"SIT" PROBLEMS IN OBEDIENCE COMPETITION DOGS
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In the United States, American Kennel Club (AKC) Obedience started in the late 1930s. Following World War II, obedience-only clubs were organized and became sanctioned clubs of the AKC. There are three levels of Obedience: Novice, Open and Utility. Each has its own requirements for titling. They are as follows: Companion Dog (CD), Companion Dog Excellent (CDX), Utility Dog (UD), Utility dog Excellent (UDX), and Obedience Trial Championship (OTCH).

There are a number of requirements for an animal to attain these titles, one of which is a straight sit. This would require the animal to tuck its legs directly under its hips, having both legs equally bent, the spine straight and no preference to fall off to one side or the other. As well, the animal should sit up, looking proud and rocked forwards onto its 'feet'. Some animals tend to rock backwards and sit more on their 'tail head' and 'rump', some will 'side sit' onto one hip or the other, some others may stick a leg out to the side or in front when they sit. These are not proper 'sits'. Owners involved in competition obedience will notice even the slightest deviation in a proper 'sit'. This section will discuss the training, behavioural and physical issues involved in an improper 'sit' and how they may be applicable to animal physiotherapy practice.

Causes of an Improper 'Sit'

An extensive search for current literature on the subject of canine 'sit' problems revealed very little research on the subject. An interview or questionnaire of 10 Calgary, Alberta dog trainers resulted in 6 responses. Professional dog trainers prior to exposure to physiotherapy interventions to a 'sit problem' have attributed the finding as either laziness on the dogs part, poor prior training, lack of any prior training, habituation, poor muscle development or physical reasons (such as hip dysplasia).

All dog trainers interviewed felt that puppies were often at fault of poor sitting. Some offered rationale that puppies may not know any better or may lack muscular development to perform the proper task. One trainer reported that she saw many 'lazy sits' when animals were young and growing (between 3 – 9 months of age). One trainer also found problems in older dogs as well.

All trainers could cite breed dispositions for poor sitting. There was not consensus on this issue however. Greyhounds were named by 3 of the trainers. Dobermans, German Shepherds, Labrador Retrievers and other "Large/Giant breed dogs" were each sited as 'problem sitters' by at least two out of six trainers interviewed. Other dogs mentioned were short long backed dogs such as Dachshunds or Basset Hounds, as well as Bouviers, Rottweilers, Nova Scotia Duck Tolling Retrievers and smaller short haired breeds. Theories existed in regards to low 'tail sets' that could physically impeded sit (as with Greyhounds and German Shepherds), long hocks/legs making the animal less co-coordinated to 'sit' (German Shepherds, Dobermans), chondrodystrophic structure (Basset Hounds and Dachshunds), laziness, and being overweight(Labrador Retrievers

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and some giant breeds) and 'personal space' issues when the owner is too close (Dobermans and Bouviers). No reason was given for citing the Rottweiler, Nova Scotia Duck Tolling Retriever or smaller short haired breeds.

Two research papers have presented information on the dog's need to comprehend familiar phonetic sounds and patterns as well as non-verbal cues and sound quality in order to understand the command to 'sit'. Another source claims that dogs also need to learn to 'generalize' a behaviour such as 'sit' in order to comprehend that 'sit' does not only happen in the living room – but also any time that the cue to 'sit' is given. The same author points out that the training must be salient (i.e. has a noticeable significance to the dog) in order for the behaviour to be properly trained. One study on aggression in English Cocker Spaniels found that those which were classified as highly aggressive were slower to obey commands; however no other canine aggression literature mentioned this as a predictor or finding. The trainers questioned also cited a few behavioural problems that could be attributed to the 'sit' problem. Behavioural issues revealed it the questionnaire included: Lack of attention or motivation (mostly in older dogs), laziness, an attitude towards the owner moving in to the animal, associating the command with a different behaviour, prior training techniques that have used positive punishment or negative reinforcement and the animal has stopped trying to offer the requested behaviour out of fear for unpleasant consequences.

Five of the six trainers that responded to the questionnaire have referred dogs for a physiotherapy assessment of the 'sit' problems in their dog clients. Only one respondent admitted to rarely thinking that the animal may have a health or musculoskeletal problem. As a physiotherapist that has been working with dogs for 11 years, having a large clientele of competition dogs, I see several 'sit problems' that have a physical basis. In order for the animal to perform a 'square sit', they must be able to fully flex their hocks, stifles and hips bilaterally, have proper mobility in their sacroiliac joint (the pelvis), an ability to flex in the lumbar spine / low back and have normal pain-free tail mobility.

