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Arizona State Board of Nursing

MEDICATION ASSISTANT COURSE

For CMAs in long-term care settings. Approved by the Arizona State Board of Nursing July 21, 2010

Eligible Course Providers 32-1650.01

Pursuant to A.R.S. 32-1650.01, the training program shall be either

- A post-secondary education institution that meets the requirements of A.R.S. § 32-1650.01 (A)(1) or (2), or
- A licensed long-term care facility

Course Requirements under A.R.S. 32-1650.01 include:

1. Shall be approved by the Arizona State Board of Nursing
2. Shall schedule no more than 4 consecutive hours of instruction in any one day
3. Shall screen potential students for math and reading comprehension ability
4. Shall administer a minimum of 4 separate unit exams, a medication calculation exam and a comprehensive final exam (while a minimum of three tests and a comprehensive final are required by statute, these requirements reflect the Board's authority to prescribe a curriculum similar to the pilot study (subsection (B)(2)).
5. Shall establish course policies for attendance, clinical supervision, course completion, passing examination scores) and make-up exams consistent with Board requirements (See below for Board requirements).
6. Shall teach according to Board established curriculum
7. Shall ensure that the course instructor meets criteria specified below
8. Furnish a copy of each student's certificate to the Board within 10 days of successful course completion.

Instructor Qualifications under A.R.S. 32-1650.01

The instructor must be an RN with an unrestricted license or multi-state privilege who has at least 40 hours of experience administering medications in a long-term care facility.

Student Qualifications under ARS 32-1650.02

Admission into the training is limited to currently certified nursing assistants (CNA) who:

- Worked as a certified nursing assistant for at least 6 months; have no outstanding complaints or restrictions on CNA certification
- Are at least 18 years old;
- Pass a screening math and reading comprehension test
- Earned a high school diploma, GED, or U.S. college or U.S. military credits or 12 years of education in an foreign country;
 - If educated in a non-English speaking country, a score of 76 on the iBT (internet-based TOEFL) or 6.5 overall and 7.0 on the speaking portion of the International English Language Test Service Academic Examination (IELTS)

Minimum length of the Program under 32-1650.01

- The total program length is a minimum of 100 clock or contact hours. The entity offering the program shall provide of a minimum of 45 of those hours in didactic study inclusive of 4 unit tests, a divided dosage test and a comprehensive final exam.
 - The program shall provide 15 hours of skills lab experience for the purpose of student practice and competency testing before a student is allowed to administer medication to a resident. Medication administration practice in the skills lab is included in the course outline and integrated into the didactic course content. Students must pass a skills lab evaluation as determined by the program before administration of medications to residents.
 - There shall be a minimum of 40 hours of clinical practice utilizing the guidelines of progressive clinical practice and principles of supervision as detailed below

Clinical Practice

A program instructor may supervise the clinical practice or a long-term care facility may provide an RN instructor with an unrestricted license who has a minimum of 6 months medication administration experience to supervise the experience. The program shall provide medication skills checklists to all clinical instructors to record student performance. The clinical instructor supervising the clinical practice of medication assistant students shall engage in no other activities while students are administering medications.

Progressive clinical practice of 40 hours to include:

1. One-to-one instructor observed medication preparation and administration until the instructor determines that the student is safe to progress, starting with a minimum of 5 residents progressing to 10 residents over a period of 3 days for 4 hours per day (12 hours). In addition to providing instruction and guidance, the instructor shall observe, evaluate, and record student performance for each resident medication pass. Students shall perform 30 medication administrations without coaching or missing critical elements to progress.
2. One-to-three instructor-to-student ratio for a minimum of 12 hours. The student may administer medications to 10-15 residents. The instructor shall observe, evaluate, and record performance of medications administered at a specific time to every 3 residents. Students shall perform 15 documented medication administrations without missing critical elements or coaching to progress. A licensed nurse (RN or LPN) shall check all medications for correct drug, time and dosage before administration and review all medication documentation.
3. Upon successful completion of the above, the student may progress to medication passes under the general supervision of the instructor for a minimum of 16 hours to the number of residents determined by the facility to consist of a normal assignment for a medication assistant. The instructor (RN)-to-student ratio shall be no greater than 1:5. The instructor (RN) shall observe, evaluate, and record performance of medications administered at a specific time to every 5 residents. Students shall perform 15 documented medication administrations without coaching or missing critical elements to progress. A licensed nurse (RN or PN) shall check all medications before administration for correct drug, dosage, and time and review all medication administration documentation.
4. Following successful course completion and prior to taking and passing the Board administered competency exam, a CMA course graduate may continue to administer medications to selected residents under the direct supervision of the instructor or designated facility RN consistent with the principles of supervision below.

Principles of Supervision

1. Student supervision is always conducted by the instructor. Throughout the course the instructor shall engage in no other duties during the period of supervision.
2. The student will progress in passing medications to progressively larger groups of residents as the student demonstrates consistent, safe, efficient medication administration according to Board-approved criteria.
3. A licensed nurse (RN or PN) shall review all medication documentation.
4. All medications will be checked for right time, dose, and drug before administration;
5. All critical elements must be performed by the student for all medication passes without coaching or cueing from the instructor for the student to progress from lab to clinical, to a larger number of residents, or to general supervision.
6. The instructor may require more practice than the minimum but in no instances shall less practice be required.

Competency Testing

- CNAs who successfully complete the CMA course shall be eligible to take a certification manual skills and written competency exam
- During the period between course completion and the first attempt on the competency examination, the graduate may administer medications only under the direct supervision of the clinical instructor or a designated RN in the facility.
- Candidates who fail any portion of the competency exam on the first attempt, may not administer medications until they pass the exam except as an enrolled student in a medication assistant program.
- The applicant must pass the competency exam within one year of course completion.

