or corticosteroids, should be avoided. If additional pain medication is needed after the administration of the total daily dose of METACAM Oral Suspension, a non-NSAID or noncorticosteriod class of analgesia should be considered. The use of another NSAID is not recommended. Consider appropriate washout times when switching from corticosteroid use or from one NSAID to another in dogs. The use of concomitantly protein-bound drugs with METACAM Injection has not been studied in dogs. Commonly used protein-bound drugs include cardiac, anticonvulsant and behavioral medications. The influence of concomitant drugs that may inhibit metabolism of METACAM Injection has not been evaluated. Drug compatibility should be monitored in patients requiring adjunctive therapy. The effect of cyclo-oxygenase inhibition and the potential for thromboembolic occurrence or a hypercoagulable state has not been studied.

Adverse Reactions: Dogs: A field study involving 224 dogs was conducted. Based on the results of this study, GI abnormalities (vomiting, soft stools, diarrhea, and inappetence) were the most common adverse reactions associated with the administration of meloxicam. The following table lists adverse reactions and the numbers of dogs that experienced them during the study. Dogs may have experienced more than one episode of the adverse reaction during the study.

Adverse Reactions Observed During Field Study

Clinical Observation	Meloxicam (n=109)	Placebo (n=115)
Vomiting	31	15
Diarrhea/Soft Stool	15	11
Inappetence	3	0
Bloody Stool	1	0

In foreign suspected adverse drug reaction (SADR) reporting, adverse reactions related to meloxicam administration included: auto-immune hemolytic anemia (1 dog), thrombocytopenia (1 dog), polyarthritis (1 dog), nursing puppy lethargy (1 dog), and pyoderma (1 dog).

Post-Approval Experience (Rev. 2009): The following adverse reactions are based on post-approval adverse drug event reporting. The categories are listed in decreasing order of frequency by body system:

Gastrointestinal: *vomiting, diarrhea, melena, gastrointestinal ulceration*
Urinary: *azotemia, elevated creatinine, renal failure*
Neurological/Behavioral: *lethargy, depression*
Hepatic: *elevated liver enzymes*
Dermatologic: *pruritus*

Death has been reported as an outcome of the adverse events listed above. **Acute renal failure and death have been associated with the use of meloxicam in cats.**

To report suspected adverse events, for technical assistance or to obtain a copy of the SDS, contact Boehringer Ingelheim Animal Health USA Inc., 1-888-637-4251.

For additional information about adverse drug experience reporting for animal drugs, contact FDA at 1-888-FDA-VETS or online at www.fda.gov/reportanimalae.

Information For Dog Owners: Meloxicam, like other NSAIDs, is not free from adverse reactions. Owners should be advised of the potential for adverse reactions and be informed of the clinical signs associated with NSAID intolerance. Adverse reactions may include vomiting, diarrhea, lethargy, decreased appetite and behavioral changes. Dog owners should be advised when their pet has received a meloxicam injection. Dog owners should contact their veterinarian immediately if possible adverse reactions are observed, and dog owners should be advised to discontinue METACAM therapy.

Clinical Pharmacology: Meloxicam has nearly 100% bioavailability when administered orally or after subcutaneous injection in dogs. The terminal elimination half life after a single dose is estimated to be approximately 24 hrs (+/-30%) in dogs regardless of route of administration. Drug bioavailability, volume of distribution, and total systemic clearance remain constant up to 5 times the recommended dose for use in dogs. However, there is some evidence of enhanced drug accumulation and terminal elimination half-life prolongation when dogs are dosed for 45 days or longer.

Peak drug concentrations of 0.734 mcg/mL can be expected to occur within 2.5 hours following a 0.2 mg/kg subcutaneous injection in dogs. Based upon intravenous administration in Beagle dogs, the meloxicam volume of distribution in dogs ($V_{d\lambda}$) is approximately 0.32 L/kg and the total systemic clearance is 0.01 L/hr/kg. The drug is 97% bound to canine plasma proteins.

Effectiveness: Dogs: The effectiveness of METACAM Injection was demonstrated in a field study involving a total of 224 dogs representing various breeds, all diagnosed with osteoarthritis. This placebo-controlled, masked study was conducted for 14 days. Dogs received a subcutaneous injection of 0.2 mg/kg METACAM Injection on day 1. The dogs were maintained on 0.1 mg/kg oral meloxicam from days 2 through 14. Variables evaluated by veterinarians included lameness, weight-bearing, pain on palpation, and overall improvement. Variables assessed by owners included mobility, ability to rise, limping, and overall improvement. In this field study, dogs showed clinical improvement with statistical significance after 14 days of meloxicam treatment for all variables.

