National
Healthcareer
Association®

NHA Certified Clinical Medical Assistant (CCMA)
Detailed Test Plan*

150 scored items, 30 pretest
Exam Time: 3 hours

*Based on the Results a Job Analysis Study Completed in 2016

This document provides an outline of the topics and associated weighting that may be covered on the CCMA Certification Exam. A one-page summary of the plan is also available.

Within a given topic area, task and/or knowledge statements will be provided.
Knowledge *statements reflect information that a candidate will need to know, while* ***task*** *statements reflect duties that a candidate will need to know how to properly perform. Items on the exam may require recall and critical thinking pertaining to a knowledge statement, a task statement, or both.*

Please note that some domains only contain knowledge statements.

1. Foundational Knowledge and Basic Science

   Knowledge of:

   A. Health care systems and settings

       1. Role and responsibilities of the MA, other healthcare providers, and allied health personnel

       2. Scope of practice

       3. Titles and credentials

       4. Licensing and certification

       5. Healthcare delivery models (HMOs, PPOs, POS, PCMH, accountable care organizations/payment for performance [ACOs], hospice, collaborative care model)

       6. General versus specialties and services offered

       7. Ancillary services; alternative therapies

8.	Insurance fundamentals
B.	**Medical terminology**
1.	Common abbreviations, acronyms, and symbols
2.	Conditions, procedures, and instruments
3.	Medical word building (prefixes, suffixes, plurals)
4.	Positional and directional terminology
C.	**Basic pharmacology**
1.	Commonly prescribed medications and common approved abbreviations
2.	Drug classifications and drug schedules
3.	Side effects, adverse effects, indications, and contra-indications
4.	Measurement (for both metric and household systems), mathematical conversions, and dosage calculations
5.	Forms of medication (for example, pill, capsule, ointment)
6.	Look alike/sound alike medications
7.	Routes of administration
8.	Pharmacokinetics (absorption, distribution, metabolism, excretion)
9.	Rights of drugs/medication administration
10.	Physicians' Desk Reference and online resources
11.	Principles of storage and disposal
D.	**Nutrition**
1.	Dietary nutrients
2.	Dietary needs and patient education (general, and related to diseases and conditions)
3.	Vitamins and supplements
4.	Eating disorders
5.	Food labels

E.	Psychology	
	1.	Developmental stages
	2.	End-of-life and stages of grief
	3.	Psychology of the physically disabled, developmentally delayed, and those with diseases
	4.	Environmental and socio-economic stressors
	5.	Mental health screening
	6.	Defense mechanisms

2. Anatomy and Physiology

Knowledge of:

A.	Body structures and organ systems	
	1.	Anatomical structures, locations, and positions
	2.	Structure and function of major body systems, including organs and their locations
	3.	Interactions between organ systems, homeostasis
B.	Pathophysiology and disease processes	
	1.	Signs, symptoms, and etiology of common diseases, conditions, and injuries
	2.	Diagnostic measures and treatment modalities
	3.	Incidence, prevalence, and risk factors
	4.	Risk factors leading to high mortality and morbidity (for example, complications, accompanying diseases)
	5.	Epidemics and pandemics
C.	Microbiology	
	1.	Cell structure (for example, nucleus, cell wall, cell membrane, cytoplasm, ribosomes, mitochondria, lysosomes, nucleolus)
	2.	Common pathogens and non-pathogens
	3.	Organisms and microorganisms

4.	Infectious agents; chain of infection; conditions for growth

3. Clinical Patient Care

A. General Patient Care

Tasks:

T1.	Identify patient
T2.	Prepare examination/procedure room
T3.	Ensure patient safety within the clinical setting
T4.	Complete a comprehensive clinical intake process, including the purpose of the visit
T5.	Measure vital signs
T6.	Obtain anthropometric measurements
T7.	Identify/document/report abnormal signs and symptoms
T8.	Assist provider with general physical examination
T9.	Assist provider with specialty examinations
T10.	Prepare patient for procedures
T11.	Prepare and administer medications and/or injectables using non-parenteral and parenteral routes (excluding IV) (for example, oral, buccal, sublingual, intramuscular, intradermal, subcutaneous, topical, transdermal, and inhalation)
T12.	Perform staple and suture removal
T13.	Administer eye, ear, and topical medications
T14.	Perform ear and eye irrigation
T15.	Administer first aid and basic wound care
T16.	Identify and respond to emergency/priority situations
T17.	Perform CPR
T18.	Assist provider with patients presenting with minor and traumatic injury