COURSE OUTLINE

Course Overview

This course provides basic background information and routine procedures that are essential for the safe administration of selected medications by experienced certified nursing assistants in a long term care facility. Content includes basic principles of medication administration, simple calculations, and categories of medications. Successful completion of the course and a “pass” on both the written and manual skills exam administered by the Arizona State Board of Nursing (AZBN) will meet the qualifications to become a certified medication assistant (CMA) and administer medications under the provisions of A.R.S. §32-1650, (Certified medication assistants; medication administration; delegation, at a long-term care facility under the supervision of a licensed nurse).

Course Goals

Upon successful completion of the course, the student will be able to:

1. Explain the role of the certified medication assistants (CMAs) in Arizona including allowable acts, conditions, and restrictions.
2. Discuss principles, terminology, laws, and drug references as they apply to administration of medications.
3. Explain principles of medication action.
4. Explain principles of medication administration and nursing assistant care considerations when administering medications to clients of all ages.
5. Accurately calculate medication dosages.
6. Promote safe medication administration in health care facilities.

7. Discuss medication properties, uses, adverse effects, administration, and nursing assistant care of residents receiving the following types of medications:
 - a. Vitamins, minerals, and herbs
 - b. Antimicrobials
 - c. Eye and ear medications
 - d. Skin medications
 - e. Cardiovascular medications
 - f. Respiratory medications
 - g. Gastrointestinal medications
 - h. Urinary system medications and medications to attain fluid balance
 - i. Endocrine/reproductive medications
 - j. Musculoskeletal medications
 - k. Nervous system/sensory system medications
 - l. Psychotropic medications

Clinical Competencies

1. Utilizing the 6 rights of medication administration, administer the following medications to residents when delegated and supervised by a licensed nurse:
 - a. Regularly scheduled medications including controlled substances administered by oral, topical, nasal, otic, optic, and rectal routes.
 - b. Following the nurse's assessment, PRN or "as needed" medications for bowel care or over-the-counter analgesics. The licensed nurse shall evaluate the effects and record the findings
2. Demonstrate application of the principles of asepsis when administering medications.
3. Follow principles of delegation when accepting delegation of medication administration.
4. Accurately document medication administration.
5. Perform nursing assistant care associated with medications administered to residents.
6. Report any changes in resident condition to the delegating nurse.
7. Adhere to Arizona State Board of Nursing statutory limitations during medication administration.
8. Promote resident rights during medication administration.

Limitations on Medication Administration by Certified Medication Assistants A.R.S. §32-1650 (B)

The nurse shall not delegate to a medication assistant

- a. If, in the professional judgment of the nurse, after evaluating the condition and level of services required for the resident and the conduct and skills of the certified medication assistant or medication assistant student, the nurse determines that there would be an unacceptable risk of harm or jeopardize the health or welfare of the resident or that safe delegation cannot be accomplished.
- b. The first dose of a new medication, or of a previously prescribed medication when the dosage is changed.
- c. Any new medication that arrives from the pharmacy without ensuring that it reflects the original prescription.
- d. PRN or "as needed" medications except as described above.
- e. The counting of controlled substances at the beginning and end of a shift and any act associated with obtaining multiple doses of a controlled substance;
- f. Any medication delivered by a needle or by intradermal, subcutaneous, intramuscular, intravenous, intrathecal, and intraosseous routes.

- g. Any medication that must be inserted into a nasogastric tube or gastric tube
- h. A change in oxygen settings or turning oxygen on or off
- i. Inhalant medications
- j. The Regulation of intravenous fluids or programming insulin pumps.
- k. Topical patches and topical medications requiring a sterile dressing or assessment of skin condition.
- l. Sublingual medications
- m. Any medication that requires a mathematical conversion between units of measurement to determine the correct dose.

MINIMUM COURSE POLICIES

ATTENDANCE

- Students must attend all classes to understand the material presented and function at a quality level in the health care setting.
- Students are required to complete the minimum hours of the course (45 didactic, 15 lab, 40 clinical practice)

PASSING STANDARDS

Didactic/Laboratory

Each of the following components must be completed satisfactorily for the student to pass the didactic/lab portion of the course:

- Four unit tests: the student must earn a minimum 75% on each unit test. If a student fails to achieve 75% on a test, an alternate form of the exam may be given for one test only. Students shall not be given access to test items prior to the administration of a test.
- Dosage calculation test: the student must earn 100% on the dosage calculation test. This test should consist of at least 10 simple divided dosage problems with oral medications. It should not require a change in systems of measurement (e.g. ml to tsp). A calculator may be used. Two retakes using alternate forms of the dosage calculation test are permitted. Students shall not be given access to test items prior to the administration of a test.
- Comprehensive Course Test: the student must earn a minimum of 80% on the comprehensive course test. If a student fails to achieve 80% and has passed all unit tests on the first attempt, the student may re-take an alternate form of the comprehensive course test. Students shall not be given access to test items prior to the administration of a test.
- Final skills laboratory: the final skills laboratory exam is Pass/Fail. The program shall test the student in all applicable skills. Critical elements of medication administration for all tested skills are found in the D&S Diversified Technologies Arizona Medication Assistant Manual. The student must demonstrate all critical elements of selected medication administration to receive a grade of “pass.” If each competency is not met, the student will receive a grade of “fail.”

The student must successfully complete the didactic and skills laboratory portion of the course as described above in order to proceed to the clinical practice portion of the course.

