

Medical Assisting: Clinical and Lab Procedures

Exam Information	Description
Exam number 716 Items 76 National Career Cluster Healthcare & Human Services Certification available Yes	The Medical Assistant: Clinical and Lab Procedures industry certification exam assesses learners' ability to support physicians by providing assistance during patient examinations, treatment administration, and monitoring. The exam evaluates their skills in keeping patient and related health record information, as well as performing clinical, administrative, and laboratory duties.

Exam Blueprint and Performance Skills

Standard	Percentage of exam score
1. Basic Concepts of Asepsis*	15%
2. Vital Signs*	13%
3. Patient History & Physical Examinations*	14%
4. Pharmacology Principles & Medication Administration*	18%
5. Assisting with Minor Surgery*	10%
6. Electrocardiograph Machine Use*	10%
7. Physician's Office Laboratory Work Skills*	19%
8. Emergency Response*	0%

*Includes performance skill evaluation

Standard 1 - Basic Concepts of Asepsis (15% of exam score)

Candidates will examine basic concepts of asepsis.

Objective 1 Describe the infection control cycle.

1. Review the five types of microorganisms.
 - a. Bacteria
 - b. Virus
 - c. Protozoa
 - d. Fungi
 - e. Rickettsiae
2. Discuss the chain of infection.

Objective 2 Demonstrate disease prevention principles.

1. Describe the three levels of infection control.
 - a. Sanitization
 - b. Disinfection
 - c. Sterilization
2. Describe the common standard precautions of infection control.
 - a. Hand washing/Hand sanitizing
 - b. Personal protective equipment (PPE)
 - i. Gloving
 - ii. Masks
 - iii. Gowning
 - iv. Eye protection
3. Coughing etiquette
4. Hygiene
5. Nutrition and specialties

Objective 3 Apply personal safety procedures based on Occupational Safety and Health Administration (OSHA) and Centers for Disease Control (CDC) regulations.

1. List blood-borne pathogens.
 - a. Hepatitis B and C
 - b. HIV
2. Describe techniques for preventing pathogen transmission.
 - a. Sharp containers
 - b. Biohazardous waste containers/bags.
3. Discuss the use of safety devices.
4. Discuss the use of Safety Data Sheets (SDS).
5. Discuss the use of incident/injury reports.

Objective 4 Demonstrate procedures for this proper cleaning and care of instruments.

1. Sanitizing instruments
2. Chemical disinfecting (including bleach)
3. Sterilization (autoclaving)

Optional: Standard performance evaluations on the final page of this document

Standard 2 - Vital Signs (13%)

Candidates will obtain baseline vital signs information and compare it to normal values.

Objective 1 Measure and obtain the five baseline vital signs.

1. Temperature (tympanic, electronic, oral, temporal)
2. Pulse (peripheral, apical)
 - a. Rate
 - b. Rhythm
 - c. Volume
3. Respiration
 - a. Rate
 - b. Rhythm
 - c. Depth
4. Blood pressure
 - a. Standard blood pressure
 - b. Orthostatic blood pressure
5. Oxygen saturation

Objective 2 Define terms which describe normal and abnormal vital signs values.

1. Bradycardia/Tachycardia
2. Hypotension/Hypertension
3. Febrile/Afebrile
4. Bounding/Thready pulse
5. Shallow/Dyspnea/Stridor/Hyperventilation/Wheezing
6. Hypoxia

Objective 3 Obtain body measurements for adults.

1. Height
2. Weight

Objective 4 Obtain body measurements for infants.

1. Length
2. Weight
3. Head circumference (hydrocephalus, microcephaly)
4. Chest circumference

Optional: Standard performance evaluations on the final page of this document

Standard 3 - Patient History & Physical Examinations (14%)

Candidates will accurately obtain the patient history and assist with the physical examination.

Objective 1 Demonstrate the ability to obtain an accurate patient history.

1. Chief complaint
2. Use of open-ended questions to obtain information
3. Pain scale
4. Document allergies
5. Relevant observations or information
6. Differentiate between subjective and objective information

Objective 2 Prepare the patient and the examination room.

1. Prepare and clean the examination room.
2. Assemble all necessary equipment and supplies.
3. Demonstrate patient positioning.
 - a. Supine
 - b. Prone
 - c. Lithotomy (pelvic exam)
 - d. Dorsal recumbent (abdominal exam)
 - e. Trendelenburg (shock)
 - f. Fowler's (respiratory)
 - g. Sims' (rectal administration)
4. Demonstrate draping techniques.
5. Assist the practitioner as necessary.
6. Disinfect the examination table and replace supplies.

