



CMA (AAMA)

# Certification/Recertification Examination Content Outline

## I.A–F General

### A. Medical terminology

#### 1. Word building and definitions

- a. Basic structure
  - (1) Roots or stems
  - (2) Prefixes
  - (3) Suffixes
  - (4) Abbreviations
- b. Surgical procedures
- c. Diagnostic procedures
- d. Medical specialties

#### 2. Uses of terminology

- a. Spelling
- b. Selection and use (e.g., data entry, reports, records, documents, patient education, correspondence, medicolegal documentation, letters, memos, messages, facsimiles)
- c. Reference sources

### B. Anatomy and physiology

#### 1. Body as a whole, including multiple systems

- a. Structural units
- b. Anatomical divisions
- c. Positions and directions
- d. Body planes
- e. Common diseases and pathology

#### 2. Systems, including structure, function, related conditions and diseases, and their interrelationships

- a. Integumentary
- b. Musculoskeletal
- c. Nervous
- d. Cardiovascular, hematopoietic and lymphatic
- e. Respiratory
- f. Digestive
- g. Urinary
- h. Reproductive
- i. Endocrine
- j. Sensory

### C. Psychology

#### 1. Basic principles

- a. Understanding human behavior
  - (1) Behavioral theories
  - (2) Death and dying

#### 2. Developmental stages of the life cycle

- a. Developmental theories used to explain behavior and development

- b. Human growth and development

### 3. Defense mechanisms

- a. Recognition
- b. Management

### D. Professionalism

#### 1. Displaying professional attitude

- a. Supporting professional organization
- b. Accepting responsibility for own actions

#### 2. Job readiness and seeking employment

- a. Résumé and cover letter
- b. Methods of job searching
- c. Interviewing as a job candidate

#### 3. Working as a team member to achieve goals

- a. Member responsibility
- b. Promoting competent patient care
- c. Utilizing principles of group dynamics

### E. Communication

#### 1. Adapting communication according to an individual's needs

- a. Blind
- b. Deaf
- c. Elderly
- d. Children
- e. Seriously ill
- f. Mentally impaired
- g. Illiterate
- h. Non-English-speaking
- i. Anxious
- j. Angry/distraught
- k. Culturally different

#### 2. Recognizing and responding to verbal and nonverbal communication

- a. Body language
- b. Listening skills
- c. Eye contact
- d. Barriers to communication
- e. Identifying needs of others

#### 3. Professional communication and behavior

- a. Professional situations
  - (1) Tact
  - (2) Diplomacy
  - (3) Courtesy
  - (4) Responsibility/integrity
- b. Therapeutic relationships
  - (1) Impartial behavior
  - (2) Empathy/sympathy

- (3) Understanding emotional behavior

### 4. Patient interviewing techniques

- a. Types of questions
  - (1) Exploratory
  - (2) Open-ended
  - (3) Direct
- b. Evaluating effectiveness
  - (1) Observation
  - (2) Active listening
  - (3) Feedback
- c. Legal restrictions

### 5. Receiving, organizing, prioritizing, and transmitting information

- a. Modalities for incoming and outgoing data (e.g., mail, fax, telephone, computer)
- b. Prioritizing incoming and outgoing data (e.g., importance, urgency, recipient availability)

### 6. Telephone techniques

- a. Incoming calls management criteria
  - (1) Screening
  - (2) Maintaining confidentiality
  - (3) Gathering data
  - (4) Multiple-line competency
  - (5) Transferring appropriate calls
  - (6) Identifying caller, office, and self
  - (7) Taking messages
  - (8) Ending calls
- b. Monitoring special calls
  - (1) Problem calls (e.g., unidentified caller, angry patient, family member)
  - (2) Emergency calls

### 7. Fundamental writing skills

- a. Sentence structure
- b. Grammar
- c. Punctuation

### F. Medicolegal guidelines and requirements

#### 1. Licenses

- a. Medical practice acts
- b. Revocation/suspension of license
  - (1) Criminal/unprofessional conduct
  - (2) Professional/personal incapacity