Clinical Practice

- The student must complete the clinical practice within 45 days of completing the didactic and skills laboratory

- The student will receive a “pass” or “fail” grade for the clinical practicum; each competency must be met for the student to pass.
- The instructor will place an evaluation form in the students file indicating that the student has met all competencies for each of the 3 levels of clinical practice. The competencies of the previous level must be met to proceed to the next level.

COURSE COMPLETION

- The student successfully meets the passing standards of the didactic/laboratory and
- The student successfully completes the clinical practicum.
- Upon successful course completion, the instructor will provide a document to each successful trainee, which includes the trainee’s name, CNA certificate number, dates of course enrollment and completion, names and addresses of course provider and clinical practice sites, and lead instructor’s signature.
- The training facility will send copies of each student’s certificate of completion to the Arizona State Board of Nursing and D&S Diversified Technologies.

RECORD MAINTENANCE

- Course materials and student records will be retained by the training institution for 3 years.
- Course materials include the following:
 - Course syllabus
 - Course schedule
 - All tests and comprehensive exams
 - Student end-of-course evaluations, the compilation of the evaluations and course improvements instituted as a result of the evaluations
- Records for each student include the following:
 - Student name, date of birth, and CNA certificate number;
 - Copies of tests administered and scores used to assess basic math and reading comprehension
 - Attendance records including total hours for class, lab, and practicum;
 - All scores on tests and quizzes;
 - Skills check lists from clinical practice exam;
 - Instructor completed competency evaluation forms for each level of clinical practice;
 - Copy certificate of course completion.

GRIEVANCE

A student may report a grievance related to the training facility through the established grievance process of the training institution. A student may file a program complaint with the Arizona State Board of Nursing by calling 602-771-7857.

CONDUCT POLICY

The student is expected to conduct him/herself in an ethical and professional manner. A student who commits academic dishonesty and/or acts in an unprofessional manner will be removed from the CMA training program.

RESOURCES

The program should adopt appropriate textbook resources that are current (been published in the last 5 years). Programs shall not copy textbooks in violation of copyright laws. Within these parameters, the program may adopt a text of their choice that will assist students to meet the goals and objectives of the curriculum.

The curriculum was originally based on Gauwitz, D (2005) *Administering Medications: Pharmacology for Health Careers*. 5th Ed. Boston: McGraw-Hill. There is a newer edition available (2007). This text does not address the role of the medication assistant and covers areas outside the role such as administration of parenteral medications and assessing need for and response to medications. Another available text is *Mosby's Textbook for Medication Assistants* by Sorrentino and Remmert (2009) which has more appropriate role information but is structured somewhat differently than the curriculum. It is suggested that instructors have copies of multiple references to supplement didactic learning and always refer to the curriculum and the legal parameters of the role pursuant to A.R.S. 32-1650 in deciding upon assignments and didactic content. Not all curriculum elements may be sufficiently covered or up-to-date in any chosen text and supplemental materials should be incorporated as needed. Regardless of the textbook utilized, the program is responsible for covering the curriculum as this is the content that will be tested in the certification exam.

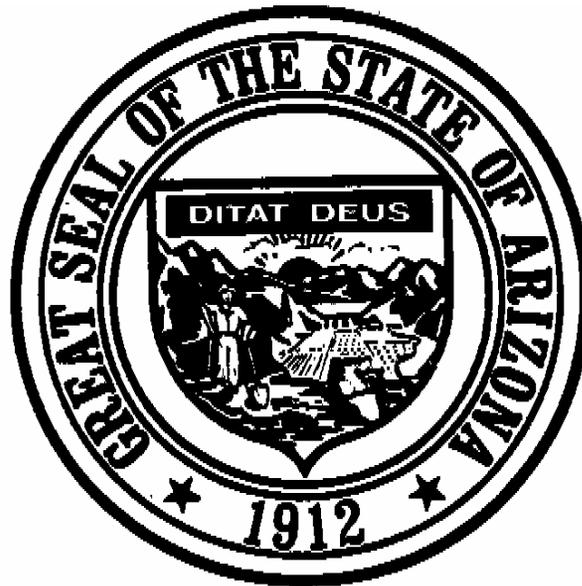
KEY TERMS

Key terms associated with questions on the Competency Exam for Medication Assistants administered by D&S Diversified Technologies have been listed for each unit to assist both educators and students. Not all key terms may be listed as the test changes over time.

STUDENT ASSIGNMENTS

The curriculum is not currently mapped to any text. While the structure is consistent with the original text, that text is outdated. Instructors will be required to align assignments and didactic content to the chosen text.

**ARIZONA STATE
BOARD OF NURSING**



**CURRICULUM
Medication Assistant Training Program**

CERTIFIED MEDICATION ASSISTANT CURRICULUM

The medication assistant training program curriculum was developed by the Medication Technician Pilot Study Steering Committee and approved by the Arizona State Board of Nursing on September 21, 2005. This course provides basic background information and routine procedures that are essential for the safe administration of select medications by experienced certified nursing assistants in a long term care facility. Content includes basic principles of medication administration, simple calculations, and categories of medications.

