Vermont Emergency Medical Services Educational Standards

Vermont Emergency First Responder

EMS Education

Educational Standards

The State of Vermont requires that Emergency Medical Services (EMS) personnel adhere to the strictest standards of quality as it relates to education, training, testing, and service. In Vermont, individuals desiring to obtain an EMS license are required to complete a Health Department-approved educational program. The EMS office currently approves initial training programs at the following levels:

- Vermont Emergency First Responder (VEFR)
- Emergency Medical Responder (EMR) – Click here for the National Standards for EMR
- Emergency Medical Technician (EMT) – Click here for the National Standards for EMT.
- Advanced EMT (A-EMT) – Click here for the National Standards for A-EMT.
- Paramedic – Click here for the National Standards for Paramedic

Scope of Practice

VEFR Scope of Practice

For the VEFR certification level, the Vermont EMS scope of practice is based upon the American Heart Association Heartsaver First Aid CPR/AED certification or comparable.

Conducting Initial EMS Training

VEFR Educational Standards

Training courses leading to VEFR or national certification for emergency medical personnel may be offered by an EMS district, an EMS agency, a medical facility, or another educational institution. Each individual course must be approved in advance by the Department. For a course to be approved, it must meet all the following criteria:

- Be reviewed by the EMS district board. The Department shall consider the comments and recommendations of the district board in determining whether the course meets the Department's requirements.
- Physician medical oversight must be obtained for each course for the purpose of ensuring medical accuracy of the course content.
- All courses required for EMS licensure or certification shall be coordinated by a person certified at or above the level of the course and licensed by the Department as an EMS Instructor/Coordinator.

Instructors may apply for course approval in the Vermont LIGHTS system.

Initial Certification

VEFR Initial Certification

To be eligible for a VEFR certification, a person must:

- Be sponsored by a ambulance or first responder service licensed at or above the level the applicant is seeking, or be affiliated with a medical facility that requires the person to hold this level of Vermont EMS certification;
    - The Vermont National Guard shall be considered an EMS agency solely for purposes of affiliating emergency medical personnel seeking Vermont EMS licensure or certification at all levels.
    - Any regionally accredited educational institution which provides EMS education shall be treated as an EMS affiliation for the purpose of licensing their educational staff but not otherwise providing emergency medical treatment.
- Meet the provisions for crime conviction background screening,tax liabilities, child support payments, or similar requirements described in the EMS Rule or relevant Vermont statutes;
- For a VEFR certification, complete coursework as approved by the Department and hold an American Heart Association Heartsaver First Aid CPR AED certification, or equivalent.
- Apply for certification in the Vermont LIGHTS system.

Recertification

VEFR Recertification

To be eligible for VEFR recertification, a person must:

- Renew their American Heart Association Heartsaver First Aid CPR AED certification or equivalent, and complete the following continuing education every two years:
    - Workforce safety and wellness – 2 hours
    - EMS system communication – 1 hour
    - Medical/legal and ethics – 1 hour
- Apply for recertification in the Vermont LIGHTS system.

Preparatory

EMS Systems

VEFR Educational Standards

VEFR Education Standard: Uses simple knowledge of the Emergency Medical Services (EMS) system, safety/well-being of the Vermont Emergency First Responder (VEFR), medical/legal issues at the scene of an emergency while awaiting a higher level of care.

VEFR-Level Instructional Guidelines

I. The Emergency Medical Service (EMS) System
- A. The Current EMS Systems
  - 1. Types of systems in EMS
    - a. Fire-based
    - b. Third service
    - c. Hospital-based
  - 2. Delivery may be different, but the goal is the same – based upon community needs/resources
- B. National Highway Traffic Safety Administration (NHTSA) Is lead coordinating agency at the federal level
- C. Access to the Emergency Medical Services
  - 1. Public Safety Access Point (PSAP)
  - 2. All communities access through 9-1-1 in Vermont, most communities in other states
- D. Education
  - 1. National Scope of Practice Model
    - a. Description of the profession
    - b. Prehospital personnel levels
  - 2. National EMS Education Standards
- E. Authorization to Practice
  - 1. State EMS office
    - a. Determines scope of practice
    - b. Licenses prehospital personnel
  - 2. Medical oversight
    - a. Protocols
    - b. DMA/Medical Advisors
    - c. Employer policies and procedures

II. Roles, Responsibilities, and Professionalism of EMS Personnel
- A. Roles and Responsibilities
  - 1. Maintain equipment readiness

2. Safety
    a. Personal
    b. Patient
    c. Others on scene
3. Provide scene evaluation and summon additional resources as needed
4. Gain access to the patient
5 Administer emergency medical first aid while awaiting arrival of additional medical resources
6. Provide emotional support
    a. Patient
    b. Patient family
    c. Other responders
7. Maintain medical and legal standards and assure patient privacy
8. Maintain community relations

B. Professionalism

1. Characteristics of professional behavior
    a. Integrity
    b. Empathy
    c. Self-motivation
    d. Appearance and hygiene
    e. Self-confidence
    f. Knowledge of limitations
    g. Time management
    h. Communications
    i. Teamwork
    j. Respect
    k. Tact
    l. Patient advocacy
    m. Careful delivery of care
2. Maintaining certification
    a. Personal responsibility
    b. Continuing education
    c. Skill competency
    d. Criminal implications

III. Quality Improvement

A. Dynamic System for Continually Evaluating and Improving Care

Workforce Safety and Wellness

VEFR Educational Standards

Uses simple knowledge of the EMS system, safety/well-being of the VEFR, medical/legal issues at the scene of an emergency while awaiting a higher level of care.

VEFR-Level Instructional Guidelines

I. Standard Safety Precautions
- A. Baseline Health Assessment
  1. Before working in health care, have a physical examination to determine baseline health status
  2. Immunizations should be current while practicing in health care
     - a. Tetanus
     - b. Hepatitis B
     - c. Measles/mumps/rubella (German measles)
     - d. Chicken pox (varicella)
     - e. Influenza
     - f. COVID-19
     - g. Hepatitis A (optional)
  3. Screening for tuberculosis recommended
- B. Hand washing
- C. Adherence to Standard Precautions/OSHA Regulation
- D. Safe Operation of EMS/Patient Care Equipment
- E. Environmental Control
- F. Occupational Health and Bloodborne Pathogens
  1. Immunizations
  2. Sharps

II. Personal Protective Equipment
- A. Exposure to Diseases Spread Through Blood or Body Fluids or by Respiratory Droplets Are Best Prevented by the Use of Standard Precautions
- B. Standard Precautions
  1. Hand hygiene
     - a. The most important measure to prevent the spread of infection
     - b. Wash your hands after gloves are removed
     - c. Hand cleansing
       - i. soap and water
       - ii. alcohol-based hand rub

d. Cleanse hands and other exposed skin immediately if they are exposed to contaminants, such as blood and body fluids or after use of the toilet