#### 2. Legislation

- a. Advanced directives
- b. Anatomical gifts
- c. Reportable incidences

- (1) Public health statutes (e.g., communicable diseases, vital statistics, substance abuse/chemical dependency, abuse against persons)
  - (2) Wounds of violence
  - d. Occupational Safety and Health Act (OSHA)
  - e. Food and Drug Administration (FDA)
  - f. Clinical Laboratory Improvement Act (CLIA '88)
  - g. Americans with Disabilities Act (ADA)
  - h. Health Insurance Portability and Accountability Act (HIPAA)
- 3. Documentation/reporting**
- a. Sources of information
  - b. Drug Enforcement Administration (DEA)
  - c. Internal Revenue Service (e.g., personnel forms)
  - d. Employment laws
  - e. Personal injury occurrences
  - f. Workers' compensation
  - g. Medical records
    - (1) Patient activity
    - (2) Patient care
    - (3) Patient confidentiality
    - (4) Ownership
  - h. Personnel records
    - (1) Performance evaluation
    - (2) Privacy
- 4. Releasing medical information**
- a. Consent
    - (1) Patient written authorization
    - (2) Federal codes
      - (a) Right to privacy
      - (b) Drug and alcohol rehabilitation records
      - (c) Public health and welfare disclosures
      - (d) HIV-related issues
      - (e) Subpoena duces tecum
  - b. Rescinding authorization for release
- 5. Physician-patient relationship**
- a. Contract
    - (1) Legal obligations
    - (2) Consequences for non-compliance
  - b. Responsibility and rights
    - (1) Patient
    - (2) Physician
    - (3) Medical assistant
  - c. Guidelines for third-party agreements
  - d. Professional liability
    - (1) Current standard of care
    - (2) Current legal standards
    - (3) Informed consent
  - e. Arbitration agreements
  - f. Affirmative defenses
    - (1) Statute of limitations
    - (2) Comparative/contributory negligence

- (3) Assumption of risk
- g. Termination of medical care
  - (1) Establishing policy
  - (2) Elements for withdrawal
  - (3) Patient notification and documentation
- h. Medicolegal terms and doctrines

**6. Maintaining confidentiality**

- a. Agent of physician
  - (1) Patient rights
  - (2) Releasing patient information
- b. Intentional tort
  - (1) Invasion of privacy
  - (2) Slander and libel

**7. Performing within ethical boundaries**

- a. Ethical standards
  - (1) AAMA Code of Ethics
  - (2) AMA Code of Ethics
- b. Patient rights
- c. Current issues in medical bioethics

## II. G–Q Administrative

### G. Data entry

**1. Keyboard fundamentals and functions**

- a. Alpha, numeric, and symbol keys
- b. Tabulation

**2. Formats**

- a. Letters
- b. Memos
- c. Reports
- d. Envelopes
- e. Chart notes

**3. Proofreading**

- a. Proofreader's marks
- b. Making corrections from rough draft

### H. Equipment

**1. Equipment operation**

- a. Calculator
- b. Photocopier
- c. Computer
- d. Fax machine
- e. Telephone services and features
- f. Scanners

**2. Maintenance and repairs**

- a. Contents of instruction manual
- b. Routine maintenance
  - (1) Agreements
  - (2) Warranty
  - (3) Repair service

**3. Protection and safety**

### I. Computer concepts

**1. Computer components**

- a. Terminology

- b. Central processing unit (CPU), monitor, keyboard
- c. Printer
- d. Disk drive
- e. Storage devices (e.g., hard drives, magnetic tapes, CD-ROMs, flash drives)
- f. Operating systems
- g. Basic commands

**2. Computer applications**

- a. Word processing
- b. Database (e.g., menu, fields, records, files)
- c. Spreadsheets, graphics
- d. Electronic mail
- e. Networks
- f. Security/password
- g. Medical management software
  - (1) Patient data
  - (2) Report generation

**3. Internet services**

### J. Records management

**1. Needs, purposes, and terminology of filing systems**

- a. Basic filing systems
  - (1) Alphabetic
  - (2) Numeric/terminal digit
  - (3) Subject
- b. Special filing systems
  - (1) Color-code
  - (2) Tickler file
  - (3) Electronic data processing files (EDP)
  - (4) Cross-reference/master file

**2. Filing guidelines**

- a. Storing
- b. Protecting/safekeeping
- c. Transferring

**3. Medical records (paper/electronic)**

- a. Organization of patient's medical record
- b. Types
  - (1) Problem-oriented
  - (2) Source-oriented
- c. Collecting information
- d. Making corrections
- e. Retaining and purging
  - (1) Statute of limitations

### K. Screening and processing mail

**1. U.S. Postal Service**

- a. Classifications
- b. Types of mail services

**2. Postal machine/meter**

**3. Processing incoming mail**

**4. Preparing outgoing mail**

- a. Labels
- b. Optical character reader (OCR) guidelines

## L. Scheduling and monitoring appointments

### 1. Utilizing appointment schedules/types

- a. Stream
- b. Wave/modified wave
- c. Open booking
- d. Categorization

### 2. Appointment guidelines

- a. Appointment schedule matrix
- b. Legal aspects
- c. New/established patient
- d. Patient needs/preference
- e. Physician preference/habits
- f. Facilities/equipment requirements

