Learning Objectives

• Describe emergency preventive procedures and preparedness in the dental office.
• Explain the importance of obtaining a pretreatment health history, review of systems, limited physical exam from each patient.
• Describe the procedure for obtaining a blood pressure, pulse, respiration, and temperature.
• Demonstrate the initial sequence of patient assessment in an emergency.
• Recognize the signs or symptoms of impending or developing emergencies.
• List the general steps to be taken when a medical emergency arises in the dental office.
• Identify the type of emergency and manage the necessary emergency treatment care.
• Identify the contents of an emergency kit and proper functioning of the medical equipment.

FACT: Medical Emergencies can and do happen in the dental office!

• It is estimated that the average dentist will have to deal with one or two life-threatening medical emergencies in their office during their career.
• Whether the medical emergency occurs years in the future or this afternoon, preparation is the key.
• All health care providers should be prepared to recognize and manage medical emergencies in the office.
• All staff should be trained in basic life support and cardiopulmonary resuscitation procedures.
• A written emergency plan should be available, and all staff members should be thoroughly familiar with it and their responsibilities in an emergency.

Statistics: Medical emergencies reported by 2,704 dentists

<table>
<thead>
<tr>
<th>EMERGENCY SITUATION</th>
<th>NO. (%) OF EMERGENCIES REPORTED</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Anaphylactic Reactions</td>
<td>76.6</td>
<td></td>
</tr>
<tr>
<td>Asthma</td>
<td>61.4</td>
<td></td>
</tr>
<tr>
<td>Cardiac Arrest</td>
<td>30.3</td>
<td></td>
</tr>
<tr>
<td>Convulsions</td>
<td>16.6</td>
<td></td>
</tr>
<tr>
<td>Difficult Respiration</td>
<td>14.0</td>
<td></td>
</tr>
<tr>
<td>Dizziness</td>
<td>13.3</td>
<td></td>
</tr>
<tr>
<td>Drowning</td>
<td>9.7</td>
<td></td>
</tr>
<tr>
<td>Endocarditis</td>
<td>8.1</td>
<td></td>
</tr>
<tr>
<td>Epilepsy</td>
<td>7.6</td>
<td></td>
</tr>
<tr>
<td>Heart Attack</td>
<td>5.8</td>
<td></td>
</tr>
<tr>
<td>Near Drowning</td>
<td>5.5</td>
<td></td>
</tr>
<tr>
<td>Nausea</td>
<td>5.2</td>
<td></td>
</tr>
<tr>
<td>Poisoning</td>
<td>5.2</td>
<td></td>
</tr>
<tr>
<td>Pneumonia</td>
<td>4.8</td>
<td></td>
</tr>
<tr>
<td>Premature Labor</td>
<td>4.4</td>
<td></td>
</tr>
<tr>
<td>Respiratory Failure</td>
<td>3.8</td>
<td></td>
</tr>
<tr>
<td>Stroke</td>
<td>3.5</td>
<td></td>
</tr>
<tr>
<td>Syncope</td>
<td>3.2</td>
<td></td>
</tr>
<tr>
<td>Thrombosis</td>
<td>2.9</td>
<td></td>
</tr>
<tr>
<td>Tourniquets</td>
<td>2.6</td>
<td></td>
</tr>
<tr>
<td>Unconsciousness</td>
<td>2.4</td>
<td></td>
</tr>
<tr>
<td>Ventricular Fibrillation</td>
<td>1.8</td>
<td></td>
</tr>
<tr>
<td>Vomiting</td>
<td>1.7</td>
<td></td>
</tr>
<tr>
<td>Wound</td>
<td>1.1</td>
<td></td>
</tr>
<tr>
<td>3-Medication</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>4-Medication</td>
<td>1.0</td>
<td></td>
</tr>
</tbody>
</table>

What is the best way to treat an emergency in your office?

