

Policy on Supplemental Heating Devices

Investigators who anesthetize animals for experimental manipulations (e.g. surgery, imaging, specimen collection) are encouraged to use a supplemental heat source in order to avoid hypothermia and to hasten recovery time.

Because electrical heating pads have uneven temperature gradients across their surface and/or may malfunction, they can cause thermal injury. **Due to this potential hazard, the use of electrical heating pads is not permitted for any University of Rochester research animals, except in the following circumstances:**

1. When placed under a cage containing 0.5cm deep bedding.
2. When placed under a 0.5cm thick sheet of plexiglass or a ceramic tile. UCAR recommends using liquid crystal strip thermometers on top of these surfaces to monitor the temperature.

The use of materials such as paper towels, surgical towels, or blue absorbent pads between an electrical heating pad and an animal is insufficient to protect animals from thermal injury.

Acceptable supplemental heating devices

Heating devices that deliver a controlled temperature are preferred. Examples include:

- warm water blankets and circulators (e.g. Gaymar)
- forced air animal warmers (e.g. "Bair Huggers")
- far infrared warming pads
- rodent warmers (e.g. Stoelting)
- Deltaphase isothermal pad
- Slide warmer (set to <43C)

Other devices may be used with caution. Their use should be reserved for situations in which preferred devices cannot be used (e.g. during transport, MRI imaging) or when additional heat is needed to maintain the animal's core body temperature.

- Precautions to prevent thermal injury
 - Thoroughly mix/agitate the device to ensure an even temperature across the surface of the heat source.
 - Wrap the heat source in a thick insulating layer (0.5cm thickness) of a protective material such as bubble wrap, drapes, towels or blankets
 - Place wrapped heat sources against furred skin
 - Measure the surface temperature
- Examples
 - microwavable warming pads (e.g. SnuggleSafe, K&H)
 - thermal gel packs (e.g. Space Gel)
 - hot water bottles
 - hot rice bottles
 - instant heating devices (e.g. "Safe and Warm")
 - heat lamps positioned above an enclosure

Any heat source has the potential to cause thermal injury, even when exposed to a heat source just a few degrees above body temperature over a longer period of time. Regardless of the method used, remember to monitor animals closely to ensure that they do not sustain a

thermal injury (skin reddening) or become hyperthermic (elevated core body temperature, increased respiratory rate).

Regardless of the device in use, if it appears to be in disrepair, or is not working as expected, it should be immediately discarded. Microwavable gel devices have a limited lifetime and over time may need more time in the microwave to heat the gel. The result may be uneven heating with localized hotspots that are much warmer than the other areas of the pad. If the pad is older, or you notice that it takes longer to heat it to the proper temperature it should be discarded.

All devices must be used following manufacturer's recommendations regarding duration of heating, lifespan/replacement and/or maintenance.

If you would like information about any heating methods, please contact DCM veterinary staff at X5-2651.

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