

Is your practice ready to deal with an emergency?

Emergencies do not regularly occur in general practices; therefore many staff may regard preparing for emergencies as a low priority. Although most practices now receive regular basic life-support training, it could be argued that there is a lack of appropriate equipment in many areas in primary care and a general lack of confidence in dealing with emergencies. Mansfield et al (2001) demonstrate that family physicians may be less prepared to deal with emergencies, and discount the importance of the problem and need for preparation.

The authors recognized a gap in clinical practice and a lack of equipment to respond to emergencies in their practice, and therefore set about improving their ability to cope with an emergency. The ongoing support of the GPs in this exercise was essential.

The aim of this article is to demonstrate the benefits of running mock emergencies in general practice, and how they can improve patient care. In addition, the need for appropriate equipment and training is highlighted. It is hoped that readers may be challenged to review how ready their practices are to deal with an emergency.

Resuscitation training

Jane Lambert (JL) has been providing resuscitation training for almost 10 years, initially as an NHS resuscitation officer, and now in running a training company (ECG Ltd), providing resuscitation training predominantly to primary care trusts around the UK, including many general practices.

Most practices will arrange their training as a team, to include GPs, practice nurses and receptionists in the same course; this can be useful to encourage teamwork. Courses are usually held annually. Practices equipped with an automated external defibrillator will also have training in its use as part of the course.

Many practices do not recognize the need for refreshing their skills regularly, and the length of training each time is often questioned, with staff wanting 'shorter sessions' to fit within a lunchtime.

The introduction of 'protected learning

time' for practice staff enables easier access to them for longer, ensuring more appropriate training sessions.

It is often found that staff have been trained in adult basic life support but not in paediatric basic life support, despite all ages being seen in practices.

Other medical emergencies are often not discussed, although anaphylaxis training is becoming more widely requested.

The Resuscitation Council UK (2001) has recommended that all members of the primary health care team who have contact with patients should be trained and equipped to a level appropriate for their expected role, so that they can resuscitate patients who suffer cardiopulmonary arrest in the community. They also suggest that the majority of the team should be capable (with appropriate training) of using an automated external defibrillator.

Resuscitation equipment

Whenever an instructor working with ECG Ltd teaches at a general practice, he/she always assesses the practice's resuscitation equipment. Over the years there have been seven main areas for concern on a first visit:

- *Intubation equipment*: many areas still had intubation equipment; rarely will a GP have maintained his/her competence in this skill, but with the equipment available, GPs may believe that they should attempt it
- *Adult bag valve mask*: in many areas the adult bag valve mask was no longer in satisfactory condition for clinical use
- *Paediatric bag valve mask*: many areas did not have anything available to ventilate a child or infant
- *Pocket masks*: some areas did not have sufficient pocket masks to be located in all clinical rooms
- *Automated external defibrillators*: many staff still require educating in the importance of having an automated external defibrillator in the practice, and the appropriate training to use it
- *Storage*: not all staff have been aware of

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Submitted for peer review 29 September 2005; accepted for publication ???

Key words: Mock emergencies; resuscitation, automated external defibrillation, training, equipment, general practice



Figure 1. An automated external defibrillator.

where their resuscitation equipment is kept

- *Oxygen:* some practices still do not have an oxygen cylinder, and those that do are often not efficient at using it.

The Resuscitation Council UK (2001) states that every health-care practice should be equipped with an automated external defibrillator. An automated external defibrillator is very simple to use and requires the minimum of training (*Figure 1*). They also go on to recommend the basic equipment (including drugs) that should be kept in a practice.

Colquhoun (1993) discusses the fact that GPs provide the initial medical care for many victims of myocardial infarction, a group of patients at high risk of developing ventricular fibrillation. He went on to state that about 5% of all victims (perhaps 10 000 people in the UK each year) experience a cardiac arrest in front of their GP, either in the surgery or at the patient's home.

The Resuscitation Council UK (2001) suggests that one third of all people developing a myocardial infarction die before reaching hospital, and that most of them die within an hour of the onset of acute symptoms. In most of these deaths the presenting rhythm is ventricular fibrillation or pulseless ventricular tachycardias.

The only effective treatment for both of these is attempted defibrillation. With each minute's delay, the chance of a successful outcome falls by about 7–10%. Therefore the

wait for an ambulance to arrive and the paramedic to perform defibrillation usually reduces the chance of early defibrillation, and therefore, survival.