- the “best handled” medical emergency will always be the one that never happened -
Life or Death outcomes will depend on three major factors:
- The Doctor(s)
- The Staff
- The Office

Key Principles:
- Obtain a complete medical history on every patient.
- Obtain a physician consultation as necessary.
- Remind patients to take their normal medications on the day of their appointment.
- Patients using inhalers or nitroglycerin should have these with them in the event of an asthma or an angina attack during the appointment.
- Staff members should be trained to monitor and interpret vital signs.
- All staff members should be trained in basic first aid procedures and basic life support (CPR).

Key Principles: (Cont.)
- The office should have a written emergency plan.
- Doctors & Staff should be aware of the signs of impending medical emergencies.
- Doctors & Staff should recognize the signs and symptoms of medical emergencies.
- Everyone in the office should know where the Emergency Kit and Oxygen are located.
- Everyone in the office should be familiar with the medications AND equipment in the emergency Kit.

Emergency Training
- TEAM Approach
- Emergency Response Plan
- Mock Practice Drills

Emergency Training
- Each year, the entire dental team should certify in Basic Life Support (BLS) and Cardiopulmonary Resuscitation (CPR) for healthcare providers.
  - A basic first aid course provides the staff with information on emergency care in common injury situations. Topics such as the control of bleeding, treatment of burns, and the handling of sprains and fractures are covered in the course.
- Ideally, the entire staff should take the CPR refresher course together – TEAM. Learning how to work effectively together.
Emergency Training

- Every office should have immediate access to an Automatic External Defibrillator (AED).
- The AED recognizes pulseless ventricular fibrillation or rapid ventricular tachycardia, and then allows the operator to administer "shocks" to convert the patient’s rhythm back to normal.
- The AED is equipped with a voice prompt that leads the user through its usage and requires no specialized training.
- Note: For every minute that lapses before defibrillation, the survival rate decreases by 10%.

Emergency Training

- It is highly recommended that offices that provide Oral Conscious Sedation, IV Conscious Sedation, and/or General Anesthesia take ACLS and PALS regularly.

Emergency Training

Office Emergency Plan

Q: What’s one of the first things we can do to prevent a Medical Emergency in our office?

A: “Gather Information”.
**Medical History:**
- **Identification:** Age, WT, HT, BMI, and Vitals. Primary Healthcare Provider.
- **CC (chief complaint):** list of symptoms & duration, reason for seeking care.
- **HPI (history of present illness):** Current medical & dental problem.
- **PMH/PSH (past medical /surgical history):** general health, weight loss, hepatitis, rheumatic fever, flu, arthritis, Ca, gout, asthma/ COPD, pneumonia, thyroid dx, blood dyscrasias, ASCVD, HTN, URTIs, DM, seizures, operations, injuries, PUD/GERD, hospitalizations, psych hx.

**Medical History:**
- **Biographical Data**
- **Chief Complaint**
- **History of Present Illness**
- **Past Medical History**

**Medical History (cont.):**
- **Allergies:** Type, Severity, Hx of Anaphylactic Shock
- **Meds (Rx & OTC):** Condition(s), dose & frequency
- **SH: (social history)** Occupation, marital status, ETOH, TOB, drugs, etc.
- **FH: (family history)** age & cause of death of relatives’ family diseases (CAD, CA, DM, psych)

**Medical History (cont.):**
- **SH:** birthplace, residence, education, occupation, marital status, ETOH, smoking, drugs, etc.
- **FH:** age & cause of death of relatives’ family diseases (CAD, Stroke, DM, psych)

**REVIEW OF SYSTEMS (ROS):**
Review of systems is a list of questions, arranged by organ system, designed to uncover dysfunction and disease.
Review of Systems (ROS)

- HEENT: headaches, glaucoma, otitis media, tonsils, adenoids, snoring, OSA.
- CARDIOPULMONARY: SOB, angina, arrhythmia, CHF, exercise tolerance, HTN, murmur, MVP, pacemaker, RHD.
- PULMONARY: Asthma, bronchitis, COPD, dyspnea, orthopnea, pneumonia, recent cough/cold/flu, TB.
- ENDOCRINOLOGY: Diabetes, hypothyroid, metabolic or nutritional disorders.
- GASTROINTESTINAL: bowel obstruction, PUD, hiatal hernia, GERD.
- HEPATO/GENITOURINARY: cirrhosis, Jaundice, hepatitis, bladder/kidney or urinary tract infections.