Goal 1: Explain the role of the medication assistant in Arizona including allowable acts, conditions, and restrictions.			
Unit 1: Role of Medication Assistant			
Objectives	Content	Learning Activities	Minimum Time for Unit
A. Discuss the legal requirements for medication assistants in Arizona	A. Legislation A.R.S. 32-1650	Read: Nurse Practice Act— Rules/ Article 8 Legislation;	Didactic: 1 hour
B. Describe the medications that CMAs can administer in Arizona	B. Medications that can be delegated and not delegated Regularly scheduled Specific Routes Controlled substances PRNs		
C. Describe Board of Nursing role in the regulation of medication assistants	C. Role of the nursing board— oversight of programs, certification		
D. Explain the delegation process and the information a	D. Process of delegation		

<p>CMA would need to accept delegation</p> <p>KEY TERMS Certified medication assistant Delegation Communication Board of Nursing Nurse practice act Medication assistant role Reporting changes Priorities Responsibilities Role Scope of work</p>			
<p>Goal 2: Discuss principles, terminology, laws, and drug references as they apply to administration of medications.</p>			
<p>Unit 2: Laws and Drug References</p>			
<p>Objective</p>	<p>Content</p>	<p>Learning Activity</p>	<p>Minimum Time for Unit</p>
<p>A. List drug sources and uses</p> <p>B. Differentiate between different names for the same drug</p> <p>C. Demonstrate use of drug references</p>	<p>A. Sources and uses of drugs</p> <p>B. Drugs known by different names: chemical, generic and proprietary (trade) name</p> <p>C. Information contained in drug references and types of drug references</p>	<p>A-D. Practice looking up a drug in nursing drug books, and on the internet and discuss the information available</p>	<p>Didactic: 1.5 hours</p>

<p>D. Discuss drug legislation and how laws protect the public</p> <p>E. Apply legal, ethical, and caring behaviors when administering medications</p> <p>KEY TERMS Controlled substance act Confidentiality Controlled substances Drug abuse Drug Enforcement Agency (DEA) Drug reference Drug standards Legal restriction Nursing drug reference Manual Schedule drugs I-V Generic name Trade name FDA requirement OTC</p>	<p>D. Major drug laws: 1. Food and Drug Act 2. Controlled Substance Act 3. Agencies that enforce drug laws</p> <p>E. Legal-ethical Resident rights, experimental drugs, placebos, caring principles—empathy, listening, hope, placebo effect</p>	<p>E. Demonstrate how the facility complies with the controlled substance act—locked narcotics, wastage etc.</p>	
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Goal 3: Explain principles of medication action.

Unit 3: Principles of Medication Action

Objective	Content	Learning Activity	Minimum Time for Unit
<p>A. Describe the processes of drug absorption, distribution, metabolism, and excretion and resident education/care that will support the desired effects of drugs</p> <p>C. List and describe factors affecting drug action.</p> <p>D. Distinguish between therapeutic effects and side effects of a drug</p> <p>E. Describe types of adverse reactions to drugs and nursing assistant responsibilities for each type of adverse reaction.</p>	<p>A. Processes of absorption, distribution, metabolism, and excretion and nursing assistant measures that support appropriate drug action</p> <p>C. Factors affecting drug action: age, size, diet, gender (male/female), genetics, diseases, psychological factors, routes of administration, time of administration, drug taking history, environmental effects.</p> <p>D. Therapeutic/side effects of drugs Local and systemic action</p> <p>E. Adverse reactions; signs and symptoms; nurse assistant responsibilities for: 1. Drug allergy 2. Tolerance 3. Cumulative Effect 4. Overdose and Toxicity</p>	<p>A-E Lecture; encourage discussion--ask students to: List personal factors that may affect drug actions; describe an adverse reaction from their own experience; Have they ever experienced tolerance, etc</p>	<p>Didactic: 2 hours</p>

<p>F. Differentiate between drug dependence and abuse in residents and staff.</p> <p>KEY TERMS Drug allergy Allergic reaction Adverse effects Expected adverse effects Adverse reaction Anaphylaxis Urticaria Drug tolerance Placebo Drug classification Absorption Distribution Metabolism Excretion Drug action Effects of medication Medication effects Drug interactions Side effect Toxic Drug dependence Lethal dose Maximum dose Sensitivity to medications Therapeutic dose</p>	<p>5. Drug interactions 6. Other drug related</p> <p>F. Drug dependence and abuse; nursing assistant responsibilities</p>	<p>F. Discuss risk for abuse among health care professionals</p>	
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Administration error			
Goal 4: Explain principles of medication administration and nursing care considerations when administering medications to clients of all ages.			
Unit 4: Life Span Considerations			
Objectives	Content	Learning Activities	Minimum Time for Unit
<p>A. Recall the effects of aging on body systems</p> <p>B. Discuss pharmacokinetics in the aged</p> <p>C. Administer medications to elderly residents applying principles of safe medication administration, resident rights, and knowledge of aging changes that may affect ability to take medications.</p> <p>D. Discuss the effects of medications on children (optional)</p> <p>KEY TERMS Resident rights Refusing medication Medication absorption Kidney Drug metabolism</p>	<p>A. Effects of aging on body systems</p> <p>B. Pharmacokinetics in the aged</p> <p>C. Administration of medications to elderly residents: resident rights, safety principles, caring behaviors, difficult swallowing (thickening)</p> <p>D. Effects of medications on children (optional)</p>	<p>A-C Lecture/discussion with examples</p> <p>Observation of medication administration</p>	<p>Didactic: 1 hour</p>

Drug build-up			
UNIT TEST #1			
Goal 5: Accurately calculate medication dosages			
Unit 5: Medication Calculation			
Objective	Content	Learning Activity	Minimum Time for Unit
<p>A. Recall common mathematical operations</p> <p>B. Recognize different systems of measurement and when a licensed nurse needs to be involved.</p> <p>C. Write and define units of measurement for metric and household systems</p> <p>D. State common equivalents among measurement systems and use a conversion table to convert between systems</p> <p>E. Calculate the number of tablets or capsules to give when the available dose differs from the ordered dose.</p>	<p>A. Review of:</p> <ol style="list-style-type: none"> 1. Fractions 2. Decimals 3. Percents <p>B/C/D. Systems of measurement:</p> <ol style="list-style-type: none"> 1. Metric 2. Household 3. Temperature scales 4. Apothecary (briefly) <p>E-G.</p> <ol style="list-style-type: none"> 1. Equivalencies metric/household 2. Dosage calculation for oral medications 	<p>A. Provide safe and unsafe examples of calculations</p> <p>Lab Practice: Use actual examples from your facility and workbook in class--a calculator may be used.</p>	<p>4 hours theory; 1 hour lab practice with examples</p> <p>(It is recommended that this content be divided into 2 days)</p>

