Fire Response in Hospitals: Infrastructure Aspects

Fire and smoke can cause significant amounts of damage in hospitals as well as potential injuries and deaths. Many patients who are in hospitals cannot leave their beds because of their physical condition or medical status. Hospitals are therefore built to protect patients in place that are not capable of self-preservation. Building construction codes, automatic fire detection systems, fire suppression systems, and training for staff members are all essential elements in place to prevent fires in hospitals. Knowing how to respond to a fire and/or smoke condition is paramount to avoid serious injuries and potentially death to patients, visitors, and staff members.

The following checklist focuses on specific aspects of hospitals' infrastructures. Healthcare facility leaders can use this checklist to assess their facilities and identify infrastructure factors that need repair or replacement for safety.

	Yes	No
Alarms, Fire Suppression Systems, and Sprinkler Systems		
Is a system in place to ensure alarms and fire suppression systems are tested and functional?	☐	☐
Does the hospital comply with local requirements for placement and maintenance of fire alarms, smoke detectors, carbon monoxide detectors, and fire suppression systems?	☐	☐
Are alarms and detectors serviced regularly and constantly kept in working order?	☐	☐
Have wet-pipe, dry-pipe, and preaction sprinkler systems been tested and maintained?	☐	☐
Are Interim Life Safety Measures (ILSMs) implemented when a fire alarm system or automatic sprinkler system is taken out of service?	☐	☐

	Yes	No
Alarms, Fire Suppression Systems, and Sprinkler Systems (continued)		
If an ILSM is in place, did staff members receive education before its implementation, and did they complete education sign-in sheets?	☐	☐
Do staff members create and maintain documentation of any implemented ILSM?	☐	☐
If an ILSM is in place, is an extra fire drill being conducted in the space?	☐	☐
Are all fire department connections (FDCs) and fire hydrants uniquely identified on the campus and on an overall drawing?	☐	☐
Do staff members ensure that nothing is hanging from sprinkler heads, sprinkler pipes, or smoke detectors?	☐	☐
Do staff members ensure that sprinkler escutcheons are not painted and not sealed to the ceiling?	☐	☐
Do staff members ensure that storage is kept 18" below sprinkler heads?	☐	☐
General Safety		
Do staff members know where the oxygen zone valves are located, what areas they control, who is authorized to use them, and how to use them?	☐	☐
Are oxygen zone valves kept clear and not blocked?	☐	☐
Are fire alarm pull stations easily accessible, kept clear, and not blocked?	☐	☐
Are fire doors clear to allow closure and latching?	☐	☐
Are exit doors kept clear and not blocked?	☐	☐
Are corridors and hallways kept clear with no storage?	☐	☐
Can staff see two exit signs in corridors?	☐	☐
Are medical gas zone valve boxes kept clear, not blocked, and are easily accessible?	☐	☐
Are medical gas zone valve boxes correctly labeled with correct room numbers, not range of numbers?	☐	☐

	Yes	No
Offsite/Offices		
Are fire safety features checked regularly (fire extinguishers, exit lights, emergency lights, exit doors, smoke detectors) and are free to access?	☐	☐
Are work areas clean and clutter free?	☐	☐
Are electrical circuits not overloaded?	☐	☐
Is the fire safety plan and emergency action plan reviewed on a regular basis?	☐	☐
Exit Doors and Routes		
Are all exit doors, exit routes, and essential pathways free of clutter and obstacles and not blocked (e.g., with gurneys, linen carts, wheelchairs, portable workstations, and housekeeping carts)?	☐	☐
Are local/state regulations on locking doors and maintaining fire doors followed?	☐	☐
Are all exit signs installed showing proper exit routes and correctly lit?	☐	☐
Are all doors that do not provide egress marked with "NO EXIT" signage?	☐	☐
Does each stairwell have appropriate signage indicating the direction of travel to the exit and level of exit discharge?	☐	☐
Is the outside of each exterior exit door numbered or uniquely identified for emergency first responders' access?	☐	☐
Are exit discharges maintained during adverse weather?	☐	☐
Electrical and Lighting Aspects		
Are electrical surge protectors/relocatable power taps hospital grade?	☐	☐
Are surge protectors NOT used to provide power to appliances or daisy chained?	☐	☐
If extension cords are needed, has hospital engineering been contacted to evaluate the electrical requirements and install permanent electrical receptacles? (Extension cords should *only* be used in temporary situations.)	☐	☐
Are all electrical cords checked regularly for frays or tears?	☐	☐