Physical Exam (limited)

- HEART: Normal S1 and S2 sounds. Regular rate and rhythm (RRR). No murmur.
- LUNGS: Clear to auscultation bilaterally (CTAB). No pulmonary congestion.
- MUSCULOSKELETAL: There was no deformity. There was full range of motion in all the extremities, including neck. There was no edema.
- NEUROLOGICAL: There was no focal deficit. Cranial nerves II through XII were intact.

Basic Vital Signs

- Obtaining vital signs provides a baseline measurement from which alterations in treatment can be tailored to the patient’s condition.
- This is a practice not frequently seen in dental offices. Vital signs—blood pressure, pulse, respirations, and temperature—should be measured prior to each treatment.

Heart Rate

The pulse is a wave pressure that can be felt as the heart contracts and propels a volume of blood forward in the arterial system.

Three assessments can be made concerning the pulse: rate, strength, and regularity. The number of pulsations in fifteen seconds is counted and then multiplied by four to obtain the pulse rate.

Respiratory Rate

The respiratory rate is determined by the number of breaths in fifteen seconds then times by four. One breath or respiratory cycle consists of one inhalation and one exhalation.

- Factors that can increase the respiratory rate include anxiety, fever, and hypoxia.
- Respiratory rates can increase with age due to decreasing lung elasticity.
- The respiratory rate will decrease with the use of narcotics and benzodiazepines.
- The rate, depth, and regularity of respirations are indicators of emergencies.
Blood Pressure

- Hypotension: Between 120-130 systolic and 80-85 diastolic
- Hypertension: Anything over 140 systolic and/or diastolic

Temperature

- Temperature will often indicate if the patient has an infection. An oral temperature in excess of 99.6°F (37.5°C) is an indicator of the presence of a viral or bacterial infection.

Temperature

- Normal
  - Oral: 98°F
  - Rectal: 98°F
  - Axillary: 98°F

Oxygen Saturation

- Risk Assessment

- Airway Assessment

- Loss of “AIRWAY” is the #1 reason for morbidity and mortality
Q: How can all this information prevent a Medical Emergency in our office?

A: The information gathered allows us to make a valid “Risk Assessment” of our patient(s).

---

**EMERGENCY EQUIPMENT**

- Basic Airway:
  - Oral/nasal airways
  - Nasal cannula/oxygen mask
- Bag-valve mask
- Demand Valve Resuscitator
- Lubricant
- IV supplies
- AED/Defibrillator
Devices for Airway Rescue

- Oral airways
  - Effective in displacing the tongue from the posterior pharynx and opening the airway
  - Airway inserted with the point towards the roof of the mouth and then inverted as the pharynx is reached
  - Size selected by measuring the corner of the mouth to the earlobe

- Nasopharyngeal airways
  - May be more tolerated by a conscious patient than the oral airway
  - Size selected by measuring the tip of the nose to the earlobe
  - Apply lubrication and insert into nostril

- Combitube
  - Twin lumen device used for emergency situation and difficult airways
  - Can be blindly inserted into the oropharynx and ventilation can be accomplished either with its entry into the trachea or the esophagus
**Devices for Airway Rescue**

- Laryngeal mask airway (LMA)
  - Soft and can be placed “blindly” and without the need for laryngoscopy
  - Wide range of pediatric sizes
  - Technique sensitive with respect to placement

**Devices for Airway Rescue**

- Endotracheal intubation
  - Eliminates upper airway obstructions
  - "Secures" airway from aspiration
  - Allows control of the airway until the patient regains protective reflexes

**Devices for Airway Management**

- Surgical airways
  - Last resort
  - Landmarks and anatomy different in children
  - Advanced education and training required
Every dental office should have an emergency kit. There are commercially available kits or you can easily & inexpensively self assemble your own kit. Personally, I recommend a commercially available kit.

The emergency kit should be kept in a prominent, easily accessible location known to everyone in the office. On a monthly basis, a designated member of the dental team should be responsible for checking all items to ensure that none of the drugs have passed their expiration date and all equipment is operational. Make index cards which clearly state the indication, dosage, and administration of the drugs in the kit.

