San Jose Police Department - DRAFT

First Aid/CPR/AED Course – 21798 (8 Hours)

Expanded Course Outline

* **This First Aid/CPR update course meets the new EMSA Title 22, Division 9, Chapter 1.5, Public Safety First Aid & CPR Standards New Title 22 regulations took effect April 1, 2015 (CCR Code 100017). The outline includes training on use of assisted delivery of medications specific to use of an epi-pen [Q.4.a), and U.2.b)], oral glucose [S.5.], and naloxone administration [T.5.]**

Module Goal: The students will review the concepts of Basic Life Support and First Aid principles and procedures and how to integrate these skills into a law enforcement career.

Objective #1 Given a scenario the student will work in a group and formulate the appropriate first aid for the diabetic emergency, seizures, sucking chest injury, anaphylactic shock, chest pain, head injury, burn, fractures, and emergency scenes.

Objective # 2. The student will be able to apply a pressure dressing, tourniquet, and occlusive dressing, for a simulated injury. The student will demonstrate or recite the proper dressing for burns.

Objective # 3. The student will demonstrate the proper way to place a victim in a recovery position lateral, side-lying position that may improve airway mechanics as well as demonstrate the treatment for shock. The student will recite the proper technique for moving a victim using the shoulder drag.

Objective # 4. The student will be able to correctly identify the basic life support emergency and demonstrate the proper sequence and skill appropriate to the rescue, obstructed airway, CPR, rescue breathing, and the use of an AED.

I. Introduction / Course Content

A. Legal Issues

1. Title 22, Division 9, Chapter 1.5
2. POST Administrative Manual (PAM)
3. California Penal Code 13518
4. California OSHA Requirements (CCR Section 5193 & 5199)
5. EMSA and LEMSA program development
    1. Liability
    2. Student participation and skill demonstration
6. New Title 22 regulations
    i. Epi-pen [Q.4.a), and U.2.b)]
    ii. Oral glucose [S.5.]
    iii. Naloxone administration [T.5.]

B. Orientation to the EMS system

1. 9-1-1 access
2. Interaction with EMS personnel
3. Identification of local EMS and trauma systems

II. First Aid

A. Scene Evaluation

1. Type of call
2. Safety Issues
   a) Officer safety, public safety, victim safety
   b) Environmental, hazmat, weapons, fire
3. Scene Management
   a) Safety for all responders and crowd control
4. Minimum Equipment and Materials
   a) Mannequins (Type and Style of Devices)
   b) Breathing Barriers
   c) AED Trainers, Bag-Valve-Mask (Section 100017 CCR)
   d) Personal Protective Equipment (PPE)
   e) Bandaging Materials
   f) Demo First Aid Kit
   g) Practice Pre-Test
   h) Students Skills checklist

B. Victim Assessment

1. Primary Survey
   a) Determine responsiveness and breathing
   b) If not breathing call for EMS and check pulse
   c) Check carotid pulse
      1) No longer than 10 seconds
   d) Look for obvious bleeding. Control obvious bleeding with direct pressure.
   e) If no pulse initiate CPR with 30 compressions if appropriate
   f) If pulse present continue with rescue breathing
   g) If breathing but unresponsive place in the recovery position
2. Secondary Survey
   a) Performed on unresponsive and breathing victims
   b) Head to toe search looking for other injuries and obvious bleeding
   c) Determining if a life threatening emergency exists
   d) Conscious vs. unconscious
   e) Consent to treatment required by conscious victims informing the victim your qualifications
   f) The medical interview (SAMPLE)
      S – Signs/Symptoms (Symptoms are important but they are subjective.)
      A – Allergies
      M – Medications

P – Past Illnesses
L – Last Oral Intake (Sometimes also Last Menstrual Cycle.)
E – Events Leading Up To Present Illness / Injury

g) Determine mechanism of injury

C. Bleeding Control
   1. Types of injuries include open and closed
      a) Open injuries are lacerations, abrasions, puncture wounds, amputations and some fractures
      b) Closed injuries include bruises, concussion, contusions and some fractures
   2. Arterial vs. venous bleeding and capillary

