Your patients *need* you

A medical emergency at the practice is something we all hope won't happen to us, however, if it did would you know what to do? Every member of the dental team has a role to play if an emergency should ever occur, as **Martin Thornhill¹** explains.

Introduction

Medical emergencies are one of the few life-threatening situations that can arise in the dental surgery. However, the stress felt by many patients when attending the dental surgery, and the nature of dental treatment, means that the risk of an emergency occurring in a dental surgery is higher than in most other settings. When an emergency happens, it is usually unexpected, and often occurs at the most inconvenient time. Its unexpected nature provokes extreme anxiety, not only in the patient, but also in the dental practice staff who have to deal with them. This anxiety is well founded, since minutes wasted in dealing with an emergency can literally cost lives. On the other hand, with a little forethought, regular training and teamwork, it is possible to prevent most emergency situations from arising and to feel confident about your ability to deal with them. Teamwork is paramount in this. Perhaps more than any other area of dentistry, every member of the dental team has an important role to play, including non-clinical staff. We all have a responsibility to manage a medical emergency arising in the dental surgery, however, the public might also reasonably expect us to offer first line treatment for a medical emergency

arising in a public place, until more expert medical assistance arrives. There is therefore an onus on us to be prepared to deal with any such event.

The first aim should be to prevent emergencies from happening. A full understanding of the patient's medical history is of paramount importance in this. Careful treatment planning and patient management in the full knowledge of the medical history will prevent the majority of emergencies from occurring. Should an emergency arise, however, the main aim must be to keep the patient alive until they can be transferred to more expert medical care for definitive treatment – usually in the accident and emergency department of the nearest hospital. Since the speed with which a patient receives expert care can be critical in determining the chances of survival, the first priority must be to alert the emergency services. The next priority is to prevent, as far as possible, any deterioration in the patient's condition before assistance arrives. Bearing this in mind, it seems reasonable that all clinical members of the dental team should be trained to diagnose the main acute life threatening events such as myocardial infarction, cardiac arrest and anaphylaxis. You should also have the skills to assess the patient, main-

tain the patency of the airway, carry out basic life support, including administration of positive pressure air or oxygen and, if appropriately trained, carry out defibrillation and deliver emergency drugs. Preparation to deal with such events effectively and with a minimum of stress requires regular training and the availability of appropriate emergency equipment and drugs. It is essential that all members of the dental team, including nurses and reception staff, are involved in medical emergency training.

Prevention and preparation

There are many factors that can play a part in preventing a medical emergency but most of them are common sense. They include the ambience of the practice, the training and attitude of all members of the dental team and a good knowledge of the patient's medical history.

The practice

Comfortable practice surroundings and a friendly atmosphere make for a good working environment and help to promote the good reputation of the practice but they also help to allay the fears of more anxious patients and generate a feeling of confidence and well

being. On a more practical level, it is important that you have easy access to all parts of the surgery premises used by patients, including the toilet, which it should be possible to unlock from the outside. Getting an acutely ill patient lying flat is a major priority and it should be possible to do this with relative ease in all parts of the surgery. A regular survey of practice premises with the management of medical emergencies in mind is a good idea.

Staff

The professionalism and attitude of all dental team members is an important part in allaying patients' fears and preventing stressful situations from arising that could lead to an

emergency. Informed and observant nursing and reception staff may also help to identify a potential emergency at an early stage so that preventive action can be taken.

On a practical level, it is essential that all members of the dental team know where the emergency drugs and equipment are kept and are properly trained and prepared to deal with an emergency. Staff should practice resuscitation skills regularly as a team in simulated emergencies. Training should take place in the dental surgery and in the waiting area so that everyone is familiar with dealing with emergencies in different locations. Ideally, an accredited instructor should give training and each person who undergoes training

should have his or her proficiency tested and certified.

In many areas throughout the UK there are schemes in operation, often run by the local post-graduate deans office, which provide 'hands on' CPR training for the dental team in their own dental practice; some areas also provide training in the management of other types of medical emergency. In rehearsing staff for dealing with an emergency, it is important to ensure that each member of staff knows what is expected of them, who will telephone for assistance and what they should say. Who will fetch the emergency equipment and who will take charge. A notice next to the telephone with concise

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instructions, including the address details of the surgery, can be helpful in ensuring the right details are given, particularly when new or temporary staff may be manning the reception. Nothing can replace regular hands-on training for dealing with emergencies, but books on managing emergencies are a useful aid, particularly for providing further information and background and also by acting as a handy reference for dealing with specific emergencies.

