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MEDICAL EMERGENCIES IN THE DENTAL OFFICE
Medical Emergencies

- Medical Emergencies can occur at any time in the dental office. Preparation for such emergencies is key.

- A team approach ensures that all members of the team are prepared to handle an emergency situation effectively.
Medical emergencies

Through lecture and emergency case reviews participants will improve their recognition and understanding of medical emergencies in the dental office setting.
Objectives

- Discuss the most common medical emergencies
- Discuss drug related emergencies
- Identify equipment every dental office should have.
Objectives

- Identify the drugs that every dental office should have in their kit.
- Review the medical history and identify patients at risk for medical emergencies.
- Systematically approach the management of an in-office emergency.
Consider the following:

- In the state of Washington there have been at least 5 deaths over the past couple years.

- Chicago: two deaths including a pediatric death
- PA one pediatric death on the way to the office
- Two deaths in same office (Central PA)
- Two deaths 1 adult 1 ped. (Western PA)
- California has had several deaths over the past couple years.
- April/May 2010 within 2 weeks 2 pedi deaths
- Adults and Children alike are continuing to die in the dentist and oral surgeons office.
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Keys to dealing with medical emergencies:

1. Preparation
2. Education
3. Ongoing Training
Common Misconceptions about emergencies:

1. Emergencies won’t happen in my office
2. Calling 911 is all we need to do
3. Myself or staff won’t panic
When confronted with a medical emergency in the office the following are imperative:

1. DMD Training
2. Staff Training
3. Emergency Response Plan
4. BLS equipment (including AED)
5. Emergency Drug Kit
6. Scenario Practice
Doctor Training

- Maintain BLS Healthcare provider level CPR training.
- Maintain ACLS and or PALS if doing sedation
- Medical emergency course to keep up with latest treatment protocols.
Staff Training

- Maintain BLS Health Care Provider level CPR training.

- Imperative that ALL staff knows where emergency equipment is located.

- Staff must look at and check equipment daily.
Mock Drills

- It is important not only to have the training but it is just as important to be able to act when an emergency arises.

- The DMD and staff must do mock codes on a regular basis.
Emergency Action Plan

- All employees should know what their role is going to be in an actual emergency.
- Some of those jobs are as follows:
  - 911 caller
  - Team members doing patient care
  - Staff assisting patient family
  - Staff assisting other patients/families
  - Staff directing EMS to location
What is a Medical Emergency?
Definition of a Medical Emergency
- Any sudden change in normal physiology from an expected pattern.

- With preventive and/or corrective measures, the occurrence of most life threatening medical emergencies can be prevented.
There are 3 phases of Medical Emergencies.

- Prevention
- Recognition
- Treatment
3 Phases of Medical emergencies

- Prevention
  - Most Important and easiest aspect
  - This is where you want to deal with the likely cause of the emergency

Estimated that approx 90% of medical emergencies can be prevented by following simple rules and procedures.
Prevention

- May take some extra time, but in the long run it will save you stress and headaches
3 Phases of Medical Emergencies

- **Recognition**
  - Familiarize yourself with the patient and the history

This step will allow you to be more in touch with situations that are more likely to occur.
3 Phases of Medical Emergencies

- **Treatment**
- **3 P’s** - Physiology, pharmacology, and patient management
- You don’t always need to reach for a drug or phone.
- However you should never hesitate to pick up a phone.
treatment

- If you have at least recognized the problem, the treatment should follow fairly easy.
Prevention
A complete medical history and Physical exam are very important.
Physical Status Assignment

- ASA 1 totally healthy, no systemic or psychological problems
ASA 2

A patient with mild systemic disease without limitation of daily activities.
ASA 3

- A patient with severe systemic disease that limits activities but is not incapacitated.
ASA 4

- A patient with incapacitating systemic disease that is a constant threat to life.
ASA 5

- A Moribund patient not expected to survive 24hrs. With or without the operation.
ASA 6

- A brain dead patient whose organs are being removed for donor purposes.
ASA 1

- Considered to be normal and healthy.
- No abnormalities upon exam and after reviewing medical history.
- They can walk up stairs, without fatigue.
ASA 2

- extreme fear of dentistry
- Older than age 60.
- Pregnant
- Controlled asthma
- Htn, 140-149/90-94
- Obesity
- smoker
- NIDDM
- Well controlled epilepsy
ASA 3

- No signs or symptoms with rest, however in stressful situations, signs and symptoms may develop.
- IDDM
- Hypo or hyperthyroid (symptomatic)
- MI or CVA > 6 months (no residual)
- BP between 160-199/95-114
- Exercise induced asthma
- orthopnea
ASA 4

- Exhibits signs and symptoms at rest.
- Unstable angina,
- MI or CVA within past 6 months
- BP 200/115 or >
- Severe COPD or CHF
- Uncontrolled seizures
- Uncontrolled IDDM
Medical Consultation

- Indications for physician consultation
  - Suspicious signs and symptoms
  - A treated illness that appears not in control.
  - Multiple meds that may interfere with procedure or meds given by DMD

ASA 3 or 4 patients
Medical Equipment

- Oxygen
- Pocket masks
- Bag Valve Mask
- Advanced Airways (if sedation)
- BP Cuff
- Stethoscope
- Pulse ox
- End tidal CO₂ (if sedation)
- Portable Suction unit
Equipment cont.