	Yes	No
Electrical and Lighting Aspects (continued)		
Are electrical cords and plugs inspected regularly to ensure they are in good condition and show no damage, nicks, or frayed areas?	☐	☐
Are staff prohibited from running electrical cords under rugs or carpets or overloading electrical outlets or extension cords?	☐	☐
Do appropriate staff ensure proper maintenance of electrical wiring and equipment?	☐	☐
Is emergency lighting provided in the means of egress?	☐	☐
Are all emergency lights installed correctly and tested?	☐	☐
Have staff ensured that alcohol-based hand sanitizers are not mounted above electrical outlets?	☐	☐
Laundry Area		
Are washer and dryer lint filters cleaned after every load?	☐	☐
Is the ductwork on these machines cleaned on a routine basis?	☐	☐
Is the area behind the dryers inspected on a routine basis?	☐	☐
Are electric tumbler motors kept free of dust and lint?	☐	☐
Is the laundry area free from excessive amounts of lint build-up?	☐	☐
Is a fire extinguisher in close proximity to dryers?	☐	☐
Are the fans turned off after every shift?	☐	☐
MRI Areas		
Does the facility have signage showing the dangers of MRI units?	☐	☐
Are nonferrous fire extinguishers available just outside of MRI units?	☐	☐
Are ferrous fire extinguishers marked "Not MRI Safe"?	☐	☐
Is MRI safety reviewed with staff during local fire drills?	☐	☐

	Yes	No
MRI Areas (continued)		
Is MRI safety reviewed with local first responders?	☐	☐
Extinguishers		
Are extinguishers inspected each month to confirm proper working order?	☐	☐
Are all extinguishers in the correct location?	☐	☐
Are all extinguishers easy to get to with nothing blocking them or obstructing them from view?	☐	☐
Are any safety seals missing or broken?	☐	☐
Are any of the extinguishers damaged on the outside?	☐	☐
Are any of the nozzles leaking, corroded, or clogged?	☐	☐
Are pressure gauge readings in proper position?	☐	☐
Are the instructions easily seen and legible?	☐	☐
Are the extinguishers full (test by lifting and/or manually weighing)?	☐	☐
Are signage and symbols above extinguishers?	☐	☐
Are portable extinguishers that hang on the wall fully charged?	☐	☐
Are portable extinguishers type ABC?	☐	☐
Are portable fire extinguishers selected, placed, inspected, tested, and maintained following the National Fire Protection Association Standard for Portable Fire Extinguishers (NFPA10)?	☐	☐
Tunnels, Shops, Fuel Tanks, Facilities Areas, Boiler Rooms, Mechanical Rooms, Electrical Rooms, Loading Docks, Storage Rooms, and Trash Rooms		
Are fire extinguishers located by hazards in the above locations?	☐	☐
Are there spill kits by the fuel tanks?	☐	☐
Is there egress signage, and is lighting well maintained?	☐	☐

	Yes	No
Tunnels, Shops, Fuel Tanks, Facilities Areas, Boiler Rooms, Mechanical Rooms, Electrical Rooms, Loading Docks, Storage Rooms, and Trash Rooms (continued)		
Are there bollards around fuel storage tanks/refueling zones?	☐	☐
Kitchens		
Are the hospital's kitchens monitored, especially during meal preparation times?	☐	☐
Are grease and other flammable materials kept separate?	☐	☐
Do staff ensure that grease and other flammable materials do not accumulate on kitchen equipment?	☐	☐
Are flammable gas containers (e.g., cooking spray), liquids, oils, or other items stored far away from cooking equipment?	☐	☐
Are flammable substances safely and securely stored in a flammable liquids cabinet?	☐	☐
Are the appliances' grease traps emptied on a regular basis?	☐	☐
Are grills and exhaust hoods inspected and cleaned regularly to ensure that nothing flammable/combustible can accumulate or fall into channels, cracks, and gaps?	☐	☐
Is a Class K Extinguisher installed near the deep fat fryer/grill area?	☐	☐
Is there signage to operate the wet chemical extinguishing system first before using the Class K extinguisher?	☐	☐
Is there a manual shut-off valve for natural gas, and is it properly marked?	☐	☐
Are kitchen hood nozzles heads kept clean?	☐	☐
Is the manual activation valve for the cooking hood extinguishing system located within easy reach, not blocked, and clearly marked?	☐	☐
Are the wet chemical extinguishing system discharge heads pointed toward cooking appliances as applicable?	☐	☐
Are wet chemical nozzles covered to prevent grease accumulation?	☐	☐

	Yes	No
Compressed Gases and Cylinders		
Are the cylinders segregated and secured?	☐	☐
Is oxygen stored away from other gases?	☐	☐
Are there no more than 12 E-sized cylinders in a smoke compartment (more allowed if "in use")?	☐	☐
Are cylinder caps in place when not in use?	☐	☐

Resources

For more guidance on this topic, see MedPro's *Checklist: Fire Response in Hospitals.* Other helpful resources include the National Fire Protection Association's Codes and Standards (Applicable Standards 10, 99, 101, 80, 10, 25, 72, 14, 15, 70E) and the U.S. Department of Labor's Hospitals eTool.