

Stem Cell Therapy

Atlantic Animal Hospital offers Stem Cell Regenerative Therapy for the pets of Southeastern North Carolina. Stem cell therapy currently is primarily used to treat pets with osteoarthritis (OA) and tendon and ligament injuries.

Benefits that are seen include:

- Reduce pain and inflammation
- Restore quality of life and range of motion
- Regenerate tendon, ligament, and joint issues

To understand how this therapy speeds healing and reduces pain, it is necessary to first understand how stem cells function. Adult stem cells, not embryonic stem cells, are used in companion animal therapy. Broadly grouped as mesenchymal stem cells, they are found in mature animal tissues such as bone marrow, muscle, and fat. Also called MSCs, these cells serve to repair local tissue trauma. They mature into the various tissue cells needed for self repair. These MSCs can also signal other cells to assist the healing process, and overall can decrease inflammation. Over an animal's life span, s/he uses increasingly greater numbers of the stem cells in daily life and for trauma repair—which is one reason healing becomes slower with age.

Contrary to popular belief, fat actually contains 1000 times more adult stem cells per gram than bone marrow. (Neither contains embryonic stem cells). Fat is also typically easier to collect, due to ample supply, and is generally less painful than bone marrow collection.

Regenerative cell therapy starts with grams of fat being sterilely collected from the patient under general anesthesia. This procedure can often be combined with a surgery such as dental prophylaxis, neuter, spay, or other soft tissue or orthopedic surgery. The harvested tissue is then processed to concentrate and activate the cells. This is done in hospital, and takes a couple hours. After the cells are processed then they are injected back into the animal. Depending on the condition being treated, these cells can be injected into a joint, into muscle or intravenously to be distributed throughout the body.

Stem cells are powerful healing cells in your body that can become other types of cells. There are many adult stem cells in fat tissue, however they are asleep. MediVet's stem cell therapy allows your vet to isolate stem cells from an animal's own fat tissue, wake them up, and re-introduce the healing cells into the areas of need.

There also is an option of banking the stem cells for future use. Owners can store the collected adult stem cells in the banking lab for a yearly fee. Banking ensures future treatment options for injuries or joint disease. And, as research evolves, the banked cells may help treat other internal

diseases such as inflammatory bowel disease, kidney disease, environmental allergies, and immune mediated diseases. Stem cell therapy should be considered as a treatment option for any chronic inflammatory process.

Relief through stem-cell therapy can vary animal to animal, but improvements in pain and lameness are expected a couple of weeks to a couple of months after the injection. In arthritis cases, studies have shown that 50% of dogs will be able to reduce or discontinue the use of anti-inflammatory pain medications (NSAIDS) three months post-treatment, and about 60% of dogs will have reduced or discontinued NSAIDS eight months post-treatment.

Long term success can vary from one to two years with one injection, but some animals with severe injury or disease will require a second injection. Approximately 65% of older dogs and 75% of younger dogs do not need re-treatment after the first year post-injection.

Contraindications to stem-cell therapy include cancer, tumors, and active infections.

Research using canine MSCs began in the 1990 and therapeutic use has occurred in horses since 2003. MediVet Biologics is founded on their dedication and quality innovative technologies, and is a preferred provider of Veterinary Regenerative Medicine and biological solutions. MediVet Biologics developed the first in-clinic Adipose Stem Cell Therapy kit, which is a major scientific advancement in animal stem cell therapy that offers an economic solution for owners of pets suffering from osteoarthritis, hip dysplasia, ligament and cartilage injuries as well as numerous mobility ailments. They continue to make advancements in veterinary regenerative medicine and biological therapeutic offerings for both equine and small animal applications.

You can read more about Stem Cell Therapy by visiting [Medi Vet Biologic's Website here](http://www.meditvetbiologics.com).
www.meditvetbiologics.com

Contact us at 910-256-2624 to schedule your pet's consultation or discuss with your veterinarian if Stem Cell Therapy is right for your pet.