Animal Safety: Dogs: 3 Day Target Animal Safety Study - In a three day safety study, METACAM Injection was administered intravenously to Beagle dogs at 1, 3, and 5 times the recommended dose (0.2, 0.6 and 1.0 mg/kg) for three consecutive days. Vomiting occurred in 1 of 6 dogs in the 5X group. Fecal occult blood was detected in 3 of 6 dogs in the 5X group. No clinically significant hematologic changes were seen, but serum chemistry changes were observed. Serum alkaline phosphatase (ALP) was significantly increased in one 1X dog and two of the 5X dogs. One dog in the 5X group had a steadily increasing GGT over 4 days, although the values remained within the reference range. Decreases in total protein and albumin occurred in 2 of 6 dogs in the 3X group and 3 of 6 dogs in the 5X group. Increases in blood urea nitrogen (BUN) occurred in 3 of 6 dogs in the 1X group, 2 of 6 dogs in the 3X group and 2 of 6 dogs in the 5X group. Increased creatinine occurred in 2 dogs in the 5X group. Increased urine protein excretion was noted in 2 of 6 dogs in the control group, 2 of 6 dogs in the 1X group, 2 of 6 dogs in the 3X group, and 5 of 6 dogs in the 5X group. Two dogs in the 5X group developed acute renal failure by Day 4. Bicarbonate levels were at or above normal levels in 1 of the 3X dogs and 2 of the 5X dogs.

Histological examination revealed gastrointestinal lesions ranging from superficial mucosal hemorrhages and congestion to erosions. Mesenteric lymphadenopathy was identified in 2 of 6 dogs in the 1X group, 4 of 6 dogs in the 3X group, and 5 of 6 dogs in the 5X group. Renal changes ranged from dilated medullary and cortical tubules and inflammation of the interstitium, to necrosis of the tip of the papilla in 2 of 6 dogs in the 1X group, 2 of 6 dogs in the 3X group, and 4 of 6 dogs in the 5X group.

Injection Site Tolerance - METACAM Injection was administered once subcutaneously to Beagle dogs at the recommended dose of 0.2 mg/kg and was well-tolerated by the dogs. Pain upon injection was observed in one of eight dogs treated with meloxicam. No pain or inflammation was observed post-injection. Long term use of METACAM Injection in dogs has not been evaluated.

Effect on Buccal Mucosal Bleeding Time (BMBT) - METACAM Injection (0.2 mg/kg) and placebo (0.4 mL/kg) were administered as single intravenous injections to 8 female and 16 male Beagle dogs. There was no statistically significant difference ($p>0.05$) in the average BMBT between the two groups.

Storage Information: Store at controlled room temperature, 68-77°F (20-25°C). When used as labeled, there is no limit on the number of punctures throughout the full expiry period.

How Supplied: METACAM 5 mg/mL Solution for Injection: 10 mL vial, NDC 0010-6013-01 - 10 mL

Approved by FDA under NADA # 141-219

Marketed by:
Boehringer Ingelheim Animal Health USA Inc.
Duluth, GA 30096

601307-09
Revised 09/2019
86560313

Boehringer Ingelheim

Metacam®

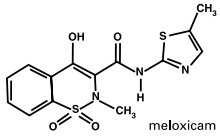
(meloxicam oral suspension)

1.5 mg/mL (equivalent to 0.05 mg per drop)
0.5 mg/mL (equivalent to 0.02 mg per drop)
Non-steroidal anti-inflammatory drug for oral use in dogs only

Caution: Federal law restricts this drug to use by or on the order of a licensed veterinarian.

Warning: Repeated use of meloxicam in cats has been associated with acute renal failure and death. Do not administer additional injectable or oral meloxicam to cats. See Contraindications, Warnings, and Precautions for detailed information.

