



Current assumption for these guidelines:

The case at hand is a suspected or confirmed Covid-19 case.

Removal from a Hospital or Medical Examiner's Office

With each case you handle always assume that the **exterior** of the pouch or shroud has been contaminated by the personnel who placed the deceased into it before you arrived. Assume the outside surface is as contaminated as the inside of the pouch. Implement careful protective measures. **ALWAYS THINK- CONTROL THE CONTAMINATION**

1. Use Proper PPE & double gloves
2. Before you move the body, spray the **entire** surface of the pouch or shroud with a quality disinfectant.
3. Before you move the body, drape a clean plastic body wrap, clear plastic or pouch over the entire mattress and upper frame on your cot. This step is to insure that you do not contaminate your cot.
4. Pull the body over onto your clean sanitary cot then remove the first layer of gloves and place them on top of the original hospital bag.
5. Carefully wrap or close your bag with your clean gloves. Take care not to contaminate your clean bag.
6. At an appropriate location and time, remove your PPE and place it in an appropriate bio hazard disposal container or bag.
7. Before you load the cot into your removal vehicle spray the wheels with a quality disinfectant.
8. If you have followed all of the above steps carefully you will be more likely not to contaminate your cot, yourself or your removal vehicle.

(Be sure to use a disinfectant product that will not cause corrosion of the cot wheels or structure)

(Do not use household bleach on your cot)



Removal from a Nursing Home (Please read - there are some variations to the steps used at hospitals)

With each case you handle always assume that the **exterior** of the pouch or shroud has been contaminated by the personnel who placed the deceased into it before you arrived. Assume the outside surface is as contaminated as the inside of the pouch. Implement careful protective measures. **ALWAYS THINK- CONTROL THE CONTAMINATION**

Note: If the body has been placed in a pouch by the nursing home, use the hospital guidelines above. Otherwise use the following suggested guidelines and adapt as necessary.

1. Use Proper PPE & double gloves.
2. Before you touch the body, spray the **entire** surface with a quality disinfectant.
3. Before you move the body place a thick towel completely over the mouth, nose and eyes. If desired you can spray disinfectant on the towel. Two or three sheets of webril can also serve this purpose. Be careful that you do not dislodge the covering during movement of the body.
4. Before you move the body, drape a clean sanitary body wrap, clear plastic or pouch over the entire mattress and upper frame on your cot. This step is to insure that you do not contaminate your cot.
5. Completely wrap the body in your clean linen sheet or plastic, sheet or pouch. I do not recommend wrapping the body in the bed sheet the body is resting on because it is **likely highly contaminated**.



6. Pull the body over onto your clean sanitary cot then remove the first layer of gloves and place them on top of the hospital bag or at the side of the body.
7. Carefully wrap or close your bag with your clean gloves. Take care not to contaminate your clean bag.
8. At an appropriate location and time, remove your PPE and place it in an appropriate bio hazard disposal container or bag.
9. Before you load the cot into your removal vehicle, spray the wheels with a quality disinfectant. If you have followed these steps carefully you will likely not contaminate your cot, yourself or your removal vehicle.

(Be sure to use a disinfectant product that will not cause corrosion of the cot wheels or structure)

(Do not use household bleach on your cot)

Arrival at the Embalming Room

1. Leave the body on the removal cot if possible. If not possible then transfer the bagged body to a portable table then place the body in a staging area out of the way. Begin to set up your embalming station and "Hot Zone". You should have things organized before the body is placed on the table in the Hot Zone.
2. Tape paper/plastic sheets or use tape on the floor around the table. If you use sheets position the sheets with the plastic side down.

See Illustrations

This will eventually be the restricted "Hot Zone" for the embalmer during the entire embalming process. The embalmer should never leave the Hot Zone once the body is in the Hot Zone.



The embalmer should have an assistant that remains a **safe distance** outside of the Hot Zone. The assistant will be designated as the (go for) person/assistant and can get any items that the embalmer may have initially forgotten to lay out. The assistant **should never enter** the Hot Zone until the embalming is completed.

3. During the set up of the Hot Zone the embalmer should anticipate what instruments chemicals and various items that may be needed. All items should be positioned so that the embalmer can reach them while standing in the Hot Zone. This will include everything you can imagine needing.