<p>F. Calculate the amount of liquid medication to pour when the dose is ordered in units of mass.</p> <p>G. Verify a dosage calculation using conversions from one system to another.</p> <p>KEY TERMS Dosage Medication calculation</p>	<p>3. Dosage calculations with conversions—licensed nurse needed to do initial calculation</p>		
DOSAGE CALCULATION TEST			
Goal 6: Describe measures to promote safe medication administration in health care facilities			
Unit 6: Promoting Safe Medication Administration			
Objective	Content	Learning Activity	Minimum Time for Unit
<p>A. Name common abbreviations associated with medication administration.</p> <p>B. List medication forms</p>	<p>A. Accepted abbreviations (supplemental JACHO recommended)</p> <p>B. Forms of medication:</p> <ol style="list-style-type: none"> 1. Liquids 2. Solutions 3. Suspensions 4. Solids/Semisolids 5. Suppositories 6. Topical creams, lotions and ointments 	<p>A. Supplemental JACHO "do not use" abbreviations--quiz</p> <p>C-M. Lecture Discussion/Demonstration Practice procedures: Medication set up— Liquid/Tablet Documentation Incident report</p>	<p>Didactic 5 hours</p> <p>Lab practice 3 hours</p>

<p>C. Describe routes for administering medications</p> <p>D. Recognize the routes of medication that may be administered by the CMA</p> <p>E. Document time using international time (military time)</p> <p>F. Describe the licensed nurses responsibility to check the components of a medication order.</p> <p>G. Describe the ordering,</p>	<p>Enteric coated</p> <p>C. Routes of administration: Oral routes: sublingual, buccal, oral Topical Rectal Eye drops Eardrops</p> <p>D. Inhalation/Parenteral, sublingual and PRN medications—only licensed nurse gives</p> <p>E. International time</p> <p>F. Medication orders checked by nurse: 1. Order sheet 2. Prescription components a. Name of drug b. Dose c. Route d. Time/frequency e. Prescriber signature 3. Types of drug orders; routine, standing, PRN, stat 4. Questioning an order</p> <p>G. Ordering, packaging,</p>		
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<p>packaging, storage and disposal of drugs.</p> <p>H. Describe documentation used to communicate medication orders</p> <p>I. Pour medications according to accepted procedure</p> <p>J. Explain the 6 rights of medication administration</p> <p>K. Document medication administration</p> <p>L. Report and record observations.</p> <p>KEY TERMS Prescription label Drug orders Amber colored container Discontinued medication International time Prescription warning Medication administration record (MAR) Medication inventory</p>	<p>storage, and disposal of drugs</p> <p>H. Documentation: Medication Record Self-terminating Controlled substances</p> <p>I. Pouring medications</p> <p>J. The 6 rights of medication administration: Drug, dose, patient, route time, documentation</p> <p>K. Charting medications MAR, principles of charting, reporting medication errors;</p> <p>L. Other types of observations that require recording and reporting</p>		
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Medication label Medication error Medication order parts Narcotic Scheduled medication lock box 6 Rights of medication administration Liquid medication Oral Rectal Nasal Optic Otic Topical Sub-lingual AC BID Gtt Hs Mg PC PO PRN order tid Hand washing Crushing medications Enteric coatings Suspensions Elixirs Ear drops Swallowing medications Tablet disposal Tablet color			
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Topical medications/topical sprays Reporting drug errors Aspiration Suppository Unit does packaging Valid prescription Expiration date Administration directions Routine medication Facility policy Transdermal patch Types of orders			
Goal 7: Discuss medication properties, uses, adverse effects, administration of, education, and nursing assistant care of residents receiving the following types of medications:			
Unit 7: Vitamins, Minerals, and Herbs			
Objectives	Content	Learning Activities	Minimum Time for Unit
A. Identify fat soluble and water soluble vitamins, and minerals B. List one function of each vitamin or mineral C. Discuss common herbal supplements, their uses, and the	A. Vitamins and minerals 1. RDAs/Food sources 2. Fat-soluble vitamins (A, D, E, and K) 3. Water soluble vitamins 4. Minerals B. Functions of vitamins and minerals C. Herbs and unsafe herbs	Emphasize key points and vitamins/minerals commonly given in the facility—do not require memorization-vitamins to learn are in the vocabulary list Relate information to their own health and intake of vitamins and diet	Didactic: 1.5 hours

<p>potential dangers.</p> <p>KEY TERMS</p> <p>Vitamin A</p> <p>Vitamin B12 (also in cardiac unit)</p> <p>Vitamin B2</p> <p>Vitamin K</p> <p>Vitamin C</p> <p>Vitamin D</p> <p>Calcium</p> <p>Calcium carbonate</p> <p>Fat soluble, water soluble vitamins</p> <p>Garlic</p> <p>Ginger</p> <p>Gingko Biloba</p> <p>Hawthorne</p> <p>Herbal medications</p> <p>Iron (also in cardiac unit)</p> <p>Iron sulfate</p> <p>Iron preparations</p> <p>Recommended daily allowances (RDA)</p> <p>St. John's wort</p> <p>Folic acid deficiency</p> <p>Potassium</p> <p>Anemia</p> <p>Megadose</p>			
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Unit 8: Antimicrobials

