

Code of Practice Regarding:

Management of Medical Emergencies within the Practise of Dentistry

Promoting transparency and enhancing public
confidence in the dental profession

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Introduction

An 'emergency' is a medical condition that demands your immediate attention and good management to enable a successful outcome. These are life-threatening situations that every practitioner needs to be aware of to help prevent preventable injury, illness or death, and to minimise the consequences of unavoidable emergencies.

This guidance is issued under Section 66 of the Dentists Act 1985 which requires the Dental Council to guide the dental profession on all aspects of ethical conduct and behaviour. The Dental Council's primary role is to protect the public. We produced this code to enable dental practitioners and their teams to ensure that the relevant emergency drugs and equipment are available in the event of a medical emergency.

All dental healthcare professionals are ethically obliged to maintain the knowledge and competence to deal with medical emergencies. If you do not comply with this guidance, it may result in Fitness to Practise proceedings being taken against you under the Dentists Act 1985.

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Objectives

This code aims to outline the minimum standard of care that should be available where dental care is provided in emergency situations.

In developing this code, the council considered the following:

1. The range of emergency drugs and equipment should be:
 - appropriate to the type of patients being treated (for example, older people, those with special needs, children, and medically compromised patients),
 - suitable for the procedures performed, and
 - suitable for the geographical location of the dental setting (for example, rural locations may experience a delay before emergency support arrives).
2. The emergency drugs and equipment that should be available where dental services may be provided on a domiciliary basis – for example, in care homes, or on home visits.
3. The need to identify training providers, and the extent of resuscitation training and knowledge the dental team should have.
4. The need to ensure that our recommendations are practical and realistic.
5. The need to explain the training requirements in relation to the management of medical emergencies and in relation to Basic Life Support (BLS), and to help dental professionals to comply with these requirements.

Range of medical emergencies

Dentists and their teams should be prepared for potential medical emergencies, including but not limited to the following:

- Addisonian crisis
- Airway obstruction – choking and breathing problems
- Anaphylaxis
- Angina related chest pain
- Asthma
- Hypoglycaemia – low blood sugar
- Myocardial infarction – heart attack
- Seizures, including epilepsy
- Stroke
- Syncope, vasovagal syncope – fainting
- Unspecified collapse

Planning for medical emergencies

All dental healthcare professionals may have to deal with medical emergencies. Medical emergencies in dental practice are rare, but when they occur, they can be life threatening and potentially catastrophic for all concerned.

A delay in treatment may result in consequences that could have been avoided. To reduce the risk of death or serious illness or injury, dental healthcare professionals must ensure that basic emergency equipment and medications are in place. Prevention is the aim, but education and training must be provided to deal with the rare occurrences. Planning for medical emergencies must take into account the specific characteristics of the dental practice, including the normal range of procedures available. The plan must also take the patient profile into account.

A written plan must be developed and include the following:

Written action plan

A written action plan must be developed. This plan should set out:

- plans for team training,
- confirmation of who does what,
- information about access to emergency services (for example, the relevant telephone contact numbers, basic information required by emergency services),
- instructions and directions to the practice (for example, an address and Eircode), and
- the drugs and equipment available.

The approach to preventing medical emergencies

Preventing a medical emergency is a priority. This involves assessing your patient for possible risks based on current medical history, scheduling of treatment, pre-dental treatment advice and as treatment is being provided.

A process to recognise, assess and manage emergencies

It is vital to recognise and manage common medical emergencies well. The dental team, through their training and continuing education, should be able to recognise, assess and manage common medical emergencies.

Training in BLS (basic life support)

All team members must be upskilled in BLS techniques.

Training and practice in the use of emergency drugs and equipment

All staff must be competent in using emergency drugs and equipment, and they must be able to practise safely and together as a team.

Documenting and reviewing incidents

Write up all incidents and review them. The review will help to identify areas where more learning or training may be needed. Consider staff counselling, if appropriate.

Training and quality assurance in managing medical emergencies

Required training

It is important to reassure dental professionals and the public that training for dental professionals is of a consistently high standard. The Dental Council expects all dental healthcare professionals to successfully complete recognised training in basic life support (BLS) including cardiopulmonary resuscitation (CPR) training.

The Dental Council also expects registrants to undertake training in:

- medical emergencies, and
- resuscitation within the dental setting.

