



by marjori and duncan todd

When our telephone rings, we can expect a funeral home owner, director or embalmer at the other end of the line. Often, they are thinking about remodeling or building a new preparation room and they want to inquire about a morgue table receptor, water control unit or other piece of equipment. Sometimes they are already in construction and have encountered an unexpected situation affecting the success of their project.

Over the years, we have become well acquainted with the twists and turns of preparation room building projects and have accumulated a body of knowledge that can help ward off potential disasters.

In the course of our work we anticipate questions that come up over and over again in the planning stage, and again during the construction phase. These frequently asked questions are often about OSHA (Occupational Safety and Health Administration) compliance, ventilation, safety concerns for the practitioner, installation methods and requirements necessary for the proper functioning of preparation room equipment.

inside  
the  
preparation  
room

# FAQ'S

We trust that a sampling of these questions will be of benefit to readers who will one day find themselves in the throes of remodeling or constructing a new preparation room.

### What is the OSHA standard for air quality in the preparation room and how can we meet it?

Foremost for funeral home owners/directors is the necessity to meet OSHA standards for safe air in the prep room. OSHA's Formaldehyde Standard 1910-1048 addresses permissible exposure limits. It states that "the employer shall assure that no employee is exposed to an airborne concentration of formaldehyde which exceeds two parts of formaldehyde per million parts of air as a 15-minute short term exposure limit."

The well known hazards of breathing in formaldehyde fumes range from irritation of the upper respiratory tract, to skin damage, to difficulty in breathing and in extreme cases even death.

In order to best address formaldehyde issues, the ventilation system should be separate from other building systems and remove toxic air to below OSHA limits. To effectively remove the toxins, the system must utilize 100 percent outside air during the embalming process. Otherwise, the ventilation system is recirculating toxic air that increases exposure to the embalmer.

Soon after the OSHA quality standard was adopted, the late J. Stuart Todd, in concert with a Canadian company, developed an air handling system specifically to meet the stringent new requirements for safe air in funeral home preparation rooms. The resultant PrepAir system is a stand alone system that heats, cools and ventilates. It removes toxic fumes and odors from the preparation room environment while maintaining a comfortable room temperature.

In addition, tests have shown that the process has an energy efficient performance that results in economical life cycle costs.

### How can we protect our employees when they are exposed to contamination?

It goes without saying that there is possibility that the embalmer's eyes or body can be exposed to an injurious material. In order to provide effective treatment during such an emergency, a prep room should be equipped with both an eyewash and an emergency shower. Appropriate drainage should be provided in the preparation room to prevent excessive accumulation of water on floors. In addition, emergency equipment should be tested on a

regular basis to assure proper operation.

Requirements for emergency equipment are under the jurisdiction of both ANSI (American National Standards Institute) and OSHA. ANSI is a voluntary set of guidelines for equipment performance, installation, testing, maintenance and training to assure a minimum level of first aid. OSHA has developed a series of regulations that require the use of emergency eyewash and shower equipment. OSHA requirements must be met at all times.

The general OSHA requirement for eyewash and shower usage is found in 29 CFR 1910.151 which states, "Where the eyes or body of any person may be exposed to injurious corrosive materials, suitable facilities for quick drenching or flushing of the eyes or body shall be provided within the work area for immediate emergency use."

We are sometimes asked whether it is acceptable to use a hand-held or wall mounted drench type shower instead of an overhead "dump" shower. Our response is that emergency showers are designed to provide a greater amount of flushing fluid with a wider spray pattern than a drench hose and are recommended to fully meet OSHA's intent.

That is not to say that drench hoses have no place in the prep room. For example, many embalmers find them convenient for washing the body and also for clean-up. However, the drench hose is only considered a supplemental device that can be used to irrigate and flush the face and body areas. Our advice is that, in addition, an overhead shower should be installed to meet the necessary safety criteria. Please note that a shower, eyewash, drench hose and other safety equipment are not substitutes for personal protective equipment. As a defense against hazardous flying materials and splashing liquids, embalmers should wear personal protective equipment and clothing.