Objective 3 Describe common procedures in medical specialties.

1. Prostate exam
2. Pap test (smear)
3. Snellen eye chart (distance visual acuity)
4. Ishihara (color visual acuity)
5. Jaeger (near vision acuity)
6. Ear wax removal (irrigation)

Objective 4 Assist the patient with ambulatory devices.

1. Assist patients from a wheelchair to an exam table and back to the wheelchair utilizing proper/safe body mechanics.
2. Instruct patients in using walkers, canes, and crutches.

Optional: Standard performance evaluations on the final page of this document

Standard 4 - Pharmacology Principles & Medication Administration (18%)

Candidates will discuss pharmacology principles and demonstrate accurate medication administration.

Objective 1 Classify common medications.

1. Antihypertensives
2. Antihistamines
3. Antidiuretics/Diuretics
4. Antitussives
5. Antidepressants
6. Antianxiety
7. Contraception
8. Antipyretics
9. Analgesics
10. Antibiotics
11. Laxatives
12. Antidiabetic/Hypoglycemic
13. Anticoagulants
14. Hormones
15. Anesthetics
16. Anti-inflammatories
17. Bronchodilators
18. Narcotics

Objective 2 Describe the schedule for controlled substances.

1. Schedule I-illegal, not prescribed
2. Schedule II-high potential for addiction and abuse
3. Schedule III-moderate to low potential for addiction and abuse
4. Schedule IV-lower potential for addiction and abuse
5. Schedule V-low potential for addiction and abuse

Objective 3 Demonstrate how to find medication information from reputable sources.**Objective 4** Document medication administration.

1. Medication record
 - a. Medication
 - b. Dosage
 - c. Site
 - d. Patient reaction
2. Immunization record
 - a. Lot number/manufacturer
 - b. Expiration date
 - c. Injection site

Objective 5 Understand principles involved with prescription medication.

1. Describe the necessary components of a valid prescription.
2. Compare and contrast prescription and over-the-counter medications.
3. Explain the appropriate procedure for calling or faxing a prescription.

Objective 6 Perform accurate dosage calculations.

1. Evaluate and simplify numerical expressions containing real numbers using the order of

operations.

- a. Addition, subtraction, multiplication, division
 - b. Fractions
 - c. Decimals
 - d. Ratios
 - e. Proportions
 - f. Metrics
 - g. Conversions
2. Calculate solutions to problems and determine the reasonableness of an answer by relating them to the problem.

Objective 7 Identify the following “rights” of medication administration

1. Right patient
2. Right medication
3. Right time
4. Right route
5. Right dosage
6. Right technique
7. Right documentation

Objective 8 Demonstrate the procedures for administering medications.

1. Oral, including buccal and sublingual
2. Transdermal (topical)
3. Intradermal
4. Subcutaneous
5. Intramuscular
6. Ear/Eye drops
7. Ointments
8. Inhalation
9. Epi-pen

Objective 9 Describe the side effects of medications.

1. Compare and contrast common side effects with adverse effects.
2. Recognize signs and symptoms of anaphylactic shock and describe its treatment

Optional: Standard performance evaluations on the final page of this document

Standard 5 - Assisting with Minor Surgery (10%)

Candidates will demonstrate the ability to assist with minor surgery.

Objective 1 Identify common instruments by name, use, and category.

1. Cutting instruments
 - a. Scissor (bandage, suture)
 - b. Scalpel
2. Grasping and clamping
 - a. Hemostat

- b. Forceps
 - c. Towel clamp
- 3. Probing and dilating
 - a. Scope
 - b. Speculum
 - c. Punch (biopsy)
- 4. Suture materials
 - a. Sutures (absorbable, non-absorbable)
 - b. Suture needles
 - c. Needle holder
 - d. Steri-strips
 - e. Staples
 - f. Skin glue

Objective 2 Prepare the patient for minor surgical procedures including the instruments and supplies.

- 1. Obtain a patient consent form.
- 2. Explain pre- and post-procedure care and education to the patient.
- 3. Demonstrate a surgical hand wash.
- 4. Demonstrate applying sterile gloves.
- 5. Demonstrate creating a sterile field and opening a sterile pack.
- 6. Describe ways of maintaining the sterile field.
- 7. Demonstrate the ability to assist with procedures, including skin preparation.
- 8. Demonstrate sterile dressing changes.
- 9. Demonstrate suture and staple removal techniques.

