

Your Guide to

Managing Joint Pain in Pets

AQUACANINE
HYDRO & VETERINARY PHYSIO

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About compensation

When a pet lives with a muscle or joint condition, there is almost always some degree of pain. In order to protect the painful area, the animal limps or alters the way that he or she moves. We call this altered style of movement compensation.

As a result of continual compensation, pets end up with muscle imbalances, with some muscles being overused and others underused. The overused muscles are usually those that are tight and in spasm and the underused muscles are those that start to waste away.

You might have noticed this in your pet. An area where there used to be bulging muscle is now sunken in, with the bones more exposed.

Muscle imbalances result in:

- **tight, overused muscles:** These muscles cause pain, can impinge on structures below them such as nerves, and can also pull bones out of alignment.
- **flabby, underused muscles:** These are the muscles that should be helping the ligaments with joint support. Most people think the function of muscles is simply to help with movement, but in fact muscles also play a very important role in maintaining joint stability. With- out the support of the underused muscles, your pet's joints will become more and more unstable and this will result in more and more pain.



Sunken muscles and a visible outline of the bones are an indication of muscle wasting, caused by underuse as a result of joint pain.

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Compensation becomes a habit

One major problem is that these altered movement patterns often become ingrained in your pet's motor cortex, or brain, to become your pet's normal and habitual movement pattern. That is why your pet's muscles continue to waste away even though you take your pet for a walk every day. It is also why, as a pet's condition worsens, it needs more and more anti-inflammatories.

Giving your pet painkillers and anti-inflammatories will certainly make them more comfortable, but it will not stop the compensation and altered movement patterns. Your pet will continue to have muscle imbalances which will result in:

- more joint instability.
- more pain from joints being pulled out of alignment.
- more pain from the overused, spasming muscles.
- worsening of your pet's arthritis.
- the need for more anti-inflammatories.

Clinical research in humans has proven that muscle weakness results in an increase in the progression of arthritis. The weaker the muscles, the worse the arthritis.

You can give your pet bottles and bottles of supplements and pills but the only way you are going to slow down your pet's arthritis is to strengthen the muscles that offer joint support.

Remember that anti-inflammatories and painkillers also have long-term side effects, such as gastric ulceration and kidney and liver damage. Don't give these medications unnecessarily as they **will** decrease your pet's life span.

Here is a good example. A dog with hip dysplasia is shown walking on the underwater treadmill. Watch how this dog waddles. The dog is using its back as a way of compensating so that it doesn't have to use its hips. Over time, this dog's back leg muscles will waste away if we don't intervene to stop the compensation, decrease the spasming muscles and strengthen the weak muscles.

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The condition worsens

Without proper intervention, muscle wasting worsens over time, until eventually a pet cannot get up from a lying position. This is one of the reasons many pets are put to sleep way before their time. So often in my practice a client will bring a pet in to be euthanised, saying, 'Everything else is working perfectly, except his legs. He cannot get around anymore.' The pet is often otherwise perfectly healthy, and to put such an animal to sleep is a tragedy that could be avoided.

Don't let this happen to your pet. Make a decision to do everything you can to help your pet with regaining mobility, by following my guide to managing joint pain in pets. I have treated thousands of dogs in my practice with amazing success, using these simple modalities.

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Treatment: A way forward



When managing a pet with a joint disorder, we have two main goals in mind:

1. Control the pain, as naturally as possible.

2. Strengthen the core and joint stabilising muscles - all the muscles that have wasted away.

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1 Controlling the pain



Acupuncture

I use acupuncture in my clinic on a daily basis. By placing fine needles into specific points, we can stimulate the body to release the body's natural pain relievers and healers called endorphins and serotonins. Most dogs tolerate the needles very well and will often plop down and go to sleep during the process. The usual course is once a week for four to six weeks.

Pain is the most common indication for acupuncture. In the right hands, it is very safe. Legally it must be performed by a veterinary surgeon.

You may not be able to do acupuncture, but you can do acupressure. It involves simply stimulating the acupuncture points on the body with your fingers. If done regularly, acupressure causes the same series of events in the body as acupuncture, enabling the body to self-heal.

Using the fingertips, one locates an acupuncture point on one of the meridians and exerts a firm, even pressure for a few seconds, before moving onto the next point. In acupuncture we use fine needles to pierce the skin and stimulate the point.

Both acupressure and acupuncture can have the same effects on the body:

- Releases endorphins, the body's natural pain killers.
- Blocks pain pathways back to the brain.

Acupuncture or acupressure points are usually located in the depressions between muscles, or tendons and ligaments. These points are where we find increased nerve endings and blood vessels, making them areas of increased electrical conductivity.