Description: Meloxicam is a non-steroidal anti-inflammatory drug (NSAID) of the oxicam class. Each milliliter of METACAM Oral Suspension contains meloxicam equivalent to 0.5 or 1.5 milligrams and sodium benzoate (1.5 milligrams) as a preservative. The chemical name for Meloxicam is 4-Hydroxy-2-methyl-N-(5-methyl-2-thiazolyl)-2H-1,2-benzothiazine-3-carboxamide-1, 1-dioxide. The formulation is a yellowish viscous suspension with the odor of honey.



meloxicam

Indications: METACAM Oral Suspension is indicated for the control of pain and inflammation associated with osteoarthritis in dogs.

Dosage and Administration: Always provide client information sheet with prescription. Carefully consider the potential benefits and risk of METACAM and other treatment options before deciding to use METACAM. Use the lowest effective dose for the shortest duration consistent with individual response. METACAM Oral Suspension should be administered initially at 0.09 mg/lb (0 .2 mg/kg) body weight only on the first day of treatment. For all treatments after day 1, METACAM Oral Suspension should be administered once daily at a dose of 0.045 mg/lb (0.1 mg/kg). The syringe is calibrated to deliver the daily maintenance dose in pounds.

Directions for Administration (1.5 mg/mL strength):
Dogs under 10 pounds (4.5 kg)
Shake well before use, then remove cap. Particular care should be given with regard to the accuracy of dosing. **To prevent accidental overdosing of small dogs, administer drops on food only, never directly into the mouth.** Carefully measure suspension onto food to assure that the correct dose is given before presentation of the food to the dog. The syringe provided with the meloxicam concentration of 1.5 mg/mL cannot be used to measure doses for dogs weighing less than 5 lbs (2.3 kg).

For dogs less than 5 lbs (2.3 kg), METACAM Oral Suspension can be given using the dropper bottle: one drop for each pound of body weight for the 1.5 mg/mL concentration (two drops for each kilogram of body weight), dropped directly onto the food.

For dogs between 5-10 pounds, METACAM Oral Suspension can be given by drops or by using the measuring syringe provided in the package (see dosing procedure below). The syringe fits on to the bottle and has a scale beginning at 5 lbs, designed to deliver the daily maintenance dose (0.05 mg/lb or 0.1 mg/kg). When using the syringe, the dog's weight should be rounded down to the nearest 5 pound increment. Replace and tighten cap after use.

Dogs over 10 pounds (4.5 kg)
Shake well before use then remove cap. METACAM Oral Suspension may be either mixed with food or placed directly into the mouth. Particular care should be given with regard to the accuracy of dosing. METACAM Oral Suspension can be given using the measuring syringe provided in the package (see dosing procedure below). The syringe fits on to the bottle and has a scale in pounds designed to deliver the daily maintenance dose (0.05 mg/lb or 0.1 mg/kg). When using the syringe, the dog's weight should be rounded down to the nearest 5 pound increment. Alternatively, METACAM Oral Suspension can be given using the dropper bottle: one drop for each pound of body weight for the 1.5 mg/mL concentration (two drops for each kilogram of body weight). Replace and tighten cap after use.

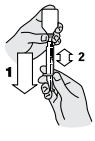
Directions for Administration (0.5 mg/mL strength):
Dogs under 10 pounds (4.5 kg)
Shake well before use, then remove cap. Particular care should be given with regard to the accuracy of dosing. **To prevent accidental overdosing of small dogs, administer drops on food only, never directly into the mouth.** Carefully measure suspension onto food to assure that the correct dose is given before presentation of the food to the dog. The syringe provided with the meloxicam concentration of 0.5 mg/mL cannot be used to measure doses for dogs weighing less than 1 lb (0.45 kg).

For dogs less than 1 lb (0.45 kg), METACAM Oral Suspension can be given using the dropper bottle: two drops for each pound of body weight for the 0.5 mg/mL concentration (five drops for each kilogram of body weight), dropped directly onto the food.

For dogs between 1-10 pounds, METACAM Oral Suspension can be given by drops or by using the measuring syringe provided in the package (see dosing procedure below). The syringe fits on to the bottle and has a scale beginning at 1 lb, designed to deliver the daily maintenance dose (0.05 mg/lb or 0.1 mg/kg). When using the syringe, the dog's weight should be rounded down to the nearest 1 pound increment. Replace and tighten cap after use.

