



FUNERAL DIRECTORS' DRY ICE INSTRUCTIONS

If you are at all familiar with cryonics, you may know that the procedures for a successful cryopreservation must be done as quickly as possible. It is important that a patient be cooled down immediately after being pronounced legally dead and should then be transported to our facility promptly for the perfusion of our cryoprotective solutions and further cooling to liquid nitrogen temperature.

As you have probably encountered before in the funeral industry, sometimes people are not always prepared and may not have their end of life matters in order when an emergency arises. This can sometimes complicate the situation and places the burden on the next of kin to make the decisions and arrangements. The same sometimes occurs in cryonics, except it causes a more complicated situation than if the person wanted to be buried or cremated.

In order for someone to become a patient and be cryopreserved, our organization requires that the person is a member of the Cryonics Institute (CI), have a signed Cryonic Suspension Agreement, and have provided us with proof of contract funding.

Considering these requirements, we do our best to encourage prospective cryonics patients to be prepared and have their affairs in order, in case an emergency were to arise. Unfortunately, this is not always the case. We have had to establish a protocol for these types of situations, to protect the Cryonics Institute and also the prospective patient and their family.

If someone has already died and is not a member of the Cryonics Institute at the time of death, and therefore does not have a signed contract or funding, we require that the prospective patient remain on dry ice for a minimum of two weeks from the time CI was contacted before we can accept that patient. Only a funeral director can be legally in possession of the patient's body during this time. During the two week minimum, the legal next of kin or the person with legal authority over the remains will have the time to complete the necessary paperwork and make the payment in full to CI. It also gives the next of kin the chance to be sure they are making an informed decision instead of a rash, emotional decision. Cryonics is currently an experimental process and there is no way of knowing if reviving the patients will ever be possible. We are hopeful that the future technology needed for this will be developed, but no one can predict the future. Our members are aware of this when they sign themselves up for cryopreservation. We want to ensure that the next of kin of the prospective patient has a full understanding of this because we do not want them to enter into an agreement without understanding the agreement.

It is unfortunate when a situation like this arises because the conditions for the cryopreservation are not optimal. After the prospective patient has remained at the funeral home in dry ice for the minimum two week period, a perfusion with our cryoprotective solutions is not possible and as a result, there will be considerable freezing damage. These poor conditions may reduce the chances of the patient's revival, but we are currently unable to determine that. That is why we still choose to accept the patient and do our very best in honoring the wishes of the patient and their next of kin. Following this paragraph are the guidelines for what you, as the funeral director, will need to do to help the patient receive their final wish.

As soon as possible after legal death, the prospective cryonics patient should be stored with dry ice, solid carbon dioxide at -80 degrees Celsius, to minimize decomposition of tissue during the minimum two-week period. The patient should be placed in a well-insulated box for storage in dry ice. A Ziegler shipping container can be insulated and used for this purpose. The bottom, sides and top of the box should be lined with insulation, preferably foam-board insulation, although fiberglass wool insulation can be used as well. Such insulation should be easy to obtain from a Home Depot, Lowe's or hardware store. The box should be large enough to contain the patient, the insulation, and at least 200 pounds of dry ice. The yellow pages of most metropolitan phone books generally have a separate entry for "Dry Ice", listing vendors supplying dry ice. Otherwise, local ice cream shops will often be able to supply phone numbers of dry ice suppliers – or the phone numbers of their suppliers of ice cream, who use dry ice for storage.

Insulating a Ziegler can be done quickly and easily by getting the foam sheets of insulation and cutting them to fit inside the Ziegler shipping container with a utility knife. You do not need to take great care to make sure the insulation is cut perfectly, and if there are gaps in the insulation it will not cause a problem.

Once the Ziegler is lined with insulation, you will need to put a layer of dry ice (about an inch or two thick) in the bottom of the Ziegler. The patient should then be wrapped in a blanket and placed in the Ziegler, on top of the layer of dry ice. It is very important that the patient's arms are down tight at their sides, to make the patient as slender as possible. Please do not place the hands on the chest with the elbows out. It is also important that the patient's head lay flat, with no positioning device under it, only the dry ice. We need the patient to be as slender and flat as possible for the best positioning in the cryostat. It is critical that the patient is positioned correctly before being covered with the dry ice because their position cannot be changed once they are frozen. Next, cover the patient with dry ice and place a piece of foam insulation over the dry ice, then the cover should be placed on the Ziegler.

This amount of insulation will be adequate for shipping the patient. However, since the patient needs to be stored in dry ice for at least two weeks, you can cover the outside of the Ziegler with fiberglass wool insulation to provide more insulation and make the dry ice last longer. The dry ice will evaporate more quickly at first because the patient's body temperature is relatively warm, compared to the dry ice. Once the patient's body

temperature is lowered to the temperature of dry ice, which takes approximately three days, the dry ice will not evaporate as quickly and it will last longer. You will want to monitor the amount of dry ice and add more as needed while the patient is in your care before being shipped to our facility.

Only after at least two weeks on dry ice, and only after payment and approved contracts have been received by the Cryonics Institute, will the funeral director holding the patient on dry ice be given instructions for shipment to the Cryonics Institute. These procedures are in place to protect all of the parties involved and we appreciate your willingness to comply. We understand that this may be an unfamiliar situation, so we are more than happy to answer any questions or discuss any concerns you may have.