D. Obvious external bleeding
   1. Direct pressure
      a) Controls almost all bleeding
   2. Pressure dressing
      a) Use clean material to cover the wound and wrap tightly
      b) Check the distal pulse to be sure circulation has not been compromised
   3. Tourniquets
      a) SWAT-T and CAT
      b) Note time and T on forehead
   4. Quick Clot dressing consideration if bleeding cannot be controlled by other methods
   5. Types of EMSA approved hemostatic dressings
      a) Quick Clot®, Combat Gauze® LE
      b) HemCon®
      c) ChitoFlex® PRO Dressing
      d) Celox® Gauze, Z-Fold Hemostatic Gauze
      e) Celox® Rapid, Hemostatic Z-Fold Gauze
      f) Other types of dressing:
         i. Quick Clot®, Z-Medica®
         ii. Quick Clot®, EMS Rolled Gauze, 4x4 Dressing, Trauma Pad®
         iii. Celox®

E. Shock
   1. Lack of oxygen to tissues due to blood loss, spinal injury, heart attack, infection or psychogenic
   2. Pale, cool, clammy, AMS, dilated pupils, dull eyes, thirsty, dizzy, nausea, anxious, rapid weak pulse, rapid breathing
   3. Maintain body temperature with a blanket
      a) In traumatic cases may elevate legs 6-12 inches

F. Medical emergencies
   1. Breathing difficulties, including asthma and COPD
   2. Allergic reaction and anaphylaxis
   3. Altered mental status

4. Diabetic emergencies
    a) Administration of oral glucose
5. Alcohol and drug emergencies
    a) Assisted naloxone administration and accessing EMS

G. **Head and Face Injuries** **Code 100017 Section (8)**

1. Objects in the eye
2. Chemical in the eye
3. Nosebleed
4. **Dental emergencies** **Code 100017** Section **(8) (D)**
    a) When assisting with any dental emergency:
        (1) Wear PPE (Mouths are very vascular, they bleed a lot)
        (2) Check the victim's mouth for any missing, broken or loose teeth.
        (3) If the tooth is chipped, gently clean the injured area and send the victim to a dentist
        (4) If the tooth is loose have the victim bite down on a piece of gauze to keep the tooth in place and send the victim to a dentist.
6. Assess level of consciousness and treat for neck injury by immobilization of the head
    a) Ask Who, Where, When and what happened to assess the level of consciousness (LOC)
        (1) Ask repeatedly to determine if decreasing LOC
7. Glasgow Coma Scale
8. Look for bleeding from the ear or nose and suspect cerebral spinal fluid (CSF) due to a fractured skull
    a) CSF is a clear, colorless body fluid found in the brain and spine. It is produced in the choroid plexuses of the ventricles of the brain.
    b) Bleeding from the ear is a type of bleeding NOT controlled with direct pressure.
        (1) Allow to bleed yet cover with a loose dressing

H. Neck or spinal injury

1. Numbness, tingling, hot sensation, paralysis, weakness in extremities could mean nerve damage
2. Immobilize in the position found
3. Suspect neck injury with any visible head injury or reported loss of consciousness due to trauma
4. Monitor ABC (airway, breathing, pulse) treat for shock

I. Chest injuries

1. Penetrating
2. Suspect sucking chest wound and apply occlusive dressing

J. Amputations

1. Control bleeding
2. Locate body part and keep dry, cool

a) Do not freeze

3. Reassure, treat for shock and monitor ABC's

K. Fractures, Dislocations and sprains

1. Pain, swelling, deformity may mean a fracture. All bone or joint injuries are treated as fractures until X-ray rules out the fracture.
2. Consider mechanism of injury and apply icepack to the injury site
3. Immobilize and if necessary to move the patient apply a splint
4. Open fracture vs. closed fractures
   a) Bleeding control, treat for shock, monitor ABC's

L. Internal Bleeding

1. Abdominal pain, decreased level of consciousness (LOC) bruising on abdomen
2. Treat for shock, monitor ABC's
3. Most likely in fetal position

M. Impaled objects

1. Do not remove unless obstructing the airway
2. If possible find like size object to be transported to hospital
3. Use bulky dressings around object if necessary to stabilize

N. Lifts and Carries

1. Scene safety

   a) Generally do not move an injured person unless exigent circumstances require it
2. Types of drags
   a) One person drag
   b) Two person drag
   c) Soft litter drag
   d) The shoulder drag
   e) Manual extractions including fore/aft, side-by-side, shoulder/belt
3. Types of carries
   a) Lifts and carries which may include: using soft litters and manual extraction including fore/aft, side-by-side, shoulder/belt
   b) Hawes Carry
   c) Fireman's carry
   d) Side-by-Side carry
   e) Two-person assist
   f) Shoulder drag technique is preferred keeping the spine in line, supporting the head, without bending the victim or sitting them up
   a) Do not pull by the leg or arm or belt
4. Place unresponsive victims in the recovery positions using the HAINES positioning.

