ACell *Vet*® Powder for Canine Arhritis of the Hip

ACell *Vet*® Powder reduces the pain and symptoms associated with canine arthritis. A single injection of ACell *Vet* Powder leads to significant improvement in a dog's range of motion, with increased activity, and decrease in pain that is associated with arthritis. A single injection of ACell *Vet* Powder has been shown to be effective in reducing the symptoms of canine arthritis of the hip for up to 4 – 5 months[1]. An intra-articular injection is a relatively simple procedure that most veterinarians trained in treating dogs should feel comfortable performing with success. The procedure itself should not be unduly painful for the patient. The procedure is safe and simple provided sterile equipment and a sensible, aseptic approach are used.

Necessary Equipment

All joint injection techniques should be performed in an aseptic manner. General anesthesia is recommended. When injecting a joint space, sterile technique should always be used. The necessary equipment for the joint injection is listed in *Table 1*.

TABLE 1
Recommended Equipment for Joint Injection

Alcohol wipes
Surgical Scrub (i.e. chlorhexidine) wipes
Sterile Saline (final site rinse)
Sterile gloves
20-gauge 1.5-inch needle for injection
3 ml- syringe for injection
General anesthetic
ACell Vet Powder Suspension preparation (follow product instructions for internal use)
Sterile Saline for injection (used to suspend the ACell *Vet* Powder)

Site Preparation

Administer NSAIDs 1-2 days prior to treatment. The entry point for injection should be identified prior to the injection. The point of entry can be marked with an impression from a thumbnail, a needle cap, or an indelible ink pen. The important goal is to minimize risk of infection at the site. Prepare the area aseptically (surgical scrub). For all intra-articular injections, sterile technique should be used.

Steps for Injection

Palpate the bony landmarks for the joint (Table 2). Once the patient is anesthetized, follow the steps for site preparation. The needle should be inserted through the skin to the site of injection (ultrasound guidance can be used if available to ensure accurate placement). The passage of the needle tip into the joint space is generally associated with a distinct feeling of transient capsular resistance followed by the sensation of a resistance-free space. The injection can be performed once the tip of the needle is properly placed in the actual joint. If the needle tip is correctly positioned, there should be very little or no resistance to injection. If there is strong resistance while injecting, the needle may be intramuscular, or up against bone or cartilage, and it should be repositioned. To prevent complications, adhere to sterile technique for all joint injections, know the location of the needle and underlying anatomy, avoid neuromuscular bundles, and always aspirate before injecting to prevent intravascular injection. The injection should flow easily and should not be uncomfortable to the patient. Most pain is the result of tissue stretching and can be mitigated by injecting slowly.

Post Injection Instructions and Care

To minimize pain and inflammation, nonsteroidal anti-inflammatory agents may be used, especially for the first 3-5 days, and ice can be applied to the injection site (for no longer than 15 minutes at a time once or twice per hour). A sterile dressing should be applied to the injection site. The patient should be rested from strenuous activity for the first 24 hours after the injection, after which a resumption of the patient's normal activities preceding the injection is encouraged. Patient owners should be educated to look for signs of infection including erythema, warmth, or swelling at the site of injection, or systemic signs including fever and chills. Patient owners should also be instructed to keep the injection site clean.

TABLE 2
Technique

Location	Anatomical Landmarks	Dose
Coxofemoral Joint (Hip)	The lateral approach is obtained by placing the animal on its side with the affected joint uppermost. The limb is grasped at the stifle joint, abducted slightly, and then outwardly rotated. The greater trochanter is identified and the needle is passed just caudal and medial to it. The needle is directed in a caudal to cranial direction toward the hip joint at an angle of approximately 45°.	100 mg of ACell *Vet* Powder particulate mixed with 1.5 ml sterile saline per intra-articular injection.

Follow-up Visits

A follow-up visit by the patient is not necessary in typical cases. Generally the patient may display some discomfort during the first week post-injection, but also may start displaying an increased range of motion. Improved range of motion and pain reduction should be clearly evident by the end of the first month post-injection. Further improvement may also occur during the next two months. Study results show the benefits of ACell *Vet* Powder for canine arthritis in the hip lasting up to five months. ACell *Vet* has received reports of dogs outside the study for which the benefits have lasted beyond five months. If pain and loss of motion eventually recur with the patient, these can be treated with another injection of ACell *Vet* Powder.

[1]Effect of a Xenogeneic Urinary Bladder Injectable Bioscaffold on Lameness in Dogs with Osteoarthritis of the Coxofemoral Joint (Hip): A randomized, Double Blinded Controlled Trial. William Rose, DVM, Jeffrey D. Wood, DVM, Abby Simmons-Byrd, RVT, Alan R. Spievack, MD. The International Journal of Applied Research in Veterinary Medicine. 2009 Volume 7, Number 1 & 2

For additional information, contact ACell, Inc. *Customer Service and Technical Information*:
Phone: (410) 715-1700; (800) 826-2926, Fax: (410) 715-4511
Email: info@acell.com Website: www.acellvet.com