Mock emergencies

Over the past 2 years, the authors' medical centre has facilitated quarterly mock emergencies. It was initially agreed that small groups of nominated staff would participate in the scenario, and then a debrief with the whole team would follow.

Each scenario subject was agreed before the event. It was essential that staff did not feel intimidated by these sessions. Therefore, JL, as an experienced instructor, played an important role in facilitating the scenarios and coordinating the debriefing session in a constructive manner.

With each scenario, Karen Baker identified different members of staff to participate to ensure everyone had the opportunity to practise.

A mixture of scenarios has taken place, covering both adults and paediatrics relating to medical emergencies such as cardiac arrests, anaphylaxis and myocardial infarction (resuscitation manikins and training defibrillator used).

As Wheeler et al (2000) have suggested, obtaining specific training in paediatric emergencies and performing mock codes to check readiness can improve the proper handling of paediatric emergencies.

Many areas for improvement have been identified during these scenarios; they have been an essential learning experience for staff, who now accept this as regular practice. Two example scenarios run at the practice are described below.

Scenario 1

A 2-month-old baby, who had just received an immunization injection, became unwell. The baby was presenting with signs of anaphylaxis. He rapidly deteriorated and sustained a respiratory arrest with a slow heart rate. After adrenaline and a few minutes of basic life support, the baby started to make respiratory effort and improved (*Figure 2*).

Feedback on the team's performance

One of the health visitors took the lead very effectively. An accurate diagnosis of anaphylaxis was made and correct treatment was requested. The correct dose of adrenaline was delivered and basic life support was com-

Figure 2. Mock emergency scenario 1: A 2-month old baby with signs of anaphylaxis



menced rapidly.

Areas identified for improvement

There was a problem with the intercom system used to summon help. This led to a delay in the arrival of additional medical help.

There was also a delay in calling for an ambulance because no one had been asked to call.

A third problem was a delay of about 6 minutes in the administration of oxygen, because no one was aware of how to turn the oxygen cylinder on with its key.

Discussion at the debrief

The intercom system was found to be faulty, so it was then repaired. In addition, it was agreed that it should be checked weekly to ensure it remained in working order. The oxygen cylinder was taken to the meeting and everyone was shown how to use it. It was agreed that it should remain turned on at the key, to prevent future confusion.

Scenario 2

A 40-year-old man presented at the practice with chest pain. After review by a GP, the patient suddenly collapsed in cardiac arrest. After basic life support, and then two shocks from the automated external defibrillator, the patient regained his output (*Figure 3*).

Feedback on the team's performance

There was a good initial assessment of the patient. All emergency equipment arrived by the patient very rapidly after collapse. Defibrillation was performed within 2 minutes of the patient sustaining a cardiac arrest.

Areas identified for improvement

The receptionist was unaware of how to use the intercom system to call for help. This caused a delay in the initial arrival of medical help. It took the nurse nearly 3 minutes to arrive, and a GP nearly 4 minutes.

The receptionist was unsure of what to say to the ambulance control room when calling for the ambulance.

Basic life support was initiated early after the patient collapsed, although no pocket mask or bag valve mask was used for protection or increased oxygen administration.

It was learnt that oxygen flow must be removed from near the patient's chest during defibrillation.

Discussion at the debrief



Figure 3. Mock emergency scenario 2: A 40-year-old man with chest pain.

It was agreed that all staff would be made aware of how to call on the intercom system and that the intercom system should be tested on a weekly basis. It was agreed all staff would be involved to ensure they were familiar with its use.

It was agreed that a GP or practice nurse should advise the reception staff of what to hand over to the ambulance service when calling them. Staff were reminded about the advantages of using at least a pocket mask to deliver ventilations. Safety aspects of defibrillation were discussed again (*Figure 4*).

Participants' reactions

About 1 year after the mock emergencies were introduced, all staff were sent a questionnaire to identify advantages and any disadvantages of their implementation. About 48% of staff said they initially felt anxious about the idea of introducing mock emergencies to the practice (*Table 1*).

