

# Medical Assistant (CCMA) Certification Exam Test Plan

This test plan is based on the 2016 Job Analysis Study. The tasks under each content domain are examples that are representative of the content. Items reflective of these stated tasks may or may not appear on the examination. Additionally, items that are reflective of tasks other than those included in the outline below may appear on the examination, as long as they represent information that is considered part of the major content domain by experts in the medical assistant profession. Refer to the full test plan at [www.nhanow.com](http://www.nhanow.com).

## *Foundational Knowledge and Basic Science*

### *Health care systems and settings*

#### *Knowledge Enablers*

- Role and responsibilities of the medical assistant, other health care providers, and allied health personnel
- Scope of practice
- Titles and credentials
- Licensing and certification
- Health care delivery models (HMOs, PPOs, POS, PCMH, accountable care organizations [ACOs]/ payment for performance, hospice, collaborative care model)
- General vs. specialties and services offered
- Ancillary services; alternative therapies
- Insurance fundamentals

### *Medical terminology*

#### *Knowledge Enablers*

- Common abbreviations, acronyms, and symbols
- Conditions, procedures, and instruments
- Medical word building (prefixes, suffixes, plurals)
- Positional and directional terminology

## *Basic pharmacology*

### *Knowledge Enablers*

- Commonly prescribed medications and common approved abbreviations
- Drug classifications and schedules
- Side effects, adverse effects, indications, and contraindications
- Measurement (for metric and household systems), mathematical conversions, and dosage calculations
- Forms of medication (pill, capsule, ointment)
- Look-alike/sound-alike medications
- Routes of administration
- Pharmacokinetics (absorption, distribution, metabolism, excretion)
- Rights of drugs/medication administration
- *Physicians' Desk Reference* and online resources
- Principles of storage and disposal

## *Nutrition*

### *Knowledge Enablers*

- Dietary nutrients
- Dietary needs and patient education (general and related to diseases/conditions)
- Vitamins and supplements
- Eating disorders
- Food labels

## Psychology

### *Knowledge Enablers*

- Developmental stages
- End of life and stages of grief
- Psychology of the physically disabled, developmentally delayed, and people who have diseases
- Environmental and socioeconomic stressors
- Mental health screening
- Defense mechanisms

## Anatomy and Physiology

### Body structures and organ systems

#### *Knowledge Enablers*

- Anatomical structures, locations, and positions
- Structure and function of major body systems, including organs and their locations
- Interactions between organ systems, homeostasis

### Pathophysiology and disease processes

#### *Knowledge Enablers*

- Signs, symptoms, and etiology of common diseases, conditions, and injuries
- Diagnostic measures and treatment modalities
- Incidence, prevalence, and risk factors
- Risk factors leading to high mortality and morbidity (complications, accompanying diseases)
- Epidemics and pandemics

## Microbiology

### *Knowledge Enablers*

- Cell structure (nucleus, cell wall, cell membrane, cytoplasm, ribosomes, mitochondria, lysosomes, nucleolus)
- Common pathogens and nonpathogens
- Organisms and micro-organisms
- Infectious agents, chain of infection, and conditions for growth

## Clinical Patient Care

### General patient care

#### *Tasks*

- Identify patient.
- Prepare examination/procedure room.
- Ensure patient safety within the clinical setting.
- Complete a comprehensive clinical intake process, including the purpose of the visit.
- Measure vital signs.
- Obtain anthropomorphic measurements.
- Identify/document/report abnormal signs and symptoms.
- Assist provider with general physical examination.
- Assist provider with specialty examinations.
- Prepare patient for procedures.
- Prepare and administer medications and/or injectables using nonparenteral and parenteral routes (oral, buccal, sublingual, intramuscular, intradermal, subcutaneous, topical, transdermal, inhalation), excluding IV.
- Perform staple and suture removal.
- Administer eye, ear, and topical medications.
- Perform ear and eye irrigation.
- Administer first aid and basic wound care.
- Identify and respond to emergency/priority situations.
- Perform CPR.
- Assist provider with patients presenting with minor and traumatic injury.
- Assist with surgical interventions (sebaceous cyst removal, toenail removal, colposcopy, cryosurgery).
- Review provider's discharge instructions/plan of care with patients.
- Follow guidelines for sending orders for prescriptions and refills by telephone, fax, or email.
- Document relevant aspects of patient care in patient record.
- Operate basic functions of an EHR/EMR system.
- Enter orders into CPOE.

