

# Stem Cell Therapy

## What is stem cell therapy?

Stem cell therapy provides potent **anti-inflammatory** effects and pain relief for 80% of pets with chronic arthritis, without the potential side effects of traditional medications. It does *not* regrow any injured structures.

Because the stem cells that we use are taken from your pet, there is no chance of rejection or immune reaction to the treatment.

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## How does stem cell therapy work?

The stem cells that help manage chronic arthritis are present in your pet's fat. Under anesthesia, we harvest a little bit of fat from just inside your pet's belly. The harvest procedure is shorter and less invasive than a routine spay. Once we have collected your pet's fat, we package it in special tubes and send it overnight to Vet Stem's laboratory for processing.

The next morning, the fat sample arrives at the Vet Stem laboratory, where the stem cells are separated from the rest of the fat. Then, the cells are washed, processed, and suspended in a fluid that is suitable for injection into your pet's sore joints. These injections are sent overnight back to your veterinarian's office.



If the lab finds that there are extra cells beyond what we need to treat your pet's joints, they will be frozen and stored in case your pet needs additional treatments in the future. These are called "banked" doses. Whether your pet's sample yields enough cells to create banked doses depends on their age, how many cells are present in their fat, and the number of diseased joints requiring treatment, so we will not know whether your pet has banked doses left over until sample processing is complete.

Even if there are not enough cells left over to make a banked dose, the lab will still set aside a small number of stem cells as a "retention sample". This can be used to grow additional stem cells in the event that your pet requires future treatment but either did not have enough cells to save some banked doses or they have run through all their banked doses. So, this means that no matter how complex your pet's needs are, they will never have to go through the harvest procedure twice...it's one and done!

The next day, the cells arrive back at your veterinarian's office, where we will briefly sedate your pet for treatment. (Sterile joint injections are not possible in an awake pet). A small patch of fur will be shaved over each joint that is treated so that we can achieve surgical-grade sterility during the injection process. Your pet will also receive a dose of stem cells directly into the bloodstream. The cells that are given intravenously will travel throughout the body and clean up many other types of inflammation beyond the joints.

After stem cell treatment, you should see gradual improvement between 30-90 days later. At that point, many pets can gradually taper off any medication(s) they were previously taking to manage arthritis pain. At most, they may need to take a dose of pain meds every once in a while, and only if they are having a bad day.

Some pets only need a single stem cell treatment to last the rest of their life. Others need a stem cell “booster” every 18-36 months. It is uncommon for pets to need treatment more frequently than that.

If your pet needs a booster, Vet Stem will withdraw banked doses and prepare them for injection, which takes a couple of days. The fluid that keeps the cells safe while they are frozen is not the same fluid used for injection. So, getting the cells ready for injection takes a little time and effort. There is a fee for preparing the banked doses for injection, however it is much less than the original stem cell processing fee.



If your pet needs a booster, but there are no more banked doses available from the original harvest, your pet’s retention sample will be used to grow additional cells. Some of these cells will be prepared for your pet’s booster treatment, and the rest will then be stored as banked doses in case your pet needs additional boosters in the future. There is a laboratory fee for growing additional cells from your pet’s retention sample, however you will only be charged this fee ONCE, even if you run through the second batch of banked doses and need additional cells in the future. If that happens, Vet Stem will cover the cost of growing additional batches of cells for your pet.

While booster treatments do entail laboratory, sedation, and injection fees, these will be MUCH less than the original harvest and initial set of injections. Also, the process will be much less invasive for your pet.



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## Are there any potential complications with stem cell therapy?

There is a risk of infection any time joint injections are performed. Your pet’s injection site(s) will be prepared to a surgical level of sterility to combat this. Also, Vet Stem adds a little antibiotic to the doses they prepare for injection, just in case. This complication occurs less than 0.05% of the time.

There is a 20% chance that your pet will have inadequate pain relief from the initial set of injections, even after the full 90 days that it typically takes to evaluate their response. If this happens, the first step is to repeat the injections using banked doses. At this point, most pets will respond, but a small subset of pet never respond to the injections.

Any pet that has been diagnosed with cancer is disqualified from receiving stem cell therapy. This is because stem cells can cause any remaining cancer cells to grow rapidly.

Even if your pet has no history of cancer, there is always a very small chance that there is a microscopic cancer growing somewhere undetected in their body. In this unlikely event, stem cell therapy could cause the microscopic cancer to grow rapidly and make itself known. Depending on the type of cancer, it is possible that your pet would need surgery, chemotherapy, or radiation therapy to treat the cancer or prolong their life.

## Scheduling stem cell therapy

Because of overnight shipping constraints, we perform stem cell harvests on **Tuesdays**, and the cells are implanted 48 hours later, on the following **Thursday**.



If your pet is scheduled for an orthopedic surgery, and you also want them to receive stem cell therapy, there is no need to schedule two separate surgeries. We can arrange their orthopedic surgery on a Tuesday and do their harvest at the same time. The cells would be processed on Wednesday and implanted under sedation on Thursday.

## Current Fees

Vet Stem's initial processing fee, shipping, and the first year of cryostorage for the banked and retention samples are included in the surgery fee quoted by your veterinarian.



Vet Stem will contact you a few weeks before the 1-year anniversary of your pet's treatment to see if you would like to continue storing your pet's banked doses and retention samples. If so, you will be charged a nominal cryostorage fee.

If your pet needs a booster, they will need one banked dose per joint to be thawed and processed for injection. First dose per order is \$485, and each additional dose on that same order is \$115.

If your pet needs a booster, but they are out of banked doses, more cells can be grown from their retention sample (\$900). This process grows a lifetime supply of additional cells, and the culture fee includes an additional 12 months of cryostorage. Once the culturing process is finished, we would place a banked dose order as above. Please note that banked dose recovery fees are not included in the cell culture fee.

Vet Stem will arrange annual cryostorage fees with you directly, but all orders for cell culturing or banked dose processing will go through Dr. Hughes, as there is pertinent medical information that needs to be communicated for the accuracy of your pet's order.



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