

Health Care Focus

Joint Disease

Specially prepared for:



Pebble Creek • Temple Terrace • North Bay • All Creatures • Cat Doctors • Cheval

Overall, your pet appears to be in good general health based on examination. Please see the examination and health care report card your vet has supplied for details on any abnormal examination findings. Based on your pet's examination and consultation, the following has been chosen by your Veterinarian as your pet's health care focus.

Joint Disease

Joint disease can consist of many factors and can lead to debilitating pain and inadequate joint function. Lack of joint function and pain related to joint disease can lead to your pet's inability to stand and walk properly, inability to eliminate bowels and urine properly, and significant decrease in quality of life. As a result of this drastic decline in quality of life, a significant number of pets are euthanized each year due to debilitating joint disease. It is important to address joint disease early in order to attempt to prevent progression of the disease to a debilitating or painful state.

The most common signs of joint disease include stiffness, limping, or favoring a limb - particularly after sleep or resting, inability to rise, reluctance to jump or even climb stairs, and noticeable pain. Some pets become sensitive to being touched on certain parts of the body and can even demonstrate unexpected aggression towards other pets or people when they have joint pain. Some pets with joint disease will not show signs of the disease until it is in advanced stages. Once in advanced stages it is much more difficult and sometimes not possible to control pain and improve mobility, therefore early diagnosis and management is important.

Though arthritis is most commonly thought of in dogs, 60% of cats over the age of 6 years and 90% of cats over the age of 10 years have arthritis.

Causes for joint disease can include but are not limited to the following:

Causes that may be applicable to your pet are highlighted below:

1. Congenital Joint Disease

These are problems that a pet is born with due to genetics. Often, these problems are not manifested until later in life once the pet has already developed significant destruction to one or multiple joints. Examples of congenital joint diseases include Elbow and Hip Dysplasia and Patella luxation.

a. Hip Dysplasia

This is a disease where the hip does not fit into the joint properly. Over time, abnormal motion of the joint leads to degeneration of joint cartilage and arthritis. Rubbing of bone against bone causes a chronic painful state.

This disease has a very high incidence in the following breeds: German Shepherds, Saint Bernards, Labrador Retrievers, Golden Retrievers, Old English Sheepdogs, Bulldogs.

Any dog of this breed should be considered at risk for hip dysplasia and subsequent joint disease however any breed can be susceptible.

Advances in nutritional research have shown that diet also plays an important role in the development of hip dysplasia. Large breed (generally greater than 50 lbs) puppies should be kept at a normal, lean weight during growth, rather than overfed and encouraged to grow "big." One study of puppies at-risk for hip dysplasia found that when fed as much as they wanted to eat, two-thirds of the puppies went on to develop hip dysplasia, while only one-third of puppies fed measured meals suffered from hip dysplasia. A study of German shepherds found that overweight puppies were almost twice as likely to develop hip dysplasia as their normal-weight counterparts. For this reason, if your puppy is a large breed then it is important to feed a high quality Large Breed Puppy formulated diet in appropriate amounts.



X-rays are used to diagnose this disease. The best method of diagnosis and assessment is to perform a series of x-rays that are submitted to the University of Pennsylvania for a diagnostic and certification evaluation called "Penn Hip". During the Penn Hip process a series of measurements and angles are taken on the hip joint and the hips are assigned a score, termed a "distraction index" based on severity of the dysplasia.

If this disease is diagnosed with x-rays before the age of 20 weeks then there is a surgery (JPS surgery) that can be performed to help correct the hip dysplasia. The surgery has best results if performed by 16 weeks of age and cannot be done after the age of 20 weeks therefore early diagnostics are important.

b. Elbow dysplasia

This disease is similar to hip dysplasia except that it effects the elbow joint instead of the hip joint. Diagnosis is made through x-rays. Proper nutrition is important with this disease as well. Surgical intervention is the treatment of choice for this condition.