**Medical Emergencies**
- Basic Life Support Skills
- Advance Life Support Skills

**Emergency Equipment**
- Oxygen
- Epinephrine
- Ephedrine
- Phenylephrine
- Atropine
- Albuterol
- Aspirin
- Nitroglycerine
- Benadryl
- Glucose
- Midazolam
- Solu-Cortef
- Solu-Medrol
- Anti-Emetics
- Antagonists

**Medical Emergencies**
- Syncope
- Hypoglycemia
- Airway Obstruction
- Laryngospasm
- Bronchospasm/Asthma
- Vomit/Aspiration
- Allergic Reaction
- Seizure
- Angina
- Myocardial Infarction
- Over Sedation

**Basic Life Support Principles**
- Recognition
- Assessment
- Call for Help
- Position
- Circulation
- Airway
- Breathing
- Definitive Treatment/Defibrillation/Drugs
**EMERGENCY RESPONSE (A C T T)**

- **A**ccess & Recognize Problem
- **C**all for Help - 911/EMS
- **T**reat
- **T**eam

**EMERGENCY RESPONSE (C A B)**

- **C**irculation – To Fast or To Slow. Pulse or No Pulse. Perfusion
- **A**irway – Position. Opened or Closed.
- **B**reathing – Yes or No. To Fast or To Slow. Enough or Not Enough

**EMERGENCY RESPONSE (V O M I T)**

- **V**ITALS – Take Vitals: HR, RR, BP, O2 Sat.
- **O**XYGEN – Provide 2-10 L/min by cannula, facemask, BVM, or PPR
- **M**ONITORS – Place monitors. Continually access & reassess patient
- **I**NTRAVENOUS/INTRAOSSEOUS ACCESS – Advance training
- **T**REATMENT – Treat specific emergency and provide BLS and/or Advanced Life Support until EMS arrives and takes over.

**MEDICAL EMERGENCIES – “Response”**

**Jaw thrust**

- This maneuver is quite painful and often is enough to cause responsiveness from the sedated patient
- Also effective for displacement of the tongue for the posterior pharynx

**SYNCOPE**
SYNCOPE (HYPOTENSION)

- **DEFINITION:** Massive peripheral vasodilation leading to low cardiac output resulting in decreased cerebral blood flow which often results in transient loss of consciousness. **MOST COMMON EMERGENCY.**

SYNCOPE CAUSES:
- Fear and anxiety.
- Orthostatic/postural hypotension
- Cardiac conduction defects

SYNCOPE PREVENTION:
- Medical History
- Stress Reduction Protocol
- Patient position
- Oxygen

SYNCOPE SYMPTOMS:
- Pale ashen-gray appearance
- Sweaty
- Nausea
- Eyes dilate (mydriasis)
- Convulsive movements

SYNCOPE TREATMENT:
- CALL for HELP & CAB’S
- POSITION SUPINE with FEET ELEVATED.
- Administer 100% OXYGEN.
- MONITOR respiration, pulse, and blood pressure, O2 Sat.
- Loosen tight clothing.

SYNCOPE TREATMENT: (continued)
- Cool, moist towel to patients forehead (provides stimulation).
- AMMONIA (if unconscious)
- If hypotension persists, use EPHEDRINE: – 5-10 mg IV/IM. Repeat q5min.
- if bradycardia, ATROPINE 0.4-1mg IV/IM
HYPOGLYCEMIA

**Definition**
- Abnormal low levels of blood sugar (glucose)
  - Normal 60-100 mg/dL
  - Glucose is the main fuel source for the brain
  - Glucose is not stored or synthesized in the brain

**Causes**
- Diabetes
- Medications
- Alcohol Abused
- Hunger/Anorexia
- Tumors of Pancreas/Pituitary

**Signs & Symptoms**
- Sweating
- Trembling
- Feelings of warmth
- Anxiety
- Nausea and Vomiting
- Dizziness
- Confusion
- Tiredness
- Difficulty speaking
- Headache
- Inability to concentrate

**Treatment**
- Position comfortably
- Oxygen 100%
- Monitor vitals
- Chem stick with Glucometer

**Treatment**
- If Awake
  - Administer Oral fluids with Sugar [Orange Juice]
- If Unconscious
  - Place I.V., 50% dextrose 1ml/kg up to 50ml IV over 10 min
  - Glucagon 0.025-0.1mg/kg IV/IM/SC up to 1mg
**AIRWAY OBSTRUCTION**

• **DEFINITION:** partial or complete obstruction of the airway. Frequently caused by object falling into the oral pharynx. Most serious are objects entering the larynx or trachea.