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Massage



Once pain is under control, all those tight spasming muscles need to be addressed.

Muscles that are tight and in a constant state of contraction result in decreased blood flow, and therefore decreased oxygenation and the build-up of metabolic wastes and toxins in your pet's body. Blood flows into muscles when they relax. By massaging the animal, we can relax those tight, spasming muscles and increase the blood flow. With this new oxygen supply, the muscle is able to function optimally and you will see improvements in your pet's pain, comfort and mobility very quickly. Left untreated, muscles cannot continue contracting while working, so they eventually fatigue and are unable to function optimally. Massage is the way to prevent this from happening.

All pet owners can do a basic massage on their pets, and I see a big improvement in comfort and mobility when clients massage their pets on a daily basis. As well as easing your pet's discomfort, massage is also great for the human-animal bond.

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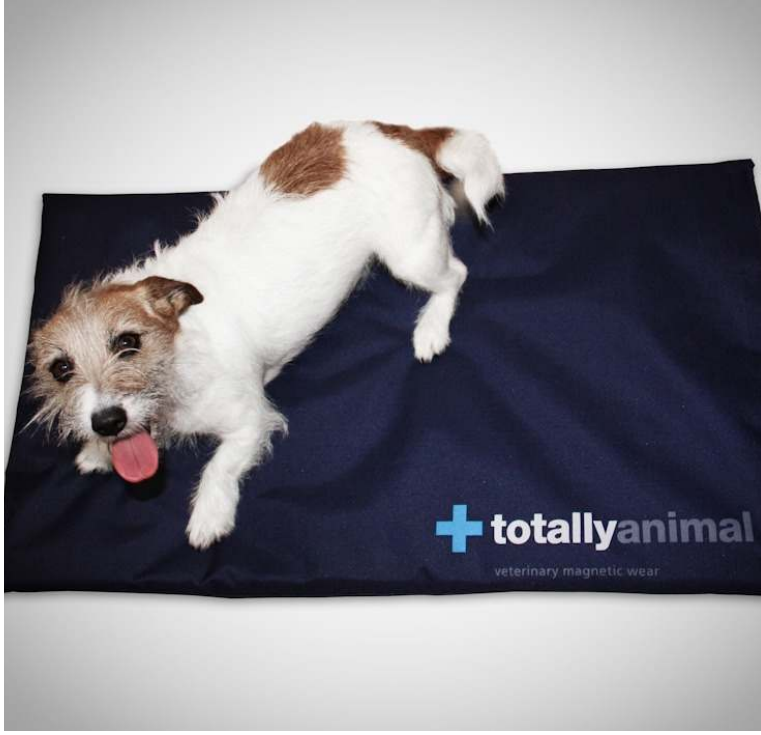
Magnetic therapy



Magnetic therapy makes use of pulsed magnetic energy to dilate blood vessels and increase blood flow, thus increasing oxygenation and elimination of toxins. It also restores the correct pH to the blood cells and tissues of the body.

The reaction of the body to any injury, pain or illness is swelling and inflammation. This inflammation produces a low oxygen, acidic environment, resulting in tense, spasming muscles. Magnetic therapy counteracts this effect, dilating blood vessels, oxygenating tissues and restoring correct pH.

The process involves the use of a mat called a PEMF mat. The animal simply relaxes on the mat, while magnetic energy is absorbed into its blood due to the iron content in haemoglobin. This magnetic energy travels through the bloodstream, with beneficial results on the blood vessels and pH levels throughout the body.

I have a PEMF mat which I absolutely love to use when I am treating my patients. I see better responses to my treatments when using this mat, and amazingly, dogs that are anxious and fidgety just flop down and relax when they are on the mat. The pulsed magnetic therapy of a PEMF mat has an effect on the whole body, irrespective of the area to which it is applied. The positive effect is retained in the body for several hours after the magnetic field is removed.

PEMF mats make use of pulsed magnetic energy and are quite expensive. A great alternative is a mat or collar that makes use of static magnetic energy. Static thera- peutic magnetic mats are highly recommended for home use. Both types of magnetic therapy mats cause a balanced environment in the body, optimising the functioning of all organs and allowing the body to heal itself.

Magnetic therapy is not a cure in itself but enables the body's natural healing mechanisms to work at optimum levels.

There are no reported side effects of magnetic therapy, but it is contra-indicated for the following conditions:

- Pregnancy
- Epileptic fits
- Presence of pacemakers and internal defibrillators

Also keep magnetic items away from computers, credit cards, video cases, battery operated watches, hearing aids and mobile phones.

Please always check that the type of magnet used is the correct type. I have seen many companies using simple fridge magnets, claiming that they have therapeutic properties. In my experience the best magnets are neodymium magnets; when emitting at least 1 500 Gauss, they have clear, observable healing properties.