### *Knowledge Enablers*

- Patient identifiers
- Elements of a patient medical/surgical/family/social history
- Methods for obtaining vital signs (manual and electronic blood pressure; respirations; temperature; pulse; pulse oximetry)
- Normal and abnormal vital signs
- Methods for measuring height, weight, BMI; special considerations related to age, health, status, disability; growth chart
- Positioning and draping requirements for general and specialty examinations, procedures, and treatments
- Equipment, instruments, and supplies necessary to prepare the examination or procedure room
- Required equipment, supplies, and instruments related to general physical examinations
- Required equipment, supplies, and instruments related to specialty examinations
- Patient instructions specific to procedures, including pre- and postprocedure instructions
- Modifications to patient care depending on patient needs (assisting with ambulation and transfers for frail patients and patients who have disabilities; using easily understood terms for pediatric patients)
- Consent requirements (written and verbal)
- Immunization schedules and requirements
- Allergies (common drug and nondrug allergies [latex, bee stings]; type of reactions [mild, moderate, severe]; how to respond to allergic reactions or anaphylactic shock)
- Signs of infection
- Sterile techniques related to examinations, procedures, injections, and medication administration
- Dosage calculations related to oral medications and injectables
- Commonly used oral and parenteral medications (forms, packaging, routes of administration)
- Rights of medication administration
- Storage, labeling, and medication logs
- Techniques and injection site
- Supplies and equipment related to injections
- Storage of injectables
- Techniques and instruments for suture and staple removal; types and sizes of sutures
- Methods of administration, techniques, procedures, and supplies related to eye, ear, and topical medications
- Instruments, supplies, and techniques related to eye and ear irrigation
- Commonly occurring types of injuries (lacerations, abrasions, fractures, sprains)
- Treatment for commonly occurring types of injuries (bandaging, ice, elevation)
- Commonly occurring types of surgical interventions

- Signs and symptoms related to urgent and emergency situations (diabetic shock, heat stroke, allergic reactions, choking, syncope, seizure)
- Emergency action plans (crash cart, emergency injectables)
- Procedures to perform CPR, basic life support, and AED
- Computerized physician order entry (CPOE)
- Referral authorizations; insurance authorizations
- Legal requirements for content and transmission of prescriptions
- Prior authorizations for medication; electronic prescribing software
- Required components of medical records
- Medical necessity guidelines

### Infection control

#### *Tasks*

- Adhere to regulations and guidelines related to infection control.
- Adhere to guidelines regarding hand hygiene.
- Perform disinfection/sanitization.
- Perform sterilization of medical equipment.
- Perform appropriate aseptic techniques for various clinical situations.
- Dispose of biohazardous materials as dictated by OSHA (sharps containers, red bags).

#### *Knowledge Enablers*

- Universal precautions
- Handwashing techniques
- Alcohol-based rubs/sanitizer
- Infectious agents, modes of transmission, precautions for blood-borne pathogens
- Personal protective equipment (PPE)
- Sterilization techniques (autoclave, instrument cleaner, germicidal disinfectants, disposables)
- Techniques for medical and surgical asepsis
- Order of cleaning and types of cleaning products
- Safety Data Sheets (SDSs)
- Cautions related to chemicals
- Disposal methods
- Exposure control plan
- Calibration of equipment
- Logs (maintenance, equipment servicing, temperature [refrigerator], quality control)

## Testing and laboratory procedures

### Tasks

- Collect nonblood specimens (urine, stool, cultures, sputum).
- Perform CLIA-waived testing (labs).
- Perform vision and hearing tests.
- Perform allergy testing.
- Perform spirometry/pulmonary function tests (electronic or manual).
- Recognize, document, and report normal and abnormal laboratory and test values.
- Match and label specimen to patient and completed requisition.
- Process, handle, and transport collected specimens.