4. Set out all fluids in amounts you anticipate you will need.

5. Use proper PPE.

6. Make sure your exhaust fan is on.

7. Keep the room cool.

8. Bring the body over into the Hot Zone table, being careful not to tear the paper/plastic sheet taped to the floor.

9. Move the body on to the embalming table.

10. Keep the face covered at all times while removing the bags.

Place body bags in a pre-staged bio hazard container.

11. Spray the entire surface of the body with a good disinfectant.

DO NOT bathe the body at this point – wait until later in the process. There is no need to create splash/splatter possibilities at this point in the process.



12. Clean/spray the nose and mouth with a quality disinfectant and gently clean and disinfect the eyes. Lightly pack the nose with webril strips that are moistened with a quality disinfectant.

13. Raise the artery of your choice. **Raise the one you usually use and are comfortable with. In some cases the body may require a multiple point injection process.**

14. Place a paper or linen towel over the vein and open incision (s) area, and let the tail of the towel lay in the table trough. This will help control blood splatter during injection.

As you work – **THINK - CONTROL ANY SPLATTERING!**

Important: Never have the table water running until the embalming process is completed.

15. Use a strong arterial solution somewhere in the neighborhood of 7.5% or above, up to waterless. Consider a 30 index arterial chemical mixed at the rate of 32 ounces of chemical per 1 gallon of water. This will yield a 7.5% solution.

16. **I recommend high pressure (100-140 psi) and intermittent rate of flow.** I believe that open flow drainage predisposes to short circuiting and therefore **should be avoided.** **I recommend using the intermittent type of drainage.**

17. When arterial injection is completed, close all incisions and carefully bathe the body with soap and water, then pat it dry with paper towels.



Aspiration of the cavities:

1. I recommend immediate cavity treatment. Use caution when aspirating. I prefer to make the trocar incision by using a scalpel. To do so, place the point of a **sharp** scalpel on the skin where you want to make the incision, and then cover your hand and scalpel with a thick linen towel. Then make the incision. This step will capture any aerosol. Insert the trocar while keeping the towel over the opening during aspiration. After aspiration, dispose of the towel in a biohazard container. Repeat this step with a fresh towel when injecting the cavity chemical.

Here is option 2 for cavity treatment: It is the preliminary cavity treatment before any routine aspiration is performed. **It is also only performed after the completion of the arterial injection.**

1. I use a 13 gauge needle 10-12 inches long and a 30 cc syringe. You can use comparative sizes for this technique. However, the length of the needle must be able to reach a depth of approximately the center of the lungs.
2. I suggest using a 50 index cavity fluid, or at least a very high index cavity.
3. Use the syringe and needle to inject the cavity fluid directly into the lungs through the inner costal spaces of the ribs. I suggest the point of entry for the needle should be approximately 2-4 inches posterior to the level of the sternum.
4. Always fan out the needle during the injection to cover a wide area of the lungs. It will be necessary to inject both lungs in this manner. The needle needs to be inserted on the right and left sides of the body. Inject 16 -32 ounces total.



5. Let this treatment set as desired from a few minutes to several hours.

Then perform routine cavity aspiration and further treatment with additional chemicals. Expect some firmness in the lungs. **Do not forget to aspirate all cavities when routine aspiration is performed.**

6. The needle sticks will drain fluids unless you plug/seal the needle sticks. I use the **Adkins Trocar buttons** to close needle sticks and they work very well for this process.

7. Following the final bathing of the body, remove the original packing you placed in the nose at the beginning and replace it with fresh webril that is heavily moistened with a quality disinfectant. This time, pack it very tightly into the nasal passage. Also pack the anal canal on all cases and vaginal canal on a female deceased.

8. When all operational activities are completed, clean up and disinfect all items and spray the entire surface of the body with an appropriate disinfectant and let the body air dry.

9. Clean and sanitize everything in the Hot Zone while it is still in the Hot Zone. Let the items/instruments soak in disinfectant as desired.

