

How to Monitor a Surgical Incision During Healing

BACKGROUND

The normal healing process of any wound involves mild inflammation of the skin: a rosy pink color is expected along the edges of a surgical incision while it heals. However, excessive inflammation, swelling, and drainage of fluid from the incision are cardinal signs of infection, which can be a potentially serious (and common) complication after surgery. Identifying excessive inflammation early can prevent complications. Therefore, it is important to be able to identify excessive inflammation and signs of infection, and the goal of the summary here is to explain how to do this as well as how to minimize the risks of infection before a problem occurs.

The term *suture* is the same as “stitches.” Some sutures are made of a material that is absorbable. These are under the skin or in the body and are not visible. They do not have to be removed because they dissolve over time. More commonly, sutures are nonabsorbable and are visible on the surface of the skin. Alternatives to nonabsorbable sutures are “liquid sutures” (tissue glue), which bond the skin together when the incision is small (and need not be removed), and steel surgical staples, which must be removed like nonabsorbable sutures but using a special staple remover clamp. Any of these kinds of suture is acceptable, alone or in combination, for surgery in dogs and cats. Any nonabsorbable sutures or staples will have to be removed by your veterinarian or veterinary technician once he or she has determined that the incision has healed.

GETTING STARTED

The process of monitoring an incision is simple: no equipment or materials are needed, only a well-lit area to see the incision and a repetitive routine for consistent monitoring.

Checking your pet’s incision morning and night, every day for the first 7-14 days after an operation, will allow you to see the healing process. This will also provide you with the opportunity for early detection of infection or irritation. Ideally, you should ask your veterinarian or a veterinary technician to look the incision over with you before leaving the veterinary hospital. If this makes you uncomfortable, it is a good idea to ask a family member or friend to be there and to help with the monitoring.

Looking at your pet’s incision when you first get home from the veterinary hospital will provide you with a baseline mental point of reference. Continue to inspect the incision each morning and night, and more often if your pet is showing an interest in licking or scratching it or if you detect any abnormalities in the incision or your pet’s behavior.

Some types of incisions/wounds require placement of drains. A drain is usually a thin, flat, latex tube that is secured with sutures under the skin and soft tissue. It allows fluid to drain around it (not just through it) so tissues can heal appropriately.

Although your pet’s incision may look very securely repaired immediately after surgery, pets can take out external and internal sutures as well as drains quickly through licking or scratching. There are various options to help you protect your pet’s incision from licking and scratching, including Elizabethan collars (lampshade-type collar), T-shirts, bandages, or covering the paws with soft fabric (socks). Sometimes one or more of these protective measures is needed, depending on a pet’s personality and energy level. It is just as important to protect an incision from other pets in the house that might lick it. An easy way to avoid extra visits to your veterinary hospital is to be committed to monitoring and

protecting the incision as it heals, which is typically a 2-week period of time.

It is common to receive prescriptions of antibiotics and pain medication to give to your pet during his/her recovery. While they are not required in every situation, when these medications are prescribed, it is important to give them as instructed by your veterinarian (and on the label) until they are finished. Antibiotic therapy when an infection is suspected or confirmed, pain medication, and incision monitoring are all important means to support a healthful recovery.

TROUBLESHOOTING BEFOREHAND

Frequently the activity level that is normal for your pet would be enough to cause extra oozing or swelling at a surgical site within the first several days after surgery. To avoid these complications that delay healing, it is best to restrict exercise to a few on-leash walks daily during recovery. If your pet is very active inside the home, then restriction to a kennel or crate may be necessary.

If you notice that an incision is turning darker red, is oozing more than when you first came home from the veterinary hospital, the margins of the incision appear to be coming apart, or your pet refuses to eat, is restless, is trembling or becomes obsessed with trying to lick the incision, there may be a problem. It is possible that the incision has become infected, is painful, or both. Your pet may need additional treatment, and if you observe any of these symptoms, you should contact your veterinarian promptly to determine if an immediate recheck is necessary.

PROCEDURE

Look at your pet’s incision in a well-lit room. If the incision is on the abdomen (belly), for example, carefully roll him/her over onto his or her side, keeping the four legs bunched together to avoid stretching the belly wall, and then slowly release the legs and examine the belly so you can inspect the incision clearly and completely.

When looking at the incision, be sure to note the color of the skin at the incision line, the amount of swelling in the area and surrounding areas, and whether or not there is any discharge (oozing of fluid). One helpful tip is to take a photo of the incision on the first day home so you can compare objectively in the future by looking back at the original photo for comparison.