Practice staff should receive regular training in managing medical emergencies to a level appropriate to their clinical responsibilities. Dental teams should practise together regularly to prepare for assessing and managing medical emergencies.

This team preparation should include:

- an unannounced 'emergency' drill to be carried out at least every three months;
- a readiness review taking place at least every six months; and
- team practice at least once a year.

This internal and self-directed activity is in addition to the team maintaining their BLS certification, which currently takes place every two years. Records of all staff medical emergency training should be maintained and kept available. All new staff should have BLS and management of medical emergencies training as part of their induction.

Training content should include both theory and practical elements, and should cover the following topics as a minimum:

- How to identify 'at risk' patients in order to reduce the chance of emergencies.

- How to recognise common medical emergencies.
- BLS with both adults and children.
- Using emergency drugs (as set out in this document on pages 10 & 11).
- Using emergency equipment (as set out in this document on page 12).

Quality assurance

To show that a dental practice maintains and improves its capability to manage medical emergencies to a high standard, the dental team should:

- keep a log of staff training;
- check resuscitation equipment every week to ensure that it is ready for use;
- check emergency drugs every week to ensure they have not passed their expiry dates; and
- have team debriefings after any emergency to ensure staff wellness and to identify any areas for improvement.

Drugs for managing medical emergencies

To ensure all necessary drugs are readily available, do the following:

Store drugs correctly and make sure they are in date

- A system must be in place to ensure all drugs are within their use-by date.
- All drugs should be stored together in an easily accessible emergency drugs box.

Ensure practitioners know how to administer them

- Practitioners should ensure they are familiar with the dosage and route of administration of all drugs in their emergency drugs box.
- The use of IV drugs is discouraged for practitioners who do not regularly administer drugs in this way. Intramuscular, sublingual, buccal or intranasal will be quicker and easier in an emergency situation.
- The use of pre-filled syringes is suggested where possible.

At a minimum, ensure the drugs listed below are available in any dental setting

- Adrenaline injection (1:1000, 1mg/ml)
- Aspirin dispersible (300mg)
- Glucagon injection 1mg
- Glyceryl trinitrate (GTN) spray (400micrograms / dose)
- Midazolam 10mg (buccal)
- Oral glucose solution / tablets / gel / powder
- Oxygen
- Salbutamol aerosol inhaler (100micrograms / actuation)

Supplemental drugs

Flumazenil is only required to be kept where sedation with benzodiazepines is carried out – (0.5 mg/ 5 ml).

Anaphylaxis

Practitioners should familiarise themselves with national guidance on the immediate management of anaphylaxis in the community.

Emergency equipment in the dental practice

To ensure all emergency equipment is readily available, follow this strategy:

- All items of equipment should be stored together – ideally with the emergency drugs box.
- A system must be in place to ensure all equipment is replaced or serviced as necessary.
- Staff should be appropriately trained in the use of equipment.

The equipment listed below is the minimum that should be available in any dental setting:

- automated external defibrillator (AED) and adhesive pads
- large volume spacer device for inhaled bronchodilators (adult and child sizes)
- oropharyngeal airways sizes 0, 1, 2, 3, 4
- oxygen cylinder
- oxygen masks with reservoir bag
- pocket mask with oxygen port
- portable suction or small mechanical suction
- personal protective equipment – gloves, aprons, eye protection
- razor
- scissors
- self-inflating bag with reservoir and appropriate face masks (adult and child sizes)

Oxygen cylinders should be easy to move or carry. They should also be big enough to allow delivery of high-flow oxygen (15L/min) until an ambulance arrives or the patient recovers. More than one cylinder may need to be available.

Immediate management of potential emergencies

The immediate management of any emergency should follow an appropriate, defined protocol or action plan. This could include the use of a 'mnemonic' that the team is familiar with and has practised. A mnemonic is a simple memory aid to help you remember the things to do or check for.

If the patient is responsive (or unresponsive), if they are breathing normally and you can feel their pulse, begin your management using the A B C D E mnemonic as follows:

A is for Airway – open the airway by tilting the head and lifting the chin if necessary. Remove any dental instrumentation and ensure the airway is protected.

B is for Breathing – check for adequate ventilation, and consider giving oxygen if necessary.

