# Administration Guidelines

Spryng,™ an innovative collagen-elastin hydrogel microparticle (CEHM), is a proprietary formulation of naturally occurring biological materials. CEHM is engineered and designed to provide a bio-integrative scaffold in the affected joint. When the CEHM microscaffolds are injected into the joint, the particles adhere to and integrate with the existing synovial membrane.

Spryng material is sterilized and aseptically filled in syringes containing 2 mL of material. It is intended for single-use, intra-articular (IA) injection.

Use clinical judgment pertaining to the volume needed. Some joints may require more or less than 2 mL of material. The amount of Spryng particles injected should represent an appropriate volume, as determined by the veterinarian. The volume administered should not go beyond gentle resistance in small-volume joints.

## Current Best Practices

Spryng (CEHM) is a veterinary medical device with no direct drug or anti-inflammatory effect.

Systemic and/or IA management of joint inflammation, both pre- and post-administration, is recommended.

For patients with acute synovitis, consider an IA anti-inflammatory, such as a corticosteroid or orthobiologic, separated from Spryng (CEHM) administration.

Continuation of NSAIDs for an additional 3 to 5 days post-administration may result in better outcomes.

Ten to 14 days of controlled activity has been associated with improved outcomes.

## Preparation for Use

- Animal restraint and sedation is recommended.
- Thoroughly prep the area over the joint to be injected, following aseptic technique in accordance with standard veterinary practices.
- Only the contents of the syringe are sterile. The exterior of the syringe is not sterile. Adjust technique accordingly.

## Administration of Spryng

- Agitate the syringe to resuspend the particles homogeneously, ensuring ease of administration and accurate dosing.
- Administer intra-articularly using a sterile 19-25g needle as clinically indicated.
- Apply even pressure on the plunger rod while injecting Spryng (CEHM) particles. Do not over-distend joints.
- Volume injected may vary from 0.25 mL up to 4 mL, depending on species, joint, and joint capsule elasticity.

## Additional Administration Information

- Multiple joints may be injected as a part of the same treatment.
- A maximum individual and annual administration frequency has not been established.
- Additional administration of Spryng (CEHM) may be considered based on the veterinarian's assessment. Field experience suggests the benefits of Spryng (CEHM) are long lasting and may extend beyond one year.
- If a syringe is only partially used, discard the unused portion. Each syringe is for single use only.

## Case Considerations

- Other IA therapies, including FDA-approved drugs and orthobiologics, have not been approved or clinically evaluated in combination with Spryng (CEHM).
- Owner compliance with post-administration rehabilitation guidelines should be encouraged.
- Intra- and post-operative administration has not been fully evaluated.

## Contraindications

Spryng (CEHM) is contraindicated in the following conditions:

- If there is a suspected infection in the intended joint or adjacent soft tissue or skin.
- If joint inflammation exists, prior effective treatment with anti-inflammatory agents is recommended.

## Post-Administration Observations

Some animals experience discomfort within the first 48 hours after injection, similar to other intra-articular therapies. (Velloso Alvarez A et al. *Front Vet Sci* 2020; 7:579967)

Animals may develop joint heat, effusion and/or lameness approximately 7 to 14 days post-administration. (data on file)

The existing level of joint inflammation at time of administration, or excessive exercise soon after injection, may increase the risk of these events.

If not septic in origin, these events normally begin to rapidly resolve within 24 hours with rest, cold therapy, NSAIDs, and/or systemic anti-inflammatories and/or antimicrobials; events typically resolve within a few weeks. (data on file)

Veterinarians should use their clinical judgment to determine whether delayed signs should be treated as a potentially septic joint.

## Counseling for Owners

Reasonable expectations should be discussed with the owner prior to administration of Spryng (CEHM) regarding time to onset, duration, and level of improvement.

Owners should be provided with information about post-administration care instructions including pain management, use of anti-inflammatories, and exercise restrictions.

In addition, owners should be informed of contraindications, precautions, and potential complications. If unexpected signs occur, the owner should be instructed to contact their veterinarian for guidance.

## Recommended Client After-Care Instructions

We recommend you provide advice and instructions regarding post-administration care, including anti-inflammatories, pain management, and exercise restrictions.

Steps should be taken by the client to monitor the animal for improvement over the next few weeks. This improvement may be seen as soon as 48 hours, and up to 3 weeks.

Instruct your client to continue to follow after-care guidance even if their animal improves rapidly.

Client should communicate any observations or unexpected events such as:

- increased lameness;
- heat or swelling at the injection site;
- fever;
- changes in behavior.

These are the currently recommended guidelines for the use of Spryng (CEHM) in your patients.

## Potential Adverse Events

In case of an adverse event please contact your PetVivo Representative, Technical Services Veterinarian, or 844-PET-VIVO (738-8486), www.info1@petvivo.com, or www.sprynghealth.com/contact.

PetVivo, Inc.