Labrador retrievers, Rottweilers, Golden retrievers, German shepherd dogs, Bernese mountain dogs, chow chows, bearded collies, and Newfoundland breeds are the most commonly affected. The age for onset of clinical signs is typically four to ten months, with diagnosis generally being made around 4 to 18 months of age.

c. Patella Luxation

This is a condition where the knee cap (patella) does not stay in the groove of the bone that it's supposed to sit in and instead comes in and out of place. There are different grades of patella luxation with the higher grades being more easily displaced or not going back into place at all.

A surgical procedure is available for more advanced stages of patella luxation and may involve deepening of the patellar groove +/- stabilization of the patella with a surgical grade wire.

Patella luxation also predisposes the knee to other injuries such as damage to the cranial cruciate ligament (more information on this condition below) as the patella movement causes friction across this ligament

Many toy or small breed dogs, including Maltese, French poodles, and Bichon frise dogs, have a genetic predisposition to this condition which is diagnosed by examination.

2. Trauma

Any trauma to the musculoskeletal system has the potential to lead to functional and/or anatomical disruption and degradation of the joint which can progress to arthritis, pain, and further dysfunction.

Trauma can include being hit by a car, fracturing a bone, and damage to ligaments or tendons during physical activity.

One of the most common ligament injuries in dogs is rupture of the cranial cruciate ligament (CCL) in the knee (in people this is termed "ACL" and is commonly injured in athletes). This ligament serves to stabilize the knee joint, and when ruptured, leads to improper motion of the joint that results in pain, lameness, degeneration and arthritis of the joint.

With CCL rupture, early surgical intervention is important because the longer the knee exists in an unstable state the more damage to the joint will occur, and the more arthritis and pain will develop with time. Surgery cannot guarantee that the joint will not develop any degeneration or arthritis from the injury however will significantly decrease it.



3. Excess weight/fat

Excess fat can lead to joint problems in 2 ways:

1. Fat contains compounds that are inflammatory (inflammatory mediators) and lead to inflammation within the joints and other areas of the body
2. Excess work load and stress on joints

4. Inflammatory or infectious disease

These are diseases in which infectious organisms colonize one or more joints through the bloodstream such as with tick-borne disease (Lymes, Ehrlichia etc.) or when bacteria is introduced through direct penetrating trauma to a joint (such as with bite wounds or other trauma).

Inflammatory disease can also occur with immune mediated diseases such as systemic lupus where the immune system attacks joint components causing destruction and inflammation.

5. Degenerative spinal disease

These are diseases in which degeneration occurs to the spine or the disks that protect the spine. One of the most common of these diseases is outlined below:

Intervertebral Disk Disease (IVDD)

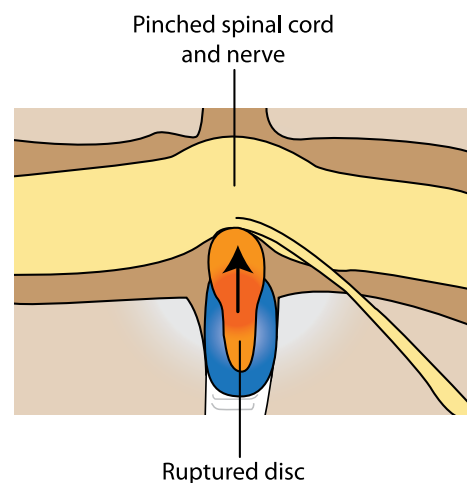
Spinal Disks are located underneath the spinal cord and serve as cushions between the vertebrae. When these disks are diseased they can start to degrade or degenerate which makes them susceptible to coming out of place and pressing on the spinal cord (often referred to as "herniated disk" or "slipped disk"). This pressure on the spinal cord causes pain and can effect nerve function. Since the vertebrae have lost their cushioning, the vertebrae can also start to form arthritis.

Some cases of IVDD are severe and require emergency surgery. These are cases in which a pet becomes paralyzed in one or more legs and can no longer feel the limb(s). If these signs are ever recognized in your pet then they must see a Veterinarian right away.

Some cases of IVDD are more mild and chronic and require medical management although sometimes surgery is recommended for these cases as well.

