

# How to Manage Pain in Geriatric Patients

Michael C. Petty, DVM, CVPP, CVMA, CAAPM, CCRT  
Canine Rehabilitation Institute, Inc.  
Wellington, FL

## Considerations for the geriatric patient

Obvious considerations should be toward keeping an eye on the likely potential for decreased organ function. Renal disease can cause the kidneys to be impacted by NSIADs and to alter the dose of gabapentin. Hepatic disease should be a consideration when giving certain drugs like Acetaminophen. Dogs with certain types of cardiac disease can have adverse events occur after the use of dexmedetomidine

### Less obvious considerations should also be kept in mind

Many geriatric patients have less resilience when it comes to responding to pain, anesthesia or any physiologic disturbance.

Many geriatric patients have a decrease in hepatic blood flow, even though all liver values appear normal

Underlying diseases might mean the geriatric patient might be on other medications from elsewhere. Also, as dogs get older, many owners start to supplement.

There are also behavioral considerations. Many old animals just want to “check out” when taken out of their home environment. These animals can literally die of desperation and loneliness. Do not throw them in a cage like a younger animal but provide them with blankets toys or clothing from home. They need to be sent home asap

## Drug considerations

Most geriatric patients need lower doses of medications for all of the reasons stated previously. I try to start out with  $\frac{1}{4}$  to  $\frac{1}{2}$  my standard pain and anesthetic drug doses and look for response to medication before adjusting.

### Chronic pain issues

More than half of your canine geriatric patients will have osteoarthritis. Cancer issues and dental disease are more prevalent in the older patient. Rarely does a geriatric dog walk through the door that won't benefit from a pain evaluation and subsequent treatment.

Diagnosing chronic pain can be difficult. I recommend that all animals six years of age and older be given a pain questionnaire. Follow through to make sure they did it and have a discussion about the results. Most animals hide pain from their owners so simply asking them the question “is your dog in pain?” is not good enough. If a questionnaire and pain score is not assigned, then there is no way to have a discussion about what the owner wants out of treatment and to actually measure the outcome of your treatment by following up with a new questionnaire and pain score. If you do not set up treatment goals and outcomes, many patients will be disappointed by either the treatment or because they had unrealistic expectations of treatment. There are many questionnaires to choose from: Glasgow Chronic Pain and Health Related Quality of Life, Helsinki Chronic Pain Index, Colorado State University Chronic Pain Survey, and the Cincinnati Orthopedic Disability Index to name a few of the popular ones.

Implementing a treatment plan means understanding what is wrong. You must insist on the diagnostics not only to get an accurate diagnosis but to look for concurrent issues. A blood panel and radiographs of the affected area but including heart and lungs are a must. If your treatment plans include exercise or therapy, you want to make sure the dog has the cardiopulmonary health to go through it! Drugs are an important part of any treatment plan and I will list some of these drugs and concerns as follows:

NSAIDs are one of your most powerful tools. Remember that they should not be given in the face of renal disease. It is OK to give the with an elevated Alk Phos, but consider carefully if the GGT is elevated at all or if the ALT is moderately elevated. When it comes to liver enzymes, looking at the response to an NSAID is probably more important than the starting levels. Since one of my big monitoring tools is appetite, and since some older dogs eat sporadically, this can be of a concern if you are trying to monitor for a gastric ulcer. Reduced dosing in geriatric dogs may not be effective. When calculating out the pill size for most dogs, I usually round up to the closest pill size. In geriatrics, I round down.

Gabapentin and Pregabalin can both help stop the pain signals from nociceptors reaching the dorsal horn of the spinal cord. It works because they are an Alpha 2 Delta Ligand that stops the voltage regulated calcium channel where it sends the signal from the peripheral nerve to the dorsal horn. These drugs are very effective and are not metabolized by the liver or kidney. However, they are eliminated by the kidney so dogs with renal disease should be given a dose equivalent to about 25% of the usual starting dose. Somnolence beyond 1-2 weeks is the usual sign that the drug is building up in their system. Gabapentin is the most common drug of this class that is given and the most is known about it in geriatric animal use. I usually start at a dose of 5 mg/kg bid and move up to higher doses or increased frequency while monitoring for signs of too much medication. In geriatric cats I give 12.5 mg b.i.d.