O. Burns

1. Superficial (sunburn)
   a) Cool with water

2. Partial Thickness (blisters)
    a) Cool with water 15 minutes and wrap in a loose dry dressing
3. Full thickness (charred)
    a) Cool with water and wrap in a loose dry dressing
    b) Assess airway for possible inhalation of heated gas or flame. May lead to respiratory compromise
    c) Treat for shock
4. Dry chemical burns
    a) Brush off excess chemical and then copious amounts of water
5. Wet chemical burns
    a) Copious amounts of water
    b) Avoid cross contamination
6. Electrical burns may have an entrance and exit
    a) Turn off power before rendering aid

P. Discuss tactical and rescue first aid principles when responding to violent circumstances (e.g. active shooter)
    a) Movement to threat rather than casualty care.
    b) Integration with EMS
    c) Tactical casualty care
        i. Phases of Tactical Casualty Care:
            1. Care is divided into three distinct phases, each with its own characteristics and limitations:
            2. Care under fire
            3. Tactical Combat Care
            4. Casualty Evacuation Care (CASEVAC)
    d) Prioritizing Initial triage:
        i. START (Simple triage and rapid treatment)
        ii. Jump START
        iii. Triage tags
        iv. Colors

Q. Cardiac Emergencies
1. Respiratory emergencies including asthma and Chronic Obstructive Pulmonary Disease (COPD) Symptoms
    a) Chronic inflammation of the airways
    b) Usually as a result of exposure to inhaled irritants such as smoke and tobacco. Also causes changes to the air sacs of the lungs
    c) Baseline oxygen saturation is low
        i. Identify Respiratory distress in adults, children and infants
    d) Nausea, indigestion, fatigue, radiating pain to jaw/arm/back, dizzy short of breath (SOB), pressure/tightness across chest, squeezing sensation
2. Signs
    a) Pale, cool, moist, sweaty, SOB

b) Progresses to cardiac arrest if not promptly treated

3. Treatment
   a) Position of comfort, assist with Rx, consider 81mg Aspirin if no allergies or other reasons to not take aspirin, reassure, treat for shock and monitor ABC's

(2) Identify and define asthma:

R. Respiratory Emergencies
1. Asthma, cardiac problems, allergic reactions
2. Symptoms
   a) Short of breath, wheezing, cyanotic
3. Treatment
   a) Position of comfort, reassure, assist with Rx (inhalers)

4. Anaphylactic shock **Code 100017** Section **(6) (C)**
   a) Severe allergic reaction best treated with Benadryl and or Epi-Pen auto injector
   b) This may be administered through clothing and is not a cure but temporary treatment.
   c) Call 911

S. Stroke
1. Signs
   a) Slurred speech, weakness or paralysis on one or both sides, facial droop, blurry vision, sudden headache, speech problems, confusion
2. Treatment
   a) Place conscious victim in a semi sitting with head and shoulder slightly elevated
   b) Unconscious victims should be in the position of recovery weak side down
   c) Monitor ABC's and treat for shock, nothing by mouth

T. Diabetes **Code 100017** Section **(6) (F) (i)**
1. Type I vs. Type II
2. Sugar imbalance caused by ineffective or missing Insulin
3. Blood sugar may be low due to overdose of Rx Insulin or too much exercise or not enough food
   a) Pale cool, moist, aggression, sudden onset
   b) Treat with 1 tbsp. sugar or 15 grams of carbohydrate
4. Too much sugar in the blood due to under dose by not taking Rx insulin
   a) Warm, dry, flushed appearance, AMS (drunk like), dehydrated
5. Treat with sugar or oral glucose, and if ineffective transport to hospital
   a) Look for medical alert bracelet
   b) If unconscious place in recovery position
   c) Treat for shock and monitor ABC's