Benefits of magnetic therapy:

- Increasing blood flow, thereby improving oxygenation.
- Changes in the migration of Ca^{2}t ions, facilitating healing of nerve tissue and bone.
- Reducing inflammation and swelling, therefore also relieving the pain associated with these.

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Supplements and remedies

Do not try any of these supplements and remedies without consulting your veterinarian.

There are many supplements that can benefit arthritic pets and to be honest I can completely understand why a pet owner would be overwhelmed by the huge array of products and ingredients. Remember that any supplement is only a part of the management of arthritis. There is no single wonder product that is going to 'cure' your pet, even though some may make these claims.

We also often see different results in different dogs using the same products, so I would suggest you try a few out and see which ones work for you and your pet. Remember that you will not see an instant improvement in your pet's mobility; it can take up to a month for the effects of a supplement, to become visible.

These are the ingredients I like and that I have seen to be beneficial:

Omega 3 and Omega 6 fatty acids

The body uses fatty acids to form hormones which have different effects on the body. Fatty acids, mainly omega 3 in the form of EPA and DHA, have anti-inflammatory properties at a cellular level. I would recommend a good quality omega 3, preferably of fish origin.

Sources of omega 3: Oils from cold water fish such as herring and salmon, and flaxseeds.

Omega 6, on the other hand, tends to increase inflammation. Inflammation can at times be important and necessary, for example, when the immune system is fighting an infection. So both omega 3 and omega 6 are essential to the functions of the body, but a balance between the two is optimum. It is recommended that your pet ingests omega 6 and omega 3 in a ratio of 5:1.

Sources of omega 6: Canola oil, sunflower oil, evening primrose oil. Omega 3 oxidises very easily and so it can be difficult to incorporate into pet foods, whereas the more stable omega 6 is already prevalent in most pet foods and treats.

For that reason I would recommend supplementing only omega 3 fatty acids. Flax seeds or flax seed oil are often promoted as an alternative to fish oil as a source of omega 3. It contains a substance called ALA which needs to be converted to EPA and DHA, and for this reason its power as an omega is nowhere near as strong as fish oils. This is the reason I prefer omega 3 of fish origin.

Joint supplements

There are a number of good veterinary joint supplements. Check that the ones you use contain the following:

Chondroitin sulphate and glucosamine
These substances provide the building blocks for the synthesis of cartilage. Supplements containing these ingredients come in different forms, including powders and liquids, and are sometimes incorporated into foods. Make sure the chondroitin is of a low molecular size; human products often contain chondroitin that animals cannot absorb. The packaging should state this.

Green-lipped mussel extract
This extract is from the New Zealand green-lipped mussel. The mussels contain large amounts of active substances which decrease inflammation, for example, omega 3 fatty acids, chondroitin, glutamine, vitamin E and C as well as the trace elements zinc, copper and manganese. I have seen some pets respond really well to this product. Be careful if your pet has any skin allergies as I have seen some skin flare-ups with green-lipped mussel extract. Cats respond really well to this product.

Pentosan polysulphate
This is not a natural supplement, but I have had great success using this product. It is actually an anticoagulant for humans; in animals we use it in very low doses. I have never seen a side effect from using this drug in the ten years that I have been in rehabilitation practice.

Pentosan polysulphate is an injectable that provides protective and anti-inflammatory properties. The treatment plan is normally four injections, each five to seven days apart, which may be repeated in

two to three months' time. I have, however, used this in chronic arthritis cases on a weekly basis as a long-term treatment with great success. The product can only be administered by a veterinarian. Please discuss it with your vet as an option for your pet.

Natural anti-inflammatories
I am not a fan of using allopathic anti-inflammatories over the long term and where possible I avoid them. They have a number of side effects, such as gastric ulceration and kidney and liver problems. I recommend always trying natural alternatives before using anti-inflammatory products.

Turmeric
Turmeric (Curcuma longa) is a rhizome from which the yellow pigment, curcumin, is extracted. Curcumin has been used for centuries in traditional Chinese medicine and Ayurvedic medicine. Recent scientific research has proven that its anti-inflammatory and antioxidant properties are beneficial in patients with osteoarthritis, and it is a good natural alternative to non-steroidal anti-inflammatories.

How do you give your pet turmeric? The problem is that it is not very soluble. That means it does not dissolve easily in water, and is best mixed with oils or fats. It is also not very bioavailable as it's not easily absorbed by the body. In fact, 75% of orally-consumed turmeric is excreted in the faeces. Studies have suggested adding piperine or ground black pepper to turmeric as this assists in slowing down its excretion. (ref: Anand).