C is for Circulation – look for signs of bleeding and shock.

D is for Disability – carry out an AVPU assessment – that is Alert, responding to Voice, responding to Pain, Unconscious).

E is for Expose – expose the patient's body enough to carry out a medical assessment, but keep them warm and maintain their dignity.

Risk assessment for dental care provided outside of the general dental surgery

Every instance of dental care provided outside of the general dental practice should be risk assessed. Medical emergencies can occur in any situation, and emergency drugs must be available at the intended location. Otherwise, dentists must bring a portable emergencies drugs kit to the location.

In making the decision to provide dental care outside of the general dental practice, dentists should take into account the following:

- The nature of the dental care to be provided. Some dental procedures, such as examinations and the construction of dentures, are essentially non-invasive and will carry a much lower risk.
- The patient's medical history and any possible or likely causes of collapse or reaction to treatment.
- The physical environment and any possible risks related to this.

Clinicians can bring additional emergency drugs and equipment to an external location based on a risk assessment of the patient, and taking into account the resources they know to be available at this location.

Dentists should be aware of their personal safety and acknowledge the nature, responsibility and context of the situation.

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Drugs and equipment for dental care provided outside of the general dental surgery

Emergency drugs kit and single-use sterile syringes.

Portable oxygen with flowmeter, tubing and a face mask capable of delivering high concentrations of oxygen.

Portable independently powered suction machine with appropriate suction tips and tubing.

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Acknowledgments

We wish to thank everyone who has participated in the development of this Code of Practice. In particular, we want to acknowledge the work of the Management of Medical Emergencies Sub-Committee. Also, we wish to thank those who took up the Council's invitation to contribute to this Code and all members of the Dental Council who took part in advancing this amended Code of Practice.

ANNEX 1

Guidelines to store medical gas cylinders (oxygen)

Medical oxygen is a non-flammable gas but is a very strong oxidant. This means it may react violently with combustible materials. This can cause certain substances to burn vigorously, including some materials that would not normally burn in air. Oxygen is highly dangerous in the presence of oils, greases, tarry substances, and many plastics due to the risk of spontaneous combustion in the presence of oxygen when in relatively high concentrations. Therefore, you need to make sure that compressed medical oxygen cylinders are stored carefully. This means they are:

Securely and properly stored

- secure enough to prevent theft and misuse;
- stored under cover, preferably inside, kept dry and clean, and not subjected to extremes of heat or cold, and away from stocks of combustible material;
- stored separately from industrial and other non-medical cylinders;
- stored to maintain separation between full and empty cylinders;
- stored separately from other medical cylinders within the storage area;
- stored correctly, for example, F-size cylinders and larger should be stored vertically. E-size cylinders and smaller should be stored horizontally; and

Used in strict rotation

- used in strict rotation so that cylinders with the earliest filling date are used first.

Safety notices are in place

- Warning notices prohibiting smoking and naked lights should be posted clearly in the cylinder storage area.
- Emergency Services should be told where cylinders are stored, as cylinders may explode if subjected to extremely high temperatures (for example, if involved in a fire).

Medical oxygen

Medical oxygen can be transported but should never be stored in a vehicle.

ANNEX 2

Guidelines for the transport of medical gas cylinders (oxygen)

The Health and Safety Executive advice is that oxygen cylinders as used in dentistry, which include a regulator, hose and mask, form part of a “ready to use” set. As such, they are exempt from European Agreements concerning the International Carriage of Dangerous Goods by Road (ADR) by virtue paragraph 1.1.3.1 (b).

Follow the points and recommendations relate to transporting oxygen. They are listed under four headings:

- Guidelines and requirements for drivers and vehicles before you transport oxygen
- Guidelines for transporting oxygen (secure and correct storing)
- Guidelines if you suspect there is a leak
- Guidelines when emergency services are in attendance.

1. Guidelines and requirements for drivers and vehicles before transporting oxygen

Drivers must have appropriate training

Duty-holders will need to carry out a risk assessment and provide appropriate training under other legislation such as the Management of Health and Safety at Work Regulations and the Provision and Use of Workplace Equipment Regulations.

Training should include:

- content on the associated hazards and dangers of the goods;
- safe handling of gas cylinders
- emergency procedures and the use of fire-fighting appliances
- keeping training records – all training should be recorded and records kept by both the employee and employer.