T19.	Assist with surgical interventions (for example, sebaceous cyst removal, toe nail removal, colposcopy, cryosurgery)	
T20.	Review provider's discharge instructions/plan of care with patients	
T21.	Follow guidelines for sending orders for prescriptions and refills by telephone, fax, or email	
T22.	Document relevant aspects of patient care in patient record	
T23.	Operate basic functions of an EHR/EMR system	
T24.	Enter orders into CPOE	
Knowledge of:		
K1.	Patient identifiers	
K2.	Elements of a patient medical/surgical/family/social history	
K3.	Methods for obtaining vital signs (manual & electronic blood pressure; respiration, temperature, pulse, pulse oximetry)	
K4.	Normal and abnormal vital signs	
K5.	Methods for measuring height, weight, BMI; special considerations related to age, health, status, disability; growth chart	
K6.	Positioning and draping requirements for general and specialty examinations, procedures, and treatments	
K7.	Equipment, instruments, and supplies necessary to prepare the examination or procedure room	
K8.	Required equipment, supplies and instruments related to general physical examinations	
K9.	Required equipment, supplies, and instruments related to specialty examinations	
K10.	Patient instruction specific to procedures, including pre- and post-procedural instructions;	
K11.	Modifications to patient care depending on patient needs (for example, assisting with ambulation and transfers for frail and disabled patients; using terms a child can understand for pediatric patients)	
K12.	Consent requirements (written and verbal)	

K13.	Immunization schedules and requirements
K14.	Allergies (for example, common drug and non-drug allergies such as latex, bee stings; type of reactions [mild, moderate and severe] how to respond to allergic reactions or anaphylactic shock)
K15.	Signs of infection
K16.	Sterile techniques related to examinations, procedures, injections and medication administration
K17.	Dosage calculations related to oral medications and injectables
K18.	Commonly used oral and parenteral medications, including forms, packaging, routes of administration; rights of medication administration
K19.	Storage; labeling; and medication logs
K20.	Techniques and injection sites
K21.	Supplies and equipment related to injections
K22.	Storage of injectables
K23.	Techniques and instruments for suture and staple removal; types and sizes of sutures
K24.	Methods of administration, techniques, procedures and supplies related to eye, ear, and topical medications
K25.	Instruments, supplies, and techniques related to eye and ear irrigation
K26.	Commonly occurring types of injuries (for example, lacerations, abrasions, fractures, sprains)
K27.	Treatment for commonly occurring types of injuries, (for example, bandaging, ice, elevation)
K28.	Commonly occurring types of surgical interventions
K29.	Signs and symptoms related to urgent and emergency situations (for example, diabetic shock, heat stroke, allergic reactions, choking, syncope, seizure)
K30.	Emergency action plans (for example, crash cart, emergency injectables)
K31.	Procedures to perform CPR, basic life support and AED

K32.	Computerized Physician Order Entry (CPOE)
K33.	Referral authorizations; insurance authorizations
K34.	Legal requirements for content and transmission of prescriptions
K35.	Prior authorizations for medication; electronic prescribing software
K36.	Required components of medical records
K37.	Medical necessity guidelines

B.   Infection control

Tasks:

T1.	Adhere to regulations and guidelines related to infection control
T2.	Adhere to guidelines regarding hand hygiene
T3.	Perform disinfection/sanitization
T4.	Perform sterilization of medical equipment
T5.	Perform appropriate aseptic techniques for various clinical situations
T6.	Dispose of biohazardous materials as dictated by OSHA (for example, sharps containers, red bags)

Knowledge of:

K1.	Universal precautions
K2.	Hand-washing techniques
K3.	Alcohol-based rubs/sanitizer
K4.	Infectious agents, modes of transmission, precautions for blood-borne pathogens
K5.	Personal protective equipment (PPE)
K6.	Sterilization techniques (autoclave, instrument cleaner, germicidal disinfectants, disposables)
K7.	Techniques for medical and surgical asepsis
K8.	Order of cleaning and types of cleaning products
K9.	Safety Data Sheets (SDS)

K10.	Cautions related to chemicals	
K11.	Disposal methods	
K12.	Exposure control plan	
K13.	Calibration of equipment	
K14.	Logs (for example, maintenance, equipment servicing, temperature (refrigerator), quality control)	

C. Testing and Laboratory Procedures

Tasks:

