The instructions below are based on years of experience. They have evolved to increase success rates, not make you comply with unrealistic expectations. In other words, the instructions below represent the ideal circumstances. We hope that you will try your best to follow them. At the same time, please know that you do not have to follow them perfectly for us to be successful.

Whether your pet is living or has passed away, there are crucial steps to ensure successful cell preservation:

Critical Step One: Refrigeration (Deceased Pets): Immediate refrigeration of your pet's body is essential. Please do not freeze his or her body.

Step Two: Ask Your Vet

As an overarching principle, we encourage you to ask your vet to perform this procedure. However, please be aware that some vets will not take tissue samples for cloning, whether a pet is still alive, or even deceased. Also, some vets have made mistakes, such as taking tissue samples that are too large (from living animals), too small (from deceased animals), or not following packaging instructions (like not including ice in the cooler). So we recommend that you read these instructions, then have a conversation with your vet to confirm key details. If your vet will not perform the procedure, then we recommend that you call around. You may need to call several. In the worst case scenario, you can ask a trusted friend or family member to take samples for you, post-mortem.

Urgent Tissue Sampling (Deceased Pets):

- **Ideal Circumstances:** If your pet is deceased and has been refrigerated for less than 7 days, take four skin tissue samples **(5 mm x 5 mm x 5 mm). One of these must come from the ear.**
- **Less Ideal Circumstances:** In cases where refrigeration wasn't immediate, lasted longer than 7 days, or if your pet has been frozen or buried (please see discussions below about these situations), larger and deeper tissue samples are needed (**10 mm x 10 mm then down to and including the fascia**). **Include one sample from the ear and one from the inner thigh.**
- Chances are higher in ideal circumstances but never guaranteed
- We cannot use hair, ashes, or internal tissues like organs

Urgent Tissue Sampling (Living Pets):

- If your pet is in good health and you're certain about cloning, it's best to act quickly.
- obtaining samples post-mortem often leads to mistakes in following complex instructions during a difficult time (plus sadly some pets go missing during their lives).
- Consult your vet, who can perform a light sedation procedure while ensuring your pet's comfort.

- Collect **2-4 skin tissue samples** from various areas of your pet's body.
- **sample sizes 2 mm x 2 mm x 2 mm -- please note and alert your vet that samples are smaller when taken from a living pet.**
- before mailing, store samples in individual sterile cups or vials, in sterile saline (.9% sodium chloride), in the refrigerator, or in the cooler for mailing the same day.
- try to mail FedEx priority overnight, the same day (address below)
- a couple of days in the fridge is okay.
- if your pet is near death, we have a higher success rate if samples before euthanasia
- we are still usually successful post-mortem, if instructions are followed

Cell Preservation Price & Terms:

- $1400 plus $200 starting the following year for annual storage
- You can store cells indefinitely
- You own the cells.
- We hope that you don't, but you would always be free to transfer cells, since you own them.
- We store them in two different locations for safety, including our lab in CA
- Cell preservation is a necessary first step to cloning
- You will not have to commit to cloning until you are ready.
- We encourage our clients to focus on getting their cells preserved -- nothing can happen unless that is successful and the steps can be overwhelming especially if you are grieving. Try to focus on that first vital step, first, before thinking too much about the cloning aspects.

Additional Tips For Pet Owners:

- DO NOT USE DRY ICE
- NEVER BURY OR FREEZE your deceased pet.
- We highly recommend that you immediately purchase ice packs and put them in the freezer.

What If You Have Buried Your Pet?

In most cases, very sadly, burial means that bacteria will cause tissues to decompose, which means that there is very little chance of success in most cases. We would not recommend proceeding for most burial cases. We greatly apologize if that is your situation. But just in case, you should know that if your pet's body was well-preserved, like in an airtight box, and (importantly) the temperatures were at refrigeration levels, there is a higher chance of success, and we would recommend trying in that scenario. If noticeable unpleasant odors arise, unfortunately bacterial activity has likely already progressed too far to attempt preservation. While devastating to consider, discernible smell signals tissues reached an unsalvageable state for our purposes, though your pet rests peacefully. Finally, please note that cloning technology is not an exact science. These are just our best suggestions based on experience in many different cases. Overall -- our estimate is that the chances of success if buried for 24 hours are about 50/50. If buried for 48 hours, the chances are about 20-30%. After 48

hours, the chances are near zero. We definitely need bigger and deeper samples if buried for any period of time.

What if You Have Frozen Your Pet?

In most cases, freezing for extended periods likely means we cannot succeed. We hope that is not your situation. Just in case, you should know that cell preservation is not an exact science. We have been successful, for example, when a pet was frozen for a couple of days. We would not recommend trying if your pet was frozen longer. However, freezing for even 12-24 hours reduces the chances. The exact tolerable duration depends on the temp of the freezer, your pet's weight, etc. In any case, you still might want to consider mailing us the frozen samples (prices are the same including an annual storage fee). Overall -- our estimate is that the chances of success if frozen for 24 hours are about 50/50. If buried for 48 hours, the chances are about 20-30%. After 48 hours, the chances are near zero. We definitely need bigger and deeper samples if frozen for any period of time.

