



SPECIAL EDITION

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AIDS: A COMPREHENSIVE UPDATE FOR EMBALMERS

**By: James H. Bedino, Chemist/Dir. Research
The Champion Company**

Part 3

EMBALMING PROTOCOL: It should be obvious to the reader that the transport and embalming of AIDS cases demands the maximum implementation of universal precaution procedures both prior to and during embalming. There is a potential for infection with a fatal disease in addition to the possibility of acquiring any number of other serious diseases.

Starting with removal, utilize protective gear and a HLD (high level disinfectant) such as an activated glutaraldehyde disinfectant/sporicide. Liberally treat the body and body orifices with the HLD and completely encase the body in impervious plastic or other material. Dispose of the transport material as hazardous waste or treat with a HLD followed by thorough washing. Utilize maximum protective gear during embalming and again treat the body with a high level disinfectant (HLD).

The use of bleach as a disinfectant is effective in the case of AIDS but not necessarily in all cases involving more virulent and resistant organisms. In fact, very recent research cautions against the use of bleach in any dilutions except full strength when attempting disinfection in cases of HIV infectivity. Viable HIV virus can be detected at 5 minutes of exposure when 10% diluted bleach solutions were used. Obviously, these diluted bleach solutions have limited practical value for rapid and effective inactivation of HIV in most situations. If bleach must be used - it should be in undiluted full-strength concentrations. In addition, bleach is not recommended for use in a formaldehyde environment due to the incompatibility problems and potential for chemical reaction with undesirable by-products. For these reasons, bleach is not an acceptable disinfectant in embalming rooms. A glutaraldehyde based high-level disinfectant/sporicide is much the preferred product.

Conduct a thorough embalming using standard dilutions and be sure to achieve complete distribution of the fluid. It is not necessary to embalm with an extremely harsh fluid or to severely overembalm the body. Preferable use embalming chemicals containing glutaraldehyde in the mix of chemicals to maximize disinfection and sanitation of the remains. Utilize maximum exposure protection during the embalming. For cavity treatment, use a strong disinfecting cavity chemical containing glutaraldehyde in a multi-base of preservatives

for maximum disinfection and sanitization. No less than two and preferably three bottles of cavity fluid should be used followed by reaspiration and reinjection of one additional bottle of cavity to complete the treatment.

Dispose of all protective gear as hazardous waste or thoroughly disinfect all reusable gear with a HLD (glutaraldehyde based cold chemical sterilant/sporicide, etc.) prior to washing. Disinfect the embalming room, instruments and removal equipment with the HLD.

Utilize reasonable protective gear during dressing, cosmetizing and casketing of the remains. At this point, if embalming was thorough and effective and above guidelines were followed, the body should be sufficiently disinfected as to be reasonably safe. The body can be viewed publicly if direct physical contact is minimized or avoided.

Some embalmers advocate that embalming of AIDS cases not be done, viewing of the body not be allowed and the body cremated or disposed of as soon as possible. Others have professed that the body be refrigerated for at least 24-48 hours or even be partially frozen in the belief that the HIV type viruses will perish and the embalming operation will, therefore, be safer. Unfortunately, this suggested procedure is based on out-of-context reasoning and more often than not will result in a more dangerous embalming operation and a more infectious body both before and after embalming.

As has been discussed earlier, most AIDS cases are severely immuno-compromised from the disease itself and the related causes of death. These bodies are almost always infected with various opportunistic organisms that are resistant to other than high-level disinfection technique and careful use of universal precautions is mandatory. Pathogenic microbial flora increases exponentially throughout the body following death and trans-migrates to infect areas and fluids of the body where they would not normally be found. The longer embalming is delayed the less likely the embalming operation will be successful from a preservation and sanitation aspect in addition to a cosmetic result. Embalming of refrigerated or partially frozen bodies is always less successful due to poor distribution of embalming chemicals from partially frozen tissues, an impaired circulatory system due to coagulation and the increase in decomposition by-products resulting in deactivation of embalming chemicals. This results in a body that is not properly disinfected and sanitized and is not adequately preserved. This causes potential problems during viewing and possibly failure to achieve a satisfactory cosmetic result. A poorly embalmed and therefore poorly sanitized body can be a serious infection hazard to all who come into contact with the body until it can be interred or otherwise disposed of.

The concept of refrigerated bodies somehow being "safer" than non-refrigerated bodies, at least in regards to HIV-infectivity, has come about due to unwarranted conclusions from a recent research article that has had wide circulation throughout the embalming community. This article reported that viable HIV cultures were obtained from 41 refrigerated cadavers up to 23 1/2 hours after death. Using there specific sampling techniques, no viable cultures were obtained at time frames of 24 hours or greater after death. From these results, some embalmers have concluded that no HIV-infectivity exists in any bodies beyond 24 hours. The sampling size of this study was too small and the statistical uncertainties in regards to HIV-1 culturing protocols do not warrant such a conclusion. In addition, other investigations have proven HIV-1 viability and culturability from refrigerated cadaveric organ transplants far in excess of 24 hours. In fact, positive transmissions of HIV-infectivity have been demonstrated in these cases up to several weeks. Consequently, a refrigerated body should be assumed to be as or more infectious than a body that has been dead a shorter time and not refrigerated.

Delayed embalming, with or without refrigeration, results in an increased likelihood of infectivity of the body with a concomitant increase in the relative dangers involved in the embalming process. Embalming of infectious bodies should never be purposefully delayed, particularly in the case of an AIDS-infected body.

The use of appropriate technique for exposure control with the correct protective equipment coupled with the use of a high-level disinfectant and glutaraldehyde-based multi component disinfecting/sanitizing embalming chemicals in recommended quantities will result in a high level of safety to the embalmer during the potential exposure period. Implementation of the above guidelines and practices will reduce the exposure risk to an acceptable minimum.

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