### Knowledge Enablers

- Point-of-care testing
- Information required on provider request or requisition form
- Specimen collection techniques and requirements
- CLIA-waived testing regulations
- COLA accreditation standards
- Controls/calibration/quality control
- Normal and abnormal laboratory test values
- Elements related to vision (color, acuity, distance, visual fields) and hearing tests (tone, speech and word recognition, tympanometry)
- Peak flow rates
- Common allergens
- Scratch test and intradermal allergy test
- Requirements for transportation, diagnosis, storage, and disposal of specimens (patient identifiers, site, test)
- Content of requisition (date, time, ICD-10)

## Phlebotomy

### Tasks

- Verify order details.
- Select appropriate supplies for tests ordered.
- Determine venipuncture site accessibility based on patient age and condition.
- Prepare site for venipuncture.
- Perform venipuncture.
- Perform capillary puncture.
- Perform postprocedure care.
- Handle blood samples as required for diagnostic purposes.
- Process blood specimens for laboratory.
- Match and label specimens to patient and completed requisition.
- Recognize and respond to abnormal test results.
- Prepare samples for transportation to a reference (outside) laboratory.
- Follow guidelines in distributing laboratory results to ordering providers after matching patient to provider.

### Knowledge Enablers

- Patient identifiers (site, test) and content of requisition
- Requirements related to patient preparation for phlebotomy (fasting, nonfasting)
- Assessment of patient comfort/anxiety level with procedure
- Blood collection tubes required for chemistry, hematology, and microbiology testing
- Bloodborne pathogens
- Medical conditions or history and medications affecting collection of blood order of draw for venipuncture
- Anatomy, skin integrity, venous sufficiency, contraindications
- Phlebotomy site preparation (cleansing, wrapping, order of draw with microcollection tubes)
- Insertion and removal techniques
- Evacuated tube, syringe, and butterfly methods
- Types of tubes, tube positions, number of tube inversions, and fill level/ratios
- Additives and preservatives
- Bandaging procedures (allergies, skin types)
- Preanalytical considerations pertaining to specimen quality and consistency
- Special collections (timed specimens, drug levels, blood cultures, fasting)
- Centrifuge and aliquot
- Normal and abnormal test values, control values
- Equipment calibration
- Storage conditions related to sensitivity to light and temperature
- Requirements for transportation, diagnosis, storage, and disposal
- Processing and labeling requirements
- External databases (outside labs, reference sources)

## EKG and cardiovascular testing

### Tasks

- Prepare patients for procedure.
- Perform cardiac monitoring (EKG) tests.
- Ensure proper functioning of EKG equipment.
- Recognize abnormal or emergent EKG results (dysrhythmia, arrhythmia, artifact).
- Assist provider with noninvasive cardiovascular profiling (stress test, Holter monitoring, event monitoring).
- Transmit results or report to patient's EMR or paper chart, and provider.

### *Knowledge Enablers*

- Procedures and instructions to minimize artifacts
- Artifacts, signal distortions, and electrical interference (fuzz, wandering baseline)
- Preparation, positioning, and draping of patient
- Supplies (paper, proper leads)
- Placement of limb and chest electrodes
- Techniques and methods for EKGs
- Signs of adverse reaction during testing (signs of distress, elevated blood pressure and respirations)
- Calibration of equipment
- Abnormal rhythms or dysrhythmias associated with cardiovascular testing
- Waveforms, intervals, segment

### *Patient Care Coordination and Education*

#### *Tasks*

- Review patient record prior to visit to ensure health care is comprehensively addressed.
- Collaborate with providers and community-based organizations.
- Assist providers in coordinating care with community agencies for clinical and nonclinical services.
- Facilitate patient compliance (continuity of care, follow-up, medication compliance) to optimize health outcomes.
- Participate in transition of care for patients.
- Participate in team-based patient care (patient-centered medical home [PCMH], Accountable Care Organization [ACO]).

#### *Knowledge Enablers*

- Preventive medicine and wellness
- Education delivery methods and instructional techniques and learning styles
- Resources and procedures to coordinate care outpatient services
- Available resources for clinical services (home health care)
- Available community resources for nonclinical services (adult day care, transportation vouchers)
- Specialty resources for patient/family medical and mental needs
- Referral forms and processes
- Barriers to care (socioeconomic, cultural differences, language, education)
- Tracking and reporting technologies
- Roles and responsibilities of team members involved in patient-centered medical home