2. Gloves
   a. Wear gloves for patient contacts where there is a risk of exposure to blood or body fluids
   b. Procedure for putting on and safe removal
3. Eye protection or face shield
   a. Goggles or full-face shield
   b. Use if there is a risk of splash or spray of body fluids
      i. reduces risk of contamination of eyes, nose, or mouth
      ii. examples include care of patients who are
         a) bleeding profusely
         b) delivering a baby
4. Masks
   a. High-efficiency particulate air (HEPA) or N95 respirator
   b. Surgical mask on EMS provider
   c. Surgical mask on patient
5. Gown
   a. In situations with large amounts of blood or body fluids or when recommended by infection control authorities, disposable gown should be worn
      i. donning and doffing procedure
   b. If clothing becomes contaminated
      i. remove as soon as possible
      ii. shower as soon as possible
      iii. wash clothes in a separate load
      iv. preferably at work
6. Sharps (needles)

C. If an exposure occurs
1. Clean the contaminated area thoroughly with soap and water
2. If eyes are involved, flush with water for 20 minutes
3. Report the exposure to the EMS providers who take over care of the patient
4. Report the exposure to the appropriate person identified in your department infection control plan
5. Seek immediate follow-up care as identified in your department infection control plan
6. Document

a. Time and date of the exposure
b. Circumstances of the exposure
c. Actions taken after the exposure
d. Other information required by your department

D. Soiled equipment, clothing or vehicles
1. Cleaning
2. Disinfection
3. Disposal

III. Stress Management
A. Many EMS Situations Can Be Stressful for EMS Personnel
1. Dangerous situations
2. Physical and psychological demands
3. Critically ill or injured patients
4. Dead and dying patients
5. Overpowering sights, smells, and sounds
6. Multiple-patient situations
7. Angry or upset patients, family, and bystanders

B. VEFR Should Be Supportive

C. During and Immediately After a Stressful Incident
1. Administer appropriate medical care
2. Cooperate with other personnel
a. Law enforcement
b. Other EMS providers
3. Be calm, supportive, and nonjudgmental
4. Allow patients to express feelings, unless their behavior is harmful to themselves or others

D. Recognize the Warning Signs of Personal Stress
1. Difficulty sleeping and nightmares
2. Irritability with coworkers, family, and friends
3. Feelings of sadness, anxiety, or guilt
4. Indecisiveness
5. Loss of appetite
6. Loss of interest in sexual activity
7. Isolation
8. Loss of interest in work
9. Physical symptoms
10. Feelings of hopelessness
11. Alcohol or drug misuse or abuse
12. Inability to concentrate

E. Strategies to Manage Personal Stress
1. See a professional counselor as needed

2. Make lifestyle changes that can reduce stress, such as dietary changes, limiting caffeine and alcohol intake, exercise, and the use of relaxation techniques

F. Dealing with Death and Dying

1. Attempt to resuscitate patients without a pulse or not breathing unless:
   a. Do Not Resuscitate (DNR) order that meets local guidelines is present at scene
   b. Obvious signs of death
      i. tissue decay (putrefaction)
      ii. rigor mortis
      iii. lividity
      iii. injuries not compatible with life
   c. Attempting resuscitation would endanger life of VEFR
2. How to assist grieving patients or family members
   a. Responses to death and dying are very individual
   b. People do not always experience them all or in any particular order
      i. Denial
      ii. Anger
         a) patient or family projects feelings of anger toward other people, especially those closest to them
         b) do not take anger personally, even though it may seem to be directed toward you
         c) be alert to anger that may become physical and endanger you or others
      iii. Bargaining
         a) patient or family may attempt to negotiate with a spiritual being or even with EMS providers in an effort to extend life
         b) be non-judgmental at this time
      iv. Depression
         a) patient or family exhibits sadness and grief
         b) affected person is usually withdrawn, sad, and may cry continually
         c) allow the affected person to express his feelings and to help him understand that these are normal feelings associated with death
      v. Acceptance
         a) patient or family ultimately accepts the situation and incorporates the experience

into the activities of daily living in an effort to survive

b) use good listening skills and a non-judgmental attitude in this phase

IV. Prevention of Response-Related Injuries

A. Exposure to Infectious Diseases

1. How infectious diseases are spread
   a. Through the air by coughing
   b. Direct contact with infected blood or body fluid
   c. Needle sticks
   d. Contaminated food
   e. Sexually transmitted
2. Exposure
   a. Contact with blood or body fluids of a person with an infectious disease
      i. patient's blood gets into a cut on your hand
      ii. you are stuck with a needle used by a patient
      iii. bloody saliva splashes into your eyes or mouth
   b Close contact with a person with an airborne disease (e.g., influenza, tuberculosis, etc.)

B. Injury Prevention

1. Good personal habits
   a. Sleep
   b. Nutrition
   c. Current immunization status
   d. Fitness
2. Safe response to vehicle collisions
   a. Traffic hazards – reflective vest or equivalent
   b. Deployment of air bags
   c. Power lines
   d. Vehicle stability
   e. Other hazards
      i. fire
      ii. leaking fluids
   f. Violent or potentially violent persons
   g. Risk factors for violence
   h. Safe response
      i. law enforcement
      ii. awareness

iii. restraint

3. Hazardous material
   a. Definition
   b. Assess the scene for signs of hazardous materials if suspected
      i. binoculars
      ii. look for placards
      iii. notify dispatch
   c. Do not approach the scene if you suspect a hazardous material release
      i. remain uphill and upwind a safe distance from the scene
      ii. await specialized resources

V. Lifting and Moving Patients

A. Body Mechanics
   1. Keep back straight
   2. Maintain a firm grip on stretcher or patient
   3. Avoid twisting of the body
   4. Maintain firm footing
   5. Communicate next move clearly to partner or team
   6. Use good posture

B. Know Your Own Physical Limitations
   1. Safe lifting of cots and stretchers
      a. Power lift
      b. Squat lift
      c. Carrying
         i. Determine the weight to be lifted
         ii. Know your own limitations
         iii. Communicate with partner or team
         iv. Keep the weight close to your body
         v. Flex at hips and bend at knees, not waist
      d. Reaching
         i. General guidelines
         ii. Correct reaching for log rolling
      e. Pushing and pulling techniques

C. Emergency Moves
   1. Immediate danger to the patient
      a. Fire or danger of fire
      b. Close proximity of explosives or other imminent hazards

c. To gain access to others who need lifesaving care
d. Cardiac arrest patient

2. Types of emergency moves
   a. Pull along the long axis of the body if possible
   b. Clothing drag
   c. Blanket drag
   d. Firefighter's drag
   e. Firefighter's carry
3. Urgent moves
   a. Patients with altered mental status
   b. Inadequate breathing or shock
   c. Other situations that are potentially dangerous to the patient
4. Techniques
   a. Direct ground lift
   b. Extremity lift
   c. Moving patients from a bed to stretcher
      i. direct carry
      ii. draw sheet

