A Medical Emergencies Website
- Training the Dental Team

Michael Lowry, Anthony D. Hoswell, Mohammed Q. Almas, Alan J. Mighell
1. Aim
To describe a web-based learning resource to prepare members of the dental team for:

• Medical emergencies simulation training

• Care of acutely unwell people in the dental setting.
2. Professional Standards
Standards

Principles
The core ethical principles of practice

Patient expectations
What patients can expect from the dental team

Standards
What registrants must do to ensure patient expectations are met

Guidance
How registrants meet the standards

Regulation
Guidance
Career – all stages
Professionalism
Legal Framework
How Common?

Primary Care Setting

Medical Emergencies

Hospital Setting
• Atherton et al (1999) *British Dental Journal* – retrospective study

• **Emergency event** was reported:
  – Every *4.5 practice years* in England & Wales
Atherton et al, 1999

- Practice
  - Surgery - 80%
  - Elsewhere - 15%
- Outside Practice - 5%
Atherton *et al*, 1999

**Death**

- Not related to General Anaesthetic
- **Rare** – e.g. in England & Wales:
  - One for every 758 practice years.
Putting in Perspective

Yorkshire & The Humber

5.12 million people
775 dental practices

Birmingham ★
CUMBRIAN MAN DIED AFTER REACTION TO DENTAL MOUTHWASH

A coroner is to write to the country’s chief medical officer over the case of a Keswick man who suffered a fatal allergic reaction to a mouthwash he was given by his dentist.

The tragedy happened as Graham Dalby, 63, visited Penrith’s Ghyllmount dental practice in September 2009 because he was still suffering from toothache after having a tooth extracted weeks before.

He quickly became ill after the dentist treating him, Rachael Gibson, washed out his tooth socket with a standard antibacterial solution called chlorhexidine.

Despite the staff recognising what had happened and making determined efforts to treat Mr Dalby, he suffered a cardiac arrest and died in hospital four weeks later.
Mouthwash reaction killed Brighton dental patient

A woman died after suffering a fatal reaction to mouthwash during routine dental treatment in East Sussex, an inquest has heard.

Sacha Rumaner, 30, suffered an anaphylactic shock at the Morley Street Family Dental Clinic in Brighton.

Coroner Karen Henderson said failure of staff to recognise the condition was "regrettable but understandable".

Dr Henderson recorded a verdict of death by medical misadventure at Brighton County Court.

She said she would write to the chief executive of Sussex Community NHS Trust to ask the trust to review its provisions of resuscitation equipment and drugs in all dental treatment rooms.

The inquest heard Ms Rumaner had gone to the dentist on 2 February suffering from pain after having a tooth removed a week earlier.

Injection of adrenaline

After being given a rinse with household mouthwash, she complained of feeling hot and itchy before collapsing and sliding off the dentist's chair.
12 Months – Acutely Unwell Person

- 50 events recorded
- 22 ambulances called
- Acutely unwell person included
  - Patients
  - People accompanying patients
  - Staff and students
  - Someone with no connection to the Institute
Future Trends

Advances in Medical Care

People will live longer with chronic illness
Professional Standards

Safety of All

Educational Need
3. Delivering the Standards
Miller’s Triangle (Miller, 1990)

- **Does**: Performance in clinic
- **Shows How**: Performance not in clinic
- **Knows How**: Context-based
- **Knows**: Factual

The diagram illustrates the progression from factual knowledge to the ability to perform in different contexts.
Blended Learning Approach

guidelines & other documents → on-line resources → simple skills

simulation for the team

review & reflection - identification of professional development needs
Assessment Instrument

Hoswell et al - poster

“E-based Assessment of Medical Emergencies Simulation Training for the Dental Team”
Simulation Facility - Limitations

Number of participants per session
4. Website
Web-Platform

Focal Point

• Reliable information
• Flexible use
• Access via different platforms – mobile devices......
Focal Point

- Suitable for professionals at different stages of their careers
- Prepare for hands-on training
- Use during post-event reflection
Reducing Risks
Acutely Unwell
Review & Reflection
Acutely Unwell

Reducing Risks
Acutely Unwell
Review & Reflection

ABCDE
Undifferentiated Patient
Specific Events
Undifferentiated Patient

Acutely Unwell – But Why?

Decision-Making
Named Events

- Complex simulations with actors
- Key learning points:
  - Embedded & covered separately
Named Events - Simulation
Asthma Learning Module

Select the buttons and follow the instructions
Salbutamol with Spacer

1. Remove protective caps from mouthpieces of the spacer and inhaler
2. Insert inhaler mouthpiece into spacer
3. **Seal** between patient & spacer is critical:
   - Children: mask size (small or large)
   - Adults may need a mask if unable to form lip seal around spacer mouthpiece
4. Whilst holding the spacer, (mask) and inhaler firmly, briskly **shake** the unit 4-5 times
5. Ask patient to exhale before forming a seal
6. Activate the inhaler **once** as patient inhales deeply & slowly – **whistle** indicates patient is breathing in too quickly
7. Ask patient to hold breath for 5-10 seconds if possible – otherwise allow 2-3 breaths
8. Repeat immediately:
   - Adult: 4-6 times
   - Child: 2-10 times
9. **Note the time** – administer O2 via non-re-breathing mask at 15 l min⁻¹
Quick Reference Menus

Hyperlinks to key clips

- ABCDE
- Equipment & drugs
- Manoeuvres
5. Summary
Summary

• Clear educational need
• Website designed to support learning and professional development in a flexible way
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