

The following pain management protocol is tiered to ensure a global relevance, recognizing that not all analgesic modalities are available to veterinary practitioners and vary from region to region around the world. Its implementation will be guided by the various analgesic modalities available along with the needs of the individual patient requiring treatment. This protocol is reproduced from the WSAVA Global Pain Treatise, a succinct yet comprehensive review of pain assessment, various pain modalities, and the treatment of various clinically painful scenarios in both dogs and cats. The WSAVA GPC Pain Treatise published in the *Journal of Small Animal Practice* and is available for open access at the GPC pages of [www.wsava.org](http://www.wsava.org).

## Degenerative joint disease

The management of DJD has grown in complexity in the past decade, and there are many recommendations for treatment of the pain and dysfunction associated with this disease. These include, but are not limited to, surgical intervention, systemic analgesic therapy (NSAIDs, paracetamol [acetaminophen] [*not in cats*], corticosteroids), local pharmacologic therapy (transcutaneous; intra-articular), home-based exercises, clinic-based therapeutic exercises, weight optimization, nutritional supplementation, massage, acupuncture, laser therapy, heat/cold therapy, neuromuscular electrical stimulation, transcutaneous electrical stimulation and joint mobilization. However, it should be remembered that DJD in any patient is not a single 'type' of problem – indeed, it is now becoming recognized that DJD presents differently in the growing, versus middle-aged, versus older cat or dog. DJD presenting at different 'life-stages' requires different approaches to optimize care. For example, in the growing dog surgical intervention may be a first line treatment in an attempt to limit the disease progression and the likelihood of pain in the future.

Regardless of the stage of disease or the treatments selected, the veterinarian should aim to maximize the benefit and minimize the risks associated with managing this disease. The mainstays of treatment involve methods to alleviate pain, and at all stages NSAIDs are the most predictable analgesics.

In cats and dogs, the broad categories of treatments for OA pain can be summarized as:

### Non-surgery, non-drug treatment

- Weight management
- Diet modulation (type; amount)
- Exercise
- Physical rehabilitation and physical modalities
- Environmental modification
- Nutritional supplements
- Acupuncture.

### Drugs

- 'Base' analgesics
  - NSAIDs
  - Paracetamol (acetaminophen) (*not in cats*)
  - Corticosteroids (treating the underlying immune-mediated disease resulting in polyarthritis)
- Adjunctive analgesics (e.g. tramadol, amantadine, gabapentin, tricyclic antidepressants)
- Postulated disease modifying drugs (e.g. polysulfated glycosaminoglycan)
- Neuroablative procedures.

### Surgery

- Joint replacement (hip, elbow, knee)
- Excision arthroplasty
- Arthrodesis
- Joint denervation
- Stem cell therapies.

Currently, the greatest weight of evidence for efficacy is for weight management, NSAIDs, dietary optimization (amount and content), and exercise.

**For additional pharmaceutical dosing information, see the dosing tables in the WSAVA GPC Treatise at [www.wsava.org](http://www.wsava.org)**