10 Following step 9, clean the Hot Zone area and do a final clean up.

Note:

It is virtually impossible to outline an exact protocol for each case that you may encounter. These guidelines can be adapted as necessary to accomplish thorough sanitization and preservation of dead human remains while protecting the embalmer and related equipment. These guidelines are not intended to be the end all be all of embalming procedures.

However, these techniques have proven useful over the years of my embalming practice.



During the current Covid-19 Pandemic I have been asked for my opinion regarding various techniques touted on various media outlets regarding embalming a Covid-19 case. Some opinions were asked of me following webinars. Some of the techniques I heard about I consider as acceptable. However, I would not be comfortable using them in my facility. I believe some of the techniques I have heard or read about are misguided. I just can't see the rational for some techniques that are touted by some so called experts. Just because it sounds cool or interesting does not always equate to the efficacy of it.

For those of you that know me my favorite statement is **"Think it Through"**

Here are a few examples of techniques that raise questions in my mind.

1. Place 8 ounces of a high index cavity chemical into each nostril with a syringe. That's a total of 16 ounces total before you embalm. Wow.
2. I see no need to take the bed sheet at a nursing home. Aside from the body the bed sheet is likely heavily infected too. Why would I want it?
3. Take a strip of webriil then place a sealant powder in it then roll it up. Then tightly pack this into to both nostrils. Then place super glue into each nasal passage to seal off the nasal passage. Why do I not like this? What if the body has an issue with purge during the injection? What a mess this technique could be. This is a misguided idea and could possibly cause more complications during injection.
4. I disagree with using bleach on your mortuary cot unless it is diluted properly. It should be diluted at the rate of 1part bleach to10 parts water or even somewhat less strength of concentration. Too strong of a bleach solution can cause severe corrosion. If that is all you have – Use it cautiously.



5. A few embalmers have publicly stated that we should refuse to embalm bodies that have died with Covid-19. I strongly disagree with this attitude! I did not become a licensed embalmer to back out now when families depend upon us.

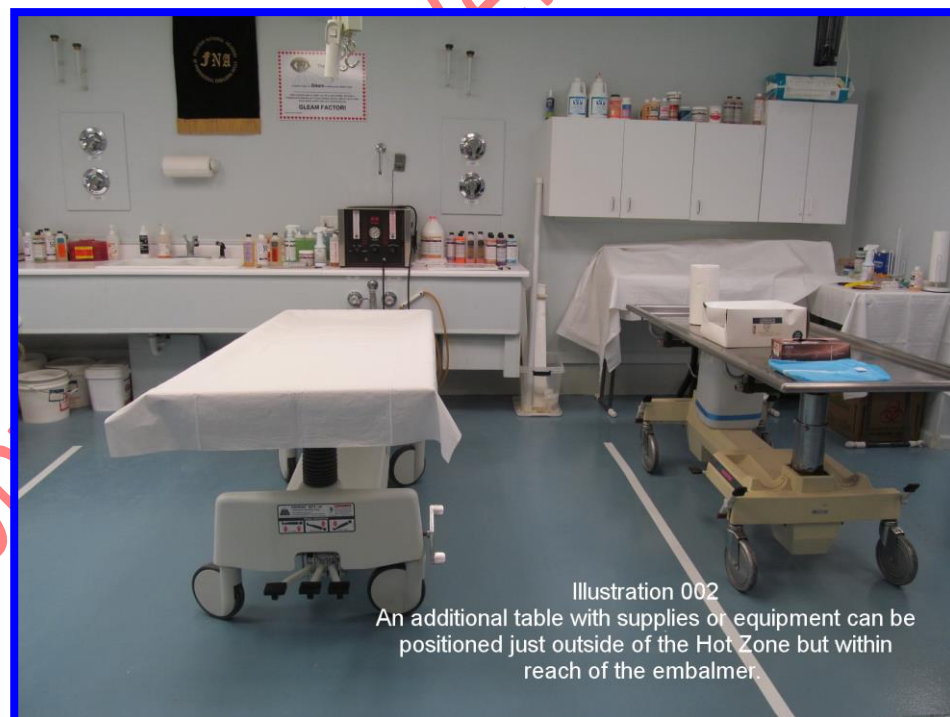
6. **My hat is off in high respect to the many thousands of embalmers who have stepped up to the challenge and are doing their job regardless of the cause of death.**