Over the 12-month period [AQ: Which 12-month period? the last 12 months?] 60% of the staff had been actively involved in the

Table 1. Staff reactions to mock emergencies

'Do I know what I am doing?'	'That I would not be able to respond in an appropriate way'
'Will I let others down?'	'That I would do something wrong in front of colleagues'
'I won't know what to do'	'Knowledge not up to date'
'What's my role?'	'Leadership role'
'I don't like role play'	'I'm rusty'

KEY POINTS

- About 5% of all victims (perhaps 10 000 people in the UK each year) have a cardiac arrest in front of their GP
- The majority of the team should be capable of using an automated external defibrillator
- Training should take place in the surgery so that the instructor can review, then familiarize staff with their own resuscitation equipment
- The running of mock emergencies helps the team evaluate policies, procedures and skills
- About 80% of staff felt more confident in dealing with an emergency as a result of the mock scenarios

Conflict of interest:

Jane Lambert is Director of ECG Ltd, a private training company.

mock emergencies, and 68% of all staff had attended the debrief sessions. Of those staff who had been involved in the mock emergencies, 80% felt more confident in dealing with an emergency as a result of the scenarios.

Staff were asked to identify areas that have been improved following the scenarios (Table 2). A partner at Newport Pagnell Medical Centre, Dr James, said. ‘The scenarios have helped us not only respond to emergencies more effectively but also work better as a team. They have also removed some of the anxiety usually associated with these situations.’

A practice nurse, Julia, said: ‘The only realistic way to practise and update one’s skills is if they are actually used (hands on). It addresses any shortcomings, i.e. location or lack of equipment.’

Staff have also expressed the view that the real emergencies that have happened over the past 2 years have been much better managed as a result of this practice.

Discussion

Although dealing with emergencies is not daily routine for many GP practices, they do occur. Attending a basic life support training session every year should be the minimum standard. Training should ideally take place in the surgery (if appropriate space is available), so that the instructor can familiarize staff with their own resuscitation equipment.

Training providers should always review current equipment while on site to ensure it is in good working order and appropriate. They should also educate practice staff about the importance of having an automated external defibrillator. Some companies now lease them, if practices are unable to purchase one. Training must be provided at least once a year for all practices who already have an automated external defibrillator.

Other areas of training should be explored, such as dealing with anaphylaxis. Most community nurses are now offered this training, but it is essential that practice nurses and GPs are also up to date; this includes being familiar with drugs and their doses available in their practice.

Conclusions

The running of mock emergencies enables the team to evaluate policies, procedures and skills that should be in place. It is important that they are organized with care to prevent intimidation or additional stress to the staff

Table 2. Improvements identified as a result of the mock emergencies

‘I feel more confident that the correct drugs and equipment are close at hand’
‘Familiarity with crash button’
‘Quicker response’
‘Awareness, knowledge and confidence’
‘Better team work’
‘Staff are more confident’
‘Normalize what could be a traumatic experience’
‘Staff feel confident on their roles in an emergency’
‘Confidence in leadership role’
‘Identification of potential problems, i.e. oxygen not working’
‘Responses are much better and organized’
‘Response to crash call better attended’
‘A variety of situations reflects some of the situations we may meet in everyday life.’

involved. The facilitator should ideally be experienced in running scenarios and providing constructive feedback, as well as being knowledgeable in the subject.

Those participating should regard mock emergencies as beneficial in preparing for a real emergency, reducing risks and ultimately providing the best care for patients requiring emergency treatment.

Jane Lambert, Director of ECG Ltd, is happy to advise any staff on what equipment and training they should have at their practice. Please e-mail jane@ecgtraining.co.uk or call 01908 331 791.

References

Colquhoun MC (1993) Automated external defibrillation. *Br J Gen Pract* 43: 95–6

Mansfield CJ, Price J, Frush KS, Dallara J (2001). Pediatric emergencies in the office: Are family physicians as prepared as pediatricians? *J Fam Pract* 50: 757–61

Pai GP, Haites NE, Rawles JM (1987) One thousand heart attacks in the Grampian. The place of cardiopulmonary resuscitation in general practice. *BMJ* 294: 352–4

Resuscitation Council (UK) (2001) Advanced life support course provider manual. 4th edn. Resuscitation Council (UK), London

Resuscitation Council (UK) (2001) Guidance for clinical practice and training in primary care. Resuscitation Council (UK), London

Wheeler DS, Kiefer ML, Poss WB (2000) Pediatric emergency preparedness in the office. *Am Fam Physician* 61(11): 3333–42