Medical history

Obtaining a medical history is an essential step in evaluating a patient and how their dental treatment should be managed. A substantial

Medical history

The patient's medical history should include:

- Current medication;
- Current treatment by doctor or hospital specialist or clinic;
- Allergies to medicines, substances (e.g. metals or latex) or foods;
- Cardiovascular disease or increased blood pressure;
- A history of rheumatic fever;
- The nature of any heart surgery;
- Respiratory disease (including asthma or bronchitis);
- Endocrine disorders (e.g. diabetes);
- Epilepsy;
- Excessive bleeding, especially after extractions;
- Any other serious illnesses;
- If the patient may be pregnant.

Box 1

and increasing number of patients attending the dental surgery have medical conditions or are taking medication that may influence their dental management. In view of this, a medical history should be obtained from every patient and updated at every recall. It should, at a minimum, include enquiries about all of the items listed in box 1.

The patient's medical history will often suggest the type of medical problem to be anticipated; diabetics who use insulin are at most risk of hypoglycaemia, especially if treated just before they are due to eat a meal. Patients with angina have ischaemic heart disease and will be more likely to suffer a myocardial infarct. Armed with this knowledge, it may be possible to take steps to reduce the likelihood of any problems arising during treatment.

Printed medical history forms are available from many sources. However, it is advisable to seek verbal confirmation from the patient about what they have put on the form and they should be questioned further about any health issues raised by the form. Drugs with which you are not familiar should be looked up in the British National Formulary. If there is anything in the patient's medical history about which you are unclear, it is worth looking it up in a medical textbook or contacting the patient's medical practitioner or hospital specialist for further advice and information.

"your first line of defence"

Every dental surgery should be equipped to enable the dentist or trained DSA to administer resuscitation. **The Tricodent Emergency Resuscitation Kit** is easy to identify and put into immediate use. Patients in the surgery or waiting room who suffer cardiac arrest, cardiovascular collapse, respiratory arrest or an acute allergy condition may be given oxygen or an oxygen-enriched air supply to revive them using the self-reinflating bag.

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Common emergencies

Most common type of medical emergency in the dental practice:

- Collapse of unknown cause;
- Cardiac arrest;
- Acute chest pains;
- Fainting and postural hypotension;
- Hypoglycaemia/hyperglycaemia;
- Addisonian crisis/steroid insufficiency;
- Anaphylaxis and angio-oedema;
- Epilepsy;
- Stroke;
- Acute asthma attack;
- Inhaled foreign body;
- Hyperventilation/panic attacks;
- Vomiting;
- Adverse reactions to local anaesthetics;
- Post operative bleeding.

Box 2

Emergency equipment and drugs

It is important that all equipment that might be used in an emergency is regularly checked and maintained in good condition. All members of the practice team should know where the different items of equipment are kept, what they are for and how they are used. Most books on the management of emergencies in the dental practice will provide guidance on what equipment should be available and how to use it. The General Dental Council can also provide a list of recommended items of

emergency equipment. High volume suction equipment, oxygen and airways adjuncts are essential and many practices also now have an automatic external defibrillator (AED). Modern AEDs are very simple to use, have come down a lot in price and may make the difference between life and death for a patient who has suffered a cardiac arrest.

With regard to emergency drugs, the situation has become simpler now that General Anaesthesia is no longer carried out in general dental practice. Again books on managing emergencies in the dental surgery often provide helpful guidance on what drugs should be kept and how to use them. The British National Formulary also provides a suggested list of emergency drugs and commercial 'kits' containing appropriate drugs are available. Whether you choose a commercial kit or create your own, it is essential that you are familiar with all the drugs and equipment, know how to use them and replace the drugs before they pass their 'use by' date. Commercial kits sometimes provide a notification system to replace drugs that are soon to go out of date. If you have created your own emergency drug kit, you should devise a system to ensure that drugs are replaced before they go out of date. A good method is to make a note in the practice appointment book when a drug needs to be replaced. Some computer practice management systems also have the facility to provide reminders.

Managing medical emergencies

Providing details on the diagnosis and management of specific emergencies is beyond the scope of an article like this. However, all members of the dental team should be

familiar with the diagnosis and emergency management of patients with the conditions listed in box 2. Although many practices arrange regular training in CPR or basic life support, far fewer practice the management of other medical emergencies. Yet, compared to other types of emergency, cardiac arrest is uncommon in the dental setting. Furthermore, prompt and effective management of other types of emergency will often prevent their progression to cardiac arrest. It is very important, therefore, to be familiar with the management of all types of medical emergency that commonly arise in the dental setting.

Books on the management of medical emergencies in the dental practice can be very helpful for acquiring the knowledge on how to diagnose and manage these different types of medical emergency, for developing a practice action plan for dealing with emergencies and as a day-to-day reference. However, these should be supplemented by regular revision, attendance at courses and ideally by hands-on role play of different emergency situations in your own practice.

¹ Martin H. Thornhill MBBS, BDS, PhD, Professor of Oral Medicine at University of Sheffield School of Clinical Dentistry.

The newly published book *Management of Medical Emergencies for the Dental Team*

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