



CPD4dentalnurses

YOUR FUTURE IN YOUR HANDS

Fire Safety in Dental Practice: The Role of the Responsible Person and the Fire Marshal

Aims: This article aims to discuss the current legislation relating to fire safety, fire risk assessment, causes of workplace fires, firefighting and the equipment, and the role of the responsible person and the fire marshal.

This CPD activity does not replace face to face training or the need to carry out fire drills. In a health care setting, staff may need to evacuate patients with reduced mobility or deal with specific hazards (e.g., oxygen cylinders), premises-specific training will usually be necessary so staff can safely act in an emergency.

Learning Outcomes:

- Describe current fire safety legislation applicable to dental practice in England and Wales.
- Explain the purpose and key components of a Fire Risk Assessment.
- Identify what must be included in an Emergency Fire Plan.
- Describe how fire starts and spreads within a workplace setting.
- Identify the correct selection and safe use of different fire extinguishers.
- Differentiate between the legal responsibilities of the Responsible Person and the operational role of the Fire Marshal.

Legislation

The Regulatory Reform (Fire Safety) Order 2005 is the principal fire safety legislation for non-domestic premises, including dental practices, in England and Wales. The Order places a legal duty on the Responsible Person to take reasonable steps to reduce fire risks and ensure the safety of staff, patients, and visitors.

Fire Safety Act 2021 clarifies that the FSO applies to the structure and external walls of buildings and flat or unit entrance doors. These elements must be considered within the Fire Risk Assessment where applicable.

The Fire Safety (England) Regulations 2022, which came into force on 23 January 2023, introduced additional duties under the Fire Safety Order for Responsible Persons of certain residential buildings; most standalone dental practices won't be directly in scope, but the Fire Safety Order duties still apply in full.

Building Safety Act 2022 – Section 156 (Important Update): From 1 October 2023, Section 156 of the Building Safety Act 2022 amended the Fire Safety Order and

introduced enhanced record-keeping requirements for all Responsible Persons, including dental practices.

The Responsible Person must now:

- Record the Fire Risk Assessment, regardless of the number of employees.
- Record the identity of the person(s) who carried out the assessment.
- Record all the fire safety arrangements in place.

This means that a written fire risk assessment is now a legal requirement for all dental practices, not only those employing five or more people. Fire risk assessments must be reviewed regularly and whenever there are significant changes, such as:

- Changes to staff numbers or working patterns.
- Installation of new equipment.
- Refurbishment or structural changes.
- Near-miss incidents or fires.

The legislation in this article relates specifically to England and Wales. Legislation differs for Scotland and Northern Ireland.

- **Scotland:** Fire (Scotland) Act 2005 + Fire Safety (Scotland) Regulations 2006
- **Northern Ireland:** Fire and Rescue Services (NI) Order 2006 + Fire Safety Regulations (NI) 2010.

Further information can be obtained from the following links:

<https://www.psm.sdcep.org.uk/topics/health-and-safety-general/fire-safety/>

<https://www.legislation.gov.uk/nisr/2010/325/contents/made>

Elements within a Fire Risk Assessment are:

- Fire hazards
 - Sources of ignition.
 - Sources of fuel.
 - Sources of oxygen.
- People at risk
 - People who are in and around the premises.
 - People who are in and around the premises including those at greater risk.
- Evaluate, and act
 - What have you found so far?
 - What hazards can you remove or reduce?
 - Have you protected the premises against arson?
 - What plans have you made to ensure everybody can escape?
 - Is there adequate signage and emergency lighting?

- Record, plan and train
 - Record your findings and any subsequent actions.
 - Prepare an Emergency Plan and discuss it with staff.
 - Provide instruction and training as necessary.
- Review
 - As mentioned above.

An Emergency Plan should cover:

- ✓ Action to take on discovering a fire.
- ✓ The type of warning system.
- ✓ How to call the fire service.
- ✓ Arrangements for evacuating people with disabilities.
- ✓ Where people should assemble and who will conduct the roll call.
- ✓ Information to pass to the fire service.
- ✓ The location of fire exits.
- ✓ The types of fire-fighting equipment.
- ✓ Specific responsibilities of certain employees.
- ✓ Training required.

Care Quality Commission



The Care Quality Commission will check fire safety arrangements during their inspections of dental practices. They will review the following:

- Work practices are in line with fire safety legislation.
- Fire extinguishers are fitted and suitable.
- All notices are clearly on display, for example, fire action and fire escape notices.
- Fire documentation is easily accessible.
- Are there arrangements in place to provide safe and effective care in the event of a failure in major utilities, fire, flood or other emergencies?
- How are staff, people who use services, and others provided with information on the risks to their health and safety, protective measures, and what to do in the event of an emergency, for example fire?

