

Hypothermia Prevention at Spay/Neuter Clinics



Learn critical procedures to help prevent hypothermia in your spay/neuter clinic, including top equipment tips and a how-to video.

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Chapter 1:

Normal Patient Protocol

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Hypothermia is a tremendous risk factor for post-operative complications in patients.

Exhaustive efforts should be employed to combat it, and we have identified the following top ten critical procedures.

1. All cats have a blanket/towel placed in their newspaper-lined cage immediately after check-in.
2. After pre-medication, all dogs are placed in a clean newspaper-lined cage with their blanket/towel hung on the front of the cage. Once the side effects of the premedication are worn off (i.e., vomiting/defecating), the cage is cleaned, lined with fresh newspaper, and the dog is wrapped in the blanket/towel. Patients are checked at several points throughout the day. If their blanket/towel or newspaper becomes wet/soiled, the cage is cleaned and fresh newspaper with a new blanket/towel is provided.
3. After induction, all patients will have baby socks put over their feet on the prep table.
4. Bottles of surgical scrub and solution are kept warm in small, water filled slow cookers. Ensure the solution is warm prior to applying for surgical site sterile preparation.
5. Surgical tables are heated with a water re-circulating pad placed over a towel covered thoracic positioner. The towel helps prevent any punctures to the pad. The temperature is automatically set to 105°F on the heat pump for the pad.
6. Every patient will have a clean, dry, appropriately sized blanket/towel on the surgery table and in recovery. "Appropriately sized" means that the blanket/towel covers the entire animal (head-to-tail), including its feet. If it is determined, once on the recovery mat, that the blanket/towel is not of an appropriate size, an additional blanket/towel will be wrapped around the animal. It is unacceptable for a recovering animal to have anything but his/her head exposed while on the recovery mat, unless s/he is awake, moving, and awaiting transportation back to his/her cage.
7. The recovery mat is set up in layers with a rubber mat placed against the floor followed by a Mylar emergency blanket to insulate the heat towards the patient. The next layer is an electric blanket encased within a twin sized waterproof mattress cover. The electric blanket is turned on to the high setting. A clean thick quilt is then placed on the recovery mat as the top final layer. The veterinary assistant setting up the recovery mat in the morning is responsible for making sure that the electric blanket is operational, and that it extends the full length of the recovery mat.

8. Every patient will have at least one warm rice bag placed adjacent to him/her while on the recovery mat. This rice bag should be checked periodically to assure it is still warm. The rice bag should never directly touch the patient and should be placed beside the patient, outside his/her personal blanket/towel.
9. Patients with a prolonged recovery will have his/her temperature taken, and anything below 99°F will be considered hypothermic. The team technician and doctor will be notified and these animals will have additional heat loss prevention steps taken such as being wrapped in an emergency blanket and additional warmed rice bags placed adjacent to them. Proactive warming steps (i.e., warm SQ/IV fluids, warm blankets) should be considered. Make sure to always first run SQ/IV fluids on your skin to make sure they are warm.
10. Any patient that is hypothermic, but too awake to remain on the recovery mat, will go back to his/her cage with additional blankets/towels, and several warm rice socks contained in a plastic sleeve will be placed adjacent to them. A "Please Remove My Rice Sock" sign is then placed on the front of their cage. For aggressive animals, only additional blankets/towels are provided.

Chapter 2:

Pediatric/Small Patient Protocol

Pediatric and small patients are at greater risk of heat loss, so additional measures are taken to the ones listed in the previous chapter.

1. After the premedication side effects have worn off (i.e., vomiting/diarrhea) and the cage is cleaned, pediatric/small dogs are wrapped in their clean blanket/towel, and a warm rice sock contained in a palpation sleeve is placed adjacent to them.
2. Small or pediatric patients are always contained in a blanket/towel from induction through recovery.
3. For additional insulation on the prep table, bubble wrap is placed under their blanket/towel.
4. Warm rice bags will be placed on the side of these patients while on the prep table if a significant portion of their body is exposed out of the thoracic positioner.

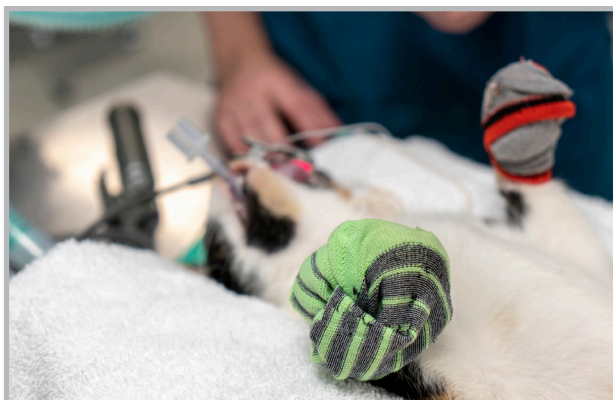
Chapter 3: Tools to Help Prevent Hypothermia

Warming Prep Solutions



Warming up prep solutions can help prevent hypothermia. Ideally, use a large crock pot with a *warm* setting, to keep multiple bottles of scrub and solution at an optimal temperature and readily available. Two to three inches of water in the base of the pot will suffice.

Baby Socks



Baby socks are a simple way to help prevent hypothermia by reducing heat loss through patient extremities. You can ask for donations or find them at your local thrift store. Ensure that all socks are laundered after every use to ensure no cross-contamination occurs between patients.

Circulating Hot Water Blanket



The circulating hot water blanket is a safe method of combating hypothermia, as it is able to maintain a constant temperature. We typically use a blanket or towel between the patient and the hot water blanket to reduce potential for cross contamination between patients and to maintain the longevity of the blanket.

We use the existing “patch kit” patches that come with the blankets for any repair work. They can also be ordered separately. Instead of the adhesive they provide, however, we use a waterproof polyurethane glue, as it bonds better and lasts longer. A flexible sealing tape is a quick alternative that will not last quite as long, but holds well for short periods.

Using Rice Socks to Warm Patients & Prevent Hypothermia



Tube socks filled with three to four cups of rice and knotted at the end (or eight to ten cups in a knotted pillow case) can be used to keep patients warm in the recovery area. With a few precautions in place, there is no risk for burns. They can also be used in kennels during recovery, sheathed in a disposable glove to protect them from contamination. Heat them in a microwave to a safe temperature ($\leq 102^{\circ}\text{F}$) and keep warm throughout the day in a cooler by the recovery area. Always test the measurement/time/model combination to ensure a safe temperature before use and change out the rice periodically.

Caution: Never place the sock/pillowcase directly against the patient. There should always be a towel or blanket in between it and the patient.

Recovery Area



Build a simple and inexpensive recovery area to keep patients comfortable and warm immediately following surgery with a layered blanket system, incorporating:

1. Exercise pads
2. Space blanket
3. Electric blanket in a waterproof mattress cover
4. Comforter

Keep patient care supplies (thermometer, lube, corn syrup, scanner, laminated signs) close by in a tote or carry tray.

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