### 3. Appointment protocol

- a. Follow-up visits
  - (1) Routine
  - (2) Urgent
- b. Emergency/acutely ill
- c. Physician referrals
- d. Cancellations/no-shows
- e. Physician delay/unavailability
- f. Outside services (e.g., lab, X-ray, surgery)
- g. Reminders/recalls
  - (1) Appointment cards
  - (2) Phone calls

## M. Resource information and community services

### 1. Patient advocate

- a. Services available
- b. Appropriate referrals
- c. Follow-up

## N. (Currently there are no items for this category)

## O. Maintaining the office environment

### 1. Physical environment

- a. Arrangement of furniture, equipment, and supplies
- b. Facilities and equipment
  - (1) Maintenance and repair
  - (2) Safety regulations
    - (a) Occupational Safety and Health Act (OSHA)
    - (b) Centers for Disease Control and Prevention (CDC) guidelines
    - (c) Americans with Disabilities Act (ADA)
    - (d) Fire regulations
    - (e) Security systems

### 2. Equipment and supply inventory

- a. Inventory control
- b. Purchasing

### 3. Maintaining liability coverage

- a. Types of coverage

- b. Recordkeeping

### 4. Time management

- a. Establishing priorities
- b. Managing routine duties

## P. Office policies and procedures

### 1. Patient information booklet

### 2. Personnel manual

### 3. Policy and procedures manuals/protocols

## Q. Practice finances

### 1. Bookkeeping principles

- a. Daily reports, charge slips, receipts, ledgers, etc.
  - (1) Charges, payments, and adjustments
  - (2) Identifying and correcting errors
- b. Petty cash

### 2. Coding systems

- a. Types
  - (1) Current Procedural Terminology (CPT)
  - (2) International Classification of Diseases, Clinical Modifications (ICD-CM) (*current schedule*)
  - (3) Healthcare Financing Common Procedural Coding System (HCPCS Level II)
- b. Relationship between procedure and diagnosis codes

### 3. Third-party billing

- a. Types
  - (1) Capitated plans
  - (2) Commercial carriers
  - (3) Government plans
    - (a) Medicare
    - (b) Medicaid
    - (c) Tricare
    - (d) CHAMPVA
  - (4) Prepaid HMO, PPO, POS
  - (5) Workers' compensation
- b. Processing claims
  - (1) Manual and electronic preparation of claims
  - (2) Tracing claims
  - (3) Sequence of filing (e.g., primary vs. secondary)
  - (4) Reconciling payments/rejections
  - (5) Inquiry and appeal process
- c. Applying managed care policies and procedures
  - (1) Referrals
  - (2) Precertification
- d. Fee schedules
  - (1) Methods for establishing fees
    - (a) Relative Value Studies
    - (b) Resource-based Relative Value Scale (RBRVS)

- (c) Diagnosis Related Groups (DRGs)

- (2) Contracted fees

### 4. Accounting and banking procedures

- a. Accounts receivable
  - (1) Billing procedures
    - (a) Itemization
    - (b) Billing cycles
  - (2) Aging/collection procedures
    - (a) Collection agencies
    - (b) Consumer protection acts
- b. Accounts payable
  - (1) Ordering goods and services
  - (2) Monitoring invoices
  - (3) Tracking merchandise
- c. Banking procedures
  - (1) processing accounts receivable
  - (2) preparing bank deposit

### 5. Employee payroll

- a. Calculating wages
- b. Payroll forms

## III. R–Z Clinical

## R. Principles of infection control

### 1. Principles of asepsis

### 2. Aseptic technique

- a. Medical asepsis
  - (1) Handwashing
  - (2) Sanitization
  - (3) Chemical disinfection
- b. Surgical asepsis
  - (1) Scrubbing
  - (2) Gowning
  - (3) Gloving
  - (4) Surgical assisting
  - (5) Preparing equipment
  - (6) Preparing items for autoclave
  - (7) Performing sterilization techniques

### 3. Disposal of biohazardous material

### 4. Standard precautions

## S. Treatment area

### 1. Principles of equipment operation

- a. Autoclave/sterilizer
- b. Cast equipment/materials
- c. Electrocardiograph
- d. Examination tables
- e. Microscope
- f. Ophthalmoscope/otoscope/stethoscope
- g. Oxygen
- h. Physical therapy modalities
- i. Endoscopes
- j. Scales
- k. Sphygmomanometers
- l. Spirometer
- m. Thermometers