Dogs over 10 pounds (4.5 kg)
Shake well before use then remove cap. METACAM Oral Suspension may be either mixed with food or placed directly into the mouth. Particular care should be given with regard to the accuracy of dosing. METACAM Oral Suspension can be given using the measuring syringe provided in the package (see dosing procedure below). The syringe fits on to the bottle and has a scale in pounds designed to deliver the daily maintenance dose (0.05 mg/lb or 0.1 mg/kg). When using the syringe, the dog's weight should be rounded down to the nearest 1 pound increment. Alternatively, METACAM Oral Suspension can be given using the dropper bottle: two drops for each pound of body weight for the 0.5 mg/mL concentration (five drops for each kilogram of body weight). Replace and tighten cap after use.


Shake bottle well. Push down and unscrew bottle top. Attach the dosing syringe to the bottle by gently pushing the end on to the top of the bottle.



Turn the bottle/syringe upside down. Pull the plunger out until the black line on the plunger corresponds to the dog's body weight in pounds.


Turn the bottle right way up and with a twisting movement separate the dosing syringe from the bottle.


Push the plunger to empty the contents of the syringe.

Contraindications: Dogs with known hypersensitivity to meloxicam should not receive METACAM Oral Suspension. **Do not use METACAM Oral Suspension in cats. Acute renal failure and death have been associated with the use of meloxicam in cats.**

Warnings: Not for use in humans. Keep this and all medications out of reach of children. Consult a physician in case of accidental ingestion by humans. **For oral use in dogs only.**

As with any NSAID all dogs should undergo a thorough history and physical examination before the initiation of NSAID therapy. Appropriate laboratory testing to establish hematological and serum biochemical baseline data is recommended prior to and periodically during administration. Owner should be advised to observe their dog for signs of potential drug toxicity and be given a client information sheet about METACAM.

Precautions: The safe use of METACAM Oral Suspension in dogs younger than 6 months of age, dogs used for breeding, or in pregnant or lactating dogs has not been evaluated. Meloxicam is not recommended for use in dogs with bleeding disorders, as safety has not been established in dogs with these disorders.

As a class, cyclo-oxygenase inhibitory NSAIDs may be associated with gastrointestinal, renal and hepatic toxicity. Sensitivity to drug-associated adverse events varies with the individual patient. Dogs that have experienced adverse reactions from one NSAID may experience adverse reactions from another NSAID. Patients at greatest risk for renal toxicity are those that are dehydrated, on concomitant diuretic therapy, or those with existing renal, cardiovascular, and/or hepatic dysfunction. Concurrent administration of potentially nephrotoxic drugs should be carefully approached. NSAIDs may inhibit the prostaglandins that maintain normal homeostatic function. Such anti-prostaglandin effects may result in clinically significant disease in patients with underlying or pre-existing disease that has not been previously diagnosed. Since NSAIDs possess the potential to induce gastrointestinal ulcerations and/or perforations, concomitant use with other anti-inflammatory drugs, such as NSAIDs or corticosteroids, should be avoided. If additional pain medication is needed after administration of the total daily dose of METACAM Oral Suspension, a non-NSAID or non-corticosteroid class of analgesia should be considered. The use of another NSAID is not recommended. Consider appropriate washout times when switching from corticosteroid use or from one NSAID to another in dogs. The use of concomitantly protein-bound drugs with METACAM Oral Suspension has not been studied in dogs. Commonly used protein-bound drugs include cardiac, anticonvulsant and behavioral medications. The influence of concomitant drugs that may inhibit metabolism of METACAM Oral Suspension has not been evaluated. Drug compatibility should be monitored in patients requiring adjunctive therapy.

Adverse Reactions: Field safety was evaluated in 306 dogs. Based on the results of two studies, GI abnormalities (vomiting, soft stools, diarrhea, and inappetence) were the most common adverse reactions associated with the administration of meloxicam. The following table lists adverse reactions and the numbers of dogs that experienced them during the studies. Dogs may have experienced more than one episode of the adverse reaction during the study.

Adverse Reactions Observed During Two Field Studies

Clinical Observation	Meloxicam (n=157)	Placebo (n=149)
Vomiting	40	23
Diarrhea/Soft Stool	19	11
Bloody Stool	1	0
Inappetence	5	1
Bleeding gums after dental procedure	1	0
Lethargy/Swollen Carpus	1	0
Epiphora	1	0

In foreign suspected adverse drug reaction (SADR) reporting over a 9 year period, incidences of adverse reactions related to meloxicam administration included: auto-immune hemolytic anemia (1 dog), thrombocytopenia (1 dog), polyarthritis (1 dog), nursing puppy lethargy (1 dog), and pyoderma (1 dog).