Breeds at highest risk for this disease include short long dogs such as dachshunds however can occur in any breed including large breed dogs.

Presumptive diagnosis of this condition can sometimes be made with clinical signs and physical examination however radiographs and sometimes more advanced imaging may be needed to better evaluate the spinal cord (MRI, Myelogram).



6. Degenerative Joint Disease (Osteoarthritis)

Although all of the causes listed above can lead to osteoarthritis, occasionally pets develop arthritis as they age due to unknown causes.

What is Osteoarthritis?

Osteoarthritis (OA), also known as degenerative joint disease (DJD), is a complex condition involving inflammation and degeneration of one or more joints. It is defined as the progressive and permanent long-term deterioration of the cartilage surrounding the joints. Cartilage serves to cushion the joints and allows for flexibility with smooth, pain free motion and very little friction. When cartilage becomes deteriorated, the joint loses its cushioning and therefore there is bone to bone contact which leads to friction upon movement and a painful and less functional joint.

Diagnosis

Osteoarthritis is diagnosed through a combination of a thorough physical examination, palpation of the bones and joints (feeling with the fingers to localize pain or other abnormalities), and diagnostic testing including x-rays or other imaging technology such as MRI or CT scans.

Management

In most cases of joint disease, degeneration and arthritis cannot be prevented but with medical management the progression can be significantly decreased. Management of joint disease is multimodal meaning that it involves many different types of therapies. Below are the most common therapies used and it may be recommended that your pet be involved in most or even all of these therapeutic regimens.

In some cases, surgical management may be needed such as with CCL rupture and with some cases of patella luxation and Intervertebral disk disease. All surgical cases will need medical management as well.

a. Weight Control

It is imperative that your pet reach and maintain a healthy weight to attempt to slow or prevent development of joint disease. As joint disease progresses it makes activity and exercise more difficult which in turn leads to further weight gain and further joint disease- it's a vicious cycle!!!

Weight control involves proper diet and feeding amount as well as exercise.

Exercise that provides for good range of motion and muscle building while limiting wear and tear on the joints is the best. These activities include leash walking, swimming, walking on treadmills, slow jogging, and going up and down stairs are excellent low-impact exercises.



It is important to exercise your pet daily. Only exercising on weekends, for instance, may cause more harm than good if the animal is sore for the rest of the week and reluctant to move at all. Warming the muscles prior to exercise and following exercise with a "warm-down" period are also beneficial.

For cats, regular moderate exercise contributes to better joint health, even with arthritis. Most cats can learn to use a harness and leash to take walks. There are puzzle toys available in which food is placed inside the toy and your cat must roll the toy around and chase it to get the food out. Chasing the light from a laser pointer or a feather toy on a casting rod and reel are two additional activities cats may enjoy.

Your vet will work with you on a weight loss and weight management plan that involves appropriate feeding and food dosing as well as exercise that is personalized for your pet.

b. Warmth and Appropriate Sleeping Areas

Most people with arthritis find that the signs tend to worsen in cold, damp weather. Keeping your pet warm may help them be more comfortable. For colder months, attempting to keep your home warmer and/or use of a pet sweater may help to keep joints warm.

Providing a firm, orthopedic foam bed helps many dogs with arthritis. Beds with dome-shaped, orthopedic or memory foam distribute weight evenly and reduce pressure on joints. They are also much easier for the pet to get out of. Place the bed in a warm spot away from drafts.

Outdoor living is in general, not appropriate for these pets, especially cats. Cats with arthritis cannot easily defend themselves from attack, nor can they evade other outdoor dangers.

c. Massage and Physical therapy

Physical rehabilitation and massage help to relax stiff muscles and promote a good range of motion in the joints. Physical rehabilitation should start slowly and build trust. Start by petting the area and work up to gently kneading the muscles around the joint with your fingertips using a small, circular motion. Gradually work your way out to the surrounding muscles. Moist heat is also beneficial.