Objectives	Content	Learning Activities	Minimum Time for Unit
<p>A. Discuss types of infection, immunity and persons at risk for infection.</p> <p>B. Discuss considerations when administering antibiotics.</p> <p>C. Differentiate major categories of antibiotics and the nursing assistant care and administration considerations associated with each type: penicillins, cephalosporins, tetracyclines, macrolides, aminoglycosides, sulfonimides, quinolones</p> <p>D. Discuss antiviral and antifungal drugs and the nursing assistant care associated with each type.</p> <p>E. Demonstrate administration of medications to residents with transmission-based precautions</p>	<p>A. Microorganisms, the immune system, risks for infections, the geriatric resident</p> <p>B. Considerations when administering antibiotics MRSA, VRE, C-difficile</p> <p>C. Categories, nursing assistant care and administration considerations for: penicillins, cephalosporins, tetracyclines macrolides, aminoglycosides, sulfonimides, quinolones</p> <p>D. Nursing assistant care and administration considerations associated with antiviral and antifungal drugs (Flagyl).</p> <p>E. Review of standard and transmission based precautions, emphasis on considerations when administering</p>	<p>Lecture/discussion with class participation— Include pertinent information from supplemental articles from the Center for Disease Control (CDC)</p> <p>E. Demonstration/Return demonstration of administration of medications to residents with transmission</p>	<p>Didactic: 2 hours</p> <p>Lab Practice: 1 hour</p>

<p>KEY TERMS</p> <p>Antibiotic Antibodies Antiinfective Bacterial Infections Broad spectrum Culture and sensitivity test Infections Levoquin (levofloxacin) Pathogens Oral antibiotic Penicillin Reverse isolation Superinfection Tetracycline Aminoglycosides Narrow spectrum antibiotic Considerations for antibiotics Sulfonamides</p>	<p>medications.</p>	<p>based precautions—Use materials from CDC in instructor manual instead of book for this portion</p>	
UNIT TEST #2			
Unit 9: Eye and Ear Medications			
Objectives	Content	Learning Activities	Minimum Time for Unit
<p>A. Describe the structure, function, of the eye and medication administration considerations when administering eye medications</p>	<p>A. Structure and function of the eye; administration of eye drops/ointments; effects of aging</p>	<p>A-D Lecture/discussion</p>	<p>Didactic: 2 hours Lab Practice: 1 hour</p>

<p>B. Describe ear and structure, function, and the effect of aging on the auditory system.</p> <p>C. Identify common eye and ear pathology</p> <p>D. Identify common types of ear drops and eye medications</p> <p>E. Demonstrate administration of eye and ear medications (drops/ointments)</p> <p>KEY TERMS Eye medications Eye drops Eye medication administration Glaucoma Hydrocortisone Neomycin sulfate Ophthalmic medications</p>	<p>B. Structure and function of the ear; effects of aging</p> <p>C. Common diseases of the eye and ear: Glaucoma Eye infections External otitis Excess cerumen</p> <p>D. Ear drops/Eye medications Eye Polymyxin B Pilocarpine Betaxolol Acetazolamide Ear Polymyxin B Cerumenex</p> <p>E. Procedure for administration of eye and ear medications</p>	<p>E. Demonstration/return demonstration of ear drops and eye medications</p>	
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Tinnitus			
Unit 10: Skin Medications			
Objectives	Content	Learning Activities	Minimum Time for Unit
<p>A. Recall structure and function of integumentary system</p> <p>B. Discuss symptoms of skin disorders</p> <p>C. Discuss major categories of topical medications</p> <p>D. Identify those skin medications that should be administered by a licensed nurse.</p>	<p>A. Structure and function of integumentary system</p> <p>B. General symptoms and specific features of common skin disorders Contact dermatitis Eczema Psoriasis Seborrhic Dermatitis Infection Scabies and Pediculosis</p> <p>C. Categories of topical medications: Keratolytics, protectives and astringents, antipruritics, anti-inflammatory, antiseptics, topical anesthetics, miticides, transdermal</p> <p>D. Transdermal patches; medications requiring a sterile dressing change; medications requiring assessment of skin condition</p>	<p>A-E Lecture/discussion/possible grand rounds if examples of disorders can be found within facility</p>	<p>Theory: 2 hours Lab practice: 1 hour</p>

