



CNA HealthPro

Protect Your Office Against Fire

Few events are as devastating to a dental practice as a fire. In addition to the threat of bodily injury, fire can result in a range of financial losses and decreased cash flow. Dentists should carefully assess their vulnerability to fire and implement strategies to protect their practice, patients and employees.

How do fires start? Three elements must be present for a fire to occur: fuel, ignition and oxygen. Fuel for a fire can take many forms, including paper, plastic, fabric, wood, and flammable/combustible liquids or gases, to name a few. You might be surprised at the variety of materials that can ignite and burn. Sources of ignition are sparks, an open flame, and excessive heat. When oxygen mixes with a combination of these factors, the results can be a devastating fire. Anything that you can do to eliminate even one of these elements will diminish your chance for fire.

Prevention

Unsafe Conditions

The first step in fire prevention is to recognize and minimize unsafe conditions. Fires frequently originate with electrical equipment, most often due to a wiring problem or an overloaded circuit. Begin by inspecting the power cords on all equipment and replace any that are damaged or frayed. Extension cords are a common hazard and should be avoided. If you must use an extension cord, make sure the outlet has the proper rating for the equipment used and refrain from running the extension cord under rugs or carpeting.

While the inspection of power cords is a task you can perform, the adequacy of your building's wiring and circuitry is a matter that generally requires the expertise of a trained electrician. Tour your office with the electrician to assess your electrical power needs. Keep in mind that the varied electronic equipment used in today's dental practice was not contemplated when most older buildings were constructed. (Business and personal computer usage didn't become widespread until the 1980s.) Consequently, your use of items such as computers, monitors, printers, fax machines, intraoral cameras, air abrasion units, laser units, and milling machines may be severely overloading certain electrical circuits. If your office's electrical needs outweigh your supply, have additional circuits added. Your office should have enough *grounded* outlets to allow all electrical equipment to be plugged in directly.

Local building codes are regularly updated to reflect changes in materials, usage patterns, and safety protocols. However, these codes customarily apply only to new construction and to additions or updates of an existing structure. Consequently, most older buildings do not meet today's standards for electricity delivery. The risk presented by these buildings explains why property insurers will always require the date of construction on an insurance application. Additional questions will help the insurer assess whether the building owner has kept the property updated with regard to electrical fire risks.

Office laboratories present a particularly high risk for fire. Many offices have a natural gas port in the lab for doing wax work, along with an alcohol torch and perhaps a portable propane torch as well. Open flames present a serious hazard, especially if used near flammable liquids such as acrylic monomers, acetone and other solvents. Be sure to turn off all burners or flames before using acrylics, and ventilate the room as thoroughly as possible during their use.

Space heaters are another potential ignition source. If a space heater is used, keep at least three feet away from flammable materials and turn it off when you leave work. Make sure the heater has a “tip over sensor” that will automatically shut the unit off, should it fall over.

Staff Training/Protocols

Another aspect of prevention is proper staff training. Every employee should undergo fire prevention and safety training on at least a yearly basis. Also, every employee should be required to read and follow your office’s protocols on fire prevention and safety.

Written protocols should address a number of important safety issues:

Evacuation procedures and routes for employees. Fire safety experts suggest that emergency evacuation drills be conducted at least once per quarter for each employee. Employees should know who to notify if they smell smoke, what to do if they hear an evacuation signal, and where to meet outside the building for a head count. Schedule a debriefing following the drill to discuss discrepancies, issues and problems as well as plans for corrective action.

Evacuation procedures and routes for patients. Exit routes should be clearly marked so individuals unfamiliar with your office layout can easily find the closest fire exit from the operatory, consultation room or waiting room. Develop protocols to assist patients who are unable to evacuate the building by themselves because they are sedated or disabled.

Fire extinguisher training. This should include training employees on the proper use of extinguishers, which are coded according to the particular type of fire for which they are intended. Fire extinguishers do not hold their charge forever, so check their expiration dates regularly and recharge or replace as needed.

Proper storage and handling of flammable materials. All flammable liquids should be stored in approved fire-resistant cabinets. When using flammable liquids, vent properly to minimize the buildup of flammable and noxious vapors. Some vapors are heavier than air and will accumulate near the floor, making floor exhaust vents as important as overhead ventilation hoods.

Detection

Early fire detection is essential for a quick and safe evacuation and a prompt fire-fighting response. Fires that burn unnoticed in unoccupied spaces often develop into serious hazards by the time they are detected by human senses. Smoke and fire detectors should be located throughout your office to alert all persons of danger and to allow for orderly evacuation before the fire burns out of control. They should also be checked on a regular basis for proper working order.

Detection equipment should be placed in areas that have the greatest risk of fire and the lowest likelihood of early detection, such as

- storage spaces
- mechanical rooms
- laboratories
- concealed spaces above drop ceilings
- critical equipment rooms

Simple smoke detectors protect your property as long as someone is in the office to hear the alarm and respond to it. But what would happen if a fire began while the office was closed?

To protect your practice, consider installing a fire detection system linked to your local fire department or to a private company with 24-hour system monitoring. The quicker response time available from such systems reduces the risk of total loss from fire. Your building's fire detection system is another factor insurers consider in rating your property's risk.

Suppression

Sprinkler systems are an excellent way to quickly suppress fires and minimize the extent of their damage. Many building codes require that professional buildings have automatic sprinkler systems. Such systems generally provide protection throughout the entire building, including the unoccupied areas previously noted.

Most sprinkler systems use water as the suppression agent, while other systems use powders or special gas mixtures that smother the fire. All systems should be regularly inspected and tested by a certified fire protection contractor.

If your office does not have a fire suppression system, consider installing one. Although sprinkler and other fire suppression systems sometimes damage property in the course of extinguishing a fire, their benefits outweigh potential disadvantages. The presence of a sprinkler system is yet another plus in assessing the insurability of your property.

Taking Action

The simplest way to evaluate and improve the fire safety of your practice is to contact your local fire department. Most departments have a fire marshal or safety officer who can assist you in assessing your current fire risks and the effectiveness of your safety program. Reducing both the likelihood and the potential impact of a fire benefits you, your staff and your patients alike.

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