D. Positioning Patients
1. Position of comfort
   a. Indications for use
   b. Techniques
2. Recovery position
   a. Indications for use
   b. Techniques
3. Supine
   a. Indications for use
   b. Techniques

E. Restraint
1. Consider medical or trauma as cause for altered mental status
2. Restrain only if patient is a danger to self or others
   a. When using restraints have police present if possible
   b. Follow local protocols
3. If restraints must be used:
   a. Have adequate help
   b. Plan your activities
   c. Use only the force necessary for restraint
   d. Estimate range of motion of patient's arms and legs and stay beyond range until ready

e. Once decision has been made, act quickly
f. Have one provider talk to patient throughout restraining
g. Approach with four persons, one assigned to each limb, all at the same time
h. Secure limbs with equipment approved by medical direction
i. Never secure a patient face down – always have access to the airway
j. Reassess airway, breathing, and circulation frequently
k. Document indication for restraining patient and technique of restraint
l. Avoid unnecessary force

4. Types of restraints
   a. cravats
   b. commercial

EMS System Communication

VEFR Educational Standards

Uses simple knowledge of the EMS system, safety/well-being of the VEFR, medical/legal issues at the scene of an emergency while awaiting a higher level of care.

VEFR-Level Instructional Guidelines

I. Communications
- A. Call for Resources
- B. Transfer Care of Patient
  1. When other EMS personnel arrive on scene, identify yourself and give a verbal report
     - a. Current patient condition
     - b. Patient's age and sex
     - c. Chief complaint
     - d. Brief, pertinent history of what happened
     - e. How you found the patient
     - f. Major past illnesses
     - g. Pertinent findings of the physical exam
     - h. Emergency medical care given and response to care
- C. Interact Within the Team Structure
  1. Communication concerning the patient and scene to
     - a. Law enforcement
     - b. Other responders

EMS Therapeutic Communication

VEFR Educational Standards

Uses simple knowledge of the EMS system, safety/well-being of the VEFR, medical/legal issues at the scene of an emergency while awaiting a higher level of care.

VEFR-Level Instructional Guidelines

I. Principles of Communicating With Patients in a Manner That Achieves a Positive Relationship

- A. Factors for Effective Communication
  - 1. Introduction
    - a. Self
    - b. Partners/team
    - c. Patient introduction
  - 2. Privacy
  - 3. Interruptions
  - 4. Physical environment
    - a. Lighting
    - b. Noises and outside interference
    - c. Distracting equipment
    - d. Distance
    - e. Equal seating, eye level
  - 5. Note-taking
- B. Interviewing Techniques
  - 1. Using questions
    - a. Open-ended questions
    - b. Closed or direct questions
    - c. One question at a time
    - d. Choose language the patient understands
  - 2. Hazards of interviewing
    - a. Providing false assurance or reassurance
    - b. Giving advice
    - c. Leading or biased questions
    - d. Talking too much
    - e. Interrupting
    - f. Using “why” questions

Medical/Legal Ethics

VEFR Educational Standards

Uses simple knowledge of the EMS system, safety/well-being of the VEFR, medical/legal issues at the scene of an emergency while awaiting a higher level of care.

VEFR-Level Instructional Guidelines

I. Consent
- A. Conditions for Consent
  - 1. Decision-making capacity
    - a. Intellectual capacity
    - b. Age of majority (18 years old in most States)
    - c. Ability to make decisions
    - d. May be impaired in cases of
      - i. intoxication (alcohol/drugs)
      - ii. serious injury or illness
      - iii. mental incompetence
      - iii. legal incompetence
  - 2. Informed about potential benefits and risks
- B. Expressed
  - 1. Patient gives permission for care
    - a. Informed consent
    - b. Understanding implications of actions
- C. Implied
  - 1. Inability to consent arising from medical condition
  - 2. Pediatrics
- D. Emancipated Minor
  - 1. Civil rights obtained by person below age of majority (e.g., marriage)
  - 2. Economic self-sufficiency
  - 3. Military service
- E. Pediatrics
  - 1. Parental control
  - 2. Courts assume parental control
- F. Refusal of Care
  - 1. Patients with decision-making capacity of legal age have a right to refuse care
  - 2. Follow state protocol related to refusal of care
  - 3. If care is refused, tell the patient
  - 4. Communicate with incoming crew that the patient is refusing care.

5. It is NOT in the VEFR scope of practice to complete refusals.

II. Confidentiality
- A. Obligation to Protect Patient Information
- B. Health Information Portability and Accountability Act (HIPAA) Privacy Rules
  1. Description
  2. Protected health information (PHI)
     - a. Identifies the patient
     - b. Relates to physical health, mental health, and treatment
     - c. Can be written or verbal
  3. Permitted disclosures of PHI without written patient consent
     - a. Treatment, payment, and operations
     - b. Special situations
       - i. mandatory reporting
       - ii. public health
       - iii. law enforcement (specific situations only)
       - iv. certain legal situations

III. Advanced Directives
- A. Do Not Attempt Resuscitation (DNAR) Order/COLST Form
  1. Terminal disease
  2. Medical futility (as discussed in the current International Liaison Committee on Resuscitation [ILCOR] consensus statement)
- B. Living Wills
  1. Advance directives indicating a patient's wishes
- C. Surrogate Decision-Maker
  1. Durable power of attorney for healthcare
  2. Healthcare proxy
  3. Next of kin

IV. Types of Court Cases
- A. Civil (Tort)
  1. Abandonment
  2. Negligence
     - a. A failure to act as someone of similar training and experience would under similar circumstances. Four elements needed to prove
       - i. duty to act
       - ii. breach of duty
         - a) definition
         - b) failure to perform care needed

c) performing care incorrectly
iii. harm (damage to patient)
iv. proximate causation

B. Criminal
1. Assault
2. Battery (Vermont law does not distinguish between these terms)

V. Evidence Preservation
A. Emergency medical care of the patient is the priority
B. Do not disturb any item at the scene unless emergency medical care requires it
A. Observe and document anything unusual at the scene
B. Do not cut through bullet or knife holes in clothing
C. Work closely with the appropriate law enforcement authorities

VI. Statutory Responsibilities
A. Scope of Practice
1. Definition
2. Authority to practice (Medical Practice Act as applicable)
3. Professional responsibility
4. Duties to patient, medical director, and public
5. Government and medical oversight
a. Intended to protect the public
b. Role of medical oversight
i. on-line medical direction
ii. off-line medical direction

B. Standard of care

VII. Mandatory reporting
A. Varies by State
B. Follow State requirements
C. Legally Compelled to Notify Authorities
1. Abuse or neglect (child, elder)
2. Some infectious diseases
D. Legal Liability for Failure to Report

VIII. Ethical Principles
A. Defined
1. Morals – concept of right and wrong
2. Ethics – branch of philosophy or study of morality
3. Applied ethics – use of ethical values
B. Decision-Making Models

1. Do no harm
2. Act in good faith
3. Act with patient's best interest in mind

IX. Vermont Good Samaritan Law

A. 18 V.S.A. § 4254

Preventing Illness and Injury

VEFR Educational Standards

Uses simple knowledge to recognize and manage life threats based on assessment findings for an acutely injured patient while awaiting additional emergency medical response. (refer to AHA CPR/AED/ First Aid Certification or Comparable)

VEFR-Level Instructional Guidelines

I. Preventing illness and injury is an important part of providing first aid

II. Laws protect the Rescuer

A. Good Samaritan Laws

III. Where to get more information and training

A. www.heart.org/cpr

- B. Vermont EMS Office

IV. First Aid Resources

- A. First Aid Kit Contents
  1. Standard of Occupational Safety and Health Administration (OSHA)
  2. American National Standards Institute (ANSI)
     a. www. ansi.org

Operations

Principles of Safely Operating a Ground Ambulance

VEFR Educational Standards

Knowledge of operational roles and responsibilities to ensure patient, public, and personnel safety.