<p>E. Identify general principles for medicating the skin and associated nursing assistant care.</p> <p>F. Demonstrate application of topical medications allowed</p> <p>KEY TERMS Antipruritic Astringents Calamine/Diphenhydramine Integumentary system Itching Keratolytic agent Lotion Nitroglycerin Pediculocide Perineal Psoriasis Scabies Skin disorder Skin rashes Transdermal Nitroglycerine patch Triamcinolone</p>	<p>(Require licensed nurse)</p> <p>E. Patient considerations; wound preparation; applying the medication; dressings; follow-up</p> <p>F. Principles of topical medication administration</p>	<p>F. Demonstration/return demonstration</p>	
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<p>resident and drug being administered.</p> <p>KEY TERMS Antianginals Antiarrhythmics Anticoagulant Antihypertensives Antilipemics Aspirin Clonidine (Catapres) Congestive heart failure Coronary artery disease Coumadin Digitalis Digoxin Heart rate Hypertension Iron Lipitor Lisinopril (Zestril) Orthopnea Peripheral vascular disease Prothrombin Tachycardia Edema Dyspnea</p>	<p>antiarrhythmics)</p>	<p>Propranolol 10 mg p.o. qid. Add take radial pulse and blood pressure and report to nurse before administering— otherwise procedure the same a digoxin.</p>	
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Platelets Pleurisy Pneumonia Vasotec (Enalapril) Vitamin B-12			
Unit 12: Respiratory Medications			
Objectives	Content	Learning activities	Minimum Time for Unit
<p>A. Recall structure and function of the respiratory system</p> <p>B. Discuss symptoms of respiratory distress and common diseases of the respiratory tract</p> <p>C. Apply principles of safe drug administration and nursing assistant care specific to the disorder when administering oral and nasal respiratory medications.</p>	<p>A. Structure and function of the respiratory system</p> <p>B. Symptoms: Cough, sputum, hoarseness, wheezing, chest pain Diseases: pneumonia, emphysema, asthma, tuberculosis, upper respiratory infection (colds; strep throat)</p> <p>C. Principles of administering oral and nasal respiratory medications and associated nursing assistant care.</p>	<p>A-B Lecture/Discussion/case study</p> <p>C. Demonstration/return demonstration—nasal medications</p>	<p>Didactic: 2 hours</p> <p>Lab: 1 hour</p>

KEY TERMS Nasal Rebound Alveoli Antihistamines Antitussives Bronchiole Pleura Trachea Larynx Bronchus Codeine Cough medication Nose drops Albuterol Decongestant Emphysema Histamine Laryngeal edema Pharynx Theophyllin Rifampin			
UNIT TEST # 3			
Unit 13: Gastrointestinal Medications			
Objectives	Content	Learning Activities	Minimum Time for Unit
A. Recall structure and function of the digestive system	A. Process of digestion; Structure and function of the digestive system	A-C. Lecture/discussion/case study	Didactic: 2 hours Lab: 2 hours

<p>B. Identify symptoms of digestive disorders and characteristics of common disorders of the digestive tract</p> <p>C. Identify common classifications and characteristics of oral and rectal medications that affect the GI system including drugs used for bowel preparation.</p> <p>D. Apply principles of drug administration and nursing assistant care including potential drug interactions when administering oral and rectal drugs that affect the gastrointestinal system</p>	<p>B. Symptoms: Nausea, vomiting, diarrhea, flatulence, eructation, constipation, pain Common disorders: constipation, tooth and gum disorders, peptic ulcer disease, hepatitis, gallbladder disorders, colitis, diverticulosis, hemorrhoids</p> <p>C. Common classifications of oral and rectal GI drugs: antacids, drugs to treat peptic ulcer, antiemetics, anticholinergics/antispasmodics, Antidiarrheals, anti-inflammatory agents, and laxatives (bowel prep).</p> <p>D. Administering rectal medications; review of oral medications; nursing assistant care/considerations when administering GI drugs/bowel preparation and medicated enemas.</p>	<p>D. Demonstration of administration of rectal suppository and enema /return demonstration</p>	
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KEY TERMS Antacids Anticholergic Antiemetic Bulk-forming laxative Colace Constipation Laxatives Lomotil Malabsorbtion Metamucil Milk of magnesia Magnesium based antacid Pancrelipase (Pancrease) Vomiting Zantac Aluminum and calcium based antacid			
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Unit 14: Urinary System Medications and Medications to Attain Fluid Balance

Objectives	Content	Learning Activities	Minimum Time for Unit
A. Recall structure and function of urinary system B. Identify signs and symptoms of common disorders of the urinary system. and imbalances of body fluids, electrolytes and acid-base C. Recall principles of	A. Review structure and function of urinary system B. 1.Common disorders of the urinary system: obstruction, infection, renal failure 2. Imbalances of fluids, electrolytes, and acid-base C. Review antibiotic properties	Lecture/discussion/case studies	Didactic: 1 hour

<p>antibiotics and apply knowledge to treatment of urinary disorders</p> <p>D. Discuss properties of diuretics and oral electrolytes including administration of and associated nursing assistant care.</p> <p>KEY TERMS Acidifiers Alkalizers Action of diuretic Discoloration Hypercalcemia Hyperkalemia Hypernatremia Lasix Nitrofurantoin (Furadantine) Loop diuretic Potassium loss and diuretics Potassium rich foods Phenazopyridine (Pyridium) Thiazide diuretic Urinary antibacterial</p>	<p>D. Diuretic types: thiazide, potassium sparing, loop, oral potassium; nursing assistant care considerations when administering diuretics and oral potassium</p>		
Unit 15: Endocrine Medications/Reproductive System			
Objectives	Content	Learning Activities	Minimum Time for Unit
A. Identify structure and	A. Structure and function of	Lecture/discussion/ case study	Didactic: 3 hours