### How can we ensure that our water supply is safe, both for our facility and the community?

There are plumbing cross-connections in the funeral home that if not properly protected can allow a link between toxic liquids in the prep room and a potable water supply in the entire facility. This cross-connection can happen when there is a reversal in the flow of water from the plumbing lines connected to hazardous materials in the prep room into other parts of the funeral home. This condition is termed backflow; backsiphonage is one type of backflow.

There are devices that prevent backflow, termed backflow preventers, which are used to control and protect plumbing lines from contamination and pollution.

One area of confusion for many funeral home owners is

the fact that almost every facility already has a backflow preventer on the main water line going into the funeral home. This existing backflow prevention device is protecting the primary incoming funeral home water line from reversing back into the city water line. These preventers protect the city water supply and adjacent buildings from funeral home wastes. These preventers do not protect the funeral home from preparation room activities.

We advise that reduced pressure backflow preventers be installed on the prep room hot and cold water lines that serve foot end equipment such as table waste and water service. We use the reduced pressure type as they provide the greatest degree of protection recommended to avoid any contamination to the facility. These units must be installed at a minimum height of 12 inches and require service and testing on a yearly basis.

*My hydro-aspirator isn't working properly. Is it broken?*

A Water Control Unit (WCU) consisting of a hydro-aspirator, hot and cold machine fill spout, and hot and cold water to the table is a modern necessity in a properly designed preparation room. The unit provides complete water service for the embalmer including aspiration of body waste directly into the sewer.

Hydro-aspirators use water pressure and volume to create a vacuum that draws fluids through a hose and a needle attached to the suction side of the aspirator. These aspirators are non-mechanical in nature, using the Venturi and Bernoulli principles to create suction with flowing water.

Occasionally we receive calls concerning difficulties with an aspirator effectively removing waste, or the unit gets clogged easily. In almost all cases, the problems are not due to a malfunction of the aspirator as it has no moving parts to fail. The problems are caused by insufficient water pressure for the aspirator to create the necessary vacuum.

In the case of clogging, the water pressure drops too low during a case, resulting in backsiphonage of materials. Typically, city supplied water is not at a pressure high enough to ensure uninterrupted operation of a hydro-aspirator unit.

Most aspirator manufacturers inform their customers of water pressure and volume system requirements. Water pressure can easily be measured at the point of hook-up for the WCU. Water volume can be maintained by providing a large enough water service to the prep room. If the facility does not have sufficient water pressure, a booster pump system can be utilized to maintain a constant rated water pressure. With this type of system,

hydro-aspirators almost always operate satisfactorily for the embalmer. Since this is such an important part of the embalming process, it makes sense to assure proper operation of the aspirator system at all times.

*How can we build our prep room with the greatest assurance of success?*

Remember at the beginning of this article, we mentioned that sometimes callers have questions about purchasing a piece of prep room equipment, such as a water control unit. Most funeral home owners we know who are happy with their prep room didn't reach their level of satisfaction through piecemeal installation of equipment. Instead, they have a good prep room because they planned the entire room out before beginning construction.

We firmly believe in the power of design, whether it is a remodel or new construction. With a master plan in hand, one that takes into account the configuration of the space, access to utilities, ergonomic and work flow and other considerations, the client's contractor has a road map to a successful project.

All too often, contractors and their subs are building their first prep room and haven't had the benefit of experience in the unique requirements of this industry. A plan with CAD drawings that consist of dimensional room configurations and schematics for electrical, plumbing, mechanical and ducting can often head off mistakes that are costly and time consuming to correct.

Even when the facility is a completely new structure, a preparation room design specialization firm is usually welcomed by the architect on the job. This sub-specialty helps guarantee a finished project that is efficient, has taken into account the health and safety factors and is pleasing to the client.

*When should I consult a specialist?*

Now! It is most cost effective, time saving and successful when you bring in a specialist at the beginning of a project.

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