T1.	Collect non-blood specimens (for example, urine, stool, cultures, sputum)
T2.	Perform CLIA-waived testing (labs)
T3.	Perform vision and hearing tests
T4.	Perform allergy testing
T5.	Perform spirometry/pulmonary function tests (electronic or manual)
T6.	Recognize, document, and report normal and abnormal laboratory and test values
T7.	Match and label specimen to patient and completed requisition
T8.	Process, handle, and transport collected specimens

Knowledge of:

K1.	Point of care testing
K2.	Information required on provider request or requisition form
K3.	Specimen collection techniques and requirements
K4.	CLIA-waived testing regulations
K5.	COLA accreditation standards
K6.	Controls/calibration/quality control
K7.	Normal and abnormal lab values and test values

K8.	Elements related to vision and hearing tests including color, acuity/distance, visual fields; tone, speech and word recognition, typanometry
K9.	Peak flow rates
K10.	Common allergens
K11.	Scratch test and intradermal allergy test
K12.	Requirements for transportation, diagnosis, storage, and disposal of specimens, including patient identifiers, site or test
K13.	Content of requisition, including date and time, and ICD-10

D. Phlebotomy

Tasks:

T1.	Verify order details
T2.	Select appropriate supplies for test(s) ordered
T3.	Determine venipuncture site accessibility based on patient age and condition
T4.	Prepare site for venipuncture
T5.	Perform venipuncture
T6.	Perform capillary puncture
T7.	Perform post-procedural care
T8.	Handle blood samples as required for diagnostic purposes
T9.	Process blood specimens for laboratory
T10.	Match and label specimen to patient and completed requisition
T11.	Recognize and respond to abnormal test results
T12.	Prepare samples for transportation to a reference (outside) laboratory
T13.	Follow guidelines in distributing laboratory results to ordering providers after matching patient to provider

Knowledge of:

K1.	Patient identifiers, including site or test; and content of requisition

K2.	Requirements related to patient preparation for phlebotomy, including fasting/non-fasting
K3.	Assessment of patient comfort/anxiety level with procedure
K4.	Blood vacuum tubes required for chemistry, hematology, and microbiology testing
K5.	Blood-borne pathogens
K6.	Medical conditions or history and medications impacting collection of blood order of draw for venipuncture
K7.	Anatomy, skin integrity, venous sufficiency, contra-indications
K8.	Phlebotomy site preparation including cleansing, wrapping, order of draw with micro-tubes
K9.	Insertion and removal techniques
K10.	Evacuated tube, syringe, and butterfly methods
K11.	Types of tubes, tube positions, number of tube inversions, and fill level/ratios
K12.	Additives and preservatives
K13.	Bandaging procedures, including allergies and skin types
K14.	Pre-analytical considerations pertaining to specimen quality and consistency
K15.	Special collections (for example, timed specimens, drug levels, blood cultures, fasting)
K16.	Centrifuge and aliquot
K17.	Normal and abnormal test values, control values
K18.	Equipment calibration
K19.	Storage conditions related to sensitivity to light and temperature
K20.	Requirements for transportation, diagnosis, storage, disposal
K21.	Processing and labeling requirements
K22.	External databases (for example, outside labs, reference sources)
E.	EKG and Cardiovascular Testing

Tasks:	
T1.	Prepare patients for procedure
T2.	Perform cardiac monitoring (EKG, ECG) tests
T3.	Ensure proper functioning of EKG equipment
T4.	Recognize abnormal or emergent EKG results (for example, dysrhythmia, arrhythmia, versus artifact)
T5.	Assist provider with non-invasive cardiovascular profiling (for example, stress test, Holter monitoring, event monitoring)
T6.	Transmit results or report to patient's EMR or paper chart, and provider
Knowledge of:	
K1.	Procedures and instructions to minimize artifacts
K2.	Artifacts, signal distortions, and electrical interference (for example, fuzz and wandering baseline)
K3.	Preparation, positioning, and draping of patient
K4.	Supplies (paper, proper leads)
K5.	Placement of limb and chest electrodes
K6.	Techniques and methods for EKGs
K7.	Signs of adverse reaction during testing (for example, signs of distress, elevated BP and respiration)
K8.	Calibration of equipment
K9.	Abnormal rhythms or dysrhythmias associated with cardiovascular testing
K10.	Waveforms, intervals, segment
4. Patient Care Coordination and Education	
Tasks:	
T1.	Review patient record prior to visit to ensure health care is comprehensively addressed