VEFR-Level Instructional Guidelines

The intent of this section is to give an overview of emergency response to ensure the safety of EMS personnel, patients, and others during EMS operations.

This does not prepare the entry level student to be an experienced and competent driver.

I. Risks and Responsibilities of Emergency Response
- A. Apparatus and Equipment Readiness
  - 1. Inspect and service vehicles regularly
    - a. Tire inflation
    - b. Engine fluid levels
    - c. Warning devices in working order
  - 2. Appropriate safety equipment available and in working order
    - a. Personal protective equipment
    - b. Safety vests
- B. Pre-Arrival Considerations
  - 1. All personnel are properly seated and use seat belts
  - 2. All equipment is appropriately secured
    - a. Cab area
    - b. Rear of ambulances
    - c. Compartment areas
  - 3. Consideration of use of lights and sirens
    - a. Risk/benefit analysis
    - b. Audible warning devices
      - i. asking for right-of-way of others
      - ii. not to be used to clear traffic
    - c. Visual warning devices – consider turning off upon arrival if appropriate
  - 4. Respond with due regard
  - 5. High-risk situations
    - a. Intersections
    - b. Highway access

c. Speeding
d. Driver distractions
    i. mobile computer
    ii. global positioning systems
    iii. mobile radio
    iv. vehicle stereo
    v. wireless devices
    vi. eating/drinking
e. Inclement weather
f. Aggressive drivers
g. Unpaved roadways (see Federal Highway Administration definition)
h. Responding alone
i. Fatigue

C. Scene Safety
1. Personal
    a. First priority for all EMS personnel
    b. Appropriate personal protective equipment for conditions
    c. Scene size-up
2. Patient
    a. Keep them informed of your actions
    b. Protect from further harm
3. Control traffic flow
    a. Proper positioning of emergency vehicles
        i. upwind/uphill
        ii. protect scene
    b. Use of lights and other warning devices
    c. Setting up protective barrier
    d. Designate a traffic control person
4. 360-degree assessment (traffic crashes and outdoor incidents)
    a. Downed electrical lines
    b. Leaking fuels or fluids
    c. Smoke or fire
    d. Broken glass
    e. Trapped or ejected patients
    f. Mechanism of injury

D. Leaving the Scene
1. Ensure all hazards have been mitigated
2. Pick up and dispose of all equipment properly

3. Turn scene over to appropriate authority prior to leaving collision scene
    a. Law enforcement
    b. Fire suppression
    c. Highway department
    d. Other

II. Legal responsibilities

A. Vermont outlines rights and responsibilities of drivers using lights and siren in emergencies in 23 V.S.A. § 1251 and 1252 and 23 V.S.A. § 1015
    a. Lights and siren request the right of way from other motorists
    b. The law does "not relieve the driver of an authorized emergency vehicle from the duty to drive with due regard for the safety of all persons, nor shall such provisions protect the driver from the consequences of his or her reckless disregard for the safety of others."

Incident and Hazard Management

VEFR Educational Standards

Information related to the clinical management of the patient within components of the Incident Management System (IMS) is found in the clinical sections of the National EMS Education Standards and Instructional Guidelines for each personnel level.

VEFR-Level Instructional Guidelines

I. Establish and Work Within the Incident Management System
   - A. Entry-Level Students Need to Be Certified in
     1. ICS-100: Introduction to ICS, or equivalent
     2. FEMA IS-700: NIMS, An Introduction
   - B. This Can Be Done as a Co requisite or Prerequisite or as Part of the Entry-Level Course

II. Hazardous Materials Awareness
   - A. Risks and Responsibilities of Operating in a Cold Zone at a Hazardous Material or Other Special Incident
   - B. Entry-Level Students Need to Be Certified in:
     1. Hazardous Waste Operations and Emergency Response (HAZWOPER) standard, 29 CFR 1910.120 (q)(6)(i) -First Responder Awareness Level
   - C. This can be done as a co-requisite or prerequisite or as part of the entry-level course

Anatomy and Physiology

VEFR Educational Standards

Uses simple knowledge of the anatomy and function of the lungs and heart to meet the AHA Heartsaver First Aid/CPR/AED guidelines (or comparable)

VEFR-Level Instructional Guidelines

I. Anatomy and Physiology Review
- A. Respiratory System
  1. Fresh oxygen to enter the lungs and blood supply
  2. Respiratory waste products to leave the blood and lungs
- B. Cardiovascular System
  1. Heart – four chambers
     - a. When the heart contracts, a wave of blood is sent through the arteries
     - b. Pumps blood to the lungs to pick up oxygen
     - c. Pumps blood around the body
       - i. to deliver oxygen and nutrients to the tissues
       - ii. to remove waste products from the tissues
  2. Heart contraction can be felt as a pulse.
     - a. carotid
     - b. radial
     - c. brachial
       - i. infants

Airway Management, Respiration, and Artificial Ventilation

VEFR Educational Standards

Applies knowledge (fundamental depth, foundational breadth) to assure a patent airway, adequate mechanical ventilation, and respiration while awaiting EMS response for patients of all ages to meet the AHA Heartsaver First Aid/CPR/AED guidelines (or comparable)

VEFR-Level Instructional Guidelines

I. Airway/Respiration
- A. Movement of oxygenated air into and out of lungs
- B. Signs of Adequate Airway
  1. Airway is open, can hear and feel air move in and out
- C. Signs of Inadequate Airway
  1. Unusual sounds are heard with breathing
     - a. Agonal breathing
     - b. Apnea
  2. Airway obstruction
     - a. Tongue
     - b. Food
     - c. Vomit
     - d. Blood
     - e. Teeth
     - f. Foreign body
     - g. Swelling Due to Trauma or Infection

II. Techniques of Assuring a Patent Airway (refer to current American Heart Association guidelines)
- A. Manual Airway Maneuvers
  1. Head tilt/chin lift
     - a. Purpose
     - b. Indications
     - c. Contraindications
     - d. Complications
     - e. Procedure
     - f. Limitation
  2. Jaw thrust maneuver
     - a. Purpose
       - i. To open airway when cervical spine injury is suspected

     Purpose
     - b. Indications

c. Contraindications
d. Complications
e. Procedure
f. Limitation
g. If airway is not open and jaw thrust maneuver does not open it, use head tilt/chin lift maneuver

3. Relief of Foreign Body Airway Obstruction (refer to current American Heart Association guidelines or comparable)
   a. Adult
   b. Child
   c. Infant
   d. Special Considerations
      i. pregnancy
      ii. obesity

Shock and Resuscitation

VEFR Educational Standards

Recognize shock, respiratory failure or arrest, and cardiac arrest and manages the emergency while awaiting additional emergency response to meet the Heartsaver First Aid/CPR/AED guidelines (or comparable).