U. Poisoning, alcohol and overdose **Code 100017 Section (6) (H) (i)**
1. Exposure to chemical, biological, radiological or nuclear (CBRN) substances

a) Recognition of exposure
b) Scene safety and protection

2. Poison control system
3. Find out what, when and how much
4. Call 911 and poison control
5. Do not give anything by mouth unless directed by poison control
6. Do NOT dilute with water or anything else unless directed by poison control
7. Assist with administration of naloxone
8. Consider all safety issues especially around drug labs, suicides
9. If necessary remove victim from toxic environment and monitor
10. Responding to a CBRN incident
    a) Respond uphill, upwind, and upstream
    b) Stay calm, do not panic.
    c) Follow directions, which may include: Egress from known hazards
    d) Stand-by for HAZMAT to arrive
    e) Remain in place
    f) Close all windows, doors and turn off fans

V. Sting and Bites **Code 100017** Section **(10) (C)**

1. Wasp, bees, mosquitoes, hornets
2. Look for allergic reaction
    a) Wheezing, swollen, racing heart, hives
    b) Position of comfort and assist with Rx if necessary
    c) Scrape the stinger away if still embedded
    d) Apply cold pack to affected area
    e) Monitor ABC''s and treat for shock
3. Human bites
    a) Wash with soap and water and transport
4. Animal bites
    a) Wash with soap and water and transport
5. Allergic reactions and anaphylaxis
    a) Epinephrine auto injector
6. Assisted epinephrine auto injector and accessing EMS
    a) Actual administration of Epi is an optional skill, and training for administration is strictly within the authority of the LEMSA, not POST.
    b) Define and review the characteristics of Anaphylaxis:
        1. Mild:
            i. Stuffy nose, sneezing and itching around the eyes.
            ii. Itching skin.
            iii. Raised, red rash on the skin
        1. Severe:
            iv. Trouble breathing
            v. Swelling of tongue and face

vi. Signs of shock

c) Steps of use for epinephrine auto injector:
    1. Remove the auto-injector from its protective case.
    2. Remove the safety release mechanism to arm the device, making sure that the appropriate end is perpendicular to the middle of the outer thigh.
    3. Firmly push the auto-injector against the middle of the outer thigh until you hear a clicking sound. This can be done through clothing, if needed.
    4. Hold firmly against the thigh for 5-10 seconds (depending on the manufacturer) to deliver the medication.
    5. The victim or the person administering the injection should rub the injection spot for approximately 10 seconds

W. Heat emergencies
1. Heat cramps get out of heat, give fluids, allow to rest
2. Heat exhaustion
    a) Appear moist, pale, cool,
    b) Get out of heat, give small sips of fluids, and cool rapidly
    c) NO CNS involvement
3. Heat stroke
    a) Appear hot, dry, blushed
    b) Life threatening
    c) AMS
    d) Get out of the heat, call 911, cool rapidly by immersion if possible

X. Childbirth emergencies
1. Labor indicating eminent childbirth
    a) Contractions less than 2 minutes apart
    b) BOW broken
    c) Previous deliveries
2. Bleeding before and after delivery
    a) Do not pack
    b) Clean cloth over vagina and rapid transport knee chest position

Y. **Active Shooter Implications** **Code 100017 Section (14)**
    a) Scene Safety
    b) Removal of Injured
    c) Providing care

Z. Psychological Emergencies
1. Mental health resources in decline
    a) Epidemic proportions
    b) Psych facilities closing
    c) Psych inpatient beds in decline
2. Altered mental status

a) Consider all behavioral emergencies until proven otherwise, even if known psych history

