Medical Emergencies in Dentistry

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Welcome!! A Little About Me…

- Dental School- U. Colorado, 1993
- Hospital Dentistry- UCLA, 1995
- Anesthesia- U. Pittsburgh, 1997
- Private Practice- 1997
- Teaching
  - Lecturer
How to Contact Me!

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AEGD/GPR

2-5 The program must provide training to ensure that upon completion of the program, the student/resident is able to manage the following:

- a) medical emergencies

Manage- coordinate the delivery of care using a patient-focused approach within the scope of their training. Patient-focused care should include concepts related to the patient’s social, cultural, behavioral, economic, medical, and physical status.
2-7 The program must provide formal instruction in physical evaluation and medical assessment, including:

- a) taking, recording, and interpreting a complete medical history;
- b) understanding the indications of and interpretations of laboratory studies and other techniques used in the diagnosis of oral and systemic diseases;
- c) understanding the relationship between oral health care and systemic diseases; and
- d) interpreting the physical evaluation performed.
2-7 Students/Residents must be assigned to a rotation in medicine that has supervised practical experiences, to include:

a) obtaining and interpreting the patient’s chief complaint, medical, and social history, and review of systems;

b) obtaining and interpreting clinical and other diagnostic data from other health care providers;

c) using the services of clinical, medical, and pathology laboratories;

d) performing a history and physical evaluation and collect other data in order to
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Frequency of Emergencies is Increasing

- Patients are living longer
- Patients are visiting dental offices
- These patients are medically compromised
Practitioners are...

- Taking a better history*
- Modifying treatment:
  - shorter appointments
  - local anesthetics
  - referrals
  - sedation & anesthetic management
75.76% of medical emergencies (in dental offices) are related to stress and anxiety.

*Fast (1986), Malamed (1993)*
### Site of occurrence
(From USC dental school statistics 1973-1992)

<table>
<thead>
<tr>
<th>Category</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient (during treatment)</td>
<td>108</td>
<td>63.9%</td>
</tr>
<tr>
<td>Patient (before or after treatment)</td>
<td>35</td>
<td>20.7%</td>
</tr>
<tr>
<td>Dental personnel</td>
<td>19</td>
<td>11.2%</td>
</tr>
<tr>
<td>Other persons in the dental office</td>
<td>7</td>
<td>4.1%</td>
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Medical Emergency-Definition

Any sudden deviation in physiology from the normal, expected pattern

Incidence (based upon recent reports):

- During the lifetime of a practice, every dentist will be forced to treat an average of two medical emergencies

  - Conservative estimate -- many incidents go unreported!
Three Phases of Management

Prevention

Early Recognition

Treatment
Thorough Medical History

- Can PREVENT up to 95% of potential medical emergencies
  - Medical History Form
  - Review of Form
  - Dialogue History
  - Vital Signs
Prevention

- Adequate pain control - peri and postoperative
- Adequate anxiety control - pre, peri, and postoperative
  - Local Anesthesia
  - Analgesics
  - Sedation
Office Preparation

- Preparation of staff
  - Front Office/Reception
  - Dental Assistants
  - Hygienists- possible dual role!
  - Temporary staff
The Staff

- **CPR Training**
  - Any staff who work in the dental office should be trained in CPR and maintain current training

- **Cross-training**
  - All staff should be cross-trained in emergency protocols
Front Office

- Knowledge of patients of record
- Knowledge of people in reception area
- Know 911 notification protocol
- Trained in CPR
Patients of Record

- Know medical alerts
- Check on medical conditions
- Check on medical interventions
- Verify compliance with instructions
The Staff

Reception Area

- There must be awareness of the people who are in the reception area, especially non-patients. If a problem or situation occurs, identification and response should be rapid.
- The longer the response the worse the potential outcome.
911 Notification Protocol

- Know when to call 911
- Have number next to or on phone
- Know directions to the office
  - Right up to the front door!
  - Be prepared to meet EMS responders
Dental Assistant

- Knowledge of Patients of Record
- Know 911 notification protocol
- Know emergency protocols
- Maintenance of equipment and supplies
- Trained in CPR
Patients of Record

- Know medical alerts
- Check on medical conditions
- Check on medical interventions
- Verify compliance with instructions
- Verify completion of all required consents
- Obtain patient weight
911 Notification Protocol

- Know when to call 911
- Alert Front Desk with patient report
- Document time 911 called
- Obtain emergency equipment and supplies
- Return to patient operatory
- Follow Emergency Protocols
Emergency Protocols

- Know basic emergency scenarios
  - regular staff meetings, mock drills
- Know drugs administered
- Know how to prepare drugs for administration
- Document times of drug administration
Maintenance of Equipment and Supplies

- Check drugs monthly for expiration, condition
- Maintain log of drugs for reorder
- Check equipment monthly/each use for defect, damage
- Check supplies- amount, damage, age
Oxygen Sources

- Check all oxygen delivery systems
- Ensure proper working condition
- Establish system for checking systems
- Maintain all supplies related to the delivery of oxygen for procedures as well as
Early Recognition

- Begins at the first sign/symptom
- Familiarity with patient’s medical profile
- Know what to expect/look for
- Promotes faster response
Treatment

- Should proceed without hesitation
- Often is limited to supporting vital functions until EMS arrives
- Especially in the case of major morbidity
  - MI, CVA, etc.
Treatment

- Never administer poorly understood medications
- Only try to accomplish that which you are comfortable with and confident in performing
- Summon EMS, if necessary
Equipment and Supplies

- Syringes and Needles
- Alcohol Wipes, Gauze, Band-Aids, Tape
- Stethoscope & blood pressure cuff
  - automated and/or manual
- Telephone
  - Don’t forget about mobile!
- AED
Oxygen Delivery System
Oxygen Delivery

- Facemasks- Rebreathing/Non-Rebreathing
  - Adult and Child
- Nasal Cannulas
- Facemasks/Bag-Valve-Mask (BVM)
  - Adult and Child
- Nasopharyngeal Airways
- Oropharyngeal Airways
Oxygen Delivery
Oxygen Face Masks
Positive Pressure Oxygen
Positive Pressure Oxygen
Nasal and Oral Anatomy
Nasopharyngeal Airways
Nasopharyngeal Airways

Head extended

Nasopharyngeal tube inserted into naris
Oropharyngeal Airways
Oropharyngeal Airways

Pharyngeal curve reversed for initial placement

Then rotated
Oral and Pharyngeal Suction
Suction for the Pharynx
Magill Forceps