VEFR-Level Instructional Guidelines

I. Shock (Poor Perfusion)
- A. Results From Inadequate Delivery of Oxygenated Blood to Body Tissues
- B. Can Be a Result of
  1. Severe bleeding or loss of fluid from the body
  2. Failure of the heart to pump enough oxygenated blood
- C. Signs of Shock
  1. Weak, faint, dizzy
  2. Nauseated, thirsty
  3. Pale, gray skin
  4. Restless, agitated, confused
  5 Skin- cold, clammy
- D. Management
  1. Manual in-line spinal stabilization, as needed
  2. Comfort, calm, and reassure the patient while awaiting additional EMS resources
  3. Do not give food or drink
  4. Circulation
     a. Attempt to control obvious uncontrolled external bleeding
     b. Position patient appropriately for all ages
     c. Keep patient warm - attempt to maintain normal body temperature

II. Cardiac Arrest
- A. If the Heart Stops Contracting, No Blood Will Flow
- B. The Body Cannot Survive When the Heart Stops
  1. Brain damage begins 4-6 minutes after the patient suffers cardiac arrest
  2. Damage becomes irreversible in 8-10 minutes
- C. Cardio-pulmonary resuscitation (CPR)
  1. Artificial ventilation oxygenates the blood
  2. External chest compressions squeeze the heart and stimulate contractions
  3. Oxygenated blood is circulated to the brain and other vital organs

III. Resuscitation (refer to current American Heart Association guidelines or comparable)

A. System Components to Maximize Survival- links in the Chain of Survival

1. Early access
   a. Public education and awareness
      i. rapid recognition of a cardiac emergency
      ii. rapid notification before CPR starts – "phone first"
      iii. 911-pre-arrival instructions and dispatcher directed CPR
2. Early CPR
   a. Lay public
   b. family
   c. bystanders
   d. emergency first responders
3. Early Defibrillation
4. Early Advanced Care

B. Check for Breathing

1. Unresponsive check for normal breathing
   a. if breathing normal, roll on to side (if no injuries)
      i. stay with person till additional help arrives
2. Unresponsive and not breathing normally or is only gasping
   a. begin CPR

B. Cardiopulmonary Resuscitation (CPR) (refer to the current American Heart Association guidelines or comparable)

1. Recognize when an adult needs CPR-
   a. shout for help-call 911
   b instruct to obtain AED
2. Perform high-quality CPR for an adult one/two person and/or High performance pit crew CPR
   a. positioning
   b. rate
   c. depth
   d. full recoil
3. Perform high-quality CPR for a child one/two person and/or High performance pit crew CPR.
   a. positioning
   b. rate
   c. depth
   d. full recoil
4. Perform high-quality CPR for an infant one/two person and/or High performance pit crew CPR

a. positioning
b. rate
c. depth
d. full recoil

5. Airway Control and Ventilation
   a. Opening the airway
      i. head tilt chin lift
      ii. jaw thrust
   b. Pocket mask
      i. purpose
      ii. indications
      iii. procedure
      iv. limitation
      v. advantages

C. Factors which decrease effectiveness
   1. Positioning/not opening the airway
   2. Compression that are too shallow
   3. Too fast / too Slow compression rate
   4. Sub-maximum recoil
   5. Frequent interruptions
   6. Ventilation rate/volume too fast/too slow

D. Automated External Defibrillation (AED) (refer to the current American Heart Association guidelines or comparable)
   1. Adult
   2. Child
   3. Infant
   4. Special AED Situations
      a. Pacemaker
      b. Wet patients
      c. Transdermal medication patches

Scene Considerations

VEFR Educational Standards

Recognizes and manages life threats based on assessment findings of a patient with a medical emergency while awaiting additional emergency response. (refer to AHA CPR/AED/ First Aid Certification or Comparable)

VEFR-Level Instructional Guidelines

1. Scene Safety
    - A. Common Scene Hazards
        1. Environmental
        2. Hazardous substances
            - a. Chemical
            - b. Biological
        3. Violence
            - a. Patient
            - b. Bystanders
            - c. Crime scenes
        4. Rescue
            - a. Motor-vehicle collisions
                - i. extrication hazards
                - ii. roadway operation dangers
            - b. Special situations
    - B. Evaluation of the Scene
        1. Is the scene safe?
            - a. Yes -- establish patient contact and proceed with patient assessment.
            - b. No -- is it possible to quickly make the scene safe?
                - i. Yes – assess patient
                - ii. No -- do not enter any unsafe scene until minimizing hazards
            - c. Request specialized resources immediately
            - d. Other considerations
    - C. Safety Priorities
        1. Self
        2. Crew
        3. Patient
        4. Bystanders

II. Standard Precautions

A. Based on the principle that all blood, body fluids, secretions, excretions (except sweat), non-intact skin, and mucous membranes may contain transmissible infectious agents. (refer to Workplace Safety and Wellness section)

III. Scene Assessment

A. Scan the scene for information related to:
1. Mechanism of injury
2. Nature of the illness

B. Primary Survey (The primary survey quickly attempts to identify those conditions that represent an immediate threat to the patient's life)

C. Level of Consciousness
1. While approaching the patient or immediately upon patient contact, attempt to establish level of consciousness.
   a. Speak to the patient-call out and determine the level of response
   b. VEFR should identify themself
2. Patient response
   a. Alert
   b. Responds to verbal stimuli
   c. Responds to painful stimuli
      i. pinch the patient's ear
      ii. trapezius squeeze
   d. Unresponsive (patient does not respond to any stimulus)

D. Airway Status (refer to the current American Heart Association Guidelines)
1. Normal breathing
2. Apneic or inadequate
   a) assist breathing with a pocket mask
   b) agonal breathing, treat as apneic
3. Unresponsive breathing medical patient open and maintain the airway with head-tilt, chin-lift technique
4. Unresponsive trauma patient open and maintain the airway with modified jaw thrust technique while maintaining manual cervical stabilization
3. Responsive patient
   a. Foreign body or substances in the mouth may impair the airway

E. Circulatory Status
1. Is a radial pulse present?
   a. Yes
   b. No radial pulse – assess for carotid pulse

i. if carotid pulse present,
ii. lay patient flat
iii. no carotid pulse-begin CPR

