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Construction Risk Management in the Healthcare Environment

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Due to the unique nature of healthcare facilities, [construction projects require specialized and careful handling](#). A detailed risk mitigation plan should be undertaken before every project. Failing to do so can open an organization up to significant potential liability.

A few particular areas that should be evaluated for risk include the following:

- Infection prevention;

- Air quality;
- Shut down and destruction of utilities;
- Vibration;
- Noise;
- Facility egress and ingress;
- Access to patient care areas;
- Hazards to patients, visitors and staff

When approaching a construction project, risks should be anticipated, and a proactive method to assess and prevent those risks must be researched, agreed upon, and implemented. Further, regulatory requirements must be considered when planning an efficient and safe project.

Therefore, documentation of risk mitigation strategies during the pre-bid, bid, contracting, building, and punch list process should be undertaken. For example, it is well-known that fire and life safety present unique challenges in the healthcare environment. Patients whose illness requires hospitalization are unable to engage in self-preservation behaviors such as leaving their room when faced with a fire situation. Therefore, the principals of building compartmentalization, fire suppression or rated materials must be used. These areas of the building design can, in many cases, be strictly regulated, and the regulations need to be understood and followed.

An additional unique consideration when working in healthcare facilities is the handling of medical gas systems. These medical gases include oxygen, nitrous oxide, nitrogen, and carbon dioxide. Even more so than other areas, medical gases are subject to regulation and inspection. If followed properly, these regulatory schemes will address the hazards inherent in this area. Careful documentation and implementation of the appropriate standards is critical.

Further, mechanical/electrical/plumbing systems require special attention in a construction project at a medical facility. An outage or malfunction in any of these areas can result in catastrophic patient impact. Again, all effects on these systems by the construction process should be anticipated prior to the commencement of the project and appropriate [risk management techniques](#) put in place. Further, the effectiveness of all risk management procedures should be constantly monitored and regularly inspected for additional unanticipated risks.

A critical component for controlling the spread of infection is a properly designed, installed, and maintained HVAC system. The movement of airborne spores, viruses, and bacteria is controlled through the use of “clean to dirty” airflow. Typically, if a room is designed to protect the patient from acquiring an infection from outside of the room, the room has a positive air relationship to the spaces around it. This helps prevent airborne infectious agents from entering the room. Maintenance of the appropriate pressure in the various spaces throughout the healthcare facility is a specialized concern for construction projects. It is advisable, once again, to plan for and promote the appropriate pressurization of room spaces.

Finally, it must always be of paramount concern that the patients in a healthcare facility are, by definition, in a compromised state for infection. [Healthcare associated infections](#) are a significant cause of death in the United States. While it is unclear precisely what percentage of such fatalities result from the construction process, any amount is too high.

Infections can be easily transmitted through the air. During construction, especially in repair or maintenance projects, latent mold or fungus can be broken free and become airborne. As a result, containment barriers, monitoring of air flow, and an overall infection control risk assessment and infection control team are vital components of protecting the health and life of those entrusted to the care of the healthcare facility undergoing the construction process.

Short, simple, yet vital steps can be taken throughout construction, beginning early in the process, which can make an enormous difference in the safety and efficiency of any healthcare construction project. A conscientious and well-thought-through construction risk mitigation plan is an essential component of this process. In future articles, we will discuss in detail specific issues of emphasis. In the interim, if there are specific questions that arise regarding any aspect of a healthcare construction project, please feel to contact [Ronald H. Pollock](#) at Saxton & Stump via email rph@saxtonstump.com or by phone (717) 556-1030.

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