• **CAUSES:**
  - Dental objects (head of handpiece, mouth mirror, endodontic file, crown, extracted tooth, amalgam, or calculus).

• **PREVENTION:**
  - Use rubber dam for restorative and endodontic procedures.
  - Use "loose" throat screen for extraction or seating crowns (4x4 gauze).

• **SYMPTOMS:**
  - Noisy breathing is partial obstruction.
  - Victim gasping for breath with great effort.
  - Retraction of suprasternal notch and/or intercostal regions during attempted inspiration (complete obstruction).
  - Patient unable to speak (universal sign hand at throat).

• **TREATMENT:** (HEIMLICH MANEUVER)
  - If conscious, POSITION behind patient, wrap your arms around their abdomen, one fist placed into abdomen (thumb side first) other hand over fist.
  - Administer ABDOMINAL THRUSTS; brisk inward and upward delivery (J thrust).
  - Back Blows are no longer recommended in adults or children.
  - Remove foreign body (use finger, suction, etc.)
AIRWAY OBSTRUCTION

TREATMENT: (Unconscious) – CAB/911

AIRWAY MANEUVER:

a) Head-tilted
b) Displace mandible forward
c) Retract lower lip to allow breathing between lips
d) Attempt to ventilate.
e) Remove foreign object

LARYNGOSPASM

DEFINITION: reflex protective mechanism to prevent contamination of the lower respiratory tract. Can be partial (crowing sound) or complete (no sound)

CAUSES:

• Irritation of the vocal cords by blood, mucous, or debris.
• Improper administration of parasympathomimetic drugs (barbiturates).
• Sudden high concentrations of inhalation anesthetic agents.
• All of the above more common with deep sedation or general anesthesia

PREVENTION:

• Use CONSCIOUS SEDATION rather than deep sedation or general anesthesia.
• Prevent irritation of vocal cords by blood, mucous, debris by adequate suction, rubber dam and/or use of oropharyngeal pack.
• Maintain a patent airway and provide adequate oxygenation.
• Premedicate with parasympatholytics (i.e. Atropine, Scopolamine, or Robinul).
• Use adequate depth of anesthesia so not to obtund reflex mechanism
LARYNGOSPASM
TREATMENT:
• POSITION SUPINE with head lowered (TRENDELENBERG).
• Draw tongue forward.
• Suction pharynx (i.e. tracheal suction).
• Ventilate with 100% OXYGEN under positive pressure.
• Advance Airway Trained:
  – Succinylcholine 10-20mg IV/IM
  – CRICOTHYROTOMY PROCEDURE

LARYNGOSPASM
• COMMENTS: Succinylcholine 10mg to 20mg IV/IM
  (may be used by those trained in general anesthesia). May have to assist respirations.
  Monitor respirations and pulse closely.

BRONCHOSPASM/ASTHMA
• DEFINITION: partial or complete constriction of BRONCHIOLAR SMOOTH MUSCULATURE.
  Frequently encountered in patients with a history of bronchial asthma, chronic bronchitis and/or recent upper respiratory infection.