<p>function of the endocrine glands: pituitary, thyroid, pancreas, and adrenal gland, reproductive system</p> <p>B. Discuss signs, symptoms and nursing care associated with the following endocrine disorders: diabetes mellitus, disorders of the adrenal gland, thyroid disorders, reproductive system disorders</p> <p>C. Identify the purpose of and administer oral endocrine medications demonstrating application of nursing assistant principles: oral diabetic agents (importance of diet/accuchecks), corticosteroids, thyroid replacement drugs; hormone replacement</p> <p>KEY TERMS Corticosteroids Estrogen Estradiol (Estrderm) Fasting sugar Fludrocortisone (Florinef) Hormones Hypoglycemia Hyperglycemia</p>	<p>the endocrine glands</p> <p>B. Signs, symptoms and nurse assistant care of: diabetes mellitus, adrenal disorders, thyroid disorders</p> <p>C. Properties and nursing assistant care associated with administration of: oral diabetic agents (diet/accuchecks), corticosteroids, thyroid replacement drugs; hormone replacement drugs</p>	<p>examples</p> <p>Demonstrate administration/return demonstration (Use oral medication check-off with common endocrine medications in LTC facility and scenarios)</p>	<p>Lab Practice oral endocrine medications: 1 hour</p>
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Mineralocorticoids Prednisone Oral hypoglycemics Tolbutamide (Orinase) Thyroid Levothyroxin sodium (Synthroid) Iodine Glipizide (Glucotrol)			
Unit 16: Musculoskeletal Medications			
Objectives	Content	Learning Activities	Minimum Time for Unit
A. Recall structure and function of the musculoskeletal system B. Discuss signs and symptoms, drug treatment and associated nursing assistant principals for the following disorders: Physical injuries, osteoporosis, bursitis, gout, osteoarthritis, and rheumatoid arthritis C. Administer drugs for disorders of the musculoskeletal system applying principles of care for residents with musculoskeletal	A. Structure and function of the musculoskeletal system: bones, joints, and muscles B. Signs and symptoms, drug treatment and associated nursing assistant care of residents with: Physical injuries, osteoporosis, bursitis, gout, osteoarthritis, and rheumatoid arthritis C. Drug characteristics and administration principles for common drugs used for musculoskeletal disorders: NSAIDs, Tylenol,	A-B Lecture/discussion/Case examples C. Demonstration/return demonstration using NSAIDS prn medication order	Didactic: 2 hours Lab practice: 1 hour

disorders	methotrexate, antihyperuricemics, muscle relaxants and calcium and other drugs to treat osteoporosis		
KEY TERMS Aspirin Advil Analgesic Antiarthritic Carisoprodol(Soma) Fosamax Gout Inflammation Ibuprofen Muscle Relaxants Naproxen (Naprosyn) NSAIDs Rheumatoid disorders Tylenol (acetaminophen) Uricosuric agents Osteoporosis Corticosteroid therapy Corticosteroids			
Unit 17: Nervous System/Sensory System Medications			
Objectives	Content	Learning Activities	Minimum Time for Unit
A. Recall structure and function of the nervous and sensory systems	A. Review structure and function of the nervous and sensory system	A-E Lecture/Discussion/Case Study	Lecture: 2 hours Lab practice: 1 hour

<p>B. Discuss characteristics of nervous system disorders, drug treatment, and associated nursing assistant care: Parkinson's disease, Myasthenia Gravis, Multiple Sclerosis, Epilepsy, and Cerebral Vascular Accident.</p> <p>C. Compare properties of drug classifications that affect the nervous system: Stimulants, Depressants including narcotic analgesics, anticonvulsants, antiparkinson agents</p> <p>D. Apply principles of drug administration for drugs affecting the central nervous system when administering medications.</p> <p>E. Discuss principles of administration of medications to treat pain</p>	<p>B. Nervous system disorders, drug treatment and associated nursing assistant care in the following disorders: Parkinson's disease Myasthenia Gravis, Multiple Sclerosis, Epilepsy, CVA</p> <p>C. Drug classification properties of Stimulants, Depressants including narcotic analgesics, anticonvulsants, antiparkinson agents</p> <p>D. Principles of administering CNS drugs</p> <p>E. Pain control principles Review of observing and reporting resident pain, nursing assistant care to relieve pain, administering medications to relieve pain, reporting response to nurse</p>	<p>Lab practice: Administering PRN OTC medication for pain</p>	
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KEY TERMS Acetaminophen/ Hydrocodone Anticonvulsants Antiparkinsonian agents Central nervous system Dilantin (phenytoin sodium) Darvocet Dizziness Drug dependence Parkinson's Disease Seizures Stimulants Ticlodipine (Ticlid)			
UNIT TEST #4			
Unit 18: Psychotropic Medications			
Objectives	Content	Learning Activities	Minimum Time for Unit
A. Identify the signs and symptoms of major mental disorders: depression, psychosis, anxiety, bi-polar disorder B. Describe classifications of psychotropic drugs, their uses and associated nursing assistant activities.	A. Signs and symptoms of major mental disorders: depression, anxiety, psychosis, bi-polar disorder B. Psychotropic drug classifications: Antidepressants: tricyclic, SSRI's	A-B Lecture/discussion/exemplars	Didactic: 2 hours

<p>C. Apply legal, ethical, and nursing assistant caring behaviors when administering psychotropic drugs.</p> <p>KEY TERMS Antipsychotic Ativan Benzodiazepine Bi-polar disorder Depression Extrapyramidal symptoms (EPS) Hallucination Haloperidol (Haldol) Librium Monoamine oxidase inhibitor (MAOI) Paroxetine (Paxil) Fluphenazine (Prolixin) Fluoxetine (Prozac) Sedative Selective serotonin reuptake inhibitor (SSRI) Diazepam (Valium)</p>	<p>Anti-anxiety agents, sedatives, antipsychotics, and lithium</p> <p>C. Legal-ethical considerations; caring behaviors in administering psychotropic drugs</p>	<p>C. Role play scenarios that incorporate refusal of medication and legal/ethical principles</p>	
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Final Exam: 1 hour (add extra questions on psychotropic medications since it was not covered in previous unit exam)
Skill Check-off Exam: 1 hour
Didactic Instruction: 39 hours

Tests:	6 hours (four unit tests, a dosage calculation test, and a comprehensive final)
Total Didactic:	45 hours
Lab:	14 hours
Check-offs:	1 hour
Total Lab:	15 hours
Didactic + Lab:	60 hours