

Morgue Design: The Good, the Bad, and the Ugly

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Over the years we have been invited in to see many morgues of various ages, designs, and with varying wear and tear. We have designed and observed the construction of several facilities and have been invited to tour other new facilities throughout the country. There are many lessons to be learned in each of these facilities. Some of these are lessons on what to implement in your own facility, while many of these are examples of what not to emulate. All of these lessons are good lessons, though. They are the Good, the Bad, and (only one of these) the Ugly.



Technology **Good and Bad: Technology**

Technology

A standard computer workstation utilized at each autopsy station can be “bad” since the components are vulnerable to water and are not readily cleanable. However, this bad can also be good. One benefit of an off-the-shelf system is that the equipment is relatively inexpensively and easily replaceable in the event of corruption by water or mere obsolescence. An alternative would be a NEMA-4 class touch-screen monitor that is specifically made to be utilized in wet environments and can even be hosed down without negative repercussions. The CPU for this type of unit can either be incorporated into the monitor or located remotely where the CPUs can be serviced without access to the autopsy suite. Similarly, this pro can also be a con since this type of equipment can be expensive to replace when larger or newer models are introduced.

Bad: Multiple Vendors for Equipment

Using multiple vendors for autopsy equipment within one facility leads to a lack of interoperability between parts and pieces. Trays for one rack system may not fit on the chassis system of another and may not function with the carrier of a third. Many times this is a factor of having to comply with procurement issues, but if it is possible to make the case for single-source procurement of these items, you may find that you have more functioning parts and pieces taking up less of your valuable space.

Good: Visibility and Law Enforcement Accommodation

Providing police tours and educational viewing opportunities into the autopsy space is important without physically having visitors actually within the autopsy space. It is also important to provide separate entrances into the viewing spaces which do not require entry of the quasi-public into the autopsy suite.

- Visibility and Law Enforcement Accommodation** An ability to communicate with those in the viewing

Visibility and Law Enforcement Accommodation

spaces and the ability for those in the viewing space to also utilize technology to zoom in on critical information is additionally important, particularly in homicide investigations. It is equally important that the staff on the autopsy side can see what the external person is viewing.

Bad: Location

Too often autopsy spaces are relegated to the dank, dark basement. This is unappealing for the staff as well as being problematic to facility design. The lack of any windows or other amenities for the employees makes these rooms very unappealing for both attracting and retaining quality employees. The quality of the work environment has great impact on the work quality of its inhabitants. Having good day lighting is also essential to the visual acuity needs of the pathologists. While this can be replicated through careful lighting design, true daylight is the first choice as a supplement for artificial lighting.

Good: Employee Amenities

Amenities are not only supportive of employees but may be a requirement of any accreditation body. For example, the need

for a break rooms, conference areas, and a library are phase II requirements in the NAME accreditation standards. Having these spaces provides social interaction spaces among employees, research and personal development space, and zones for collaboration.

Bad: Ergonomics

Not all of the staff will be comfortable working at the same height. What are the ways to accommodate differentials in the staff so that everyone has a safe and comfortable working environment?

Good: Special Spaces for Special Needs

Special cases require specialized spaces. Decomp cases, high-profile deaths, anthropology, and potential bio-hazards require distinctly separate areas with unique infrastructure and equipment.

Bad: Working Area Storage and Space for Safety

"A place for everything, everything in its place." A quote attributed to Benjamin Franklin is as correct in the workplace as it is at home. Make sure that there is enough working room for all of the materials and tools needed at each autopsy station. Crowding of working space and materials can lead to accidents or injury.

Good: Family Matters

Having safe and warm environments for families is vital to the service that the Morgue provides. Areas that are private in comparison to a general waiting area that can be used for sit-down discussions with grieving family members and offices for counseling staff are important to support the facility's mission.

Materials and Equipment **Bad and Ugly: Materials and Equipment**

Materials and Equipment

Materials are paramount to the ability to appropriately and effectively maintain a facility.

Indoor-outdoor carpet in a cooler is not an appropriate flooring material and, I'm sure you'll agree, is a definite "ugly".

Ceramic tile and glazed concrete block have often been the material of choice for morgue walls. While the face of the material is cleanable, the grout lines are not and require maintenance and sealing to prevent bacteria growth and dirt collection. Good facilities use monolithic materials such as solid

surface material, seamless fiberglass panels, or a multi-layer paint system which encapsulate the surface of the substrate. Ceilings should also be monolithic and cleanable. Lay-in tile ceilings react negatively in moisture-rich environments such as the morgue. Light fixtures should be closed, gasketed fixtures, designed for wet environments. Open cell light grids collect dust and dirt and expose the bulb and wiring to moisture. Flooring should be monolithic as well, and while sealed concrete is an acceptable material, the upkeep of resealing is time-consuming and when not done properly, can allow fetid fluids to penetrate the concrete where it is not easily removed. Systems of control joints are important to prevent cracking of the slab. Ceramic tile is difficult to maintain as a flooring material and is not recommended.

Good: Autopsy Ventilation

Ventilation in an autopsy space should always be supplied high (ceiling) and returned low (floor level). This allows for the flow of air to move from top to bottom of a room, a plunger effect, and move difficult or putrid odors down and out of the room, bringing clean air past the noses of those working at the table. Return air grilles should never be located at the ceiling level as this churns the air and makes it difficult to remove malodorous smells.

Morgue facilities contain unique spaces where exceptionally unique science occurs. Whether your facility is old, new, or somewhere in between, you may see yourself in some of these good and bad lists; hopefully more good than bad. On that note, our last "good" is this: light, bright, organized, and cleanable/maintainable is the mantra for a well functioning autopsy space.

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