Medical Emergencies

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Objectives

1. Identify the recommendations of the Resuscitation Council.
2. Manage dental emergencies in the workplace.
3. Recognise your roles and responsibilities during a medical emergency.
Resuscitation Council (UK)

- July 2006
- Revised May 2008
- Updated October 2010 (Resuscitation Guidelines)
Resuscitation Council (UK)

- Document that would provide guidance to Dental Practitioners and Dental Care Professionals in General Dental Practice.
What are the guidelines?
G.D.C’S-
‘Standards for Dental Professionals’

- Emphasis that all dental professionals are responsible for putting patients’ interest first and acting to protect them.
G.D.C’S – Principles of Dental Team Working

- If you employ, manage or lead a team, you should make sure that:
  - There are arrangements for at least two people available to deal with medical emergencies when treatment is planned to take place.
  - All members of staff, not just the registered team members know their role if a medical emergency occurs.
G.D.C’S – Principles of Dental Team Working

✓ All members of staff who might be involved in dealing with a medical emergency are trained and prepared to deal with such an emergency at any time, and practise together regularly in a simulated emergency so they know exactly what to do.

✓ All new members of staff should have resuscitation training as part of their induction programme.
DCP’s Responsibility:

- DCP’s must ensure that they are able to deal with any medical emergency that may arise in their practice. Such emergencies are, fortunately, a rare occurrence, but it is important to recognise that a medical emergency could happen at any time and that all members of the dental team need to know their role in the event of a medical emergency.
The Role of Education in the Prevention of any Medical Emergency

- The recognition that many medical emergencies/cardiac arrest situations may be preventable has led to the development of courses specifically designed to prevent occurrence of such events.

- Continuing Professional Development – 10 hours per cycle.
Guidelines for Prevention.

- All dental practices should have a process for medical risk assessment of their patients.
  - Medical and drug history.
  - Written and Verbal.
  - Modification of planned treatment – reduce the risk.
  - ASA classification.
Identification of patients with ‘special risks’.

- Angina
- Asthma
- Epilepsy
- Diabetes
- Allergies
Guidelines for Prevention.

- All clinical areas should have immediate access to an automated external defibrillator (AED).

- Dental Practitioners and Dental Care Professionals should all undergo training in cardiopulmonary resuscitation (CPR), basic airway management and the use of an AED.

- All training should be recorded in a database.
Guidelines for Prevention.

- Dental practices should have a plan in place for summoning medical assistance in an emergency - ambulance should be summoned at the earliest opportunity.
- For most practices this will mean calling 999.
Calling 999!

☐ This protocol should include:
✓ a brief description of the event
✓ persons present
✓ clear directions on how to find the practice

✓ (REPEAT)
Drugs

- Glyceryl trinitrate (GTN) spray (400micrograms / dose)
- Salbutamol aerosol inhaler (100micrograms / actuation)
- Adrenaline injection (1:1000, 1mg/ml)
- Aspirin dispersable (300mg)
- Glucagon injection 1mg
- Oral glucose solution / tablets / gel / powder
- Midazolam 10mg/ml (buccal or intranasal)
- Oxygen
Where possible drugs in solution should be in a pre-filled syringe.

The use of intravenous drugs for medical emergencies is to be discouraged. Intramuscular, inhalational, sublingual, buccal and intranasal routes are all much quicker to administer drugs in an emergency.

All drugs should be stored together in a purposely-designed ‘Emergency Drug’ storage container.
Drugs

✓ All clinical areas should have immediate access to resuscitation drugs, equipment for airway management and an automated external defibrillator (AED).

✓ Staff must be familiar with the location of all resuscitation equipment within their working area.
A planned replacement programme should be in place for equipment and drugs that are used or reach their expiry date.
Minimum equipment recommended:

- Portable oxygen cylinder (D size).
- Oxygen face mask with tubing.
- Oropharyngeal airways.
- Pocket mask with oxygen port.
- Self-inflating bag and mask apparatus with oxygen reservoir and tubing.
Minimum equipment recommended:

- Adult and child face masks for attaching to self-inflating bag.
- Portable suction.
- Single use sterile syringes and needles.
- ‘Spacer’ device for inhaled bronchodilators.
- Automated blood glucose measurement device.
- Automated External Defibrillator (AED)
Drugs

✓ Where possible all emergency medical equipment should be single use and latex free.

✓ Responsibility for checking resuscitation equipment rests with the individual dental practice where the equipment is held. This process should be designated to named individuals. The frequency of checking will depend upon local circumstances.
A.E.D.