BRONCHOSPASM/ASTHMA
CAUSES:
• Emotional stress
• Allergy: antigen-antibody response
• Vagal stimulation by mucous, blood, aspiration of gastric contents
• Mechanical stimulation (i.e. intubation)
• Chemical stimulation (i.e. irritating vapors)

BRONCHOSPASM/ASTHMA
PREVENTION:
• GOOD MEDICAL HISTORY.
• Parasympathomimetic agents for drying (ATROPINE or ROBINUL).
• Avoid irritating stimulus of upper airway.
BRONCHOSPASM/ASTHMA

TREATMENT:
• POSITION comfortable.
• Administer 100% OXYGEN.
• ALBUTEROL INHALER: 2 - 4 puffs, may repeat in 3 minutes.
• If unsuccessful, EPINEPHRINE:
  a. 1/1000 [1mg/ml] 0.1-0.3ml IM/SQ
  b. 1/10,000 [0.1mg/ml] 1-2ml IV
• AMINOPHYLLIN loading dose 5mg/kg IV slowly. Can cause hypotension.

ASPIRATION OF VOMITUS

• DEFINITION: the inhaling of vomitus into the respiratory tract while protective reflexes are not intact (unconscious).

ASPIRATION OF VOMITUS

DIAGNOSIS:
• High index of suspicion (vomiting while patient has altered protective reflexes)
• Auscultation of chest
• X-ray examination
• Arterial blood gases
• Elevated temperature within 12 hours.

ASPIRATION OF VOMITUS

PREVENTION:
• Keep patient CONSCIOUS.
• Include anti-emetic in sedation medications.
• NPO for at least 6 hours (gen anesth).
• GLYCOPRYRROLATE (Robinul) to decrease acidity of gastric contents.
• High volume suction (especially for sedation or general anesthesia).

ASPIRATION OF VOMITUS

TREATMENT:
• POSITION TRENDELENBURG.
• Roll onto RIGHT SIDE (helps confine aspirate to right lung).
• SUCTION VOMITUS.
• Administer 100% OXYGEN.
• AUSCULTATE
• Treat symptoms: Bronchospasm, Laryngospasm.
• DEXAMETHASONE 20mg IV/IM or SOLU-CORTEF 100 mg IV.
• Transport to Emergency Care facility - 911.
**ALLERGIC REACTION**

- **DEFINITION:** Anaphylaxis and anaphylactoid reactions are immediate hypersensitivity reactions involving a generalized response to a specific antigen. Degranulation of mast cells and basophils, with release of histamine, leukotrienes and prostaglandins.

**ALLERGIC REACTION**

- **Anaphylaxis:** involves antigen and IgE antibodies. Requires previous sensitization to an antigen.
- **Anaphylactoid Reaction:** mediated by histamine and may occur with first exposure to an antigen.

**ALLERGIC REACTION**

- **CAUSES:**
  - Local anesthetics or preservatives
  - Antibiotics, especially I.M. or I.V.
  - Any drug used in dental setting (i.e. barbiturate, narcotic)
  - Venom of stinging insects

**ALLERGIC REACTION**

- **PREVENTION:**
  - MEDICAL HISTORY (include specific questions on allergies)
  - Use large, visible label on the inside of allergic patient’s chart
  - Perform skin or other tests for specific drug allergies (these tests considered questionable by some)

**ALLERGIC REACTION**

- **PREVENTION:** (continued)
  - Don’t use drugs or other agents that are chemically similar to those to which the patient is allergic (i.e. PCN or Cephalosporins)
  - Use oral administration instead of injection of potential allergens (i.e. penicillin)
**SYMPTOMS:**
- Pallor
- Rash
- Itching
- Urticaria (hives)
- Angio-edema
- Hypotension
- Dyspnea
- G.I. Upset
- Coma
- Bronchial Constriction
- Laryngo-edema

**TREATMENT:**
- Call 911
- POSITION SUPINE with legs elevated
- Administer 100% OXYGEN (while diagnosing and making ready EPINEPHRINE)
- Check vital signs & Monitor
- Perform CPR if indicated
- EPINEPHRINE:
  - 1:1000 [1mg/ml] 0.3-0.5mg IM/SQ q15min
  - May repeat for 3 doses

**ALLERGIC REACTION**

**SEIZURE**

- **DEFINITION:** convulsions resulting from excessive neuronal discharge which spreads throughout the brain

**CAUSES:**
- Spontaneously occurring (i.e. epilepsy)
- Toxic effect of medications on the CNS (i.e. lidocaine)
- Metabolic disorders (i.e. hypoglycemia)
SEIZURE

