EASTERN ARIZONA COLLEGE
IV Access for EMT-Basic
Course Design
2009-2010

Course Information

Division: Allied Health
Course Number: EMT 172
Title: IV Access for EMT-Basic
Credits: 1
Developed by: D. J. Lopez & Harry Swanson
Lecture/Lab Ratio: 0.5 Lecture/1 Lab
Transfer Status: Non-transferable
Activity Course: No
CIP Code: 51.0904
Assessment Mode: Pre/Post Test (50 Questions/100 Points)
Semester Taught: Upon Request
GE Category: None
Separate Lab: No
Awareness Course: No
Intensive Writing Course: No

Prerequisites
None

Educational Value
This course is designed for Emergency Medical Technicians who are committed to developing skills needed to successfully conduct peripheral intravenous cannulation techniques, fluid resuscitation, obtaining venous blood samples for laboratory analysis; infection control techniques for the safety of self and victim.

Description
Provides a review of the anatomy of the circulatory system. Includes peripheral intravenous cannulation techniques, fluid resuscitation, obtaining venous blood samples for laboratory analysis, infection control techniques for the safety of self and victim, and complications of intravenous cannulation. EMT-Basic Certification strongly recommended.

Supplies
Notebook
Pen/pencil
Competencies and Performance Standards

1. Identify the need for fluid resuscitation in neonate, infant, pediatric and adult victims

Learning objectives
What you will learn as you master the competency:
- Outline process for restoring fluid volume
- Define electrolyte balance and outline procedure needed to restore and maintain electrolyte balance
- Outline the process for the administration of medications.
- Outline process for obtaining blood specimen
- Evaluate and determine hypovolemia in the initial assessment

Performance Standards
You will demonstrate your competence:
- On quizzes at the end of each unit
- By performing practical exercises
Your performance will be successful when:
- Learner successfully performs the procedure of restoring fluid volume using a mannequin.
- Learner successfully performs the procedure for restoring electrolyte using a mannequin
- Learner successfully performs the procedure for administering medications
- Learner successfully performs the procedure for obtaining blood specimens using both human subject and mannequin
- Learner accurately evaluates and determines hypovolemia in the initial assessment and how that assessment was determined

2. Identify the vascular anatomy and venous access for the neonate, infant, pediatric, and adult victims

Learning objectives
What you will learn as you master the competency:
- Listing the common vascular sites of the body

Performance Standards
You will demonstrate your competence:
- On quizzes at the end of each unit
- By performing practical exercises
Your performance will be successful when:
- Learner locates the common vascular sites of body using a mannequin

3. Identify and differentiate isotonic, hypotonic, and hypertonic solutions

Learning objectives
What you will learn as you master the competency:
- Defining Isotonic
- Defining Hypotonic
- Defining Hypertonic
- Outlining symptoms of Isotonic, Hypotonic, and Hypertonic
Performance Standards

You will demonstrate your competence:

- On quizzes at the end of each unit
- By performing practical exercises

Your performance will be successful when:

- Learner compares and contrasts the three basic types of intravenous solutions

4. Select fluids; set up and manage equipment

Learning objectives

What you will learn as you master the competency:

- Listing the needle/catheter and intravenous administration sets
- Listing the four basic administration sets
- Outlining the steps for set-up

Performance Standards

You will demonstrate your competence:

- On quizzes at the end of each unit
- By performing practical exercises

Your performance will be successful when:

- Learner differentiates between the types of needles and catheter
- Learner differentiates the various sizes of needles and catheter
- Learner defines and locates Pediatric Administration Set
- Learner defines and locates Blood Pump
- Learner defines and locates 3-way Pump
- Learner defines and locates Pressure Infuser
- Learner demonstrates the specific steps for set-up with 100% accuracy

5. Identify and demonstrate aseptic and safety techniques

Learning objectives

What you will learn as you master the competency:

- Defining site preparation
- Identifying universal precautions
- Demonstrating understanding of "Sharps" disposal

Performance Standards

You will demonstrate your competence:

- On quizzes at the end of each unit
- By performing practical exercises

Your performance will be successful when:

- Learner outlines the procedure site preparation
- Learner lists universal precaution emerging trends
- Learner outlines procedure for safe "Sharp" disposal
6. Identify and describe indications and contraindications for intravenous site selection

Learning objectives
What you will learn as you master the competency:
- Listing criteria for selecting site

Performance Standards
You will demonstrate your competence:
- On quizzes at the end of each unit
- By performing practical exercises
Your performance will be successful when:
- Learner uses stated scenario, identifies site
- Learner defends site selection by outlining rationale.

7. Perform all peripheral intravenous cannulation techniques

Learning objectives
What you will learn as you master the competency:
- Defining Peripheral Intravenous Cannulation

Performance Standards
You will demonstrate your competence:
- On quizzes at the end of each unit
- By performing practical exercises
Your performance will be successful when:
- Learner describes when Peripheral Intravenous Cannulation is used
- Learner demonstrates the procedure of administering Peripheral Intravenous Cannulation by using a mannequin

8. Perform blood drawing techniques

Learning objectives
What you will learn as you master the competency:
- Explaining indication for blood draw
- Defining site preparation
- Defining universal precautions
- Defining specimen labeling
- Defining "Sharps" disposal
- Defining documentation

Performance Standards
You will demonstrate your competence:
- On quizzes at the end of each unit
- By performing practical exercises
Your performance will be successful when:
- Learner demonstrates understanding when indication is evident
- Learner outlines criteria and procedure for site preparation
- Learner lists universal precautions
Learner demonstrates how to properly label specimen
Learner lists the steps for proper and safe "Sharps" disposal
Learner demonstrates how to complete proper documentation following successful blood draw

9. **Monitor the Intravenous infusion**

**Learning objectives**

*What you will learn as you master the competency:*
- Calculating the rates of infusion
- Listing the commons patient signs of infiltration and extravasation
- Describing and outlines the proper techniques for removal
- Defining the proper documentation needed for monitoring Intravenous Infusion

**Performance Standards**

*You will demonstrate your competence*
- On quizzes at the end of each unit
- By performing practical exercises

*Your performance will be successful when:*
- Calculates with 100% accuracy the rate of infusion
- Describe both orally and in writing the signs and symptoms of infiltration and extravasation
- Demonstrates the proper technique for removal of Intravenous Infusion
- Correctly completes, with 100% accuracy, the documentation following Intravenous Infusion

10. **Demonstrate 100% accuracy in intravenous techniques in selected scenarios**

**Learning objectives**

*What you will learn as you master the competency:*
- Explain indications for intravenous lines
- Describing and outlines the proper techniques for inserting intravenous lines
- Defining the proper documentation needed for monitoring Intravenous lines

**Performance Standards**

*You will demonstrate your competence*
- On quizzes at the end of each unit
- By performing practical exercises

*Your performance will be successful when:*
- Demonstrates with 100% accuracy intravenous technique
- Correctly completes, with 100% accuracy, the documentation following Intravenous techniques

**Types of Instruction**

Classroom Presentation
On-Campus Lab
Grading Information

Grading Rationale
Must demonstrate minimum 85% proficiency on a written examination.

Grading Scale
A  90%-100%
B  80%-89%
C  70%-79%
D  60%-69%
F  Below 60%