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How to plan for emergencies



Medical emergencies can occur in a dental practice at any time. Be prepared says
Dr Paul Brady, BDS MFDS MSc Con Sed

Although rare, a medical emergency can occur in a dental practice at any time. Maintaining the knowledge and competence to deal with medical emergencies is an important part of continuing professional development (CPD) for dentists. When reacting to a medical emergency, the goal is to manage the patient's care until he or she fully recovers, or until help arrives. The Dental Council of Ireland recommends that dentists undertake at least 10 hours in every five-year cycle of CPD in medical emergencies, including cardiopulmonary resuscitation¹.

All dentists have a duty to provide emergency care and resuscitation once they accept a patient into their care. In 2006, the UK Resuscitation Council published standards for clinical practice and training for dental practitioners and dental care professionals' in general dental practice².

In February 2012, the guidelines were updated and took into account the 2010 resuscitation guidelines which came into use in Europe³.

Risk assessment (see Table 1)

Every dental practice should have a robust system of risk assessment aimed at the prevention of a medical emergency occurring in the first place. It is essential that a comprehensive medical and drug history is obtained from every patient. Medical questionnaires must be augmented by a verbal history taken by the dentist.

In their assessment of the patient, the dentist will have to weigh up the nature of the procedure versus the patient's medical status and decide whether a high-risk patient should be referred to a more medically supported environment, such as a dental hospital. Patients should be

assessed using a risk stratification system such as the American Society of Anaesthesiologists (ASA) fitness for anaesthesia.

ASA 1 & 2 are considered to be fit for routine treatment in general dental practice. ASA 3 will usually require a more medically supported environment for invasive procedures. The ASA classification is well recognised in medicine and is a useful classification to use when referring patients.

- ASA 1 – Normal healthy patient, e.g. fit adult.
- ASA 2 – A patient with mild systemic disease, e.g. well controlled hypertension.
- ASA 3 – A patient with severe systemic disease, e.g. unstable angina.

Team approach

The team approach to a medical emergency is central to the satisfactory management of a collapsed patient. The dental team must be able to assess, recognise and manage an emergency. It is essential that all staff members are appropriately prepared to manage an emergency working as a team.

A basic action plan must be developed so that all team members understand their roles in an emergency. The dental practice should have a written plan that describes individuals' expected roles. These need to be regularly reviewed, particularly when staff members leave or with the arrival of new staff. The specific roles of team members will depend, in part, on the number of people in the team.

Most practices will have at least three members: dentist, dental nurse and a receptionist. It is recommended that there are at least two people available to manage a medical emergency when dental treatment is to take place. All members of staff who might be involved with managing a medical emergency should

TABLE 1: EMERGENCY PREPAREDNESS CHECKLIST

Risk assessment...

- up to date medical history questionnaire
- verbal check by dentist.

All staff...

- have specific roles in the team
- have received appropriate training in medical emergencies
- have training in Basic Life Support

- recommend: Irish Heart Foundation/American Heart Association Health Care Provider Course.

Emergency equipment and drugs...

- checked regularly
- planned replacement.

Regular emergency drills

Action plan

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practice together regularly in a simulated emergency so that they know exactly what to do.

A specific task should be delegated to each team member. In addition to understanding each other's role, members of a team need to communicate effectively. The team leader (usually the dentist) should use a 'closed-loop' approach. This means that when the leader sends a message, the team member acknowledges receiving the instruction, thereby confirming that he or she heard and understood the message.

Continuing education courses incorporating task training and high fidelity human simulators (computer-controlled simulated patients), that emphasise crisis management for lifelike practice in managing medical emergencies, is a very useful method for training.

It is useful to have a planned protocol regarding what to say when making a telephone call for emergency help. A description of the location of the practice should be written close to the phone (Table 2).

Every practice should keep on file documentation regarding the practice protocol, team members, expiry dates of emergency drugs, copy of staff Basic Life Support certificates and reference material, such as the UK resuscitation guidelines for dentists. A record should be kept of all medical emergencies that occur in the practice. The practice emergency plan should be kept in a location where it serves as a constant reminder to all staff members.

The first priority in any medical emergency is basic life support. All members of the dental team should have regular CPR training. On successful completion of the healthcare provider CPR course, healthcare providers obtain a card, which is valid for two years. A wall poster can assist in retention of learnt techniques.

TABLE 2: PROTOCOL

Every practice should have a written protocol for staff responsibilities during an emergency. For example:

- The dentist stays with the patient
- The assistant informs the receptionist of the nature of

the emergency and requests the receptionist to call for help. (emergency number posted at every phone

- The assistant retrieves the portable oxygen and emergency kit and returns to the dentist.

TABLE 3: RECOMMENDED DRUGS*

Drugs that should be available to all clinical areas:

- Oxygen cylinder (D Size)
- Glyceryl trinitrate (GTN) spray
- Adrenaline injection (1:1000, 1mg/ml)
- Salbutamol aerosol inhaler
- Aspirin dispersible (300mg)
- Glucagon injection (1mg)
- Oral glucose solution/tablets/gel/powder
- Midazolam 5mg/ml or 10mg/ml.

TABLE 4: RECOMMENDED EQUIPMENT*

- Portable oxygen cylinder (D size)
- Oxygen face mask with reservoir and tubing
- Oropharyngeal airways (sizes 1,2,3 and 4)
- Pocket mask with oxygen port
- Self-inflating bag and mask apparatus
- Variety of adult and child face masks for attaching to self-inflating bag
- Portable suction with appropriate suction catheters and tubing
- Single use sterile syringes and needles
- 'Spacer' device for inhaled bronchodilators
- Automated blood glucose measurement device
- Automated External Defibrillator.

*Minimum recommended by the Resuscitation Council (UK) for dental care professionals

Drugs and equipment

Specific drugs and equipment should be available in all dental surgery premises. All drugs should be stored together in a purpose-designed drug-storage container. The drug kit should be checked regularly to ensure that the drugs are in date and there should be a planned replacement programme. The use of intravenous drugs for medical emergencies in dental practice is to be discouraged. Intramuscular, inhalation, sublingual, buccal and intranasal routes are all much quicker to administer drugs for an emergency in a dental surgery (Table 3).

All surgeries should have an oxygen source that is easily transported to the patient (Table 4).

Evidence suggests that CPR can be commenced in a dental chair⁴. It is recommended that all clinical areas should have access to an Automated

External Defibrillator (AED). An AED can reduce mortality in cardiac arrest. It is the expectation of the public that AED's should be available in every healthcare environment. As early defibrillation increases the chance of a successful outcome in cardiac arrest, every dental team should know where to find the nearest AED.

Every dental practice has a duty of care to ensure that an effective and safe service is provided for its patients. Although rare, medical emergencies do occur in practices. Being prepared to manage an emergency as a team will greatly enhance the possibility of a successful outcome.

Achieving this depends on the combination of training and preparation by the dentist and staff members and the immediate availability of basic emergency drugs and equipment. ■

ABOUT THE AUTHOR

Dr Paul Brady, BDS MFDS, is a clinical fellow in the oral surgery department at the Cork University Dental School and Hospital (CUDSH). He is currently undertaking a PhD looking at respiratory monitoring during conscious sedation for dentistry. He holds a Diploma in conscious sedation from the university of Newcastle and has recently completed his MSc. He is an Irish Heart Foundation certified BLS instructor and regularly runs CPD courses on medical emergencies for dental care professionals at CUDSH. Anyone interested in more information on the courses should contact Catherine Nevin at c.nevin@ucc.ie

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