If your pet has been frozen for longer than 48 hours, you still might want to consider taking and mailing samples to us. There has been research with limited success in creating cloned mice from frozen tissues. We are optimistic that this technology will evolve -- so we do store customer frozen tissue. We have no timeline on when that research might progress but we are hopeful that eventually, we will be able to clone pets from frozen tissue. The price is the same -- and we still try to create cells from any frozen tissue we receive, then cryopreserve the remaining tissue. This is different than normal freezing, like in a household freezer. If you want to pursue this option, please still urgently take and mail samples because, while tissue degradation is slower in the freezer, it still happens.

What if Your Pet Has Been Refrigerated But It's Been More Than Seven Days?

Cloning is not an exact science. We have been successful when tissue samples have been refrigerated for several weeks. However, the chances would be slimmer after 7 days. It is difficult to give an exact percentage chance in that scenario.

What If Your Pet Must Be Euthanized?

We strongly encourage you to ask your vet, for best results, to take tissue samples before euthanasia. This can be done comfortably for your beloved pet using a combination of light sedation and local anesthesia. However, if taking the samples before euthanasia is not possible, we still have high success rates as long as you follow other instructions.

What If Your Pet Has Cancer?

We have successfully cloned many pets who passed away due to cancer. The only instruction as far as tissue sampling would be to ask your vet to take samples from healthy tissue. Your vet's best judgment as to healthy tissue is what we would recommend, even with skin cancer, whole body cancer, etc.

What if You Live Near Sunnyvale, CA & Your Pet Has Recently Passed?

A small percentage of our clients live near Sunnyvale, CA, where our lab is located. If your pet has recently passed, and you would like us to take tissue samples, then we can do so. We just need to know what time you expect to arrive. Please note that we would prefer that you have your own vet take samples before euthanasia as the better option. But if your pet has passed, we prefer to take the samples ourselves if you live close enough to bring your pet to us quickly (mailing is better if the samples would arrive to us sooner).

Should You Wait To Preserve Cells If Your Pet Is Healthy?

We believe anyone who eventually plans to clone their pet should pursue cell preservation immediately, for several reasons:

- The process has some risks even in the best conditions. Acting early allows multiple chances if needed (we only charge once).
- Taking samples amidst end-of-life grief poses many unnecessary obstacles. Better to secure cells preemptively.
- For healthy pets, vets can obtain tissues comfortably using routines like biopsy punches and light sedation. We caution against risks of general anesthesia.
- Mail delays, vet reluctance and other roadblocks become non-issues without an emergency timeline.
- We also encourage early action since unexpected tragedies, like a lost pet, can take any choice away suddenly.

Therefore, please strongly consider securing your pet's cells before confronting potential loss if cloning might be desired.*

**We want to share that Peternity Genetics actually does not profit from the cell preservation process. The fee represents our cost to operate the lab. We just know that you cannot ever proceed with cloning, if you haven't first preserved your pet's cells. So we try our best to give the most accurate information & instructions.*

What If Your Vet Will Not Perform The Procedure?

- Some vets will not do this procedure for living or deceased pets
- Many vets have no problem doing this procedure, and it is not painful as long as light sedation + local anesthesia is used.
- Please call around to other vets if your vet refuses
- We can give you a list of vets who have done this in the past; however, some may have changed their policies
- We are not affiliated with any vets
- You can do this procedure yourself
- See Quick DIY Alternative Instructions For Deceased Pets below
- place in refrigerator before urgently mailing overnight

Sterilization and Storage:

1. Shave the biopsy area and clean it with chlorhexidine and alcohol scrubs.
2. Use sterile hands, scalpel and forceps for the procedure.
3. Ensure the samples are stored individually in sterile saline (0.9% sodium chloride) in separate sterile cups or tubes.
4. Refrigerate the samples until just prior to shipping; do not freeze them.

Supplies Required:

- Razor
- Sterilizing Agent
- Sterile Gauze
- Scalpel Blade
- Tweezers
- Marker
- Sterile Blood Tubes (without anticoagulant) can be used
- Sterile cups, tubes, or vials
- Sterile Saline (.9% sodium chloride)
- Ice Packs (we recommend at least 4 fully frozen 24-ounce ice packs)
- Insulated Foam Cooler for Shipment
- Thick paper towels (like the blue industrial kind) or similar

Sterilizing Preparation of Biopsy Site:

- You must shave the biopsy area and clean with a series of chlorhexidine and alcohol scrubs.

<u>Tools and Technique For Vets:</u>

- You will need sterile scalpel and forceps.
- Please cut through all of the tissue layers including the epidermis, dermis, and the most superficial parts of the subcutis.
- Please remove 4 tissue samples (see sizes below)
- Using your sterile forceps, please place the 4 tissue samples in sterile saline (.9% sodium chloride), one sample per tube.
- Refrigerate samples until just prior to shipping.