Our hospitals have a certified physical rehabilitation therapist who will work with you on developing a rehabilitation and massage regimen personalized for your pet.



d. Home modifications

Going up and down stairs is often difficult for arthritic pets. For dogs, it can also make going outside to urinate and defecate very difficult. Building or purchasing ramps, especially on stairs leading to the outside, make it easier for your dog to go outside. Steps up to furniture that your pet likes to lay on such as your bed or couch is an important alternative to them jumping on or off of furniture. In addition, a ramp for your pet to get into the car and use of baby gates to block stairs or slippery rooms are also beneficial.

Many cats like to sit in windowsills, so providing a stool or ottoman as a “step up” makes it easier for them to go vertical. Carpeted steps can also help cats climb onto beds and furniture.

Many pets, especially larger breed dogs, can benefit from elevating their food and water bowls. Elevated feeders make eating and drinking more comfortable for arthritic pets, particularly if there is stiffness in the neck or back. Dishes between your pet’s elbow and shoulder level are generally most convenient.

Slippery floors make it difficult for arthritic pets to get and keep their footing which can lead to slipping, splaying of legs, or even falling which could potentially lead to further joint damage. Use of area rugs and dog booties fitted to your pet can help them to gain traction needed for more stable rising and walking.

e. Glucosamine and Chondroitin joint supplements

With joint disease, the joint wears abnormally and the protective cartilage on the surface of the joint gets worn away. The loss of this cartilage results in bone-to-bone contact that creates pain. Glucosamine and Chondroitin give the cartilage-forming cells (chondrocytes) the building blocks they need to synthesize new cartilage and repair damaged cartilage.

These products are not considered pain medications as they do not work by blocking the pain response but instead work by healing the damage that has been done to the cartilage. Because of this, they may need to be given with pain medications. The goal, however, is that they will improve your pet’s condition enough that eventually the pain medication can be used at a decreased dose or frequency, or in some cases discontinued.

These supplements take at least six weeks to begin to heal the cartilage and most pets will need to be maintained on these products the rest of their lives to prevent further cartilage breakdown. These products are very safe and show very few side effects.

There are many different glucosamine/chondroitin products on the market, but they are not all created equal. Below are some of the products that we recommend.

These supplements are available in 2 main forms:

1. Diet

Prescription diet Hills J/D for joint disease contains the complete daily recommended amount for these supplements within the food, as well as other beneficial ingredients such as omega 3 fatty acids. This diet is also available in a form for weight loss and control (Hills Prescription Metabolic Mobility). Royal Canin also makes a similar diet called Mobility for joint disease.

2. Chews or pills

Recommended products in this form include Dasuquin, Cosequin, and EZ joint chews

f. Polysulfated Glycosaminoglycan (PSGAG)

This is a compound that helps to strengthen cartilage in order to help prevent breakdown and may help with synthesis of new cartilage.

This compound is available in an injectable form called Adequan. Adequan is given as an injection twice weekly for 6 weeks then once monthly.

PSGAG has several effects that help manage arthritis. Once injected, the PSGAG is distributed into joint fluid and cartilage. Although the exact mechanism of action is not completely understood, PSGAG inhibits enzymes that contribute to cartilage degradation, thus slowing cartilage breakdown in arthritic joints. By blocking cartilage degradation, PSGAG helps decrease inflammation—an important source of pain in an OA patient. PSGAG also contributes to cartilage healing by providing the body with the building blocks of cartilage. Finally, this medication improves the consistency of joint fluid, providing better joint lubrication, improving joint mobility, and increasing comfort in pets with arthritis (tampabayvets.net).

g. Anti-inflammatory medications

These medications come in 2 forms:

1. Non-steroidal anti-inflammatory drugs (NSAIDs)

These are strong and effective pain medications that also reduce inflammation. They are prescription medications meaning they can only be purchased directly through your veterinarian or by use of a prescription written by your veterinarian.

Recommended products include Carprofen (Rimadyl), Galliprant, Meloxicam, Onsior (for cats), and Deracoxib (Deramaxx)



There are potential side effects with some of these medications which can include liver or kidney dysfunction and stomach ulcers. While the majority of pets never develop side effects, the risk of side effects are higher at high doses or with prolonged use. Therefore care to administer the appropriate instructed dose and periodic labwork screening is important when administering these medications.