They will also check these documents when inspecting a dental practice:

1. The latest fire risk assessment (and whether any resulting action plans have been completed).
2. Plans for emergency evacuation.
3. Details of fire training for staff.
4. Where applicable, building control and installation certificates.

5. Utilities and equipment installation certificates, for example, gas, electric, lifts.

When they inspect, they may also ask providers and staff about fire safety, and may review fire safety policies, certificates, and records. This includes checking:

- Premises are free from fire hazards.
- There are clear evacuation paths (especially for someone who has a physical or sensory impairment).
- Fire exits are clear, signposted, and accessible.
- Emergency lighting is working appropriately. Emergency lighting, annual contractor service (where required) and in-house monthly tests.
- Staff are aware of the protocol for emergency procedures.
- A fire risk assessment has been carried out (date it was written, any action plan and review date).
- There is a business continuity plan that includes fire risks together with confirmation of who the responsible person is.
- A fire safety logbook is completed and up to date (checks on exits, alarms, lights, signage and extinguishers).

There are records of:

- Staff training and drills (training on induction and further training and drills at least annually).
- Testing and maintenance of fire-fighting equipment (extinguishers). Fire extinguisher annual contractor service records (where required) and in-house monthly checks.
- Fire alarm service record and weekly tests.
- Testing and maintenance of all fire safety systems (fire alarms, emergency lighting, mains electrical wiring, gas safety certificate and PAT testing certificates).
- Business continuity plan (arrangements following a fire-related incident).

Causes of Workplace Fires

- Arson
 - Disgruntled employees or ex-employees.
 - Staff and patients.
 - Those attempting to conceal another crime.
 - Insurance fraud.
 - Opportunism.
- Electrical faults
 - Misused or faulty extension leads.
 - Misused or faulty electrical equipment.
- Smoking
 - Discarded cigarette ends.
 - Illegal smoking.
- Other

- Covering the vents of heating equipment.
 - Heaters placed too close to flammable substances.
 - Cooking.
 - Hot work such as soldering and welding.
 - Build-up of rubbish and waste materials.
- Oxygen cylinders

Oxygen cylinders greatly accelerate combustion and increase fire severity and careful consideration should be given to where they are stored ensuring they are away from any ignition sources.

- Compressed gases and chemicals.

Dental practices commonly store flammable disinfectants and compressed gas cylinders, and careful consideration should be given to where they are stored.

Fire Safety Considerations in Dental Premises

Relevant Guidance

- HTM 05-02 (Firecode)
- HTM 01-05 (Decontamination in primary care dental practices)

Fire safety within dental practices must be considered alongside infection prevention, equipment safety, and building services guidance. While HTM 05-02 (Firecode) and HTM 01-05 (Decontamination in primary care dental practices) are not fire legislation, they provide important best-practice guidance that supports compliance with the Regulatory Reform (Fire Safety) Order 2005.

Decontamination Rooms

Decontamination rooms present an increased fire risk due to the concentration of electrical equipment, heat-generating devices, chemicals, and restricted ventilation.

Key fire risks include:

- Continuous operation of electrical equipment.
- Heat generation from washer-disinfectors and sterilizers.
- Use and storage of flammable or combustible cleaning agents.
- Build-up of lint, packaging, or waste materials.
- Inadequate ventilation leading to heat accumulation.

Best practice controls:

- Equipment must be installed, maintained, and used in accordance with manufacturer instructions.
- Adequate ventilation must be maintained to prevent overheating.
- Electrical sockets should not be overloaded.

- Waste materials should be removed regularly.
- Clear separation between clean and dirty workflows must be maintained to prevent obstruction of escape routes.

Washer-Disinfectors and Autoclaves

Washer-disinfectors and autoclaves are high-energy devices and represent a recognised ignition risk if not correctly managed.

Fire risks include:

- Electrical faults or overheating.
- Steam leaks leading to damage of electrical components.
- Incorrect installation or poor maintenance.
- Operating equipment outside recommended cycles
- Proximity to combustible materials.

Risk control measures:

- Planned preventative maintenance (PPM) schedules must be followed.
- Equipment should only be operated by trained staff.
- Clear space must be maintained around machines to allow heat dissipation.
- Emergency shutdown procedures should be included in the fire emergency plan.
- Faults must be reported immediately and equipment isolated if unsafe.

