

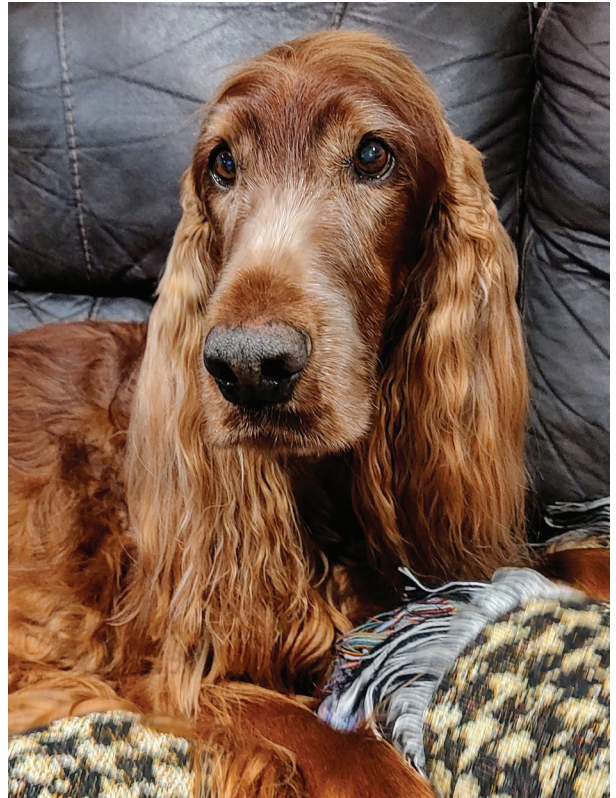
# Librela: A Game Changer in Canine Pharmacology

by PAT BOLDT, DUBLIN MEADOWS IRISH & GORDON SETTERS

**I** IN OCTOBER OF 2023, I TOOK MY 12+ YEAR-OLD GORDON SETTER “JESSE” TO THE VET. Jesse had been slowing down mostly because of weakness in his rear but still having more good days than bad. I continued using glucosamine but had also started using MYOS Muscle Formula” in September of 2023. MYOS is an all-natural dietary supplement and in December of 2023, they received a patent for Fortetropin, the key ingredient in the MYOS Muscle Formula. Both of my older dogs showed improvement and great results on the MYOS over-the-counter product.



I was looking for something more for Jesse and Dr. Nick Buchanan of Bonnie Brae Veterinary Hospital told me about a drug called **Librela™ (bedinvetmab injection)**. He said, “It is very new but all the vets at the hospital are using it with remarkable results.”



Jesse received his first subcutaneous injection in early October. I was informed that I might see results within 2 weeks but to not be disappointed if it took up to 2 injections to see results. Nothing short of miraculous improvements were noted within the first 2-3 days. By day 3, Jesse was going up and down a dog ramp into the dog yard. He was getting up and down more easily and even playing with toys again and barking at me when he wanted something. Most importantly, as I walked in the dog yard, he was walking by my side nudging my cookie pocket. A game changer for Jesse and one that I am so very grateful for. “Nicky”, my 13.5-year-old Irish Setter, was put on Librela shortly after that with similar excellent results. I shared information about this newly approved drug on Facebook with many of my friends unaware of it. Here is a good primer on Librela to educate you enough to discuss with your vet as an option.

## Librela

Librela, a Zoetis product, is the first monoclonal antibody drug FDA approved in May of 2023 that targets

pain management for osteoarthritis (OA) in dogs. OA is the most common form of arthritis, and is a degenerative disease characterized by changes to bone, spinal disks, and joints throughout the body. Librela controls the pain OA causes and helps to restore your dog's mobility, activity level and quality of life. It is also important to note that Librela at this time has not been evaluated with OA of the spine.

Librela has been used successfully in Europe for nearly 3 years, according to the manufacture, with 6.8 million doses given.<sup>1</sup> In fact, at one point there were waiting lists for dogs to get put on the drug as demand could not keep up with supply.