Amantadine is the most common NMDA agonist used in chronic pain. It is well tolerated by most dogs including geriatric dogs. It treats the hyperalgesia and central sensitization present in many chronic pain states. Common side effects are panting and nervousness. Occasionally diarrhea is seen. In dogs the dose should be 3 mg/kg once daily for at least three weeks.

Serotonin reuptake inhibitors are another drug that is usually well tolerated by geriatrics. They may experience somnolence if given at the high end of the dose. The biggest risk is that it can cause something called serotonin syndrome which is a life threatening neurologic reaction. There are many drugs that when combined with these SRI's can heighten the level of risk. These include Anipryl, Amitraz, Tramadol and sam-E. Many of these drugs are commonly used with older animals. The most common one of these SRI's is a tricyclic antidepressant called amitriptyline. I usually start at half the usual dog dose and give it at 1 mg/kg q24h or 0.5 mg/kg q12h. Cats get 2.5 mg bid. One added benefit is that it can treat urinary incontinence at the same time.

#### **Acetaminophen**

Never ever use in cats. I find this a nice drug with minimal side effects and it is OK to give side by side with NSAIDs. It does not work on every dog and it should not be given in the face of hepatic issues. Monitor the liver carefully. You can also use it PRN for breakthrough pain. It is also a nice "bridge" drug if you are switching from one NSAID to another and need something in between. Geriatric dog dose is 10 mg/kg bid to tid.

Supplements are commonly given or requested by owners. One thing to keep in mind is that they are not adequate for controlling pain by themselves. My favorites include:

#### **Adequan**

This should be given at its normal dose, do not give to diabetic dogs. Glucosamine/Chondroitin products have mixed evidence. I personally feel that the high molecular weight chondroitins work better. The two brands I know of are Cosequin and Restor-A-Flex

Omega 3 fatty acids should be dosed as for younger animals. Microlactin should be dosed as for younger animals. Plant products such as avocado, boswellia and turmeric are all safe

Drugs I avoid in this category are hyaluronic acid and Elk Velvet Antler. There is no evidence that hyaluronic acid works. I actually like Elk Velvet Antler but one recent study showed that it could induce chronic wasting disease when tested in mice as it contains the prions that cause the disease.

Physical modalities become more and more important as a dog ages and their reaction to certain drugs have the potential to increase. Acupuncture, Laser, Rehab, Massage and Weight loss are all very important and effective tools

#### **Acute and perioperative pain**

Improved pain control in the perioperative period means: Less long-term effects that occur secondary to pain like central sensitization. This also means an increased safety during anesthesia as it can lower MAC requirements and cause less cardiopulmonary depression. There is a faster return to function which means less comorbidities, faster healing and less behavioral issues.

The geriatric concerns are the same for treating chronic pain. Consider using 25-50% of the normal dose and look for concurrent disease as with chronic pain issues.

Parenteral Sedation is often employed in my practice. I like the "kittie and doggie magic" combinations in a much lower dose to use for short procedures. Lower dose is safe for geriatrics and remember that the opioid and dexmedetomidine are both reversible. Onset of action is about 5-10 minutes. I always give oxygen at point that the dog goes into recumbency. Although I let younger animals sleep it off, I usually reverse the dexmedetomidine in geriatrics at the 45 minute mark when ketamine has been mostly cleared. Never use in dogs with known heart issues

Premedication in older dogs also usually includes an opioid and dexmedetomidine. The synergistic combination of these drugs means reducing the dose on induction agents and gas anesthetics. This allows for a much wider margin of safety

Local anesthetics are the geriatric dog's friend. They have no particular issue when given to older dogs in local applications, the same precautions used in younger dogs should be observed. They can be used in many applications such as CRI's, Epidurals, Line Blocks and Regional analgesia. CRI's and epidurals should have lower doses of opioids. I usually lower my dose of lidocaine slightly. You might also want to consider the addition of dexmedetomidine to CRI's especially if the dog seems painful in the post op period. I start out with a 25 mcg/kg IV bolus and continue it at the same rate per hour if needed.

Non pharmaceutical considerations include ice and compression, avoid constipation in the days following surgery, watch for urine retention in the immediate post op period. Also always allow the dog to rest in your quietest ward while keeping vigilance over making the dog as dry and comfortable as possible.

Always use acute pain scoring starting upon extubation and then every few hours as needed to adjust meds. The Colorado and Glasgow acute pain scales are my favorites.