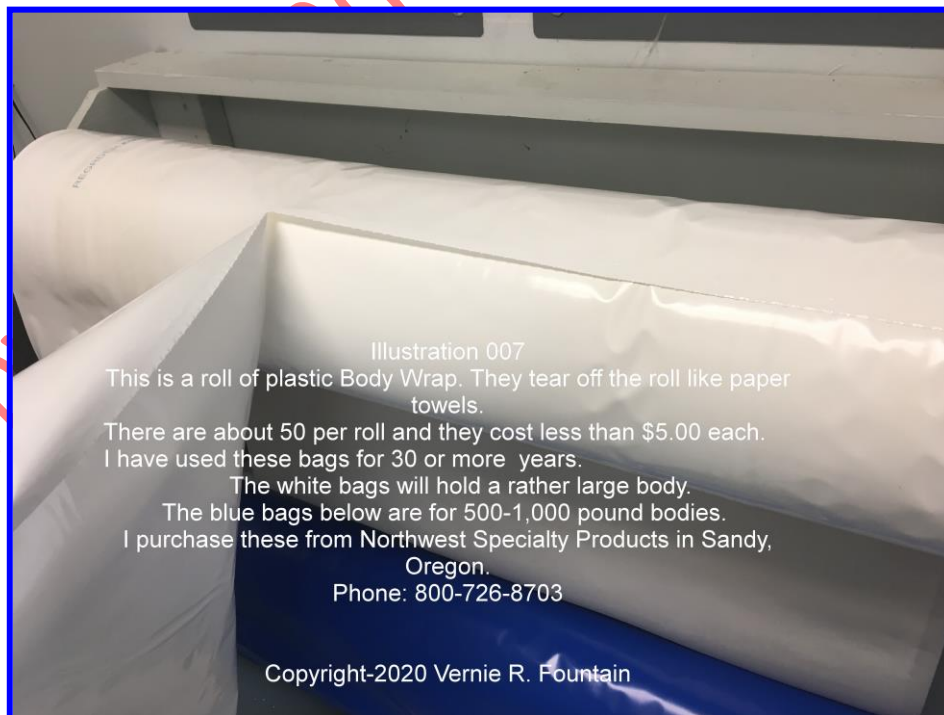
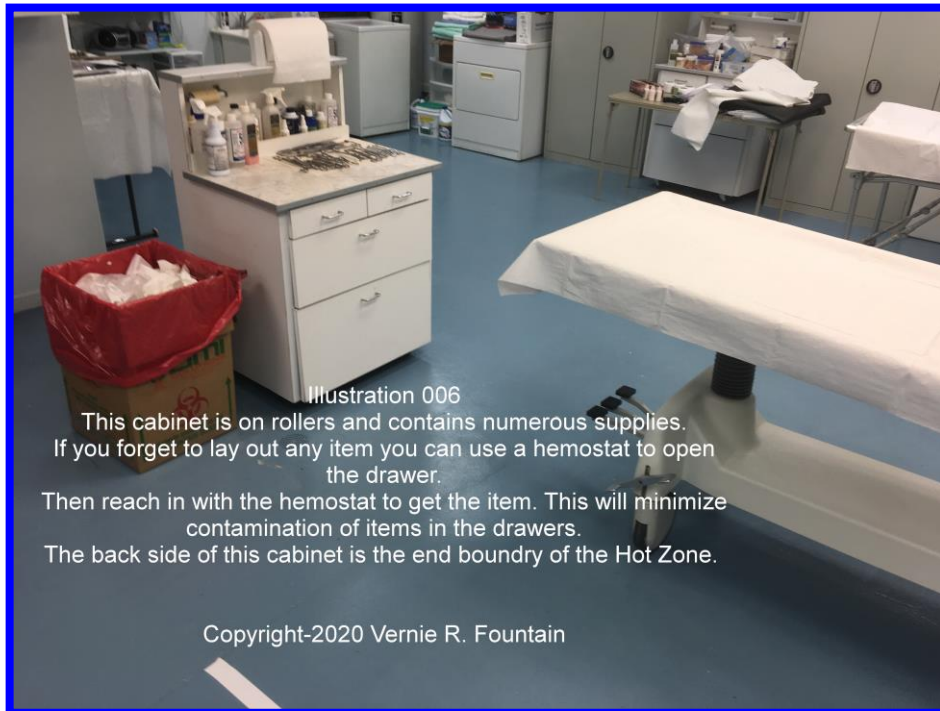
7. I have been answering "free of charge" a large number of consult calls since this Pandemic began. I appreciate your confidence in my suggestions. I find it amazing what some embalmers have been told to do.

