

## Avian Arthritis

The obvious symptoms associated with arthritis include limping, lameness, unable to fly, difficulty perching, and falling off the perch. Some less obvious signs of arthritis may include feather picking, mutilation, swelling and heat associated with joints, and excessive vocalization. Arthritis is common in avian patients that are more than 15 years of age, and in patients that have experienced trauma. Nutritionally related bone fractures will many times result in arthritic conditions in younger patients. Larger avian patients such as turkeys, geese, and ducks will many times show arthritic symptoms at one year of age. Bumble foot, ulcerative dermatitis, and calluses are common secondary side effects of arthritis. One area of the body that is affected by arthritis is the intervertebral disc space. This type of arthritis is very difficult to diagnose in avian patients due to limitations in size and diagnostic ability.

Changing weather patterns appear to affect humans with arthritis pain, this appears to be associated with the rapid change in the barometric pressure and temperature. This same condition is found to be common in avian patients. Careful history of trauma and observation of changes in barometric pressure may help the avian clinician in the diagnosis of suspected arthritic disease and may aid in therapy options. Subsequent traumatic events may also require an increase in therapy required for arthritic patients as the patient may show more symptoms of pain and discomfort until the injury has resolved. The treatment and recommendations depends on the species and severity of clinical symptoms and the ability of the client to administer medications. Many times arthritic conditions can be controlled with nutritional therapy and pain medications can be administered when flairs occur.

1. Duralactin - A microlactin product that has been used in a variety of avian species with no known side effects at this time. Duralactin appears to be quite effective in the therapy of spinal arthritis symptoms and degenerative disc disease, but does not appear to have the same clinical response when used for osteoarthritis associated with the extremities. The current recommendation for this product is 40-100 mg/kg by mouth once daily (0.8 ml of liquid duralactin 1-2 times daily).
2. NSAIDS - Used for both anti-inflammatory effects and pain relief. These products have potential side effects and should be used cautiously on a continual basis. Metacam is recommended at 0.04 - 0.08 ml by mouth every 12 hours as needed for pain. NSAIDS appear to be more effective when used on an as needed basis, than when used on a continual daily basis.
3. Nutraceuticals - Such as glucosamine, chondroitin, msm, vitamin c, and others can be used in the treatment of osteoarthritis. Oral dosing for glucosamine is currently recommended at 35 mg/kg once daily. We recommend oral liquid glucosamine for humans.
4. Omega 3 fatty acids - Some of the sources of omega 3 fatty acids include salmon, mackerel, halibut, sardines, tuna, herring, flaxseed oil, canola oil, soybeans, soybean oil, walnuts, pumpkin oil, and pumpkin seeds. In clinical experience we have used a combination of flax seed oil, flax seeds, and fish oil. Surprisingly many psittacines appear to prefer salmon oil over some of the seed oils, and the benefits from fish oil appear to be greater than those from plant sources of omega 3 fatty acids in human trials and in clinical treatment of avian patients. Give 20 mg per day.
5. Pain Therapy - Can include buprenorphine, butorphanol, tramadol can aid in the reduction of arthritis pain. This is usually not effective for long term therapy as these medications do not appear to have a long 1/2 life in avian patients. These medications can be used to ease pain until other therapies have begun to show effectiveness.

6. Adequan (polysulfated glycosaminoglycan) - Effective for many types of arthritic conditions in avian patients.<sup>5,6</sup> Injections may be difficult for owners to administer, requiring continual visits for administration. These injections are not recommended for patients weighing less than 100 grams, as dilution may be difficult, and 100 mg/ml Adequan will require a 0.005 ml dose. Dosing recommendation is 5 mg /kg once weekly IM for one month then once monthly as needed for discomfort. Intra-articular administration may also be administered for focal arthritis. This product is probably not recommended for avian patients in renal failure and liver failure as additional hemorrhage may be noted even at recommended dosage. Adequan would possibly be contraindicated in the use of gout therapy. Once oral chondroitin is initiated, and the patient has responded the use of Adequan is discontinued. **Call to discuss if not improving with fish oil and glucosamine.**

7. Husbandry changes - Can dramatically benefit the life of the arthritic patient. Since avian patients are confined to two legs the type of perch can be very important to helping with their balance and with the prevention of bumbles. Small birds enjoy sleeping in hutches which provide more support than a perch and keep them warm. The perches should not be slick such as PVC. We recommend wrapping perches in self adhesive type tape to allow a better grip on the perch. Felt may also be wrapped on the perch if bumbles are forming. Perches may need to be moved low in the cage to reduce trauma if the patient is falling off the perches. In severe cases the patient may need to be moved to a box or flat surface environment. The toe nails should be trimmed and dull to prevent them from getting caught in the toys and bars of the cage. Foraging behavior can help distract the patient from their pain and reduce additional mutilation and picking. In water fowl a large amount of litter such as straw and grass can help pad the feet to reduce pressure on bumbles. Water fowl should be swam on a regular basis as this physical therapy strengthens muscles in the legs and supports the joints, and removes weight from the feet while the bird is swimming reducing the trauma to bumbles. Physical therapy is important to all patients as exercise encourages blood flow to the joints and cartilage, and muscle hypertrophy supports the joints.