PREVENTION:
• MEDICAL HISTORY
• STRESS REDUCTION PROTOCOL

TREATMENT:
• POSITION SUPINE
• Administer 100% OXYGEN
• Prevent patient Injury
• If seizure recurs: Versed 1-2 mg IV/IM, may repeat
• Be prepared to assist RESPIRATIONS
• CALL 911, if seizure “Status Epilepticus”
• DISCONTINUE all further dental treatment for that day

Angina Pectoris

DEFINITION:
• Substernal pain varying from mild to severe. Pain often radiates to left shoulder, arm and jaw.
• Can be precipitated by exertion, anger, EMOTIONAL STRESS, or FEAR.
• Usually lasts less than 15 minutes.

CAUSE:
• temporary insufficient supply of oxygen (ischemia) to the heart muscle due to narrowing of the coronary arteries and/or demand for increased cardiac output

PREVENTION:
• MEDICAL HISTORY
• STRESS REDUCTION PROTOCOL
• Consider pre-treatment with NITROGLYCERIN 1-2 tablet SL.
• Monitor Vitals [HR, blood pressure, SPO2].
• Use effective local analgesia. Beware of maximum local anesthesia dosage with or without epinephrine.
Angina Pectoris

SYMPTOMS:
- chest pain often described as a sensation of squeezing, burning, pressing, choking, aching, bursting, tightness, or "gas"

Angina Pectoris

TREATMENT:
- POSITION COMFORTABLY. Usually semi-supine
- Administer 100% OXYGEN
- NITROGLYCERIN (1-2 tablets SL q3min. May repeat for 3 doses).
- VITALS & MONITORS
- If NO RESPONSE, pain intensifies, assumes different duration or character then follow Myocardial Infarction protocol

Myocardial Infarct

DEFINITION:
- deficient coronary arterial blood supply to region of the myocardium resulting in cellular death and necrosis

Myocardial Infarct

CAUSES:
- Stress
- Blood vessel disease
- Thrombosis

Myocardial Infarct

PREVENTION:
- MEDICAL HISTORY
  - M.I. less than 6 months prior to treatment indicates ASA Class IV (no elective treatment).
- STRESS REDUCTION PROTOCOL
  - Position semi-supine
  - Aspirate and give local anesthetics slowly if necessary
  - AVOID 1/50,000 EPINEPHRINE
  - Limit total dose of epinephrine to less than 0.04mg
**Myocardial Infarct**

**SYMPTOMS:**
- Severe pain of anginal type:
  - sudden onset
  - radiating (left arm, lower jaw)
  - crushing pressure
- Pain not relieved with nitroglycerin
- Cold sweat, apprehension, fear of impending doom
- Light-headedness, fainting, nausea, vomiting.
- Unconsciousness/unresponsiveness

**TREATMENT:**
- CALL 911
- POSITION COMFORTABLY, semi-supine. If unconscious, place supine on rigid surface.
- THINK "MONA".
- Administer 100% OXYGEN.
- Chew & Swallow 160-325mg ASPIRIN PO
- Give 1-2 tabs PO - NITROGLYCERIN.
- If not relieved in 2-3 minutes, or if pain intensifies
  - titrate Fentanyl at 25mcg IV increments, or 1-2mg Morphine IV/IM.
- Basic life support or ADVANCED CARDIAC LIFE SUPPORT if trained.
- Transport to Emergency Care facility.

**Post-Emergency Treatment Evaluation**

When reviewing the medical emergency, consider the situation and address the following:
- How early was the emergency detected?
- Did the patient’s history or chart indicate a problem might occur?
- Were any warning stickers or alerts messages posted within the patient’s record?
Post-Emergency TEAM Evaluation

- How did the office staff respond?
- Did staff members complete their assignments efficiently or was there panic and confusion?
- Did any members of the team experience difficulties?
- Do the role assignments need to be modified?

Post-Emergency Equipment & Supply Evaluation

- Was the equipment (emergency kit/cart) stored in the designated location?
- Was all equipment present and functional?
- Were drugs expired or incorrectly prepared?
- Did the TEAM effectively administer CPR?