

## ***Embalming Tips for Donors***

These tips are to be used as a reference tool and should not be considered the only effective method of embalming an organ and tissue donor. The embalmer should use his or her judgment to analyze and choose the best method to ensure proper preservation based on the donor's condition.

### **Organ Donation**

**Organ donation can include heart, lungs, liver, pancreas, kidneys and intestine.**

The recovery procedures vary slightly for each organ, however the initial operative procedure begins with a long midline incision entering the thoracic and abdominal cavities so all organs can be easily removed by the surgeon. *When kidneys are the only organs recovered, only the abdominal cavity will be incised.*

While embalming an organ donor is similar to embalming an autopsy case, some embalmers choose to inject from multiple sites and not open the midline incision. Follow these steps when the incision is opened:

- Iliac arteries and carotid arteries should be tied off for identification.
- When embalming the body of a heart and lung donor, inject the left and right subclavian arteries from inside the thoracic cavity to preserve the arms and shoulders.
- Inject the left and right common carotids to preserve the head.
- Inject the abdominal aorta to preserve remaining abdominal viscera, trunk and legs. **It is important for you to know that in liver recoveries, a portion of the iliac arteries and abdominal aorta are removed.**
- When the liver, kidneys, intestines and pancreas have been donated, the body can be embalmed with the six-point injection method. For the six-point method, the right and left common carotids, axillaries and femoral arteries are used.
- Hypodermically inject the trunk walls as needed.
- Treat the abdominal cavity in one of three ways:
  1. Fill the thoracic cavity with phenol cavity packs.
  2. Use a drying or hardening compound as an alternative to using cavity fluid packs in either the thoracic or abdominal cavities.
  3. Aspirate and inject cavity fluid after suturing the cavity closed.

## Pericardium Donation

The pericardium is recovered using a U- or V-incision on the chest, much like an autopsy incision. Pericardium recovery does not affect the heart or vascular system, so it is not necessary to open the chest incision to embalm. The recovery team will communicate pericardium recovery to the embalmer with the use of a label left with the donor.

## Skin Donation

Skin is recovered by two methods: surgically, in a large graft, normally from the back; and in thin layers with a dermatome, normally from the legs. Surgical skin recovery involves both the dermal and adipose layers, which should limit leakage.

- Pre-treat the skin recovery area with embalming gel, phenol or cavity packs and cover the area with plastic to control fumes.
- Use a high index arterial solution, avoiding solutions containing lanolin and humectant co-injection fluids.
- Following the embalming of a surgical skin donor, place the body on blocks or body rests so that back does not rest on the table. You may want to consider running a fan near the donor to speed drying of the skin recovery area.
- Place the absorbent vest or pad on surgical skin donors before placing the donor in the unionall.

## Bone and Connective Tissue Donation

**Bone Donation can include femur, tibia, fibula, calcaneus (heel), iliac crest, hemi-pelvis, humerus, radius and ulna.**

*Maintaining the integrity of blood vessels in long bone donation is difficult. In an effort to assist with embalming, the femoral arteries and veins along with brachial arteries and veins should be tied off with a plastic zip tie for easy identification.*

- Open the sutures at the site of the procurement and apply autopsy gel or Dryene to the exposed tissue and cover with plastic. *Some embalmers report good results by opening only the upper extremities and hypodermically injecting the legs.*
- Inject the areas not affected by donation by using the femorals or iliacs to inject upward using a high-index arterial solution. When the humerus has been recovered, the axillaries and/or brachials can be used to inject upward. Raise additional arteries for injection as needed.
- Remove the cauterant packs and arterially inject the arms and legs, using hemostats to clamp leaks.

- Hypodermically inject any tissues that require additional preservation and apply additional cauterant to these areas as needed.
- Allow the cauterant to sit for some time or while completing cavity work.
- Remove the cauterant and reposition prosthetics as needed. You may apply embalming powder inside the procurement site prior to suturing the incision closed.
- Suture the incision with a tight baseball stitch. Excess moisture can be controlled with DodgeSorb, which is provided with each donor. One tablespoon of DodgeSorb absorbs eight ounces of fluid.
- Use plastic garments as a safeguard against leakage.

## Vessel Donation

**Vessel recovery can include saphenous veins, femoral veins and arteries and aortoiliac arteries. When recovering the saphenous vein, the incision follows the path of the vein and may not be straight.**

- When the saphenous vein is recovered but bone of the leg is not, the vasculature will likely be intact allowing for a one-point injection.
- When the femoral vein and artery are recovered, the popliteal artery below the knee will be the only large vessel remaining. Hypodermic injection of the leg will likely be the most effective method of preservation for these donors.
- With femoral vein and artery recovery, the iliac artery will be identified and tagged to allow you to inject upward to the areas not affected by donation.

The aortoiliac artery is recovered using a Y-incision over the lower abdomen. A portion of the aorta along with the proximal iliac arteries is recovered and the remaining iliacs should be tagged for identification by the embalmer. Embalm the aortoiliac donor in one of three ways:

1. Open the abdominal incision, locate the abdominal aorta and the tagged iliac arteries and inject through these vessels
2. Use a multi-point injection to embalm the extremities, head and trunk.
3. If the femoral arteries have also been recovered, treat the legs hypodermically or with cavity packs