Post-Approval Experience (Rev. 2010): The following adverse events are based on post-approval adverse drug experience reporting. Not all adverse reactions are reported to FDA/CVM. It is not always possible to reliably estimate the adverse event frequency or establish a causal relationship to product exposure using these data. The following adverse events are listed in decreasing order of frequency by body system.
Gastrointestinal: vomiting, anorexia, diarrhea, melena, gastrointestinal ulceration
Urinary: azotemia, elevated creatinine, renal failure
Neurological/Behavioral: lethargy, depression
Hepatic: elevated liver enzymes
Dermatologic: pruritus
Death has been reported as an outcome of the adverse events listed above. **Acute renal failure and death have been associated with use of meloxicam in cats.**

To report suspected adverse drug events, for technical assistance, or to obtain a copy of the SDS, contact Boehringer Ingelheim Animal Health USA Inc. at 1-888-637-4251. For additional information about adverse drug experience reporting for animal drugs, contact FDA at 1-888-FDA-VETS or online at www.fda.gov/reportanimalae.

Information for Dog Owners: METACAM, like other drugs of its class, is not free from adverse reactions. Owners should be advised of the potential for adverse reactions and be informed of the clinical signs associated with drug intolerance. Adverse reactions may include vomiting, diarrhea, decreased appetite, dark or tarry stools, increased water consumption, increased urination, pale gums due to anemia, yellowing of gums, skin or white of the eye due to jaundice, lethargy, incoordination, seizure, or behavioral changes. **Serious adverse reactions associated with this drug class can occur without warning and in rare situations result in death (see Adverse Reactions). Owners should be advised to discontinue METACAM and contact their veterinarian immediately if signs of intolerance are observed.**

The vast majority of patients with drug related adverse reactions have recovered when the signs are recognized, the drug is withdrawn, and veterinary care, if appropriate, is initiated. Owners should be advised of the importance of periodic follow up for all dogs during administration of any NSAID.

Clinical Pharmacology: Meloxicam has nearly 100% bioavailability when administered orally with food. The terminal elimination half life after a single dose is estimated to be approximately 24 hrs (+/-30%) regardless of route of administration. There is no evidence of statistically significant gender differences in drug pharmacokinetics. Drug bioavailability, volume of distribution, and total systemic clearance remain constant up to 5 times the recommended dose for use in dogs. However, there is some evidence of enhanced drug accumulation and terminal elimination half-life prolongation when dogs are dosed for 45 days or longer. Peak drug concentrations can be expected to occur within about 7.5 hrs after oral administration. Corresponding peak concentration is approximately 0.464 mcg/mL following a 0.2 mg/kg oral dose. The drug is 97% bound to canine plasma proteins.

Effectiveness: The effectiveness of meloxicam was demonstrated in two field studies involving a total of 277 dogs representing various breeds, between six months and sixteen years of age, all diagnosed with osteoarthritis. Both of the placebo-controlled, masked studies were conducted for 14 days. All dogs received 0.2 mg/kg meloxicam on day 1. All dogs were maintained on 0.1 mg/kg oral meloxicam from days 2 through 14 of both studies. Parameters evaluated by veterinarians included lameness, weight-bearing, pain on palpation, and overall improvement. Parameters assessed by owners included mobility, ability to rise, limping, and overall improvement.

In the first field study (n=109), dogs showed clinical improvement with statistical significance after 14 days of meloxicam treatment for all parameters. In the second field study (n=48), dogs receiving meloxicam showed a clinical improvement after 14 days of therapy for all parameters; however, statistical significance was demonstrated only for the overall investigator evaluation on day 7, and for the owner evaluation on day 14.

Palatability: METACAM Oral Suspension was accepted by 100% of the dogs when veterinarians administered the initial dose into the mouth. METACAM Oral Suspension was accepted by 90% of the dogs (123/136) when administered by owners. Problems associated with administration included refusal of food, resistance to swallowing and salivation.