The active ingredient in Librela is Bedinvetmab and the mechanism of action is the binding to and inhibiting of the biological activity of a protein called canine nerve growth factor (NGF). When Librela binds to NGF, it prevents the pain signal from reaching the brain. Librela is a very targeted treatment and similar to natural antibodies, Librela is metabolized with little involvement of the liver and kidneys.<sup>2,3</sup>

Every 28-30 days, a subcutaneous injection administered by your veterinarian is given. The dosage is determined by the weight of your dog. The cost for each of my setters per month is under \$100.00. There is no anticipated price increase for 2024.<sup>4</sup>

I had many questions regarding Librela and am grateful to the Zoetis team for responding to them. Thank you to Dr. Sharon Campbell, Medical Lead for Canine Chronic Pain at Zoetis and her staff. (Bios for the referenced experts are provided at the end of this article.)

**Can Librela be used with other medications? Is it multimodal? (Multimodal referring to combining different drug classes and therapy treatments). Are there drugs it should not be used with?**

Librela is part of a multimodal approach to treating canine OA pain. OA pain treatment starts with controlling the pain, which Librela will do. But it is also important to make sure that the dog is at an optimal weight, as obesity is a risk factor for canine OA, therefore a proper diet and a proper amount of that diet is key to successful OA pain management. Just as important is making sure that the dog has a regular exercise program, as appropriate exercise is also key to OA pain management. **With this three-prong approach – Pain control, weight management and appropriate exercise, OA pain can be successfully managed.** Because each dog has different needs, it is important that pet owners speak with their veteri-

narian on what is best for their dog and follow those recommendations. There are no drugs identified that are in contraindication with the use of Librela; however there is a precaution on the label about concurrent use with NSAIDs (nonsteroidal anti-inflammatory drugs) as it is not known if there are any specific safety issues with the combination of these drugs. Another reason to see your veterinarian to determine the best treatment plan for your dog.



**Should it be used on breeding stock?**

Librela is not to be used by dogs that are pregnant, breeding (male and female) or lactating, as the molecule in the body that Librela targets - nerve growth factor (NGF) - is critical for the development of the nervous system in the fetus, neonate and developing dog. However, in adult animals NGF switches its role and becomes a key driver of pain in conditions such as OA.

**What is the difference between monoclonal antibodies and pharmaceuticals?**

Monoclonal antibodies are designed to bind to and thus interfere with the effects of a very specific target. For Librela this target is nerve growth factor, a key driver of OA pain. Monoclonal antibodies are also metabolized differently than pharmaceuticals and are broken down into small proteins and amino acids, with minimal involvement of the liver and kidneys. Most pharmaceuticals have less specific targets and may have a wider effect on the body. Additionally, most pharmaceuticals depend upon the liver and/or kidney to be metabolized either to be effective or to be removed from the body.

**How is the dosage for Librela determined?**

Librela is a drug that must be administered by a veterinary professional as it is important that the dog had

a confirmed diagnosis of osteoarthritis pain, that the drug is administered appropriately, that response to treatment is as expected and that any potential adverse events are evaluated and monitored. Librela was designed to treat dogs of all sizes. There are five different vials, each having a different concentration of Librela, and the volume for each injection is 1 ml. The lowest concentration treats dogs < 22.1 lbs and the highest concentration treats dogs up to 132.3 lbs.



### How does Librela work?

The response to Librela is individual and depends upon many things including the severity and duration of the dog's osteoarthritis pain. For example, if a dog has been diagnosed with OA pain early in the disease process and has been still able to perform most of their activities, still having good muscle mass and range of motion, then theoretically Librela will work faster due to less advancement of the disease. For dogs that have had OA pain for longer periods of time, they likely have lost more of their muscle mass and joint support. Therefore, in less active dogs it may take longer for Librela to make a difference in their mobility. We do see that over time dogs continue to improve on Librela, as they get stronger and begin to move more. Again, the three-pronged approach is important, and all dogs should return to activity at a controlled and gradual pace. Just like a person who has had chronic OA pain

for several months or years would not run a marathon the day after they started treatment for the OA pain, we should consider the same for our dogs. These dogs may feel as if they want to run and catch frisbees or balls once their pain is relieved, but they still have considerable disease and need to build up their muscles and joint support before they should do so. Dog owners should ask their veterinarians for instructions regarding how they should gradually return their dogs to play. Zoetis offers "Back to Play" treatment sheets to help with this conversation. Consult with your veterinarian on your dog's particular needs.