✓ All staff should be familiar with the use and mode of operation.
✓ Patients chances of survival reduce by 7 - 10% each minute defibrillation doesn’t occur.
✓ Paediatric/Adult.
✓ Can be used by all staff (needs to be part of training session.)
Clinical Audit

☐ To ensure a high quality service, General Dental Practices should audit:

✔ Weekly checks of the emergency medical equipment and drugs!!!!.

✔ All medical emergencies that occur on site including near miss events.
Clinical Audit

- Other health and safety issues, e.g., manual handling.
- ‘Debriefing,’ ‘discussion’ and ‘reflection’ after any medical emergency.
- Regular staff meetings will often provide the ideal forum for such discussions.
- Identified deficiencies enables steps that must be taken to improve performance.
Initial Assessment

A – Airway
B - Breathing
C – Circulation
D – Disability
E – Exposure
Medical Emergencies Identified in the Resuscitation Guidelines

- Asthma
- Anaphylaxis
- Myocardial infarction
- Epileptic Seizures
- Hypoglycaemia
- Syncope
- Choking and Aspiration
- Adrenal insufficiency
- BLS
For Any Medical Procedure:-

✓ Stop the procedure
✓ Stay Calm
✓ Ensure safety
✓ Shout for ‘help’
✓ Conscious patient – ‘are you ok’
✓ Unconscious patient - assess
For Any Medical Procedure:- *After*

- Record the medical emergency
- First aid treatment
- Escort
- Follow up call
- Tidy clinical area and replenish stock
- Review event
Medical Emergencies

Definition

Signs & Symptoms
Faint

- Most common cause of sudden loss of consciousness
- Heart rate and dilation of blood vessels result in a fall of BP and reduced blood flow to the brain
Faint - Causes

- Anxiety
- Pain
- Fasting
- Temperature
- Sudden rise from lying
Faint - Signs & Symptoms

- Patient feels faint / dizzy.
- Slow pulse rate.
- Low blood pressure.
- Pallor and sweating.
- Nausea and vomiting.
- Loss of consciousness.
Management

- Place in supine position - Lie dental chair flat
- Give passive oxygen
- Loosen tight clothing (ensure privacy)
- Cold Compress
- Ventilation
- Monitor – visually / electronically
Management

✓ On regaining consciousness:-
✓ Raise chair slowly
✓ Give glucose drink – on authority of operator
Myocardial Infarction

Damage/death to an area of the heart muscle resulting in reduced or blocked blood supply
Signs & Symptoms

- Sweating
- Skin pale & clammy
- Weakness & fatigue
- Shortness of breath
- Severe crushing pain radiating down the left arm/jaw
- Anxiety & nausea
- Weak pulse & blood pressure may fail
Management

- Call 999
- Comfortable position!!
- Oxygen/Entonox
- GTN 400micrograms
- Aspirin 300mg orally
- Monitor ABCDE
Choking/Aspiration

*Dental patients are susceptible to choking with the potential risk of aspiration*
Choking/Aspiration

*At risk from:*-
- Blood
- Secretions
- Crowns/bridges
- Orthodontic bands/ brackets/wires
- Endo files/ solutions
- Burs
Signs & Symptoms

- Difficulty breathing
- May cough and splutter
- Breathing may be noisy and wheezy
- They may complain of difficulty breathing.
- They may develop ‘paradoxical’ chest or abdominal movements.
- They may become cyanosed and lose consciousness.
Management

- Remove object if visible
- Encourage patient to cough
- 5 ‘back slaps’
- Abdominal thrusts

- If foreign object cannot be identified – refer for chest x-ray to rule out inhalation
Back Slaps

Up to 5 sharp blows between the scapulae with heel of hand

In adults stand to side slightly behind them support the chest and lean victim forward
Abdominal Thrusts – Conscious Patient
Unconscious Patient in Respiratory Arrest

*Unresponsive*

- Call 999
- Commence CPR immediately
Recommended Reading

MEDICAL EMERGENCIES AND RESUSCITATION
STANDARDS FOR CLINICAL PRACTICE AND TRAINING
FOR DENTAL PRACTITIONERS AND DENTAL CARE PROFESSIONALS
IN GENERAL DENTAL PRACTICE

www.resus.org.uk

PUBLICATIONS
The management of medical emergencies –
a guide for dental care professionals (C Balmer & L Longman)
Quay books, MA Healthcare limited 2008
Thank you

Any Questions