2. Is any major bleeding present?
   a. Yes –control the bleeding
   c. No-if no suspected injury, lay patient flat, keep warm

IV. Protect Patient Privacy

Medical

Asthma

VEFR Educational Standards

Recognizes and manages life threats based on assessment findings of a patient with a medical emergency while awaiting additional emergency response. (refer to AHA CPR/AED/ First Aid Certification or Comparable)

VEFR-Level Instructional Guidelines

I. Disease of the air passage

- A. Assessment Findings and Symptoms and Management for Respiratory Conditions
  1. Respiratory distress
  2. Restlessness
  3. Increased pulse rate
  4. Changes in respiratory rate or rhythm
  5. Skin color changes
  6. Abnormal sounds of breathing (e.g., wheezing)
  7. Inability to speak
  8. Coughing
  9. Tripod position
- B. Management of Respiratory Distress
  1. ABCs, position
  2. Metered Dose Inhaler (note: this is part of AHA First Aid certification but not part of VEFR scope of practice)
     a) Pt's prescription
     b) Indications
     c) Side Effects
     d) Assembly
     e) Procedure

II. Consider Age-Related Variations for Pediatric and Geriatric Assessment and Management

- A. Pediatric
  1. Upper airway obstruction may be caused by respiratory infections or FBO

Immunology

VEFR Educational Standards

Recognizes and manages life threats based on assessment findings of a patient with a medical emergency while awaiting additional emergency response. (refer to AHA CPR/AED/ First Aid Certification or Comparable)

VEFR-Level Instructional Guidelines

I. Introduction
   - A. Anaphylaxis Definition (Allergy versus anaphylaxis)
   - B. Common Substances That Cause Anaphylaxis
   - C. Scene safety

II. Assessment Findings
   - A. Respiratory system -- severe respiratory distress, wheezing
   - B. Cardiovascular -- rapid pulse, low blood pressure
   - C. Skin -- pale, red, or cyanotic; hives, itching, swelling around eyes, mouth, tongue
   - D. Other -- altered mental status, nausea, vomiting

III. Management
   - A. Epi Auto Injector (note use of auto injector is required as part of AHA First Aid Certification but not within the scope of practice for a VEFR)
     1. indications
     2. mechanism of action
     3. procedure
   - B. Position
   - C. Remove Allergen If Possible

IV. Consider Age-Related Variations for Pediatric and Geriatric Assessment

Chest Pain

VEFR Educational Standards

Recognizes and manages life threats based on assessment findings of a patient with a medical emergency while awaiting additional emergency response. (refer to AHA CPR/AED/ First Aid Certification or Comparable)

VEFR-Level Instructional Guidelines

I. Cardiac Event- Chest Pain/discomfort
- A. Causes
  - 1. Decrease in blood supply to part of the heart muscle
    - a. Heart attack -- death of heart muscle
    - b. Angina -- temporary or incomplete interruption of blood supply to heart muscle
- B. Assessment
  - 1. Chest discomfort/pain
  - 2. Quality -- what does the discomfort feel like?
  - 3. Location -- where is the discomfort?
    - a. Does the discomfort go anywhere else (radiate) in your body?
      - i. Arms
      - ii. Back
      - iii. Neck
      - iv. Jaw
      - v. Stomach
  - 4. Shortness of breath may occur
    - a. During activity/exercise/at rest
  - 5. Skin
    - a. Cold
    - b. Wet/sweaty
    - c. Gray
  - 6. Other findings
    - a. Nausea or vomiting
    - b. Lightheadedness
- C. Atypical Presentations
  - 1. Women/Men
  - 2. Elderly
    - a. Geriatric -- may not have chest discomfort with heart attack
  - 3. Diabetics

D. Management of Cardiac Compromise (refer to current American Heart Association guidelines, and guidelines on shock and resuscitation)

Neurological

VEFR Educational Standards

Recognizes and manages life threats based on assessment findings of a patient with a medical emergency while awaiting additional emergency response. (refer to AHA CPR/AED/ First Aid Certification or Comparable)

VEFR-Level Instructional Guidelines

I Seizures
- A. Causes
- B. Assessment Findings
  1. Spasms, muscle contractions
  2. Bite tongue, increased secretions
  3. Unconscious gradually increasing level of consciousness
  4. Shaking or tremors and no loss of consciousness
  5. Incontinent
- C. Management
  1. Scene Safety/ PPE
  2. Safety of patient/position
  3. Move furniture if necessary
  4. Vomit/secretions
     a. Roll patient to their side
  5. Pulseless- begin CPR (see shock/resuscitation)

II. Stroke
- A. Causes
  1. Hemorrhage
  2. Clot
- B. Assessment Findings and Symptoms
  1. FAST method
     a. Facial Drooping
     b. Arm Weakness
     c. Speech Difficulties/slurring
     d. Time
  2. Findings
     a. weakness or paralysis on one side
     b. confusion
     c. headache
     d. slurring or difficulty speaking
     e. drooping of one side of face
     f. drowsiness or other altered mental status
- C. Management of Patient With Stroke Assessment Findings or Symptoms

1. Scene safety and PPE
2. Call 911
3. ABCs/position
4. Document time last known at baseline

Endocrine

VEFR Educational Standards

Recognizes and manages life threats based on assessment findings of a patient with a medical emergency while awaiting additional emergency response. (refer to AHA CPR/AED/ First Aid Certification or Comparable)

VEFR-Level Instructional Guidelines

I. Diabetic Conditions
- A. Introduction
  - 1. Definition of terms
    - a. Diabetes
    - b. Low blood glucose
    - c. High blood glucose
  - 2. Role of glucose – fuel for body cells to produce energy
    - a. Insulin
  - 3. High blood glucose
    - a. History and Assessment findings
      - i. Rapid breathing, sweet smell on breath
  - 4. Low blood glucose
    - a. History and assessment findings
      - i. rapid changes in mental status
      - ii. bizarre behavior, tremors, shaking
      - iii. sweating, hunger, irritably
      - iv. Can become unresponsive, seizures
- B. Treatment for Hypoglycemia
    - a. If person is able to sit up and swallow
      - i. encourage them to eat or drink something with sugar, glucose tablets, candy, juice

Toxicology and Poison Emergencies

VEFR Educational Standards

Recognizes and manages life threats based on assessment findings of a patient with a medical emergency while awaiting additional emergency response.

VEFR-Level Instructional Guidelines

I. Definition of poison

II. Poison Control Hotline- American Association of Poison Control Centers
- A. 1-800-222-1222
- B. Dispatcher questions
  1. What is the name of the poison?
     - a. can you describe it if name unknown
  2. How much did the person touch, breathe, or swallow?
  3. How old is the person?
  4. Weight?
  5. When did it happen?
  6. How is the person feeling, or acting right now?