8. Back in the 1980's I embalmed a number of HIV cases. I ran out of PPE and had to improvise. I went to a department store and bought the cheapest rain suits I could find. This became my PPE along with a face shield and rubber boots. I created a "Hot Zone" in the embalming room for each case embalmed. A local TV station did a video report regarding me embalming HIV cases. The video showed the "Hot Zone" and me in the rain suit PPE attire.



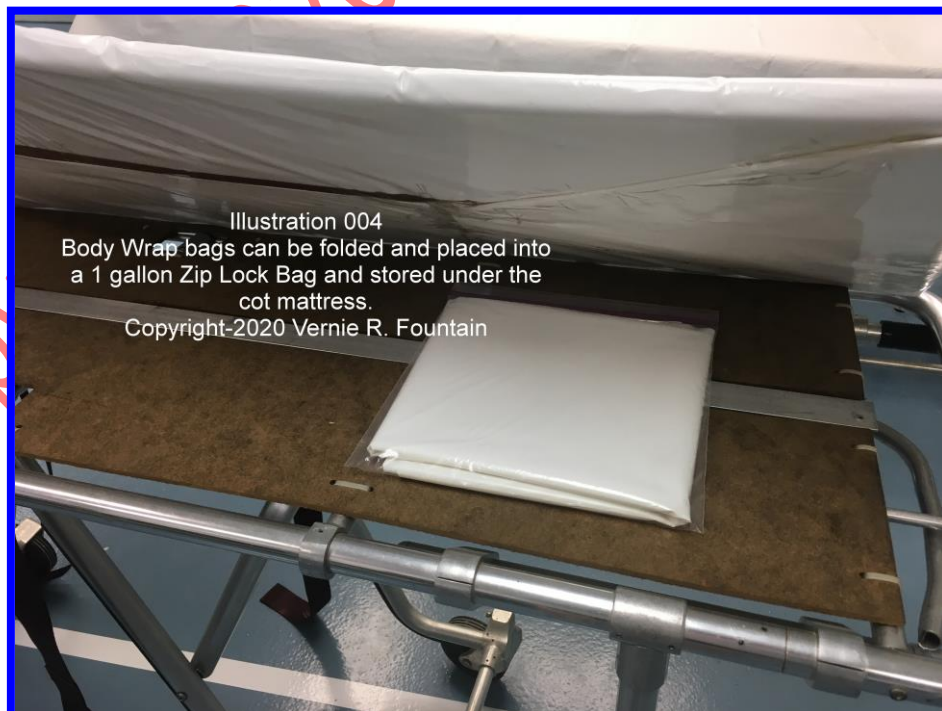
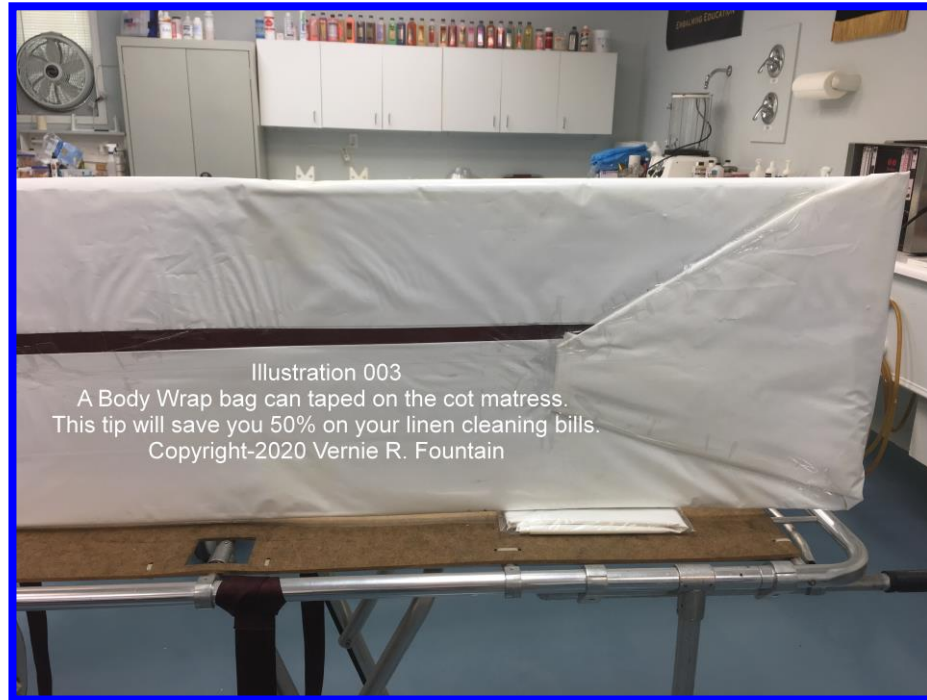
The pictures below are taken in the current FNA Embalming Room.

