

## Preparing for emergencies

A ten year experience of medical emergencies at Birmingham Dental Hospital  
*Br Dent J* 2018; **224**: 89–91 <http://dx.doi.org/10.1038/sj.bdj.2017.1000>

The increasing life expectancy in the UK means patients are exposed to more risk factors throughout their lifetime. They are more likely to suffer from multiple comorbidities and therefore, as clinicians, we are unfortunately encountering an increasing number of medical emergencies (MEs). Recognising early warning signs and remaining calm can save time, which is vital in these events. As Goldberger stated in 1990, ‘When you prepare for an emergency, the emergency ceases to exist’.

The authors of this study carried out a retrospective study of the nature and frequency of MEs, occurring over a 10-year period at Birmingham Dental Hospital. They hoped this would improve outcomes such as service delivery, safety cultures and preventative measures. They found a total of 119 entries. The age range varied from 7 to 98 years of age. The 31–40-year-old age group had the highest number of MEs (20%), closely followed by the 61–70-year-old age group (16.8%).

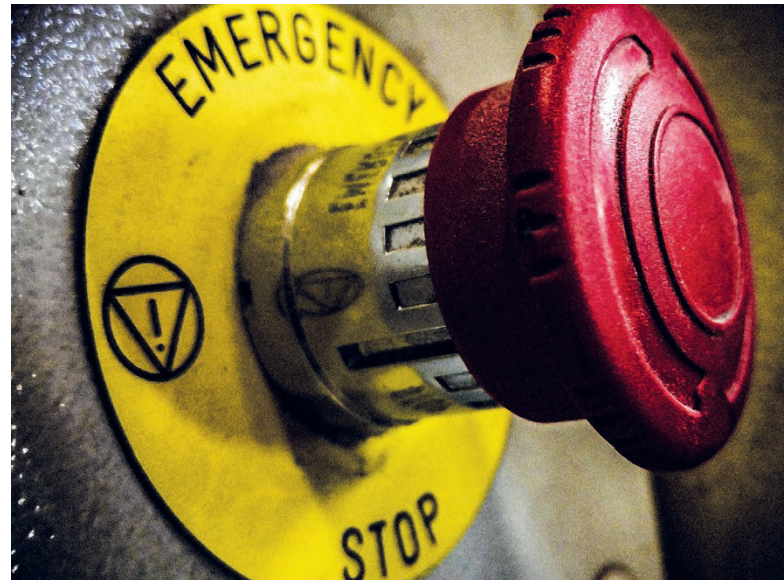
The frequency of individual MEs encountered is summarised as follows:

- Vasovagal syncope – 42
- Epileptic fit – 14
- Hypoglycaemic attack – 10
- Angina – 10
- Allergy/Anaphylactic fit – 6
- Stroke – 2
- Cardiac arrest – 2
- Myocardial infarction – 1

The authors also looked at whether any of the MEs progressed to severe or life threatening. Thankfully, none of them did.

The study demonstrated disparity between the age groups. This highlights the importance of a thorough, up-to-date medical history for every patient, regardless of their age. Only then can a treatment plan be considered for its appropriateness.

Vasovagal syncope was the most common emergency. It results from a reduction in perfusion and oxygen delivery to the brain.



This can be caused by:

- Severe anxiety and unforeseen pain, leading to adrenaline release as part of the ‘fight or flight’ response
- Postural hypotension
- Hyperventilation leading to respiratory alkalosis.

Readers will notice that all of the above causes are fortunately avoidable. The authors hoped this would highlight the importance of effective communication and behavioural management. For those with severe anxiety, conscious sedation could help to minimise stress, allowing for distressing procedures to be less traumatic.

The authors conclude that having a robust emergency protocol and record keeping system is vital in identifying and minimising risks. This organisation culture is critical in preventing MEs. Self-reflection on our performance in handling such situations is important, as this in turn creates a safer working environment.

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