### What are the possible side effects?

Side effects are similar to what would be expected for this population of dogs. In a clinical study, the most common side effects were urinary tract infections, bacterial skin infections and dermatitis. In Europe, a rare side effect that has been reported (<1-10 per 10,000 dog treated) is polydipsia (increased thirst) and/or polyuria (increased urination). All these side effects are reversible, and the symptoms are resolved once Librela is discontinued.

### Is a decrease in the drug effectiveness common as it nears the 28-30 days? Does it improve with added injections? Is it "cumulative" in nature?

For many dogs, Librela will be effective for the full month. However, we have seen that for some dogs, the effect of Librela may wane before the next dose. The long-term response is not so much of an accumulation of Librela but is the result of the additive effects of the dog being able to move better because they are not in pain. Thus, building up muscle mass and joint support is important, so that over time, their overall strength is improving. Hopefully, after the next dose or two, the pain is relieved for the full month. If not, speak with your veterinarian about how to manage those last few days.

As of February 2024, after five months of Librela injections with Jesse and 4 months with Nicky, I found Librela nothing short of miraculous for my dogs. Their quality of life is far better in their senior years and for that I am extremely grateful. Both dogs have ravenous appetites and Jesse also has increased thirst on the Librela (an infrequent side effect). I closely monitor Jesse's water intake, fill his buckets half full and use no spill bowls with the float tops to slow down water intake. It is a double-edged sword because our setters are a deep-chested breed and bloat is always a concern. So ingesting food or water too quickly is problematic. I

found the “Back-to-Play” phases for exercise very important. It is important to not do too much or too little exercise in conjunction with the Librela treatment and I strongly encourage everyone now using Librela to ask your veterinarian about the “Back-to-Play” recommendations for your dog and watch the videos provided by Zoetis education, which can be found at <https://www2.zoetis.ca/get-back-to-play-fitness-plan-videos>. Coordinate an appropriate exercise program with your vet.

Learn more about Librela at: <http://www.zoetispet-care.com/products/librela>

- [1] Zoetis Services LLC, Librela: Give Your Dog More Days to Play Brochure, page 6
- [2] FDA Center of Veterinary Medicine, FDA Approves First Monoclonal Antibody For Dogs with Osteoarthritis Pain, May 5, 2023
- [3] Olivry T, Bainbridge G. Advances in veterinary medicine: therapeutic monoclonal antibodies for companion animals. Zoetis. March 2015.
- [4] Communication with Dr. Sharon Campbell, Medical Lead for Canine Chronic Pain at Zoetis January 16, 2024.

**Sharon Campbell, DVM, MS, DACVIM (Canine Pain)**

*Dr. Campbell received her DVM degree from University of Wisconsin and completed a residency in internal medicine and a master’s degree at Virginia-Maryland Regional College of Veterinary Medicine. She was a Clinical Instructor at the University of Tennessee, College of Veterinary Medicine for two years, then worked at a private referral hospital for many years before joining Zoetis, where she currently is a Medical Lead for Canine Chronic Pain. Dr. Campbell is a Diplomate of the American College of Veterinary Internal Medicine, is Fear Free Certified and is on the Board of Directors for the International Veterinary Academy of Pain Management (IVAPM).*



**Leslie Ann Boyce, Marina Del Rey, California** - “Atticus (GS) is in his first month following his first shot of Librela. He is 13 years 5 months old and commensurately wobbly. The Librela has evened his gait- and allowed him to hold his own with our wild 3-month-old puppy on walks.”



**Patti and John Brusck-Cleveland, MO** -“Thorny (Spinone Italiano) 14-year-old and Kelly (Gordon Setter) 10yr 4 mo. both received their first injections on November 24, 2023 with outstanding results. Thorny who suffers terribly with stumbling and was unable to pull his rear legs under him within 5 days was moving up and downstairs without help. Kelly who typically ran with her rear legs under her like a rabbit for the past 2 yrs. Is now striding out into full gate, engaging play with house mates and is less grumpy. Thorny and Kelly are more enthusiastic with hippy-de-hops on the mail runs, which is including a waltz with the horses down the fence line. Both Kelly and Thorny are rooting in the toy bucket like 1-year-olds looking for that special toy. Then of course scattering all the toys because they are all special. Just like them.”



**Jolynn Athorp, Reidsville, NC** - “Librela is an amazing drug! Blake(IS) and Randi( IS) are on it. Within a couple of days of the injection, they both showed improvement from their first shots.” ❁