3. Depression
   a) Broad mental illness
   b) Major depressive episode
   c) Watch for mania
4. Bipolar:
   a) Two forms of bipolar; both are a type of depression
      i. Manic vs depressive
   b) Moves within families
   c) Average age of diagnosis 21 (usually 15-19)
   d) Bipolar symptoms:
      i. Mania
      ii. Depressive episodes
      iii. Excessive mood elevations
      iv. Irritability
      v. Insomnia
      vi. Reckless behaviors
      vii. Mind moves quickly
      viii. Care depends on where they are in mood swing
   e) Schizophrenia
      i. Ages 16-30
      ii. Genes and environment
      iii. Brain chemistry
   f) Psychosis
      i. Disruption to thoughts
   g) Drugs and addiction
      i. Drugs can precipitate psychosis
      ii. Drugs can alter perception
      iii. Increased strength
      iv. Altered reality
   h) Care Considerations:
      i. Ensure scene safety
      ii. Maintain open airway
      iii. Altered mental status until proven otherwise
   i) De-escalation:
      i. Calm voice
      ii. Sit down with them
      iii. Keep the exit at your back
      iv. Maintain distance
      v. Attempt rapport
      vi. Listen

vii. Get on eye level if possible

j) Scene safety

i. Size up the patient and the scene:

III. Instructional Activity

A. Practical #1 Purpose of Activity: This activity will allow the student to demonstrate their knowledge and application of First Aid principles and Basic Life support rescues

1. Activity Description: Given a scenario the advanced officer and a partner will use law enforcement as well as medical training to correctly approach, identify, and treat a variety of simulated emergencies.
2. Key Learning Points:
    a. Develop an understanding of how to combine law enforcement, officer safety, and first aid skills.
    b. Recognize the medical emergency and give appropriate care
    c. Recognize the life threatening traumatic emergency and give appropriate care
3. Time required: 1 hour

B. Optional (choose #2 or #3) Practical #2 Purpose of Activity: This is a facilitated, group activity that is designed to develop the students' skills at applying bandages and wound care.

2. Activity Description: Each student will apply a tourniquet (SWAT-T preferred) occlusive type dressing, and pressure dressing to a fellow student
3. Key Learning Points:
    a. Develop the ability of how to apply a tourniquet, pressure dressing and occlusive dressing
    b. Recognize the signs of adequate circulation after applying a bandage
4. Resources Required:
    a. tourniquets
    b. Pressure dressings
    c. occlusive dressings
5. Time required: 15 minutes

C. Optional (choose #2 or #3) Practical #3 Purpose of Activity: This is a facilitated, group activity that is designed to develop the students' skills at positioning and moving the injured or unconscious victim. The activity includes the use of the emergency shock blanket as well as using the HAINES position of recovery.

1. Activity Description: Each student will position a fellow student to the position of recovery using the High Arm in Endangered Spine technique and wrap the student in the emergency shock blanket.
2. Key Learning Points:
    a. Develop the ability of how to apply a shock blanket to prevent shock
    b. Properly and safely move an injured victim to the position of recovery with a suspected spinal injury
    c. The proper technique for the shoulder drag
3. Resources Required

a. shock blankets
b. padding for the floor

4. Time required: 15 minutes

IV. Basic Life Support/CPR

A. Early defibrillation

1. Five points – the chain of survival
    a. Immediate recognition of cardiac arrest and activation of the emergency response system
    b. Early cardiopulmonary resuscitation (CPR) with an emphasis on chest compressions
    c. Rapid defibrillation
    d. Effective advanced life support
    e. Integrated post-cardiac arrest care

B. Sudden Cardiac Arrest

1. There is no blood flow to the brain during cardiac arrest and must be corrected quickly to prevent brain damage
2. CPR is needed until the heart beats again. Protocols emphasize good compressions
3. Hard and fast

C. Basic Life Support Components

1. Choke Saving
2. Conscious vs. unconscious
3. Rescue breathing
    a) Opioid overdose
    b) Drowning
4. Cardio Pulmonary resuscitation
    a) Adult child and infant
    b) Single and two rescuers

C. Airway Adjuncts

1. Pocket mask
2. Face shields
3. Bag Valve mask
    a) Best with two rescuers

D. Adult CPR – one person

1. Determine responsiveness
    a) Tap & shout
    b) Request additional EMS resources and get an AED if available
    c) Assess for breathing
    d) Look for no breathing or abnormal breathing
2. Check Airway, Check Breathing (CAB)
    a) If unresponsive and not breathing check pulse.

b) If no pulse perform 30 compressions. Open airway and give two breaths

3. 30 compressions to 2 breaths
4. At least 2" deep and no more than 2.4"
5. At least 100 per minute
    a) Firm flat surface
6. Middle of chest
    a) Allow chest to fully recoil
7. Continue CPR until the AED arrives
8. Use AED as soon as available
9. Minimize interruptions to CPR and never longer than 10 seconds