III. Actions to Take
- A. Scene Safety
  1. look for powders, spills, liquids
  2. look for spilled or leaking containers
  3. Stay out of the scene if you see multiple people who may have been poisoned.
  4. call 911
     - i. give name of poison if known
     - ii. number of people exposed
- B. look for placards and symbols of poisons

IV. Safety Data Sheets
- A. Definition
- B. How to use

V. Poison on Skin or in Eyes.
- A. Treatment
  1. as quickly and safely as possible move person to fresh air
  2. wash or remove poison from the person's skin and clothing. Help the person to a faucet, safety shows, or eye wash station
  3. remove clothing and jewelry touched by the poison.
  4. use a gloved hand to brush off any dry powder or substance from the person's skin.
  5. run copious amounts of water over affected area
  6. Eyes

a. have person blink as much as possible while rinsing eyes.

b. if only one eye affected, make sure when rinsing, affected eye is the lower eye.

i. do not rinse poison into unaffected eye

7. if person becomes unresponsive and is not breathing normally or has agonal breathing, begin CPR.

VI. Opiates/Narcotics

1. Assessment findings and symptoms
   - A. Decreased level of consciousness, sedation
   - B. Hypotension
   - C. Respiratory depression/arrest
   - D. Nausea, pinpoint pupils
   - E. Seizures and coma
   - F. Cardiac Arrest
   - G. Surroundings- drug/drug paraphernalia
2. Management for a patient using opiates
   - A. Scene Safety/PPE
   - B. Call 911
   - C. If person has decreased respiration or unresponsive
     - a. Administration of patient's naloxone
       - i. procedure
     - b. Roll on to side
     - c. Maintain airway, ventilate the patient per certification if apneic or decreased or gasping/snoring respirations
     - d. If no pulse, begin CPR (refer to AHA Guidelines or comparative, or instructional guidelines on Shock and Resuscitation)

Trauma

Head, Face, Neck, Spine

VEFR Educational Standards

Uses simple knowledge to recognize and manage life threats based on assessment findings for an acutely injured patient while awaiting additional emergency medical response. (refer to AHA CPR/AED/ First Aid Certification or Comparable)

VEFR-Level Instructional Guidelines

I. Mechanism of injury
- A. Motor vehicle crashes
- B. Pedestrian – vehicle collisions
- C. Falls from height
- D. Blunt trauma
- E. Penetrating trauma to head, neck, or torso
- F. Motorcycle crashes
- G. Hangings
- H. Special considerations
  1. Age
  2. Alcohol or drug use
  3. Distracting injuries

II. Signs and symptoms
- A. Caution
  1. do not ask the patient to move to try to find a pain response
  2. do not move the patient unless needed for immediate safety issues or to manage airway
- B. Head and Spinal Injury
  1. Pain independent of movement or palpation
  2. Numbness, weakness, or tingling in the arms or legs
  3. Unable to feel or move below the suspected level of injury
  4. Loss of feeling or movement in the upper or lower extremities
  5. Difficulty breathing or shallow breathing
  6. Loss of bladder and/or bowel control
  7. Seizure
  8. Vomiting
- C. Concussion
  1. Feeling stunned or dazed
  2. Confusion
  3. Headache

4. Nausea or vomiting
5. Dizziness, unsteadiness, or difficulty in balance
6. Double vision or flashing lights
7. LOC or loss of memory

III. Treatment

A. Responsive patient

1. manually stabilize head and neck in the position found
   a. procedure
2. questions to ask
   a. does your neck or back hurt?
   b. what happened?
   c. where does it hurt?

B. Unresponsive patient

1. maintain airway
2. assist ventilation if inadequate
3. stabilize head and neck manually in the position found

IV. Specific Injuries

A. Tooth Injuries

1. Standard precautions/PPE/Scene Safety
2. Treatment
   a. inspect mouth area
   b. Loose tooth
      i. Have patient bite down on piece of gauze
   c. Tooth has come out
      i. clean area with normal saline
      ii. place tooth in egg white, coconut water or whole milk
      iii. if no other option, place in patient's saliva

B. Eye Injury (foreign substance or body without blunt or penetrating injury)

1. Standard precautions/PPE/Scene Safety
2. Treatment
   a. flush with copious amounts of water
   b. if clear or water unavailable keep both eyes closed

C. Penetrating and Puncture Injuries

1. Standard precautions/PPE/Scene Safety
2. Treatment
   a. do not remove object
   b. stop bleeding

Bleeding Control

VEFR Educational Standards

Uses simple knowledge to recognize and manage life threats based on assessment findings for an acutely injured patient while awaiting additional emergency medical response. (refer to AHA CPR/AED/ First Aid Certification or Comparable)

VEFR-Level Instructional Guidelines

I. Bleeding
- A. General Considerations
  1. Use standard precautions to reduce risk of exposure to blood or body fluids
  2. Uncontrolled bleeding or significant blood loss leads to shock and possibly death
  3. Scene Safety
- B. Bleeding can be
  1. External
  2. Internal
     - a. Injured or damaged internal organs
       - i. Causes
       - ii. May lead to extensive, concealed bleeding
       - iii. May cause unexplained shock
- C. Arterial bleeding
  1. Blood spurts from the wound
  2. Bright, red blood
  3. May be difficult to control because of high pressure
- D. Terminology
  1. Dressing
  2. Bandage
  3. Tourniquet
- E. Management of bleeding soft tissue injuries
  1. Standard precautions/PPE
  2. Expose the wound
     - a. Control the bleeding
       - i. apply fingertip pressure (use flat part of fingers/palm of the hand) directly on the point of bleeding
       - ii. large wounds may require sterile gauze and direct hand pressure if fingertip pressure does not control bleeding

iii. if bleeding oozes through dressing, do not lift off; apply another gauze dressing on top of the first and continue to apply pressure
iv. apply sterile dressing to the wound and bandage securely in place with tape or roller gauze
v. Keep patient warm
vi. Position patient flat on back

3. If bleeding is not controlled
   a. Apply tourniquet
      i. commercial
      ii. modified
      iii. treat for shock

II. Specific Injuries

A. Nosebleed
1. Standard precautions/PPE
2. Treatment
   a. sit patient up and lean forward
   b. pinch the nostrils together firmly
   c. tell patient not to sniffle or blow nose

B. Bleeding from the mouth
1. Standard precautions/PPE
2. Special Consideration
   a. blood, secretions, broken teeth can pose airway issue

3. Treatment
   a. Apply pressure
   b. If from lip, tongue, inside cheek apply pressure with gauze pad if able to reach

Musculoskeletal Injuries

VEFR Educational Standards

Uses simple knowledge to recognize and manage life threats based on assessment findings for an acutely injured patient while awaiting additional emergency medical response. (refer to AHA CPR/AED/ First Aid Certification or Comparable)

VEFR-Level Instructional Guidelines

I. Injuries to Bones and Sprains
- A. Standard precautions/PPE/Scene Safety
- B. Treatment
  1. Cover open wound with clean/sterile dressing
  2. Apply Ice for up to 20 minutes
     - a. do not apply directly on the exposed skin
  3. Splinting
     - a. in position found
     - b. rolled towel, magazine
     - c. dress and bandage
     - d. minimize movement