Sample Types:

- We recommend taking tissue from the skin and ear.
- We would prefer to receive 3 or 4 separate samples from more than one tissue type and area.
- **We must have at least one ear sample from deceased pets.**

Sample Sizes:

- **Living Pet:** 2 mm x 2 mm x 2 mm
- **Deceased Pet / Ideal Circumstances (near constant refrigeration 5-7 days after passing):** 5 mm x 5 mm x 5 mm
- **Deceased Pet / Not Ideal:** 10 mm x 10 mm x down to & including fascia

Shipping Instructions:

- Place ice packs at the bottom of an insulated foam cooler (minimum dimensions: 25 cm length, 35 cm height; foam thickness > 4 cm).
- Wrap each sample container in thick (10 mm) paper towels to avoid direct contact with ice packs.
- Ship the samples via FedEx Priority Overnight.

What If You Can't Find A Foam Cooler?

Ideally, we would prefer you use a foam cooler. The foam is very important during warmer months (keeping in mind you are shipping to Sunnyvale, CA). However, you can improvise. Again, speed is critical -- do not delay while looking for the perfect cooler. Home improvement stores like Lowe's & Home Depot have foam sheets in various thicknesses. You can cut those with a knife, add that foam to line all sides of the interior and top of a regular cooler, then wrap well in duct tape. Or you could buy a high end cooler that guarantees cooler temps for longer. During certain times of the year, any cooler will work just fine, especially if you ship overnight.

What If You Can't Find Ice Packs?

You absolutely should not delay because of the need to freeze ice packs. Instead, buy heavy duty freezer Ziploc bags, double them up, and fill with ice. Put several around the wrapped sterile cups. This is better than waiting because delay is worse than not having perfect ice packs.

What If You Can't Find Sterile Saline?

You can find sterile saline in most pharmacies as nasal saline, and some contact lense solutions. Check with the pharmacist to find .9% sodium chloride formulations, or you can ask your vet. Most vets will have sterile saline.

Alternatively, you can make sterile saline with a combination of distilled water and table salt. Here is a recipe for sterile saline: https://www.med.umich.edu/1libr/PedSurgery/ColorectalProgram/SalineSolution.pdf Please note we do not recommend this method because it's easy to make mistakes. We would prefer that you purchase sterile saline. Making your own should be a last resort option.

Quick DIY Alternative for Deceased Pets: The details above are important. However, please keep in mind that speed is the most important consideration if your pet has passed. Do not delay attempting to be perfect. Every day is critical. Please avoid "analysis paralysis." You do not need to be perfect for this to be successful. The instructions above are the ideals. Avoiding ANY delay and refrigeration are much, much more important than perfection. Therefore we STRONGLY recommend that if you cannot immediately comply with all of the above instructions perfectly, you (or a trusted friend of family member) do this QUICK initial method: FIRST wash your hands, shave your pet's ear, wash your pet's ear with alcohol wipes, dry using a clean paper towel, wash any tools or scissors, then snip a small (10 mm) piece of your pet's ear, put that piece in sterile saline (you can buy nasal saline from most pharmacies or, worst case, you can make your own but that risks mistakes), in a sterile cup, wrap the cup multiple times with blue industrial paper towels to avoid freezing the samples in transit (thick like 10 mm total). You can also take a second piece from the ear, wrap that piece in sterile gauze (no sterile saline), put in a separate sterile cup, wrap with paper towels, and include that in the package. There are pros and cons to both methods (saline vs gauze). So sending both gives you the best of both worlds. Next, put ice packs in a regular foam cooler, and mail IMMEDIATELY via FedEx priority overnight.

Then, if you want to be sure you have every chance of success, after mailing those first set of samples in the interest of speed, you can take additional samples the next day, more carefully following the directions, and mail those additional samples the following day, or as soon as you have them (that would still be very urgent).

Regardless of what you decide, we cannot stress enough the critical importance of SPEED, basic sterilization, and refrigeration, above all other concerns. DO NOT DELAY.

Additional Tips for Anyone Doing This Yourself Post-Mortem:

- We cannot provide detailed phone guidance on taking samples yourself. However, please be confident that you can take them yourself with no problems.
- We recommend that you enlist a friend or family member to help if at all possible -- this process would be emotionally difficult for any pet owner after losing a beloved pet.
- refrigerate samples before mailing.

A Word About FedEx Priority Overnight: Shipping perishable items may be against FedEx's terms of service. You may choose not to disclose that you are shipping perishable items, if you wish, to avoid being denied service.

Shipping Address:

Send them to the address below, using the fastest possible courier option, e.g FedEX PRIORITY OVERNIGHT (preferred) or UPS Express Services etc.

Fan Huang
Peternity Genetics
725 San Aleso Avenue, Suite 3B, Sunnyvale, CA 94085
+1 4083681364

Phone, Text & Email Support:

We apologize that we are not always able to provide immediate phone support regarding these instructions. Please know we make every effort to promptly respond to text & email inquiries, though response times may vary from immediate to a few hours, or in rare cases as much as 24 hours.

Thank you very much for choosing Peternity Genetics to begin the preservation of your pet's DNA. We are honored to help you with such an important process.