E. Adult CPR – two persons

1. Determine responsiveness
    a) Tap & shout
    b) Request additional EMS resources and get an AED if available
    c) Assess for breathing
    d) Look for no breathing or abnormal breathing
2. Check Airway, Check Breathing (CAB)
    a) If unresponsive and not breathing check pulse.
    b) If no pulse perform 30 compressions. Open airway and give two breaths
3. 30 compressions to 2 breaths
4. At least 2" deep
5. At least 100 per minute
    a) Firm flat surface
6. Middle of chest
    a) Allow chest to fully recoil
7. Continue CPR until the AED arrives
8. Use AED as soon as available
9. Minimize interruptions to CPR and never longer than 10 seconds
10. Every 5 cycles or approximately every 2 minutes duties should be switched
11. Switching duties with the second rescuer should take less than 5 seconds

F. Adult Rescue Breathing

1. Determine responsiveness and breathing. Call 911 if unresponsive
2. If not breathing but carotid pulse is present begin rescue breathing
3. 1 breath every 5-6 seconds, enough air to make the chest rise
4. Recheck pulse after 2 minutes
5. If pulse present continue rescue breathing
6. If pulse is absent begin CPR

G. Child CPR – one person

1. CAB and if no pulse or pulse is less than 60 per minute we continue with CPR
    a) Basically the same as Adult CPR
2. Chest Compressions
    a) Position yourself at the child's side

b) Make sure the child is lying face-up on a firm, flat surface. If the child is lying face-down, carefully roll the victim face-up. If you suspect the child has a head or neck injury, try to keep the head, neck, and torso aligned when rolling the child to a face-up position.
c) Put the heel of one hand on the center of the child's chest on the lower half of the breastbone.
d) Put the heel of your other hand on top of the first hand
e) For very small children you may use either 1 or 2 hands for chest compressions
f) Straighten your arms and position your shoulders directly over your hands
g) Start compressions within 10 seconds of recognition of cardiac arrest
h) Push hard, push fast: Compress at a rate of 100/min to 120/min. Chest compression should be at least 1/3 the depth of the chest or approximately 2 inches (5cm)
i) Allow complete chest recoil after each compression
j) Minimize interruptions in compressions (try to limit interruptions to less than 10 seconds)
k) Give effective breaths that make the chest rise
l) Avoid excessive ventilation
m) If the victim is small or the rescuer is large one hand may be used to perform compressions.
n) 30:2 ratio
o) If 911 hasn't been called, perform CPR for 2 minutes before calling EMS
p) Minimize interruptions to CPR and never longer than 10 seconds

3. Ventilation
   a) Open the victim's airway using head-tilt or jaw-thrust maneuver
   b) Provide ventilation
   c) Give 2 breaths with each lasting 1 second
   d) Victim's chest to visibly rise
4. Compression Cycle
   a) After 30 compressions, open victim's airway, give two breaths
   b) Continue cycle of 30 compressions to 2 breaths
   c) After 5 cycles, if someone has not already activated the EMS system or obtained an AED leave the victim to do this.

H. Child CPR – two persons
1. CAB and if no pulse or pulse is less than 60 per minute we continue with CPR
   a) Basically the same as Adult CPR
2. Chest Compressions
   a) Position yourself at the child's side
   b) Make sure the child is lying face-up on a firm, flat surface. If the child is lying face-down, carefully roll the victim face-up. If you suspect the child has a

head or neck injury, try to keep the head, neck, and torso aligned when rolling the child to a face-up position.

c) Put the heel of one hand on the center of the child's chest on the lower half of the breastbone.
d) Put the heel of your other hand on top of the first hand
e) For very small children you may use either 1 or 2 hands for chest compressions
f) Straighten your arms and position your shoulders directly over your hands
g) Start compressions within 10 seconds of recognition of cardiac arrest
h) Push hard, push fast: Compress at a rate of 100/min to 120/min. Chest compression should be at least 1/3 the depth of the chest or approximately 2 inches (5cm)
i) Allow complete chest recoil after each compression
j) Minimize interruptions in compressions (try to limit interruptions to less than 10 seconds)
k) Give effective breaths that make the chest rise
l) Avoid excessive ventilation
m) If the victim is small or the rescuer is large one hand may be used to perform compressions.
n) 30:2 ratio
o) Minimize interruptions to CPR and never longer than 10 seconds
p) Every 5 cycles or approximately every 2 minutes duties should be switched
q) Switching duties with the second rescuer should take less than 5 seconds