### *Administrative Assisting*

#### *Tasks*

- Schedule and monitor patient appointments using electronic and paper-based systems.
- Verify insurance coverage/financial eligibility.
- Identify and check patients in/out.
- Verify diagnostic and procedural codes.
- Obtain and verify prior authorizations and precertifications.
- Prepare documentation and billing requests using current coding guidelines.
- Ensure that documentation complies with government and insurance requirements.
- Perform charge reconciliation (correct use of EHR software, entering charges, making adjustments, accounts receivable procedures).
- Bill patients, insurers, and third-party payers for services performed.
- Resolve billing issues with insurers and third-party payers (appeals, denials).
- Manage electronic and paper medical records.
- Facilitate/generate referrals to other providers and allied health professionals.
- Provide customer service and facilitate service recovery (follow-up patient calls, appointment confirmations, monitoring patient flow sheets, collecting on accounts, making up for poor customer service).
- Enter information into databases or spreadsheets (EHR, EMR, billing modules, scheduling systems).
- Participate in safety evaluations and report safety concerns.
- Maintain inventory of clinical and administrative supplies.

### *Knowledge Enablers*

- Filing systems
- Scheduling software
- Recognition of urgency of appointment needs
- Requirements related to duration of visits (purpose of visit, physician preferences)
- Telephone etiquette
- Records management systems and software (manual filing systems [alphabetical, numeric], office storage for archived files, EMR/EHR software applications)
- Legal requirements related to maintenance, storage, and disposal of records
- Categories of the medical record (administrative, clinical, billing, procedural, notes, consents)
- Required documentation for patient review and signature
- Chart review
- E-referrals (how they are created, required information, how they are sent)
- Financial eligibility, sliding scales, and indigent programs
- Government regulations (meaningful use, MACRA)
- CMS billing requirements
- Third-party payer billing requirements
- Advance beneficiary notice (ABN)
- Specialty pharmacies (compounding and nuclear pharmacies; forms of medication available [liquid, elixir, balm, ointment])
- Insurance terminology (copay, coinsurance, deductible, tier levels, explanation of benefits)
- Aging reports, collections due, adjustments, and write-offs
- Online banking for deposits and electronic transfers
- Authorizations to approve payment processing
- Auditing methods, processes, and sign-offs
- Data entry and data fields
- Equipment inspection logs, required schedules, and compliance requirements, including inspection by medical equipment servicers

### *Communication and Customer Service*

#### *Tasks*

- Modify verbal and nonverbal communication for diverse audiences (providers, coworkers, supervisors, patients, caregivers, external providers).
- Modify verbal and nonverbal communications with patients and caregivers based on special considerations (pediatric, geriatric, hearing loss, vision loss, mental handicap, disability).
- Clarify and relay communications between patients and providers.
- Communicate on the telephone with patients, caregivers, providers, and third-party payers.
- Prepare written/electronic communications/business correspondence.
- Handle challenging/difficult customer service occurrences.
- Engage in crucial conversations with patients, caregivers, health care surrogates, staff, and providers.
- Facilitate and promote teamwork and team engagement.

#### *Knowledge Enablers*

- Communication styles
- Patient characteristics affecting communication (cultural differences, language barriers, cognitive level, developmental stage, sensory and physical disabilities, age)
- Medical terminology and jargon, layman's terms
- Therapeutic communication
- Interviewing and questioning techniques (screening, probing, open- and closed-ended questions)
- Scope of permitted questions and boundaries for questions
- Active listening
- Communication cycle (clear, concise message relay)
- Coaching and feedback, positive reinforcement of effective behavior
- Professional presence (appearance, demeanor, tone)
- Patient satisfaction surveys
- When to escalate problem situations
- Techniques to deal with patients (irate clients, custody issues between parents, chain of command)
- Incident/event/unusual occurrence reports; documentation of event
- Cause-and-effect analysis (anxiety increases blood pressure or heart rate; risk management related to patient and employee safety)
- Email etiquette
- Business letter formats
- Telephone etiquette

## *Medical Law and Ethics*

### *Tasks*

- Comply with legal and regulatory requirements.
- Adhere to professional codes of ethics.
- Obtain, review, and comply with medical directives.
- Obtain and document health care proxies and agents.
- Provide, collect, and store medical order for life-sustaining treatment (MOLST) forms.
- Protect patient privacy and confidentiality, including medical records.
- Adhere to legal requirements regarding reportable violations or incidents.
- Identify personal or religious beliefs and values and provide unbiased care.

### *Knowledge Enablers*

- Informed consent
- Advance directives (living will, DNR/DNI)
- Power of attorney
- Storage of medical records
- Conditions for sharing information/release of information
- Criminal and civil acts, and medical malpractice
- Mandatory reporting laws, triggers for reporting, and reporting agencies
- Hippocratic Oath