Safety:
Six Week Study
In a six week target animal safety study, meloxicam was administered orally at 1, 3, and 5X the recommended dose with no significant clinical adverse reactions. Animals in all dose groups (control, 1, 3 and 5X the recommended dose) exhibited some gastrointestinal distress (diarrhea and vomiting). No treatment-related changes were observed in hematological, blood chemistry, urinalysis, clotting time, or buccal mucosal bleeding times. Necropsy results included stomach mucosal petechiae in one control dog, two dogs at the 3X and one dog at the 5X dose. Other macroscopic changes included areas of congestion or depression of the mucosa of the jejunum or ileum in three dogs at the 1X dose and in two dogs at the 5X dose. Similar changes were also seen in two dogs in the control group. There were no macroscopic small intestinal lesions observed in dogs receiving the 3X dose. Renal enlargement was reported during the necropsy of two dogs receiving the 3X dose and two receiving the 5X dose.

Microscopic examination of the kidneys revealed minimal degeneration or slight necrosis at the tip of the papilla in three dogs at the 5X dose. Microscopic examination of the stomach showed inflammatory mucosal lesions, epithelial regenerative hyperplasia or atrophy, and submucosal gland inflammation in two dogs at the recommended dose, three dogs at the 3X and four dogs at the 5X dose. Small intestinal microscopic changes included minimal focal mucosal erosion affecting the villi, and were sometimes associated with mucosal congestion. These lesions were observed in the ileum of one control dog and in the jejunum of one dog at the recommended dose and two dogs at the 5X dose.

Six Month Study
In a six month target animal safety study, meloxicam was administered orally at 1, 3, and 5X the recommended dose with no significant clinical adverse reactions. All animals in all dose groups (controls, 1, 3, and 5X the recommended dose) exhibited some gastrointestinal distress (diarrhea and vomiting). Treatment related changes seen in hematology and chemistry included decreased red blood cell counts in seven of 24 dogs (four 3X and three 5X dogs), decreased hematocrit in 18 of 24 dogs (including three control dogs), dose-related neutrophilia in one 1X, two 3X and three 5X dogs, evidence of regenerative anemia in two 3X and one 5X dog. Also noted were increased BUN in two 5X dogs and decreased albumin in one 5X dog.

Endoscopic changes consisted of reddening of the gastric mucosal surface covering less than 25% of the surface area. This was seen in three dogs at the recommended dose, three dogs at the 3X dose and two dogs at the 5X dose. Two control dogs exhibited reddening in conjunction with ulceration of the mucosa covering less than 25% of the surface area.

Gross gastrointestinal necropsy results observed included mild discoloration of the stomach or duodenum in one dog at the 3X and in one dog at the 5X dose. Multifocal pinpoint red foci were observed in the gastric fundic mucosa in one dog at the recommended dose, and in one dog at the 5X dose.

No macroscopic or microscopic renal changes were observed in any dogs receiving meloxicam in this six month study.

Microscopic gastrointestinal findings were limited to one dog at the recommended dose, and two dogs at the 3X dose. Mild inflammatory mucosal infiltrate was observed in the duodenum of one dog at the recommended dose. Mild congestion of the fundic mucosa and mild myositis of the outer mural musculature of the stomach were observed in two dogs receiving the 3X dose.

How Supplied:
METACAM Oral Suspension 0.5 mg/mL: 15 mL and 30 mL dropper bottles with measuring syringe.
NDC 0010-6014-01 - 0.5 mg/mL - 15 mL NDC 0010-6014-02 - 0.5 mg/mL - 30 mL

METACAM Oral Suspension 1.5 mg/mL: 10, 32, 100 and 180 mL dropper bottles with measuring syringe.
NDC 0010-6015-01 - 1.5 mg/mL - 10 mL NDC 0010-6015-02 - 1.5 mg/mL - 32 mL
NDC 0010-6015-03 - 1.5 mg/mL - 100 mL NDC 0010-6015-04 - 1.5 mg/mL - 180 mL

Storage: Store at controlled room temperature, 68-77°F (20-25°C). Excursions permitted between 59° and 86°F (15° and 30°C). Brief exposure to temperatures up to 104°F (40°C) may be tolerated provided the mean kinetic temperature does not exceed 77°F (25°C); however, such exposure should be minimized.

Approved by FDA under NADA # 141-213

Marketed by:
Boehringer Ingelheim Animal Health USA Inc.
Duluth, GA 30096

601413-05/6015268-05
86998696/86998653

Revised 08/2019

Boehringer Ingelheim