3. Ventilation
    a) Open the victim's airway using head-tilt or jaw-thrust maneuver
    b) Provide ventilation
    c) Give 2 breaths with each lasting 1 second
    d) Victim's chest to visibly rise
4. Compression Cycle
    a) After 30 compressions, open victim's airway, give two breaths
    b) Continue cycle of 30 compressions to 2 breaths
    c) After 5 cycles, if someone has not already activated the EMS system or obtained an AED leave the victim to do this.

I. Child rescue breathing
1. CAB
2. Not breathing but carotid pulse present begin rescue breathing
3. 1 breath every 3-5 seconds, enough air to make the chest rise
4. Recheck the pulse after 2 minutes
    a) If pulse greater than 60 per minute continue rescue breathing
    b) If pulse is absent or below 60 per minute perform CPR

J. Infant CPR – one person
1. CAB and if no brachial pulse or less than 60 beats per minute perform CPR

a) Check brachial pulse (no longer than 10 seconds)
b) Place 2 or 3 fingers on the inside of the upper arm, between the infant's elbow and shoulder
c) Press the index and middle fingers gently on the inside of the upper arm for at least 5 but no more than 10 seconds when attempting to feel the pulse
d) If no pulse or less than 60 beats per minute (BPM) with signs of poor perfusion, perform cycles of compressions and breaths (30:2 ratio), starting with compressions
e) After 5 cycles, if someone has not already done so, activate EMS and get the AED (or defibrillator)

2. Chest Compressions
   a) Place the infant on a firm, flat surface
   b) Place 2 fingers in the center of the infant's chest just below the nipple line. Do not press on the bottom of the breastbone
   c) To give chest compressions, press the infant's breastbone down at least one third the depth of the chest (approximately 1 ½ inches (4cm)). Deliver compressions at a rate of 100/min to 120/min.
   d) At the end of each compression, make sure you allow the chest to recoil (re-expand) completely. Chest recoil allows blood to flow into the heart and is necessary to create blood flow during chest compressions. Chest compression and chest recoil/relaxation times should be approximately equal.
   e) Minimize interruptions in chest compressions
3. Ventilation
   a) Open the victim's airway using head-tilt or jaw-thrust maneuver
   b) Provide ventilation
   c) Give 2 breaths with each lasting 1 second
   d) Victim's chest to visibly rise
4. Compression Cycle
   a) After 30 compressions, open victim's airway, give two breaths
   b) Continue cycle of 30 compressions to 2 breaths
   c) After 5 cycles, if someone has not already activated the EMS system or obtained an AED leave the victim to do this.

K. Infant CPR – two persons

2. CAB and if no brachial pulse or less than 60 beats per minute perform CPR
   f) Check brachial pulse (no longer than 10 seconds)
   g) Place 2 or 3 fingers on the inside of the upper arm, between the infant's elbow and shoulder
   h) Press the index and middle fingers gently on the inside of the upper arm for at least 5 but no more than 10 seconds when attempting to feel the pulse

i) If no pulse or less than 60 beats per minute (BPM) with signs of poor perfusion, perform cycles of compressions and breaths (30:2 ratio), starting with compressions
j) After 5 cycles, if someone has not already done so, activate EMS and get the AED (or defibrillator)

2. Chest Compressions
f) Place the infant on a firm, flat surface
g) Place 2 fingers in the center of the infant's chest just below the nipple line. Do not press on the bottom of the breastbone
h) To give chest compressions, press the infant's breastbone down at least one third the depth of the chest (approximately 1 ½ inches (4cm)). Deliver compressions at a rate of 100/min to 120/min.
i) At the end of each compression, make sure you allow the chest to recoil (re-expand) completely. Chest recoil allows blood to flow into the heart and is necessary to create blood flow during chest compressions. Chest compression and chest recoil/relaxation times should be approximately equal.
j) Minimize interruptions in chest compressions
k) After every 15 compressions, pause briefly for the second rescuer to open the airway with a head- tilt/chin-lift and give 2 breaths. The chest should rise with each breath
l) Continue compressions and breaths in a ratio of 15:2 (for 2 rescuers), switching roles every 2 minutes to avoid rescuer fatigue

