Emergencies in the Medical Office and Community

- A quick easy breakdown for MA students

Emergency Kit:

1. Basic supplies (gloves, alcohol wipes, stethoscope, etc.)
2. Ambu bag
3. Airways, nasal and oral
4. IV supplies
5. Medications
- Atropine, diphenhydramine (benadryl), epinephrine, instant glucose, nitroglycerine, etc.
6. Defibrillator

General skills

1. Recognize the emergency
2. Activate EMS
3. Document
4. Telephone screening

CPR

- Adults: 30:2 (1-2 rescuers)
- Infants / children: 30:2 (1 rescuer), 15:2 (2 rescuers)

AED - automated external defibrillator

Different types of diseases:

- Chronic: long & drawn out, ie: diabetes, fibromyalgia
- Subtle: hidden, not apparent, ie: cancer, high bp
- Urgent: requiring immediate intervention & help, ie: kidney stone
- Sudden: occurring quickly and w/o warning, ie: allergies
- Acute: rapid onset, ie: heart attack, stroke
- Severe: extensive, advanced. Typically refers to multiple traumatic injuries, ie: car accident w/ multiple injuries
- Life threatening: can cause death, ie: hemorrhage

Diabetic ketoacidosis

- Only type 1 diabetes
- Really high blood glucose (hyperglycemia)
- Breath smells sweet/ fruity
- Thirst, fatigue, nausea, rapid / deep breathing
- Skin is dry and flushed
- Think “dehydration”

Insulin shock (hypoglycemia)

- Too much insulin, really low blood sugar

- Symptoms opposite of DKA : weak, sweaty, (diaphoretic), anxious, hungry, cold, pale, moist skin can cause irreversible brain damage

Myocardial infarction (heart attack)

- Classic symptoms (usually males)

1. severe/ crushing chest pain
2. Pain radiates down the left arm, sometimes both
3. Rapid, weak pulse
4. Diaphoretic
5. Cyanosis
6. Nausea, anxiousness

- women:

7. Shortness of breath
8. Burning sensation in the chest
9. nausea/ vomiting
10. Fatigue
11. Pain in jaw/ neck/ shoulder/ back/ ear
12. Sense of doom

- Treatment:
- Sit, do not allow them to carry heavy objects
- Administer O2
- Have crash cart ready
- Nitroglycerin &/or aspirin
- EKG
- Call EMS

Heat Exposure:

- Pale, cool, moist
- Body temp under control
- Usually after vigorous exercise

Heat stroke:

- Red, dry face
- Hot dry skin
- High body temp (104 F)
- Rapid, weak pulse
- HA, N/V, dizziness, weakness

Cold Exposure: Hypothermia

- Body temp below 95 F
- Can cause death
- Shivering, confusion, slurred speech

Frostbite

- Tissue damaged due to extreme cold
- Fingers, toes, ears, nose
- white , gray/ yellow skin
- Never rub frostbite

Hemorrhage

1. Arterial
- Bright red spurts
- High pressure immediately
- Can cause death
2. Venous
- Dark re, steady flow
- Medium pressure immediately
- Can cause death
3. Capillary
- Steady oozing
- Light pressure
4. Internal bleeding
- Blood not present on the skin, but vessels inside the body are damaged
- Vomiting, rectum, internal organs
5. Epistaxis
- Nose bleed
6. Pregnancy
- Vaginal bleeding

Poisoning, seizures, airway obstruction

Poisoning

- Ingested, absorbed, inhaled, injected, bug bite/ stings
- Children have an increased risk
- Call poison control center

Seizures

- Severe, involuntary contraction of muscles
- Prevent further injury
- Do NOT restrain movement or put anything in the pts mouth, simply turn the pt on their side
- Allow for rest afterwards

Obstructed airway

- Trachea is blocked
- Are you choking?
- 12 months and older : chest thrust, back blows, abdominal thrusts
- < 12 months - support baby on your forearm w/ head lower than body and perform back blows, then 5 chest thrusts, alternate

Shock and stroke

Shock

- Seriously depressed vital signs
- Weak thready pulse, shallow rapid breathing, dilated pupils, ashen color, cool clammy skin
- Find cause, have pt lie down w/ feet elevated

Anaphylactic shock

- Epi and oxygen

Stroke / CVA (cerebrovascular accident)

- Ruptured / occluded blood vessel in brain
- One side of the body is affected

Often, the first hour in a medical emergency is so important that it directly correlates w/ prognosis and possibility of recovery. Several emergency situations demand immediate medical intervention because of their severity and life-threatening consequences. Lack of breathing or heart action are fatal within a matter of minutes. The following are examples of these conditions:

- Cardiac arrest
- Respiratory arrest or great difficulty breathing
- Uncontrolled severe bleeding
- Head injury
- Poisoning
- Open chest or abdominal wound
- Shock / significant burns