Lithium-Ion Battery-Powered Equipment

Modern dental practices increasingly rely on lithium-ion battery-powered devices, including:

- Cordless handpieces.
- Intra-oral scanners
- Laptops, tablets, and imaging equipment.

Lithium-ion batteries pose a significant fire risk due to:

- Thermal runaway.
- Overcharging.
- Physical damage.
- Use of non-approved chargers.
- Charging in poorly ventilated areas.

Fire safety controls should include:

- Charging batteries only with manufacturer-approved chargers.
- Avoiding overnight or unattended charging where possible.
- Charging equipment on non-combustible surfaces.
- Removing damaged or overheating batteries from use immediately.
- Including lithium-ion battery risks within the fire risk assessment.
- Staff training on recognising early signs of battery failure (heat, swelling, odour).

Inspection Note

Fire risks associated with decontamination processes and dental equipment should be explicitly recorded within the Fire Risk Assessment and reviewed regularly, particularly following:

- Installation of new equipment.
- Changes to workflows.
- Refurbishment or relocation of decontamination areas.

This approach supports compliance with:

- Regulatory Reform (Fire Safety) Order 2005.
- Fire Safety Act 2021.
- Fire Safety (England) Regulations 2022
- CQC “Safe” Key Lines of Enquiry.
- HTM 01-05 and HTM 05-02 best-practice guidance.

Hazards from Flames and Heat

- Smoke is highly toxic and can be extremely hot, causing serious injury or death very quickly.
- As a fire consumes oxygen, there is less oxygen in the atmosphere to breathe.
- Excessive heat causes heat stress and reduces the ability to think clearly.
- Burnt clothing can melt onto skin.

Human Behaviour - Fires and People

People react very differently in an emergency:

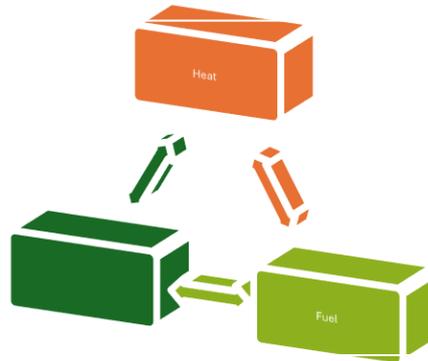
- The sound of a fire alarm may be ignored, or occupants will look for the reaction of others before doing anything themselves.
- People may panic and become distressed and confused.
- Occupants sometimes bypass a fire exit to leave a building by their usual exit route.
- Evacuation challenges should be addressed during fire safety training in dental practice for anxious patients, patients who are mid-treatment, mobility-impaired or patients that are under sedation.

The Five Classes of Fire (according to the material that is burning)

- Class A – Solids.
- Class B – Liquids.
- Class C – Gases.
- Class D – Metals and metallic powders.
- Electrical fires are not a fire class in UK legislation. They are not designated with a letter as they can involve any of the classes of fire. They should be dealt with by removing the power source and using appropriate extinguishers.
- Class F – Cooking fats and oils.

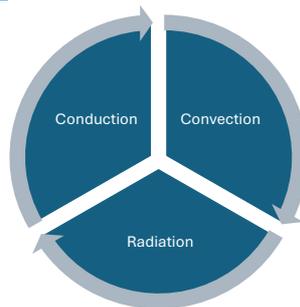
The Fire Triangle

A fire needs heat, oxygen and fuel.



- Each element must be present in the correct proportion to enable a fire to start and continue.
- A fire can be prevented or extinguished by reducing any one element to below the critical level.
- Everything has an ignition temperature.

Fire is Spread in Three Ways



- Convection is the most dangerous and is when smoke rises and penetrates any open gap or space.
- Radiation is the movement of heat in the same way that a radiator warms a room. Material that is close to the source will absorb heat and eventually smoulder and burn.
- Conduction is when metal/brick/concrete absorbs heat, and the heated metal/brick/concrete is in contact with combustible material.

Fire Fighting

Fire extinguishers and fire blankets work by removing either the heat or oxygen (or both). All markings conform to BS EN3 and a minimum of 5% of the surface area must denote the colour code of the extinguisher.

There are many different types of fire extinguisher, including water, foam and carbon dioxide. It is important that you familiarise yourself with the types of extinguishers that are at your premises, and what they are used for.