Color

At the incision edges, the skin may be pink to light red initially. Monitor for fading of these light colors back to the normal color of the skin, which is normal for healthy healing. If the color of the incision appears to intensify over time (from light red to dark red), an infection may be developing. Bring these changes to the attention of your veterinarian immediately. It is possible to have some bruising in this area as well. These findings should lighten and resolve over the next several days of recovery. It is normal for a bruise to change from light red to purple as it heals. However, if you notice that new bruising develops that your veterinarian was not aware of, it is important to alert your veterinary staff immediately.

Swelling

Mild swelling can be expected at an incision site immediately postoperatively. The amount of swelling depends on the type of surgery and the reason for the surgery. A routine surgery may have minimal swelling, whereas a traumatic injury repair may have more. If swelling progresses rather than resolves after surgery, tell your veterinarian.

Discharge

The amount of fluid that oozes from an incision depends not only on the reason for the surgery but the location of the incision. Your veterinarian can discuss the amount of discharge you can expect to see with your pet's specific incision. The discharge is normally light red in color. A change in color of this discharge from light red to dark red (like blood), together with an increase in amount of fluid discharge and a reddening of the incision edges, may indicate an infection is developing. If the color of the discharge becomes yellow, white, or green (like pus), an infection is almost certainly present, and a recheck examination of this surgical site is necessary to identify the best treatment.

If your pet's wound repair required a drain, routine cleaning will likely be necessary. It is preferable to use sterile gauze moistened with povidone-iodine (Betadine) solution, diluted with tap water to a light tea color, or chlorhexidine solution (light blue or pink, may be provided by your veterinary hospital) for lightly wiping or dabbing the incision or drain for cleaning. It is good to carefully remove dried discharge from an incision and around a drain, because caked discharge may seal a drain closed and stop the draining process. It may be easier to clean and more comfortable for your pet to first

hold a very clean, warm washcloth to the area for several minutes to moisten and soften any dried discharge.

AFTERWARDS

When drains are placed as part of a surgical operation, they generally should be removed 3-5 days later. When they are removed is based on when the wound is done draining. This will be determined by your veterinarian or veterinary technician prior to removal, but you should keep track of whether the amount of fluid discharge from a drain is increasing, decreasing, or staying the same over time. This will help with the decision to remove a drain or leave it in place for a few more days.

Sutures and staples are usually removed in 10-14 days. Sometimes an incision may look healthy on the outside when in fact it has not actually finished healing. It is important to return to your veterinary hospital for the suture removal so your veterinarian or veterinary technician can examine the incision and ensure it has properly healed prior to suture removal. If an incision has not completely healed, the veterinary staff will be able to respond quickly and provide you with a new time line for continued care.

FREQUENTLY ASKED QUESTIONS

When does the pain from an incision go away?

Generally, pain from a skin incision is almost completely gone in 24-48 hours. If your pet appears painful longer than this, please contact your veterinarian. A recheck examination may be necessary. However, the itchiness of an incision healing starts a few days after surgery as well. It is common for a pet to start showing interest in licking an incision after being home.

There are no stitches on the outside (my doctor said they are internal and will dissolve). Is the same monitoring required?

Yes. It is just as important to protect these incisions from licking, scratching, and infection while they heal. Occasionally, especially if the dog or cat licks the incision, internal stitches can protrude through the skin. This is a direct portal for infection (wicking effect), not to mention a risk for the stability of the whole incision. Therefore, prevent any licking or chewing of the incision, and if you believe there is suture material visible when it was not visible previously, contact your veterinarian for a prompt recheck.

A few stitches are missing from my pet's incision, but I didn't see him/her lick it. What do I do?

It is often best to call your veterinary hospital, alert them to the issue, and discuss your pet's specific type of incision. Some situations will be solved by simply using more protective measures (see "Getting Started" above), while others will require veterinary attention.

I thought a dog's mouth was clean. Isn't licking the incision just a natural way to clean it?

This is one of the most hard-held folk tales in veterinary medicine. Actually, both dogs' and cats' mouths are loaded with bacteria, which require a copious amount of immunoglobulin (antibodies) to be produced in the mouth. The folk tale only considers this last part, the antibodies. The action of licking transfers both bacteria and antibodies onto the incision; the bacteria multiply but the antibodies do not, and this is how an infection begins. Licking also causes itchiness that stimulates more licking. For both these reasons, all pets need to be prevented from licking their skin incisions for at least 10-14 days after surgery.

OTHER RELATED INFORMATION SHEET

- [How to Assemble and Use an Elizabethan Collar](#)

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