- n. Nebulizers
- o. Mobility assistive devices
- p. Oximeter

#### 2. Restocking supplies

#### 3. Preparing/maintaining treatment areas

#### 4. Safety precautions

### T. Patient preparation and assisting the physician

#### 1. Vital signs

- a. Performing
- b. Recording

#### 2. Examinations

- a. Types
- b. Body positions
- c. Body mechanics

#### 3. Procedures

- a. Instruments, supplies, and equipment
- b. Explanation and instructions

#### 4. Patient education

- a. Health maintenance and disease prevention
- b. Use and care of patient equipment (e.g., wheelchair, crutches)
- c. Instruction for procedure preparation
- d. Patient administered medications

### U. Patient history interview

#### 1. Components of patient history

- a. Personal data
- b. Chief complaint
- c. Past, present, family, and social history
- d. Review of systems

#### 2. Documentation guidelines

### V. Collecting and processing specimens; diagnostic testing

#### 1. Methods of collection

- a. Blood
  - (1) Vein
  - (2) Capillary
- b. Urine
- c. Stool
- d. Sputum
- e. Cultures
  - (1) Throat
  - (2) Vaginal
  - (3) Wounds
  - (4) Urine
  - (5) Blood

#### 2. Processing specimens

- a. Centers for Disease Control and Prevention (CDC) guidelines
- b. Proper labeling
- c. Contamination
- d. Specimen preservation

- e. Recordkeeping

#### 3. Quality control

#### 4. Performing selected tests

- a. Urinalysis
  - (1) Physical
  - (2) Chemical
  - (3) Microscopic
- b. Hematology
  - (1) Hematocrit
  - (2) Hemoglobin
  - (3) Erythrocyte sedimentation rate
  - (4) Automated cell counts
    - (a) Red blood cell (RBC)
    - (b) White blood cell (WBC)
    - (c) Platelet
  - (5) Coagulation testing
- c. Blood chemistry
  - (1) Glucose
  - (2) Kidney function tests
  - (3) Liver function tests
  - (4) Lipid profile
  - (5) Hemoglobin A1c
- d. Immunology
  - (1) Mono test
  - (2) Strep test
  - (3) C-reactive protein (CRP)
  - (4) Pregnancy testing
- e. Microbiology
  - (1) Theory/terminology
    - (a) Bacteria
      - i. Gr am staining
    - (b) Virus
    - (c) Fungus
    - (d) Parasites
    - (e) Protozoa
  - f. Tuberculosis testing
  - g. Guaiac testing

#### 5. Electrocardiography (EKG/ECG)

#### 6. Vision testing

#### 7. Hearing testing

#### 8. Respiratory testing

- a. Pulmonary function
- b. Spirometry
- c. Pulse oximetry
- d. Nebulizer treatment

#### 9. Medical imaging

- a. Safety principles
- b. Patient preparation
- c. Patient instruction

### W. Preparing and administering medications

*(For the 50 most commonly used medications, see the "Top 200 Drugs" at [www.rxlist.com](http://www.rxlist.com))*

#### 1. Pharmacology

- a. Classes of drugs
- b. Drug forms
- c. Drug action/uses
- d. Side effects/adverse reactions
- e. Emergency use

- f. Substance abuse

#### 2. Preparing and administering oral and parenteral medications

- a. Calculation of dosage
- b. Routes of administration
- c. Types of injections
- d. Injection sites

#### 3. Prescriptions

- a. Safekeeping
- b. Medication recordkeeping
- c. Controlled substance guidelines

#### 4. Immunizations

- a. Childhood
- b. Adult vaccines
- c. Storage
- d. Recordkeeping

### X. Emergencies

#### 1. Preplanned action

- a. Policies and procedures
- b. Legal implications and action documentation
- c. Equipment
  - (1) Crash cart
  - (2) Automated external defibrillator

#### 2. Assessment and triage

#### 3. Emergency preparedness

### Y. First aid

#### 1. Identifying and responding to:

- a. Bleeding/pressure points
- b. Burns
- c. Cardiac and respiratory arrest/CPR
- d. Choking/Heimlich maneuver
- e. Diabetic coma/insulin shock
- f. Fractures
- g. Poisoning
- h. Seizures
- i. Shock
- j. Stroke
- k. Syncope
- l. Wounds

### Z. Nutrition

#### 1. Basic principles

- a. Dietary guidelines
- b. Food nutrients (e.g., vitamins, minerals)

#### 2. Special needs

- a. Diets
- b. Restrictions

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Prepared by the AAMA Certifying Board



AMERICAN ASSOCIATION  
OF MEDICAL ASSISTANTS  
20 N. WACKER DR., STE. 1575  
CHICAGO, ILLINOIS 60606

website: [www.aama-ntl.org](http://www.aama-ntl.org) 800/228-2262