Type Extinguisher	Fire						Comments
	CLASS A Combustible materials (e.g. paper & wood)	CLASS B Flammable liquids (e.g. paint & petrol)	CLASS C Flammable gases (e.g. butane and methane)	CLASS D Flammable metals (e.g. lithium & potassium)	Electrical Electrical equipment (e.g. computers & generators)	CLASS F Deep fat fryers (e.g. chip pans)	
Water	✓	✗	✗	✗	✗	✗	Do not use on liquid or electric fires
Foam	✓	✓	✗	✗	✗	✗	Not suited to domestic use
Dry Powder	✓	✓	✓	✓	✓	✗	Can be used safely up to 1000 volts
CO ₂	✗	✓	✗	✗	✓	✗	Safe on both high and low voltage
Wet Chemical	✓	✗	✗	✗	✗	✓	Use on extremely high temperatures

Note: Class D fires require a special dry powder extinguisher, which is different to the dry powder used on Class A, B, C and Electrical fires. A fire blanket typically measures 1m² or 1.2 m² and is used to extinguish a chip pan fire or a small Class A fire, provided the blanket excludes oxygen from feeding the fire. A fire blanket can also be used to cover a person whose clothing is alight. In all such cases, the blanket kills the fire by depriving the fire of oxygen – it smothers the fire.

The presence of fire extinguishers and fire blankets in the workplace does not mean that tackling a fire is safe – you must decide whether or not you feel safe in doing so. Some considerations are:

- Is there enough air to breathe, and do you have a clear and easy escape route?
- Is it within your ability?
- Consider having a colleague with you.
- Never tackle a fire:
 - That is surrounded by combustible materials.
 - That is spreading.
 - Bigger than a wastepaper bin.
 - In the presence of any gas or chemicals.
 - If the room is filling with smoke.
- If you feel it is safe to tackle a fire:
 - Sound the alarm.
 - Ensure the fire service has been called.
 - Only use an extinguisher if you are confident to do so.
 - Choose the correct extinguisher.
 - Only use one extinguisher.
 - Keep your back to the nearest exit route.

- Leave immediately if the fire:
 - Is getting bigger.
 - Is not reducing.

The PASS Acronym

PASS is a good way to help remember how to use an extinguisher:

- **PULL** the safety pin (or twist and pull) which will also break the plastic tamper seal.
- **AIM** at the base of the flames, except in a fuel fire when the foam is directed slightly above the flames and allowed to drop onto the fuel to provide a blanket.
- **SQUEEZE** the handles together so the extinguisher discharges.
- **SWEEP** from side to side until the fire is extinguished.

Clothing and Fires

If your clothing catches fire, do not run around as you will fan the flames. Lie down and roll around so the flames are smothered. Think of: **Stop, Drop and Roll**.

Flashover and Backdraught

A flashover happens when everything in a room reaches ignition temperature and the whole room becomes an inferno. There is an intense build-up of heat that causes all flammable material in the room to give off flammable gases. Flashover is likely to happen when the fire has a constant supply of oxygen, as would be the case with an open window or open door.

A backdraught develops and emits explosive force when a fire that had died down is then fed with oxygen. A room with closed windows and a closed door will limit the amount of oxygen available to the fire. The fire dies but there are hot gases and embers in the room. When oxygen is introduced (e.g. a door or window being opened) the oxygen mixes with the heat and embers and, when the mixture of oxygen, heat and fuel is right, the fire re-ignites with explosive force.

The Role of the Responsible Person (Legal Duty Holder)

The Responsible Person is the individual who holds the legal responsibility for fire safety within the premises under the Regulatory Reform (Fire Safety) Order 2005. In a dental practice, this is usually the practice owner, principal dentist, or employer. This role is primarily strategic and managerial. The Responsible Person ensures that suitable systems, plans, equipment and training are in place to keep people safe from fire.

The Responsible Person's role includes:

Proactive (Legal & Management Responsibilities):

- Ensuring a suitable and sufficient Fire Risk Assessment (FRA) is completed, kept up to date and acted upon.

- Ensuring an Emergency Plan is in place, communicated to staff and reviewed regularly.
- Making sure fire safety training is provided to all staff (induction + refreshers).
- Ensuring fire extinguishers, alarms, emergency lighting and fire doors are provided and maintained.
- Appointing and supporting Fire Marshals/Wardens where appropriate.
- Ensuring fire drills are carried out and recorded.
- Making sure escape routes and exits are kept clear and suitable.
- Ensuring contractors and visitors are managed safely.
- Ensuring a fire logbook is kept and reviewed.
- Acting on concerns raised by Fire Marshals or staff.