- refresher sessions – the training should be periodically supplemented with refresher training to take account of regulation changes, and should be verified upon commencing a new employment.

It is the driver's responsibility to ensure the vehicle is safe and has the required equipment.

As a driver, you should make sure you have informed your insurance company that you are carrying medical oxygen in your vehicle. There is normally no additional charge for the carriage of D size cylinders.

You should make sure that the vehicle has at least one 2kg dry powder fire extinguisher which is kept in good working order.

You do not need to carry any special documents to transport medical oxygen. However, it is useful to have the right information to assist the emergency services if there is an incident.

Do not smoke or charge devices in the vehicle

- There should be no smoking (including the use of electronic cigarettes) when carrying or using oxygen.
- Electronic devices should not be charged in the vehicle.

Keep equipment out of sight and out of sunlight

- If you leave your oxygen equipment in a vehicle, make sure it is out of sight. There have been many cases where thieves have stolen cylinders and oxygen equipment.
- Leave the vehicle shaded from direct sunlight.

2. Guidelines for safely transporting oxygen safely

Keep cylinders and containers secure

- Oxygen cylinders must be properly secured when being moved and, if transported in a van, take precautions to avoid a build-up of gas which might affect the driver. For example, keep windows open and keep containers upright.
- Cylinders should be kept secure; if involved in an accident you could be injured by unsecured items being thrown around inside the vehicle.

- Use purpose-made bags or cases/boxes to help secure the cylinder.

Take extra care with liquid oxygen containers

- Take extra care with liquid oxygen containers. They must be kept upright as they continually vent cold oxygen gas (even when not in use) and could leak liquid.

Remove oxygen tank as soon as possible from the vehicle

- The oxygen tank should be removed from the vehicle as soon as possible.

3. Guidelines for dealing with a suspected leak

If you suspect that there is a leak from your medical oxygen cylinder, take the following immediate actions:

- Close the cylinder valve (if safe to do so) and increase the ventilation in the vehicle.
- If you have a liquid leak, do not touch the liquid as it will give you cold burns.
- If the leak continues, park the vehicle in a safe location, away from naked flames and flammable substances.
- If additional help is required, contact your medical oxygen supplier for advice.
- The driver should use the 2kg dry powder fire extinguisher which is kept in good working order.

4. Guidelines to follow if emergency services are attending an accident or incident

If emergency services attending an accident or incident, tell them that the vehicle is carrying medical oxygen. They will want to know:

- whether you are carrying cylinders, liquid oxygen or both,
- how many cylinders and liquid oxygen containers are in the vehicle as well as their size and location.

(The UN classification for these products is Medical oxygen in cylinders, UN 1072, OXYGEN COMPRESSED/ Medical liquid oxygen, UN 1073, OXYGEN, REFRIGERATED LIQUID/Class 2.2 non-toxic, non-flammable compressed gas/Class 5.1 oxidising agent).

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<http://www.bcga.co.uk/assets/publications/L13.pdf>

http://www.hsa.ie/eng/Your_Industry/ADR_-_Carriage_of_Dangerous_Goods_by_Road/Information_Guidance/FAQs/ADR_-_FAQ's/

ANNEX 3

Emergency preparedness checklist

- All staff members have received appropriate training in the management of medical emergencies.

- All clinical staff members are trained in basic life support for healthcare provider.

- The dental office is equipped with emergency equipment and supplies that are appropriate for that practice.

- All staff members have specific assigned duties.

- Contingency plans are in place in case a staff member is absent.

- Unannounced emergency drills are conducted at least quarterly.

- Appropriate emergency telephone numbers are readily accessible, and information the emergency services might require to get to the situation as fast as possible are placed prominently near each telephone.

- Oxygen tanks and oxygen delivery systems are checked regularly. Other emergency respiratory support equipment is present, in good working order and located according to the emergency plan.

- All emergency medications are checked monthly and replacements are ordered for specific drugs before their expiration dates have passed.

- All emergency supplies are restocked immediately after use.

- One staff member is assigned the task of ensuring that the above procedures have been completed, and to document this checklist review.

www.walsallhealthcare.nhs.uk/Data/Sites/1/media/documents/medicaleducation/3307_wnhs_medicaledemergencies_a3poster.pdf

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