The Advantages of Alternative Cooling Techniques:
Dry Ice, Polymer Refrigerants, and more

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Photos by ***CHAR BARRETT***

Home funeral and green burial families are eager to care for their loved ones as naturally as possible. This necessitates shifting paradigms and practices that eschew the use of toxic chemicals. In the absence of embalming of any sort, cooling the body is of paramount importance.

Each state has different rules and regulations regarding method, time elapsed, whether dry ice is considered refrigeration and several other considerations, so it is vital that both the family and the funeral director know those parameters at the outset. To learn more information pertinent to cooling requirements throughout the U.S., go to www.nhfuneral.org>Writings.

What is also important to be prepared for is the wait time and travel considerations if green burial is involved. Arriving at the venue with off-gassing dry ice might be equally distressing for the family as wet shrouds from poorly insulated or condensing gel packs. The following is a discussion of various acceptable cooling techniques that may need to be improvised upon, depending on the length of vigil, sheltering time, burial circumstances and logistics.

Techni-ice or Other Polymer Refrigerants

Polymer refrigerants are highly recommended by the NHFA for their long life, reusability, absence of off-gassing or condensation, size versatility, and relative ease of activating and using for family members. Once activated, the sheets stay effective up to 3-4 hours when used beneath and on top of a cooling body. As the body cools, the time of effectiveness lengthens until, in many cases, it is no longer required. Each sheet can be cut to fit the dimensions needed for the individual, beneath and on top of the torso, and switched out as necessary with little disturbance. Some prefer to encase the activated sheets in a pillowcase or ornamental cloth, or add the changing of the ice to the ritual process.

Dry Ice

In many parts of the country, dry ice is difficult to come by. It also requires special handling to avoid burning the skin of either the user or the deceased. Room ventilation is imperative to accommodate off-gassing for the safety of the living. The following are considerations and advice if dry ice is chosen as the primary cooling method.

How long is the family anticipating holding their home funeral vigil?

The biggest issue regarding the application of dry ice is whether families are decided or not about their plans for a home funeral vigil. They may slowly evolve to the idea of keeping the body at home after death, during which time the body may not be cooled. They may then decide at the eleventh-hour to keep the body for another two days, and then expect dry ice to miraculously cool the body and maintain the body's current condition. By then, it's typically too late. Nature has already begun her process, and this is when families may witness purging of the body. Cooling the body within the first four to six hours following death helps to achieve a much better outcome.

Having a solid answer to this question also helps determine how much dry ice is necessary throughout the home vigil. The body will absorb the most amount of cooling from the dry ice in the first day, since the initial temperature of the body (98.6°, or often higher due to infection/tumors/etc.) is so much higher than the cool temperature required (typically 47 or 48 degrees in most states) throughout the vigil. For this reason, dry ice may or may not be used on the second day. By the third day, it is often necessary to use more, depending on whether this is the departure day for the cemetery or crematory, or not.

How can freezing be avoided?

It's a delicate balance, and an artful one at that, managing to keep a body cool with dry ice without freezing. If potential freezing is an issue, changing out smaller amounts on a regular basis will address the issue, but the family must understand the body will need to be disturbed (moved, rolled to one side, etc.) more frequently.

Using a 3-inch foam pad on top of a mattress or massage table, or whatever surface the family chooses, helps. The foam is soft and allows the 2-inch thick (generally 7-10 lbs.) dry ice blocks to sink down somewhat so that the body remains fairly even on the surface, though an extra small pillow is usually required for the head. It also helps to protect the mattress or massage table from the freezing temperature of the dry ice (or any form of ice that may be used).

The foam pad also serves to insulate the dry ice so that it lasts longer. To further insulate and separate the ice from the body, place it in paper bags and then sandwich it between two thick bed pads or draw sheets underneath the body. Towels could also be used. It may not be necessary to change the ice that is under the body again until the 3rd day.

The ice placed on top of the body can either be smaller chunks of dry ice or Techni-ice wrapped in paper bags and towels or pillow cases. Towels help absorb moisture caused by condensation. The ice on top is more exposed to the air and therefore will need to be changed more frequently. Dry ice on top usually needs to be changed once a day.

Let the family know that any parts of the body nearest the dry ice will most likely freeze that part of the body. If the family is open to the use of dry ice, it certainly helps to preserve the condition of the body along with stopping any purging. With any early signs of purging or seepage of any wounds or orifices, dry ice is highly recommended, but other forms of

cooling may suffice, depending on the family's preference.

Will the family have an issue with disturbing the body?

Many families choose to surround the body with elaborate sacred objects, flowers, altars, etc., and want the body minimally disturbed. In this case, the issue is a higher priority than monitoring the temperature of the body. The less dry ice you use to help avoid freezing the body, the more times you need to replace it throughout the vigil, thus disturbing the body.

Does the family have religious or spiritual objections, either to the use of dry ice or to not having the body touched at all?

Many traditional Buddhist families do not want the body touched at all, including bathing, yet understand the need to keep the body cool. Placing dry ice alongside the body, using sheets as draw cloths so as to be careful not to physically touch the body, is usually an effective compromise everyone can live with.

How will air temperature during the vigil influence what blankets will be used under or on top of the body?

A winter time vigil with a window slightly propped open will require less dry ice than a 90 degree summer day. Likewise, the insulating qualities of some blankets (100% wool, for example) may keep the cooling effect of the dry ice from reaching the body. Insulating the body with the right balance of blankets and "artfully applied" dry ice may keep freezing from occurring.

Cooling Towels and Vests

Another effective method of quickly cooling the body is to use cooling vests and towels, though they require advance preparation and are somewhat awkward to move and replace. However, they do a great job in bringing the temperature down evenly and gradually without any detrimental side effects, and they hold the cold for longer periods of time than other methods. Pricing varies and we recommend looking for items that don't use zippers or Velcro or other complicated means of holding it together. Some are as simple as an insulated, fleece-covered, vest-like frontal sheet, small enough to fit into the freezer but large enough to cover all the essential organs. This method is not conducive to use during transport.

Other Methods

For families willing to go old-school, open windows in cool weather may be the way to go. Finding family members who can agree on the appropriate temperature of any room can be a challenge under any circumstances, so keeping the room below 65 degrees for an extended period of time may be especially so. Air conditioning is a great compromise and is more easily managed and reliable. And in an emergency, well-insulated gel packs when properly used for short periods will do in a pinch.