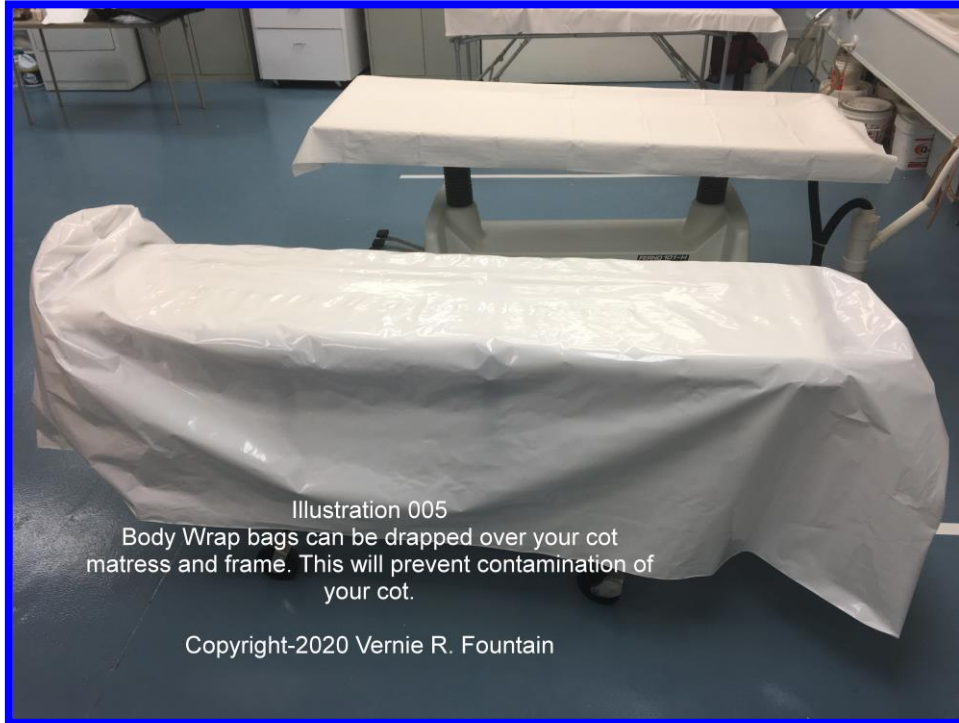






Cot Mattress:








Professional Embalmers that answer the call during a Pandemic or even a routine day of work should always remember the Gleam Factor!

No matter of how over worked or tired we may be.



The
Gleam
Factor

For every deceased person we serve:
No matter how old they are or the condition of their body
No matter what good or bad things they did in life

When they were born they were a **Gleam** in Mommy & Daddy's eye AND STILL ARE.
Always honor them with proper dignity, respect and reverence.

When professional embalmers and reconstructive specialists provide
our services we must always remember the

Gleam Factor

Vernie R. Fountain, Embalmer