



Stem Cells: Sci-Fi Therapy for Pets

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The seemingly exponential changes in technology have made this an exciting time to be a veterinarian as well as a hopeful time for pet owners. In the last ten to fifteen years we have seen rare and unheard of technologies become common place for vets. MRIs, laser surgery, digital radiography, ultrasound, new diagnostic tests including genetic testing and new surgeries including complete laparoscopic surgery have all found their way into veterinary clinics and hospitals. Diagnosis and treatment that would have been difficult or impossible even a few years ago are now routine.

Among these new technologies is one on the edge of science fiction yet is available at your local vet. “Stem cell” therapy or more accurately “Regenerative cell” therapy is the practice of using an animal’s own regenerative cells to help heal damaged tissue. Animals (and people) have cells within their bodies designed to rebuild and repair tissue. Bodies use these cells naturally when an injury occurs, however we have found that these cells can be harvested and placed directly into the area of injury dramatically increasing the number of generative cells available for repair.

Stem cells also decrease the inflammation and pain associate with injuries. How this occurs is not fully understood. Case studies show pets have much less pain and improved movement after stem cell therapy. This is sometimes true even in cases of severe, long term arthritis where the stem cells no longer “fix” the damage, treatment can still improve comfort and movement.

Perhaps the most exciting aspect of this technology is the ease of treatment for our pets. Regenerative stem cells are found in good supply in an animal’s fat. A straight forward surgery can harvest the fat which is then sent to a special lab where the stem cells can be isolated. These cells are sent back to the vet to be injected into an injured joint, tendon, ligament, or fracture site. This whole procedure is accomplished in three days. Benefits is also obtained by injecting the cells into the veins (IV injection) when multiple parts of the body are involved.

Stem cell therapy is currently being used for osteoarthritis, partial tears to ligaments and tendons, and in conjunction with surgery for fractures and cartilage chip problems. The future potential is very exciting; studies are looking into this therapy for liver regeneration, slowing neurologic degeneration, and possible cardiac therapies.