II. Penetrating and Puncture Injuries
1. Standard precautions/PPE
2. Treatment
   - a. do not remove object
   - b. stop bleeding if possible

III. Amputation
1. Standard precautions/PPE
2. Treatment
   - a. stop the bleeding (refer to bleeding section)
   - b. protect amputated part
     - i. rinse with clean water
     - ii. cover with clean/sterile dressing
     - iii. place in watertight bag
     - iv. place bag in container with water or ice labeled with patient name, date and time

IV. Burns
- A. Small Burns
  1. Standard precautions/PPE
  2. Treatment
     - a. cool the area with cold water (not ice cold) for at least 10 minutes
       - i. water only

b. cover with dry, non stick sterile or clean dressings

B. Large Burns

1. Standard precautions/PPE/Scene Safety
2. Treatment
   a. If the person or their clothing is on fire, stop the burning process
   b. cool the area with cold water (not ice cold) for at least 10 minutes- Consider size of burn to prevent hypothermia if cooling.
   c. cover with dry, non stick sterile or clean dressings
   d. Cover with blanket, treat for shock until additional EMS arrive

V. Electrical Injury

1. Scene Safety
2. Standard precautions/PPE
3. Electricity can travel from the power source to provider
2. Treatment
   a. when safe to touch patient- CPR as needed

Environmental Emergencies

VEFR Educational Standards

Uses simple knowledge to recognize and manage life threats based on assessment findings for an acutely injured patient while awaiting additional emergency medical response. (refer to AHA CPR/AED/ First Aid Certification or Comparable)

VEFR-Level Instructional Guidelines

I. Bites and Stings
- A. Animal and Human Bites
  1. Standard precautions/PPE/Scene Safety
  2. Treatment
     - a. wash with copious amount of soap and water
     - b. Apply a bag of ice and water wrapped in a towel up to 20 min.
       - i. do not apply directly on the exposed skin
- B. Snake Bites
  1. Standard precautions/PPE/Scene Safety
  2. Clear area of by standards
  3. Attempt to visually identify snake by color/markings
  4. Signs of potentially poisonous snake bite
     - a. Pain at the bite area that keeps increasing
     - b. Swelling at the bite area
     - c. Nausea, vomiting, sweating, or weakness
  5. Treatment
     - a. Keep the person calm and still
       - i. do not elevate
     - b. Remove any tight clothing and jewelry
     - c. Gently wash the area with running water and soap
- C. Insect, Bee and Spider Bites and Stings
  1. Standard precautions/PPE/Scene Safety
  2. Venom is injected into the person from the bite or sting
     - a. Bees are the only insects that leave behind their stingers
  3. Risk for severe allergic reactions
  4. Treatment
     - a. Bee sting
       - i. scrape the stinger and venom sac
       - ii. do not squeeze
  5. wash with copious amount of soap and water
  6. Apply a bag of ice and water wrapped in a towel up to 20 min.
     - a. do not apply directly on the exposed skin

7. Observe person for at least 30 minutes
    a. watch for anaphylactic reaction
        i. risks associate with previous reactions/ allergies
        ii. be prepared to use persons epi pen

D. Poisonous Spider Bites and Scorpion Stings
1. Standard precautions/PPE/Scene Safety
2. Signs and Symptoms
    a. Severe pain at the site of the bite/sting
    b. Muscle Cramps
    c. Headache
    d. Fever
    e. vomiting
    f. Breathing problems
    g. Seizures
    h. Lack of response/ AMS
3. Treatment
    a. Call 911
    b. wash with copious amount of soap and water
    c. apply a bag of ice and water wrapped in a towel up to 20 min.
        i. do not apply directly on the exposed skin

E. Tick Bites
1. General Information
    a. Not all tick bites are harmful. Can carry disease
    b. Found in wooded areas, tall grasses
    c. If found, remove as soon as possible
2. Treatment
    a. Use tweezers to grab tick by its mouth or head as close to the skin as possible.
        i. avoid pinching the tick
    b. Lift straight out
    c. Wash bite area with soap and water
    d. Follow up with PCP

F. Marine Bites and Stings (stingrays, jellyfish, stonefish)
1. Signs and symptoms
    a. Pain swelling, redness at site
    b. Bleeding
    c. Allergic/Anaphylactic reaction
2. Treatment

a. Keep person quiet and still as possible
b. Wipe off tentacles with a gloved hand or towel
c. Jellyfish
i. rinse area for at least 30 seconds with vinegar
ii. If vinegar not available use baking soda and water solution

4. Body part stung in hot water (or hot shower) for 20 minutes or as long as pain persists.

II. Heat-Related Emergencies

A. Dehydration

1. Definition
2. Causes
a. heat exposure
b. too much exercise
c. Illness
i. vomiting
ii. diarrhea
iii. fever
d. Decreased fluid intake

3. Signs and symptoms
a. can lead to shock
b. weakness
c. thirst or dry mouth
d. dizziness
e. confusion
f. decreased urine output
4. Treatment
a. monitor and increase fluid intake

B. Heat Cramps

1. Definition
2. Signs and Symptoms
a. nausea
b. dizziness
c. vomiting
d. muscle cramps
e. feeling faint, fatigued
f. heavy sweating
3. Treatment

a. have person lie down in a cool place
b. removing clothing
c. spray with cool water or place cool, damp cloths on the neck, armpits, and groin
d. if responsive, have person drink something with sugar and electrolytes.

C. Heat Stroke
1. Definition
2. Signs and Symptoms
a. life threatening
b. confusion or unconsciousness
c. nausea
d. dizziness
e. vomiting
f. muscle cramps
g. seizures
3. Treatment
a. Place person in cool water up to his/her neck
b. spray with cool water
c. if person becomes unresponsive and is not breathing normally or has agonal breathing, begin CPR.

III. Cold-Related Emergencies

A. Frostbite
1. Definition
2. Signs and Symptoms
a. area is white, waxy, or grayish-yellow
b. area is cold and numb
c. areas is hard and the skin doesn't move when you push it.
3. Treatment
a. move person to warm pace
b. remove west or tight clothing
c. pat dry
i. do not rub area
d. put on dry clothes and cover with banket
e. remove jewelry from frostbitten area.

A. Hypothermia
1. Definition
2. Signs and Symptoms

a. skin that's cool to the touch
b. shivering, which stops when body temperature is very low
c. confusion
d. personality change
e. sleepiness, AMS
f. stiff, rigid muscles while the skin becomes ice-cold and blue
g. as temp drops may be hard to tell if person is breathing.
h. life threat can cause death as it progresses

3. Treatment
   a. get person out of the cold where possible
   b. remove wet clothing
   c. pat dry
      i. do not rub cold/frozen skin
   d. cover with blankets
   e. put on dry clothes
      i. cover the head and body, but not the face with blankets, towels, or even newspapers.
   f. if person becomes unresponsive and is not breathing normally or has agonal breathing, begin CPR.