- Magill forceps
- Glucometer with strips
- AED
- CPR Board
- Back up light
- Monitor (if sedation)
- Emergency Drug Kit
Oxygen

- E cylinder is minimum
- nasal cannula low flow
- o2 powered nebulizers
- rebreather mask high concentration
BVMs

- Various Size Bags and mask
- adult pedi, infant
- Masks should be clear, and soft to make good seal.
- Newer disposable ones are the best

- Old rubber or silicon bags and masks belong in the garbage, NOT in the office.!!!
Basic airways

- Two types
  - nasal
  - oral

- You must have all sizes, and you must know how to measure for appropriate size.
Advanced airways

- Remember Airway is priority, always do Basics first.
- ET tubes laryngoscope blades and handle
- “gold standard was getting the tube in”
Advanced airways

- LMA’s
- I-Gels
- King Airways

- Still considered advanced airways, easier to insert, with less complications.

- If offices have ET equipment you must have backup.
Advanced airways

- However it cannot be stressed enough AIRWAY is the leading cause of all deaths that occur in offices.

- Do the BASICS and you may be able to avoid having to use the advanced airways.
Advanced equipment

- IV fluids and supplies
- EZ IO drill
- Cricothyrotomy equipment
- Capnography
- Automatic BP cuff
- Monitor
Automatic external defibrillators

- It is imperative that every office have an AED.

- 13 states mandate AEDs in dental offices, Washington was the last to mandate.
Not all AED’s are created equal.

Escalating energy vs. constant energy.

Has Your AED’s been upgraded to 2005 guidelines?

Do you check your AED’s???
Emergency Drug Kits

- There are two types to consider
  - 1. Basic
  - 2. Advanced
Emergency drugs

- Basic drugs include the following
- Epi or Epi Pen
- Benadryl
- Baby Aspirin
- Ntg Spray
- Bronchodilator
- glucose source
basic drugs

- Other basic drugs to consider
- Atropine
- Morphine
- Narcan
- Versed
- Glucagon
- D50
Advanced emergency drugs

- In addition to the basic drugs, the Advanced emergency drug kit would include the following:
  - Epinephrine 1:10,000
  - 100mg 2% lidocaine
  - Amiodarone
  - Atropine
Advanced drugs

- adenosine
- cardizem and/or verapamil
- lopressor
- ephedrine
- labetalol
- brevibloc
Advanced drugs

- Morophine, fentanyl—Narcan
- Versed--- flumazenil
- Decadron
- Zofran
- Glycopyrrolate
- Dantrolene if you use volatile anesthetics
Storing drugs

- Simple as plastic bins
- Tackle boxes
- Large tool boxes
- The key is to know where the drugs are when you need them.

- Labels should be applied to each compartment.
These labels should:
- List generic and proprietary names
- Indications
- Dosage
- This avoids possible confusion in an emergency.
- A written record of expiration dates needs to be kept.
Stress Reduction Protocol

- Useful for all patients
- Especially useful in the medically compromised patient.

- The rationale approach to stress reduction:
  Recognize medical risk.

Consider medical consult
Stress reduction protocol

- Recognize medical risk
- Consider medical consult before treatment
- Pre-medicate night before as needed
- Pre-op and post-op monitoring
- Morning appointments are best
- Adequate pain control during treatment
- Do not exceed patient tolerance for visit
- Adequate post op pain and anxiety control
- Follow up phone call night after appt.
Recognition

- Familiarity
  - Be aware of patients medical history prior to the appt.
  
  - review charts of ASA 2 or ASA 3 patients at some point.
- Use stickers or some other signal to alert yourself and staff to questionable histories.

- Be aware of potential problems with the admin. Of meds. Especially locals with anesthetics and vasoconstrictors.
Perception

- Don’t lose focus that there is more to a patient than a oral cavity.

- Observe patient for changes.
TREATMENT

- There are two methods of treatment
  - Diagnosis
  Must know exactly what is wrong in order to administer the correct treatment.

- Symptoms

This is how most situations are handled by out of hospital personnel.
2 Rules for Dentists/ Oral Surgeons

- You are obligated to provide safe care within the scope of your training.

- If you sedate, you must be able to resuscitate.
Medical Emergencies

- Need appropriate medical history
- Medications
- Allergies
- Past surgeries
- Past hospital admissions
- Current medical management
Vital signs

- All patients should have pulse, Blood pressure and respirations observed.
- Temperature if infection, pediatric, inhalation anesthetics
- Height, Weight
- Glucose level
Progress Notes

- Patient age
- Vitals
- Chief Complaint
- Medications
- Allergies
- PMH
Progress notes

- Exam, and treatment notes, EKG strips,
- Trending print out from monitors.
- Rx, discharge, and patient signature.
- This should be on every patient, if EMS contacted this info. Should be given to them.
Summary

- Medical emergencies do happen.
- They may be stressful or chaotic
- With proper training and practice, you and your staff will be proficient until EMS arrives.
Questions??