Optional: Standard performance evaluations on the final page of this document

Standard 6 - Electrocardiograph Machine Use (10%)

Candidates will demonstrate how to use the electrocardiograph machine.

Objective 1 Describe the electrical conduction system of the heart.

- 1. Identify the SA node, AV node, AV bundle, bundle branches, and Purkinje fibers.
- 2. Correlate the “PQRST” waves on an EKG (ECG) with the conduction system of the heart.

Objective 2 Prepare the patient for an EKG (ECG).

- 1. Demonstrate electrode placement for a 12 lead EKG (ECG).
- 2. Identify artifacts and describe ways to prevent them.
- 3. Somatic tremor
- 4. Wandering baseline
- 5. Current interference

Objective 3 Identify other tests used to determine heart function.

- 1. Holter monitor (24-48 hour)
- 2. Stress test

3. Event monitor (30 days)

Optional: Standard performance evaluations on the final page of this document

Standard 7 - Physician's Office Laboratory Work Skills (19%)

Candidates will learn skills necessary to work in a physician's office laboratory.

Objective 1 Describe procedures associated with urinalysis.

1. Explain different types of urine collection.
 - a. Clean-catch midstream
 - b. Catheterization
2. Explain the physical characteristics of urine (color, odor, appearance).

Objective 2 Describe terms and procedures associated with hematology.

1. Identify the components of blood and the function of each.
 - a. White blood cells-fight infection
 - b. Red blood cells-carry oxygen
 - c. Platelets-clotting
 - d. Plasma-liquid portion of the blood
2. Differentiate between plasma and serum.
3. Describe the normal values for these tests:
 - a. Hematocrit (37-47% women; 40-54% men)
 - b. Hemoglobin (12-16 g women; 14-18 g men)
 - c. WBC count (5,000-10,000)
 - d. RBC count (4.2 million-6 million)
 - e. Platelet count (150,000-350,000)
 - f. ESR (1-13mm male; 1-20mm female)
 - g. Glucose (80-120)
 - h. A1c (4.0 -5.6%; age dependent)
 - i. Total Cholesterol (<200)
4. Locate capillary and common venipuncture sites.
5. Describe the procedure for hemoccult testing (guaiac).
6. Describe the procedure for obtaining a NBS (newborn screen).
7. Describe common blood tests
 - a. Fasting blood sugar (FBS)
 - b. Glucose tolerance test (GTT)
 - c. Blood typing

Objective 3 Describe terms and procedures associated with microbiology.

1. Differentiate between gram positive and gram-negative bacteria.
2. Differentiate between culturing bacteria and rapid testing.
3. Identify the parts and use of the microscope.

Optional: Standard performance evaluations on the final page of this document

Standard 8 - Emergency Response (0%)

Candidates will be able to respond to emergencies.

Objective 1 Learn basic lifesaving skills.

1. Adult, child, and infant basic life support (BLS)
2. Automated External Defibrillator (AED) training

Objective 2 Learn basic first aid skills

1. Describe how to respond to bleeding, shock, and poisoning emergencies.
2. Demonstrate bandaging techniques.

Optional: Standard performance evaluations on the final page of this document

Performance Skills Evaluation

Exam name: Medical Assisting: Clinical and Lab Procedures

Candidate Name: _____

Performance assessments may be completed and evaluated any time before the certification is issued. The following performance skills can be used in connection with the associated standards and exam. The evaluator will function as the subject matter expert to determine if the candidate meets the skills requirements with a Yes/No for passing.

Standard 1 – Basic Concepts of Asepsis Demonstrate concepts of asepsis and sterilization.	Pass:
Standard 2 – Vital Signs Identify normal and abnormal vital signs.	Pass:
Standard 3 – Patient History and Physical Examinations - Assist with a physical exam. - Provide care of special needs.	Pass:
Standard 4 – Pharmacology Principles & Medication Administration Demonstrate understanding of the administration of medications.	Pass:
Standard 5 – Assisting With Minor Surgery Assist with a basic minor surgery.	Pass:
Standard 6 – Electrocardiograph Machine Use Obtain a standard 12 lead EKG.	Pass:
Standard 7 – Physician’s Office Laboratory Work Skills - Demonstrate microscope slide set-up and prepare a specimen for an outside laboratory. - Urinalysis - Hematology - Microbiology and diagnostic testing	Pass:
Standard 8 – Emergency Response Obtain CPR and First Aid certification.	Pass:

Evaluator Name: _____

Date: _____