A veterinary surgeon, Doug English, has been using turmeric for years to treat animals with conditions such as skin allergies and joint problems as well as different types of cancers. He has formulated a recipe called Golden Paste, from a combination of turmeric powder, coconut oil, black pepper and water. One can make this paste at home, keeping it in a fridge so that it lasts for about two weeks.

Dr English suggests giving 1/8 to 1/4 of a teaspoon of Golden Paste twice daily with food, starting with small amounts, and increasing the amount over the week until you have the desired effect.

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Homeopathic preparations

There is sometimes controversy as to whether homeopathic preparations are effective or not. Homeopathic methods may be difficult to understand, but this does not mean they do not work. Heel is a company that makes homeopathic products that I have used in my practice with great success. You can get these from your pharmacy. Some of their products are:

Traumeel: A natural anti-inflammatory. Use this in acute injuries, like slips and falls, joint sprains, muscle tears, etc. For small dogs and cats, give half a tablet twice daily. For large dogs, give one tablet twice daily.

Note: One of the ingredients in Traumeel is arnica. Arnica can increase bleeding times. I have never seen this complication, but I would recommend stopping Traumeel two days before any planned surgical procedure.

Zeel: A good medication for long-term treatment of chronic arthritis. For small dogs and cats, give half a tablet twice daily. For large dogs, give one tablet twice daily. Interestingly, a clinical study was done comparing Zeel and Rimadyl (a non-steroidal anti-inflammatory). After a period of 56 days of treatment, the following was found:

'Symptomatic effectiveness, lameness, stiffness of movements, and pain on palpation were evaluated by treating veterinarians and owners. At the end of the treatment period, effectiveness was comparable in both groups. Both treatment regimens were well tolerated with only three treatment-related adverse events, all in the carprofen (Rimadyl) group.'
Ref: www.ncbi.nlm.nih.gov/pubmed/21164168_

Kaprex (metagenics): Kaprex is a product which I take on a daily basis, together with curcumin, for arthritis in my back. I also use it on my patients, and in most cases those pets that were previously on anti-inflammatories were able to completely stop taking them.

The ingredients are:

- *Tetrase (Tetrahydro-iso-alpha acids complex from hops, Humulus lupulus L.)*
- *Rosemary (Rosmarinus officinalis) Leaf Extract*
- *Oleanolic Acid (from olive leaf extract, Olea europaea)*

These ingredients prevents the release of prostaglandin, which is responsible for in- flammation and pain sensation in the joints. For small dogs, give one to two capsules split twice daily. If you are giving one, just give one daily. For large dogs, give two to four capsules split twice daily.

You have to see this video!
It shows Bailey, a Labrador, on Kaprex and off Kaprex. You will put your dog on this product when you see this video: https://www.youtube.com/watch?v=BIo-EQlCblM P.S. I do not own shares in Metagenics.

This is very important. Do not change any of your pet's medications or supplements without consulting your veterinarian. The above are suggestions that you can go to your veterinarian with and discuss whether they are suitable for your pet.

All of the above remedies give us an array of options for **pain relief**. Now that we have dealt with relieving the pain, let's look at the **strengthening** component.

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2 Strengthening

Joint conditions such as hip dysplasia, arthritis and elbow dysplasia all boil down to one thing and that is unstable joints. There are a number of reasons why joints become unstable. Here are a few examples:

- Genetics, e.g. elbow dysplasia
- Poor conformation, predisposing your pet to increased strain on certain joints. A good example of this is the Boerboel. The majority of Boerboels have very straight back legs, i.e. little angulation or bend in the knee or the ankle. This predisposes them to cruciate ruptures.
- Injury. This results in stretching of the ligaments and the joint capsule, damaging the joint's stabilising structures.
- Degeneration of the joints over time, resulting in arthritis.

In the body, joints are stabilised by:

- congruency of the joint (how well the bones fit together,
- e.g. ball and socket in the hip)
- ligaments
- the joint capsule
- muscles

In joint conditions, the first three - congruency, ligaments and the joint capsule - are impaired, and all the work of supporting the joints must be performed by muscles. Strengthening these supportive muscles becomes a priority. By helping your pet to strengthen these muscles, you greatly reduce pain and slow down the progression of your pets' arthritic condition.

Therefore strengthening exercise should always form part of the overall treatment for joint conditions. You can give acupuncture, massage and magnetic therapy and spend a fortune on powders and tablets; pain will be temporarily relieved, but without strengthening the core and stabilising muscles, your pet will continue to have a source of pain from unstable joints.

Strengthening programmes need to be developed for your patient. Please discuss the best strengthening programme for your pet, with me.

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