The hock and stifle are very inter-related. One condition affecting flexibility in these joints can be osteoarthritis. Osteoarthritis of one or the other of these joints can adversely affect flexibility of the other. Ligament strains or tears will also complicate a 'sit'. Collateral ligaments (ligaments at the side of the joint) are stressed in maximal flexion and the cranial cruciate ligament can be stressed similarly to the tibial compression test that is utilized to detect cranial cruciate tears. (The tibial compression test incorporates bending the hock/ankle joint while the stifle is held stationary and will stress the cruciate ligament which is the knee's main stabilizing ligament). In fact, I find it very common for a dog to have a reduction in hock flexion with or without a stifle flexion deficit following a cranial cruciate ligament repair or in the presence of a chronic cranial cruciate ligament sprain, especially if this range was not targeted as part of the rehabilitation post-operatively. Muscle or tendon strains may be a factor. The Achilles tendon (or any of it's muscular contributors), the deep digital flexor muscle and tendon and the quadriceps muscles and patellar tendon must be injury free to allow a perfect 'sit'. Patellar luxations (instability of the kneecap) may also manifest as 'sit' problems.

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Osteochondritis dessicans (a loose flap or cartilage within a joint) can lead to joint pain and unwillingness for the dog to load the joints in a fully bent position. Dogs with hock or stifle problems will often stick the affected leg out to the side or in front to avoid flexing the joint.

Hip dysplasia can also results in joint pain and lack of muscle development. Both of these can attribute to sit issues. I have also seen dogs with avascular femoral head necrosis (Legge-Calve-Perthes disease - LCP) sit poorly, as well as any dog that has had some forms of surgical operation to repair any hip dysfunctions (ie Femoral Head Excision Arthroplasty, Triple Pelvic Osteotomy, Capsular Denervation, Total Hip Replacement, Closed or Open Hip Dislocation Reduction). Dysplastic dogs, LCP dogs or post-operative hip surgery dogs that are experiencing discomfort will often exaggeratedly 'side-sit', often leaning their bodies over to one side or the other. Hip osteoarthritis may result in the same 'sitting' signs.

Sacroiliac joints are often overlooked as a cause of physical dysfunction in the canine. The joints are located in the pelvis and located at the rump. There is only one published study on sacroiliac joint (SIJ) mobility in the canine and it reports the SIJ to have 7 degrees of rotational freedom. Clinically, many manual therapy practitioners (physical therapists, osteopaths or chiropractors) report to find significant dysfunctions in the SIJ of the dog that cause variable movement dysfunctions. In clinical practice, I have found many 'sit' related problems that can be attributed solely to a misalignment, movement dysfunction or ligament strain of the sacroiliac joint. Ilial rotations, cranial or caudal slipping or sacral torsions have been detected by this practitioner and research is currently being undertaken to characterize these dysfunctions as they compare to the normal canine pelvis. Pelvis dysfunctions will often result in side sitting or just a minor shift away from the affected joint.

The lumbar spine / low back also plays a roll in 'sit' ability. In canine physiotherapy private practice, I see dogs with inflexible spines that resist sitting altogether, (ie dogs with spondylosis). While an inflexible spine does not often result in 'side sitting' (lazy 'sits'), rocking back 'sits' or leg out 'sits', there is sometimes a tendency to avoid the movement as flexion is not possible within the spine. Other cases I have witnessed have included dogs with facet joints that are unable to close (extension) and result in 'rocked-back sitting' if the dysfunctions are unilateral (one-sided), 'side-sitting' is the result.

Dogs with generalized hind end weakness may also experience 'sit' problems. Whether the problems comes from age, medical problems or discogenic lesions, I have found that weakness will often show as a 'sloppy sit' that lacks control, precision and holding ability.