Reactive (Overall Accountability in an Incident):

- Cooperating with the Fire & Rescue Service and enforcing authorities.
- Reviewing incidents and near-miss incidents and taking corrective action.

The Role of the Fire Marshal / Fire Warden (Operational Role)

The Fire Marshal (or Fire Warden) is a designated member of staff appointed by the Responsible Person to help manage fire safety on a day-to-day, practical level. This is an operational role, not the legal duty holder.

Fire Marshals are the eyes and ears on the ground and support the Responsible Person by helping to prevent fires and manage evacuations safely.

The number of Fire Marshals needed depends on:

- The size and layout of the premises.
- The number of people present.
- How long it takes to sweep each area safely.
Fire Marshals should be able to check their designated areas quickly (typically within about one minute) and evacuate without delaying their own escape.

The Fire Marshal's role includes:

Proactive (Day-to-Day Fire Safety Support):

- Having a working knowledge of the Fire Risk Assessment and Emergency Plan.
- Carrying out routine visual checks of:
 - Escape routes and exits
 - Fire doors (not wedged open)
 - Corridors free of obstructions and combustibles.
- Reporting faults or concerns (e.g. blocked exits, damaged fire doors).
- Assisting with basic checks of fire extinguishers and emergency lighting.
- Ensuring fire safety signage is visible and understood.
- Taking part in and supporting fire drills.
- Being aware of specific hazards in their area (e.g. oxygen cylinders in a dental practice).
- Monitoring contractors working in their zone.

- Recording issues and actions in the fire logbook.

Reactive (During a Fire Alarm or Fire):

- Raising the alarm if they discover a fire.
- Encouraging and directing people to evacuate via safe routes.
- Checking their designated zone (if safe to do so).
- Closing doors and windows where appropriate (if safe).
- Being mindful of people who may need extra time or support to evacuate.
- Assisting with roll calls or headcounts at the assembly point (if part of local procedure).
- Reporting zone status to the Fire & Rescue Service or the Responsible Person.

It is recommended that completion of a fire marshal course is required by anyone who is going to take up the role of fire marshal.

Important Note

As stated previously in a health care setting, face to face training that is premises-specific will usually be necessary so staff can safely act in an emergency. Therefore, on site safety training in the dental practice is still recommended to be completed by all members of the team. This article does not replace onsite training.

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With Contributions from Jon Andersen

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Personal Development Plan and Reflective Learning

This CPD is linked to the following GDC Enhanced CPD Development Outcome:

A. Effective communication with patients, the dental team and other healthcare professionals.

B. Effective management of self, and effective management of others or effective work with others in the dental team, in the interests of patients at all times; providing constructive leadership where appropriate.

Reflective learning is now a requirement of the GDC Enhanced Professional Development Scheme. As such, you will now be given the opportunity to answer some reflective learning questions before your certificate is generated. This can be updated at any time but, If you take a few moments to write your reflection on completion, you will have fulfilled the Enhanced CPD requirements.

Examples will be provided. Please remember that you need to fill this in on completion of the exam but you can also update this at any time from your CPD log. If you take a few moments to write your reflection on completion, you will have fulfilled the Enhanced CPD requirements.

Further Reading

A Short guide to making your premises safe from a fire:

https://assets.publishing.service.gov.uk/media/64257bbe3d885d000cdadf2d/A_guide_to_making_your_small_non-domestic_premises_safe_from_fire.pdf

Fire risk assessment:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/14899/fsra-5-step-checklist.pdf

References:

1. Care Quality Commission (2025) Available from : <https://www.cqc.org.uk/guidance-providers/dentists/dental-mythbuster-21-fire-safety> (accessed 27/01/2026).
2. The Regulatory Reform (Fire Safety) Order (2005) Available from <https://www.legislation.gov.uk/uksi/2005/1541/contents> (accessed 27/01/2026).
3. Surrey Fire Safety (2021) Available from: <https://surreyfire.co.uk/types-of-fire-extinguisher/> (accessed 27/01/2026).
4. NHS England (2025) Available from: https://www.england.nhs.uk/wp-content/uploads/2021/05/HTM_05-02_2015.pdf (accessed 27/01/2026).
5. NHS England (2025) Available from: https://www.england.nhs.uk/wp-content/uploads/2021/05/HTM_01-05_2013.pdf (accessed 27/01/2026).