T2.	Collaborate with healthcare providers and community-based organizations	
T3.	Assist providers in coordinating care with community agencies for clinical and non-clinical services	
T4.	Facilitate patient compliance (for example, continuity of care, follow up, medication compliance) to optimize health outcomes	
T5.	Participate in transition of care for patients	
T6.	Participate in team-based patient care (for example, patient-centered medical home [PCMH], Accountable Care Organization [ACO])	
Knowledge of:		
K1.	Preventive medicine and wellness	
K2.	Education delivery methods and instructional techniques and learning styles	
K3.	Resources and procedures to coordinate care outpatient services	
K4.	Available resources for clinical services (for example, home health care)	
K5.	Available community resources for non-clinical services (for example, adult day care, transportation vouchers)	
K6.	Specialty resources for patient/family medical and mental needs	
K7.	Referral forms and processes	
K8.	Barriers to care (for example, socio-economic, cultural differences, language, education)	
K9.	Tracking and reporting technologies	
K10.	Roles and responsibilities of team members involved in patient-centered medical home	

5. Administrative Assisting

Tasks:		
T1.	Schedule and monitor patient appointments using electronic and paper-based systems	

T2.	Verify insurance coverage/financial eligibility
T3.	Identify and check patients in/out
T4.	Verify diagnostic and procedural codes
T5.	Obtain and verify prior authorizations and pre-certifications
T6.	Prepare documentation and billing requests using current coding guidelines
T7.	Ensure that documentation complies with government and insurance requirements
T8.	Perform charge reconciliation (for example, correct use of EHR software, entering charges, making adjustments, accounts receivable procedures)
T9.	Bill patients, insurers, and third party payers for services performed
T10.	Resolve billing issues with insurers and third party payers, including appeals and denials
T11.	Manage electronic and paper medical records
T12.	Facilitate/generate referrals to other healthcare providers and allied healthcare professionals
T13.	Provide customer service and facilitate service recovery (for example, follow up patient calls, appointment confirmations, monitor patient flow sheets, collect on accounts, make up for poor customer service)
T14.	Enter information into databases or spreadsheets (for example, Excel, EHR & EMR, billing modules, scheduling systems)
T15.	Participate in safety evaluations and report safety concerns
T16.	Maintain inventory of clinical and administrative supplies
Knowledge of:	
K1.	Filing systems
K2.	Scheduling software
K3.	Recognition of urgency of appointment needs
K4.	Requirements related to duration of visits (for example, purpose of visit, physician preferences)

K5.	Telephone etiquette
K6.	Records management systems and software (for example, manual filing systems – alphabetical, numeric, office storage for archived files, EMR/EHR software applications)
K7.	Legal requirements related to maintenance, storage, and disposal of records
K8.	Categories of the medical record (for example, administrative, clinical, billing, procedural, notes, consents)
K9.	Required documentation for patient review and signature
K10.	Chart review
K11.	E-referrals (for example, how they are created, required information, how they are sent)
K12.	Financial eligibility, sliding scales, and indigent programs
K13.	Government regulations (for example meaningful use, MACRA)
K14.	CMS billing requirements
K15.	Third party payer billing requirements
K16.	Advanced beneficiary notice (ABN)
K17.	Specialty pharmacies (for example, compounding and nuclear pharmacies; forms of medication available such as liquid, elixir, balm, ointment)
K18.	Insurance terminology (for example, co-pay, co-insurance, deductible, tier levels, explanation of benefits
K19.	Aging reports, collections due, adjustments and write-offs
K20.	Online banking for deposits and electronic transfers
K21.	Authorizations to approve payment processing
K22.	Auditing methods, processes, and sign-offs
K23.	Data entry and data fields
K24.	Equipment inspection logs, required schedules, and compliance requirements, including inspection by medical equipment servicers

6. Communication and Customer Service

Tasks:

T1.	Modify verbal and non-verbal communication for diverse audiences (for example providers, coworkers, supervisors, patients and caregivers, external providers)
T2.	Modify verbal and non-verbal communications with patients and caregivers based on special considerations (for example pediatric, geriatric, hearing impaired, vision impaired, mentally handicapped or disabled)
T3.	Clarify and relay communications between patients and providers
T4.	Communicate on the telephone with patients and caregivers, providers, third party payers
T5.	Prepare written/electronic communications/business correspondence
T6.	Handle challenging/difficult customer service occurrences
T7.	Engage in crucial conversations (with patients and caregivers/heath care surrogates, staff, and providers)
T8.	Facilitate and promote teamwork and team engagement