The first step in an emergency is to survey the scene to determine whether it is safe for you to encounter w/o causing harm to yourself. You will also determine the severity of the emergency and who needs to be treated first if more than one person is involved. This is determined by assessing the airway, breathing, and circulation of those involved, also known as conducting a primary survey. If you encounter an emergency situation who has become ill or lost consciousness, check for a universal emergency medical identification symbol. This tag is worn around the neck, wrist, or ankle

Sudden cardiac arrest (SCA) is the total, abrupt, and unexpected loss of heart function and is a leading cause of death in the USA. 90% of victims die before reaching the hospital. Immediate CPR can double, or even triple, a victims chance of survival. When SCA occurs, immediate action is imperative; every minute is critical

The CPR procedure is easily remembered by C-A-B

- Begin chest compression to restore blood circulation. Brain damage or death can occur if blood circulation stops
- Clear the airway
- Initiate rescue breathing to provide oxygen to the victims lungs

If a rescuer is treating a child FOUND in cardiac arrest, the rescuer should initially provide 5 cycles of CPR before attaching an AED. If the collapse is WITNESSED, the AED should be used as soon as its available. The AED device should be dose-attenuated for children under 8

w/ infants and children, the prime concern is usually respiratory because arrest from asphyxia is more common than cardiac arrest. Opening the airway might need to be attempted a couple of times before ventilation is successful

CPR for infants:

- When assessing the infants consciousness, flick the bottom of the foot
- Using a resuscitation mouthpiece, cover the infants mouth and nose
- Observe the infants chest for evidence of effective breaths

- Use the brachial artery in the arm for a return of the pulse

The perceived risk of disease transmission during CPR has reduced the willingness of laypersons to provide mouth-to-mouth in unknown cardiac arrest victims. In these situations, a lone rescuer should at least provide hands-only CPR. Hands-only CPR has shown to be as successful as CPR for SCA.

Rescuers who themselves are ill should not perform the procedures if other methods of ventilation are available

The AED can:

- Analyze the heart rhythm of a person in fibrillation or arrest
- Recognize a shockable rhythm
- Advise the operator through lights, text, and voice prompts if shock is indicated
- W/ built in diagnostic capability, permit lifesaving intervention w/o the operator needing to evaluate the situation or interpret and ECG

Summary

- A universal emergency medical identification symbol was designed by the AMA as a means for individuals w/ certain medical conditions to alert health care workers of their conditions when they are unable to
- It is realistic to believe that any emergency situation involves exposure to certain body fluids and has the potential for disease transmission
- Diabetic ketoacidosis, insulin shock, fainting, heart attack, heat and cold exposures, hemorrhaging, poisoning, seizures, obstructed airways, shock, and stroke are common emergencies you might encounter
- Hyperglycemia is caused by an increased amount of sugar in the body, whereas hypoglycemia is caused by an excess amount of insulin
- In heat exhaustion, symptoms such as cool, pale, moist skin w/ a normal body temp occur usually after some form of rigorous exercise. The pt becomes overheated w/ a profuse perspiration and might have headaches, muscle cramps, nausea, dizziness, fatigue w/ a pulse that is weak and rapid, and respirations that are quiet and shallow
- Heat stroke symptoms include a red, dry face w/ hot and dry skin. The body temp can be above 40 C/ 104 F and the pulse will be rapid but then gradually slow and weaken. Respirations will be rapid and hollow. The pupils will be dilated
- Arterial bleeding produces bright red blood in spurts. Bleeding from a vein produced a steady flow of dark red blood. Any bleeding from capillary damage produces a steady ooze from the wound area
- Internal bleeding causes symptoms similar to those of shock
- A seizure is a severe involuntary contraction of muscles that first causes the pt to become rigid and then to have uncontrollable movements. The pt becomes unconscious and can be injured during the seizure
- Shock symptoms include a rapid, thready, weak pulse; shallow, rapid respirations; dilated pupils; ashen color, and cool clammy skin
- Signs of a possible stroke can include immediate paralysis in the form of sagging muscles on one side of the face or the inability to use an arm or leg. One entire side of the body might be paralyzed
- CPR involves 2 elements: chest compressions and artificial respirations

- AED units are used in addition to CPR if the heart is in fibrillation or arrest and permits lifesaving intervention w/o the operator needing to evaluate the situation or interpret an ECG. the AED unit is computerized and can analyze the heart rhythm of a person in fibrillation or arrest; recognize a shockable rhythm; and advise the operator through lights and voice prompts if shock is indicated
- There are a number of resources for creating and preparing emergency plans such as those found at www.ready.gov
- Critical elements of an emergency plan for response to a natural disaster or other emergency include inspection of the facility for all possible evacuation roots; creating / copying a floor plan w/ evacuation routes clearly marked; determining who is responsible for informing emergency response services; taking role and assignment to ensure evacuation of pts, personnel, and visitors; confirming that everyone is accounted for, and instructing all parties to remain in place until authorities have cleared the building for entrance