At our hospitals, we recommend that screening labwork is performed every 6 months while on any of these medications. This is the best way to catch any potential problems with the medication early so that we may decrease or discontinue use if needed or add in medications or supplements for organ protection if indicated.

These medications can NOT be used with steroids or over the counter NSAIDs such as aspirin due to high risk of potentially severe side effects. In addition to this, over the counter human NSAIDs (Aleve, Tylenol, Ibuprofen etc.) should NOT be used in pets as they have high rates of side effects including kidney failure, stomach ulcers, and in the case of Tylenol severe toxicity leading to a life threatening blood disease. Aspirin is occasionally recommended in some pets at very low doses for very specific disease conditions however should never be used unless specifically instructed by your veterinarian.

2. Corticosteroids (Steroids)

These are potent anti-inflammatory medications that are available for use in treating pain and inflammation associated with osteoarthritis but unfortunately, have many undesirable short and long-term side effects. Because of these side effects and the availability of pet specific NSAID drugs, corticosteroids are generally only used for short term use in animals with flare-ups or where all other pain control products have failed. They are a prescription product and come in both oral and injectable forms.

h. Pain Medications

In cases where the above therapies are not reaching a desired level of pain control, additional pain medication may be needed. These can include Tramadol or Fentanyl which are prescription opioid drugs

and Gabapentin which is a prescription drug shown to help with nerve pain.

These drugs may also be used in order to attempt to decrease the needed dose of NSAID medication in pets who are sensitive to such medications.

i. Additional Therapies

1. Acupuncture

Acupuncture involves insertion of needles into areas of the body called “acupuncture points” where nerve bundles and blood vessels come together at sites where energy channels transmit energy. It is an aspect of Traditional Chinese Veterinary Medicine that focuses on restoring energy balance within the body and promoting healing. Acupuncture stimulates release of the body’s own pain relieving and anti-inflammatory substances and helps to clear metabolic waste and toxins. It also enhances blood circulation which increases oxygenation of tissues and improves healing ability. Acupuncture relaxes muscles both where the needle is inserted, and muscles located elsewhere in the body, to relieve pain locally and generally.



Similar to acupuncture, another technique called acupressure, which involves applying pressure to acupuncture points rather than inserting a needle, is another option. This less invasive technique is preferred for locations that are hard to reach with needles, or for pets that may not tolerate the needles.

Acupuncture is generally not recommended as a stand-alone treatment as management of joint disease is multimodal in nature however it can be a great supplemental treatment to traditional medicine. It also has benefits in pets who are in poor general health as it has no systemic side effects. (www.tampabayvets.net)

2. Therapeutic Laser Therapy

Therapeutic laser is the application of light energy to areas of the body to stimulate healing. The word “laser” originated as an acronym for Light Amplification by Stimulated Emission of Radiation. Laser light is different from “normal” light because it is of a single wavelength and it is focused (concentrated).



The most common use for therapeutic laser include muscular sprain/strain and the resultant pain, osteoarthritis (laser treatment over joints and muscles that are painful), post-operative application around incisions, wounds (to stimulate and accelerate healing) and many other situations in which the pet may be experiencing musculoskeletal pain.

Therapeutic laser reduces pain by decreasing inflammation, as well as by decreasing tissue chemicals that stimulate pain and by affecting nerve conduction. Therapeutic laser also enhances healing by increasing microcirculation (blood flow through the smaller blood vessels of the body), stimulating cellular activity, and increasing growth factors. (www.tampabayvets.net)

3. Omega-3 Fatty Acids

These are often used for the management of the signs of atopy (allergies) in pets. Because of their known anti-inflammatory properties, many are advocating their use in dogs and cats with osteoarthritis as well.

Please contact your veterinarian should you have any additional questions or are seeking additional information regarding Joint Disease. It has been a pleasure caring for your pet and we hope to continue in helping you to provide the care that they need to live a happy, healthy, and long life!