Knowledge of:

K1.	Communication styles
K2.	Patient characteristics impacting communication (for example, cultural differences and language barriers, cognitive level, developmental stage; sensory and physical disabilities; age)
K3.	Medical terminology and jargon, laymen's terms
K4.	Therapeutic communication
K5.	Interviewing and questioning techniques, including screening questions, open-, closed-, probing questions
K6.	Scope of permitted questions and boundaries for questions
K7.	Active listening
K8.	Communication cycle (clear, concise message relay)

K9.	Coaching and feedback, positive reinforcement of effective behavior
K10.	Professional presence (for example, appearance, demeanor, tone
K11.	Patient satisfaction surveys
K12.	When to escalate problem situations
K13.	Techniques to deal with patients (for example, irate clients, custody issues between parents, chain of command)
K14.	Incident/event/unusual occurrence reports; documentation of event
K15.	Cause-and-effect analysis (for example, anxiety increases blood pressure or heart rate; risk management related to patient and employee safety [reviewing the design, setting/population, protocols, measurements of a facility to ensure overall patient and employee safety])
K16.	Email étiquette
K17.	Business letter formats
K18.	Telephone étiquette

7. Medical Law and Ethics

Tasks:	
T1.	Comply with legal and regulatory requirements
T2.	Adhere to professional codes of ethics
T3.	Obtain, review, and comply with medical directives
T4.	Obtain and document healthcare proxies and agents
T5.	Provide, collect, and store MOLST forms (medical order for life-sustaining treatment)
T6.	Protect patient privacy and confidentiality, including medical records
T7.	Adhere to legal requirements regarding reportable violations or incidents

T8.	Identify personal or religious beliefs and values and provide unbiased care
Knowledge of:	
K1.	Informed consent
K2.	Advanced directives (for example, living will, DNR/DNI)
K3.	Power of attorney
K4.	Storage of medical records
K5.	Conditions for sharing information/release of information
K6.	Criminal and civil acts, and medical malpractice
K7.	Mandatory reporting laws, triggers for reporting and reporting agencies
K8.	Hippocratic Oath

Core Knowledge and Skills

The following sections do not represent standalone domains on the CCMA exam. Rather, these are fundamental skills and necessary knowledge for a medical assistant, which could be used in the context of an assessment item, and are being provided for preparation and review purposes.

1. **Core Knowledge**

A.	Organizations and guidelines related to the medical profession, for example, CMS, CDC, OSHA, FDA, JC, National Committee for Quality Assurance (NCQA), CLIA, COLA
B.	Laws, for example, Affordable Care Act (ACA), Americans with Disabilities Act (ADA), Health Insurance Portability and Accountability Act (HIPAA), Patients' Bill of Rights, Good Samaritan laws
C.	Scope of practice
D.	Standards of care

E.	Aseptic and sterile techniques
F.	Communication methods and techniques
G.	Patient education methods, adult learning styles, and instructional techniques
H.	Collaborative relationships with providers
I.	Electronic health records and electronic medical records (EHR/EMR); paper health records
J.	Medical coding systems (diagnostic, procedures, and billing) and charting systems, including ICD-10-CM, ICD-10-PCS, and CPT
K.	Patient portals and health system portals

2. Core Skills

A.	Basic arithmetic
B.	Measurements and conversions
C.	Basic writing (grammar, spelling, punctuation)
D.	Basic word processing and keyboarding
E.	Basic computer literacy (for example, file directory structures, networks, information security, internet)
F.	Using computers and general software programs (for example, MS Word, Excel, PowerPoint)
G.	Using basic office equipment (for example, copier, scanner, fax, tablets, cameras)
H.	Responsible behavior in social media
I.	Professionalism (for example, appropriate dress, personal telephone/text usage, punctuality, respect for boundaries, motivation, work ethic, integrity, accountability, flexibility, open-mindedness)
J.	Interpersonal skills (for example, establish rapport and display empathy)
K.	Organization, time management, multi-tasking, and prioritization
L.	Teamwork
M.	Critical thinking and problem solving

N.   Conflict management
O.   Leadership
P.   Cultural competence
Q.   Interacting with patients and other healthcare professionals from diverse backgrounds