5. Ventilation
a) Check the victim for a response and for breathing
b) If there is no response and no breathing or only gasping, send the second rescuer to activate the emergency response system and get the AED (or defibrillator)
c) Check the infant's brachial pulse (take at least 5 but no more than 10 seconds)
d) If there is no pulse or if, despite adequate oxygenation and ventilation, the heart rate (pulse) is <60/min with signs of poor perfusion, perform cycles of compressions and breaths (30:2 ratio), starting with compressions. When the second rescuer arrives and can perform CPR, use compression-ventilation ratio of 15:2
e) Use the AED (or defibrillator) as soon as it is available

6. Compression Cycle
a) Use a compression-to-breaths ratio of 15:2 for infants per American Heart Association guidelines for CPR and ECC.

L. Infant Rescue Breathing
1. CAB
2. Not breathing but brachial pulse present begin rescue breathing

3. 1 breath every 3-5 seconds, enough air to make the chest rise
4. Recheck the pulse after 2 minutes
    a) If pulse greater than 60 per minute continue rescue breathing
    b) If pulse is absent or below 60 per minute perform CPR

M. Obstructed airway for the Adult and Child

1. If conscious and unable to breathe, choke saving is necessary to prevent cardiac arrest due to lack of oxygen
2. Conscious choking
    a) Determine the choking emergency
    b) Ask 'Are you choking'?
    c) Look for the universal sign of holding the throat
    d) Position yourself behind the victim
    e) Bladed stance
    f) One fist above the navel
    g) Perform in and upward thrusts
    h) Use chest thrusts for obese or pregnant victims
        (1) Pull straight back

N. Unconscious choking victim

1. Determine unconscious non breathing
2. Call 911
3. Immediately for the adult
4. After 2 minutes for the child and infant
5. If air does not go in during CPR retilt and tray again. Continue chest compressions if air does not in after a retilt. Looking in the airway before giving breaths and removing any debris that can be seen
6. If the victim begins breathing normally
7. Position recovery

O. Conscious infant choking

1. Recognize a choking baby
2. While controlling the head, turn the infant upside down onto one of your legs and perform up to 5 back blows between the shoulder blades
3. If the infant is still not breathing at the end of the 5 back blows, turn the infant over onto your other leg and deliver up to 5 chest thrusts
4. Repeat if necessary until the infant breathes normally or becomes unconscious
5. If the infant or any choking victim becomes unconscious begin unconscious choke saving

P. **AED** **Code 100017 Section (3) (C) (i)**

1. Demonstrate Basic Automated External Defibrillator (AED) operation to include
    a) Troubleshooting
2. Use when available on pulseless victims
3. Turn on unit and follow voice prompts
4. Attach pads

5. Resume CPR after every shock or no shock prompt
6. Do not turn off the unit or remove the pads
7. Fill out post event form

VI. Instructional Activity/Practical #4

A. Purpose of Activity: This is a facilitated, group activity that is designed to develop the students' skills at performing airway obstruction clearance, rescue breathing, CPR, Bag-valve-mask, and use of the AED on the adult, child, and infant manikins.

1. Activity Description: The class will be separated into two groups. Each group will have an instructor to monitor the BLS skills practice on the adult, child, and infant manikins.

B. Key Learning Points:

1. Develop an understanding of when to perform airway obstruction clearance, rescue breathing or CPR.
2. Develop the skill necessary to use a bag valve mask as well as pocket mask.
3. Develop the skill necessary to use the AED in a timely manner in the appropriate sequence.

a) Resources Required:

1. 4 adult manikins
2. 2 child manikins
3. 8 infant manikins,
4. 6 Bag-valve-mask,
5. 2 AEDs

a) Time required: 1 hour

V. VII. Assessment

A. Question and Answer
B. Skills Demonstration

VI. VIII. Course Wrap

A. Review
B. Conclusion