

**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

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| 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 |

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| 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 |

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| 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 anthropomorphic 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 |


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| 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) |

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| 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 |

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| 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) |

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| 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 |

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| K8. | Elements related to vision and hearing tests including color, acuity/distance, visual fields; tone, speech and word recognition, tympanometry |
| 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 |

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| 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 |

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| 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 |

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| 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 |


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| 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) |

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| 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 |

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| 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/health 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) |

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| 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 etiquette |
| K17. | Business letter formats |
| K18. | Telephone etiquette |
| 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 |

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| 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

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| 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 |

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| 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 |

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