Treatment of 'sit' problems and a physiotherapy approach to management

Trainers were able to describe several different training methods to encourage or shape a proper sit. Most of the trainers interviewed used reward based training, positive

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reinforcement, luring and shaping to get the proper sit. This was often done with the dog in a sit position, holding treats in front of and ahead of the dogs head in order to encourage a forward, attentive, proud sit. For dogs that sat crookedly, some trainers advised practicing 'sit' in a corner, against a wall, between a pair of boards or between the owner's legs. One trainer utilized a 'hop-sit' than encouraged the dog to hop forwards once in a sit position in order to get a more forward, straight and attentive 'sit'. Only one trainer suggesting tapping the dog with a stick or a toe in order to reposition the dog into a straight 'sit'. Dogs that had been poorly trained before or that had associated the 'sit' command with a different behaviour/posture can be retrained by renaming the cue (i.e. "Take a Seat" or requesting and "Up-Sit" instead of just "Sit"). Three of the six survey respondents stated that if an animal cannot sit squarely, that they would recommend a veterinary and/or physiotherapy evaluation of the animal; especially if the animal was not willing to spontaneously sit when not prompted to do so, or if the animal consistently rocked to one side to sit or if the problem is a new observation.

Case Examples

Katie

Katie is a 12 ½ year-old Australian Shepherd – Border Collie cross and not a performance dog at all! However, her story can illustrate a physical problem that manifested in a 'sit' dysfunction, lameness and behavioural issue. Katie was playing ball, and upon retrieval and recall, she let out a yelp. Immediately she lifted one of her hind legs off the ground and proceeded to limp on three legs. The owners monitored her for a week, and Katie began to use her leg, but still limped. She also began to sit in a rounded-back slumped manner and started to chew on her back feet when she was resting. Once Katie was cleared of having a cruciate injury or any more serious pathology, she was brought for a physiotherapy consult. She was found to have a sacroiliac (pelvis) joint problem and some joint issues in her lower back as well. Her physio treatments consisted of mobilizations and/or manipulations to her pelvis and back to correct the misalignments and movement problems, laser therapy to settle down the associated inflammation as well as back traction for the owners to do at home. After one treatment, Katie was walking and trotting without a limb, however it required three treatments in total before all symptoms were completely resolved.

Morgan*

Morgan is a mixed-breed dog that was very active in agility until he injured his cruciate ligament. The tear was not severe enough for the veterinarians to recommend a surgical intervention, and the owner sought a physical therapy consult to find out ways to manage the problem and prevent the ligament from tearing completely. Morgan would sit with his leg held outwards and would not lie squarely in a 'sphinx' position either. He was also experiencing episodes of lameness after any off-leash running. Therapy consisted of modalities to aid in healing of the ligament, as well as controlled exercises to work on strength, co-ordination and balance. Sit and lying practice were used to prevent joint mobility restrictions, and supplementation (Glucosamine with MSM) was encouraged to

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help with joint nutrition and repair. Most importantly was the elimination of all off-leash activity for a 3-month period and a very slow re-introduction back to normal activity / sporting activity. Morgan is now 5 years since his original cruciate injury and still actively competes in agility.
*Name changed

Breaker

Breaker is a 5 ½ year-old Parson's Russell terrier, that competes in obedience and conformation, and was 'run-over' by his giant-breed housemate. Since the accident one week earlier, Breaker had been asymmetric in both his 'stand' and 'sit' but was not lame. On examination, Breaker was found to have a sacroiliac (pelvis) joint problem. Treatment consisted of mobilizations to correct the position and movement problems. As with many spinal or pelvis dysfunctions, it is not just the joints that are affected but also the strength and timing of the adjacent muscles to hold the joint position and contract in the right sequence in order for normal joint functioning to occur. Follow up physiotherapy visits required additional mobilizations and also 'muscle facilitation techniques' to address poorly coordinated muscles. In Breaker's case, his right gluteal (rump) muscle was not contracting as quickly as it should when he was made to stand on three legs. This necessitated the prescription of an exercise whereby the owner would tap on his right gluteal muscles as she lifted his opposite leg off the ground, making Breaker balance on three legs, and then again when she switched legs and repeated the exercise. The treatment of both the joint as well as the muscles has allowed a full return to function for this active dog.

Conclusion

Physical treatment would be very dependent upon the pathology. A cruciate tear, femoral head necrosis or hip dysplasia should receive surgery. A joint dysfunction in the pelvis or spine should receive manual therapy. A muscle or ligament strain/sprain should receive physiotherapy and osteoarthritis should receive pain relief therapy (i.e. medications, acupuncture and/or physical therapies). Physical therapy treatments can be very encompassing, but the owner should always keep in mind that a referral back to the veterinarian may be necessary for further diagnostic tests. There is no literature on 'sit'-specific problems and treatment. However physiotherapists may have a very prominent roll in addressing this problem or advancing scientific literature on this topic.

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