

COURSE INFORMATION

COURSE PREFIX/NO:	DHG 143
COURSE TITLE:	Dental Pharmacology
LEC HRS/WEEK:	2.0
LAB HRS/WEEK:	0.0
CREDIT HRS/SEMESTER:	2.0

[DL ATTENDANCE/VA STATEMENT](#)
[TEXTBOOK INFORMATION](#)

COURSE DESCRIPTION

This course provides a study of drugs used in dentistry. Emphasis is placed on the physical and chemical properties of the drugs, dosages, and therapeutic effects, methods of administration and indications/contraindications for the use of the drug. A study of dental anesthetics is included.

Co-Requisite: DHG 255, DHG 230 Pre-Requisite: DHG 175, DHG 141, DHG 140

LEARNING OBJECTIVES

1. Explain the principles of pharmacology to include pharmacokinetics, routes of administration, drug names and prescription writing.
2. Evaluate medical histories and the drugs a client takes for possible indications, contraindications, limitations, or alterations of dental treatment.
3. Describe the central nervous system and identify the drug actions in the CNS.
4. Describe the autonomic nervous system and identify drugs affecting each system.
5. Identify common narcotic and non-narcotic drugs, their dental implications, and dangers.
6. Identify common anti-infective drugs, their medical and dental uses including prophylactic coverage regimens.
7. Identify common local and general anesthetics with emphasis on comparing and contrasting different local anesthetics used in dentistry.
8. Discuss the concentration, types, and uses of fluoride in professionally applied fluoride treatments in water, prescribed pills and drops, dentifrices and mouthwashes.
9. Identify common drugs used to treat cardiovascular disease and their effect on dental treatment.
10. Identify common psychotherapeutic drugs.

11. Identify drugs used to treat respiratory and gastrointestinal problems.
12. Discuss the drugs used in cancer therapy and oral implications of cancer therapy.
13. Discuss the use of analgesics for effective pain.
14. Identify indications for use of pharmacologic methods in management of the anxious or fearful client.
15. Identify the fearful or anxious client.
16. Discuss pharmacologic approaches to managing fear and anxiety in the dental client to include:
 - a. conscious sedation
 - b. deep sedation
 - c. general anesthesia
17. Recognize drugs which serve as reversal agents for opioids and benzodiazepines.
18. Identify antimicrobial agents in the prevention of treatment of infection.
19. Define drug abuse.
20. Recognize drug abuse characteristics and terminology.
21. Discuss dental complications of drug abuse.
22. Discuss the alterations in drug responsiveness that can be attributed directly to aging.
23. Discuss psychosocial factors that indirectly have an impact on how the elderly use and react to drugs.

TEXTS

Applied Pharmacology for the Dental Hygienist, Requa-Clark & Holroyd, 2nd ed.

REFERRAL TEXT

PDR

COURSE REQUIREMENT:

To successfully complete DHG 143, the dental hygiene student must fulfill the following requirements:

1. attend all scheduled lecture sessions
2. complete all reading assignments
3. complete and achieve an average of 80% or better on all tests and quizzes
4. contact the instructor prior to class in cases of unavoidable absences
5. adhere to the dental hygiene program dress code

METHOD OF INSTRUCTION:

Each student will be provided with lesson objectives which correspond with each lecture given by the instructor. Course information will be delivered by lectures, overhead projections, class discussion, and handouts.

EVALUATION STRATEGIES TESTING:

Students will be evaluated on written exams, case applications, assignments and one comprehensive final. The written tests will include fill in the blanks, matching and multiple choice.

Students are encouraged to answer the questions at the end of each assigned chapter, however, the assigned questions and case applications must be answered prior to each class. Students will receive up to ten (10) points for each completed assignment. The total points, not to exceed 100 will count as one exam grade.

ATTENDANCE ABSENTEEISM:

Students who are to be absent must contact the instructor prior to the class. Any student who is absent on the day of a test will automatically have seven (7) points deducted from that test grade. All missed tests will be made up at the instructor's conveniences. If a student is absent for more than three (3) consecutive days, a doctor's statement will be needed.

Students are responsible to make an appointment with the Testing Center to set-up a time to take the test. The students must inform the instructor of the time so that the test may be delivered to the Testing Center prior to the testing appointment. Students must take the missed test within one (1) week. Should the student fail to take the test within the week period, a grade of zero (0) will be given for that test.

Any absence in excess of three (3) will be grounds for dismissal from the DHG Program.

GRADING

The final grading scale for DHG 143 is as follows:

100-94 A
93-87 B
86-80 C
79-below F

The grade for DHG 143 will be determined as follows:

Exams 75% Final 25%

DENTAL PHARMACOLOGY DHG 143 COURSE OUTLINE

I. Introduction to Pharmacology TIME ALLOCATED: 1 HOUR

- A. Definitions
- B. Drug Schedules
- C. Drug Names
- D. Routes of Administration
- E. Factors that Alter Drug Effects
- F. Regulatory Agencies
- G. Prescription Writing

II. Central Nervous System TIME ALLOCATED: 1 HOUR

- A. Anatomy
- B. Common Diseases
- C. Drugs Affecting CNS
- D. CNS Drugs used in Dentistry

III. Autonomic Nervous System TIME ALLOCATED: 2 HOURS

- A. Anatomy
 - 1. parasympathetic
 - 2. sympathetic
- B. Drugs Affecting the Parasympathetic Nervous System
 - 1. adverse reactions
 - 2. contraindications
 - 3. uses
 - 4. drug interactions
- C. Drugs Affecting the Sympathetic Nervous System
 - 1. receptors
 - 2. pharmacologic effects
 - 3. adverse reactions
 - 4. cautions
 - 5. uses

IV. Nonnarcotic Drugs TIME ALLOCATED: 1 HOUR

- A. Pain and Analgesic Therapy
- B. Salicylates
- C. NSAIA
- D. Acetaminophen

V. Narcotic Drugs TIME ALLOCATED: 2 HOURS

- A. Classifications
- B. Mechanism of Action
- C. Adverse reactions
- D. Specific Groups
 - 1. morphine
 - 2. hydromorphone
 - 3. methadone
 - 4. oxycodone
 - 5. codeine

VI. Antiinfective Agents/Antifungal-Antiviral Agents TIME ALLOCATED: 3 HOURS

- A. Definitions
- B. Sensitivity
- C. Indications
- D. Adverse Reactions
 - 1. allergic reactions
 - 2. drug interactions
 - 3. gastrointestinal complaints
 - 4. pregnancy
- E. Antiinfective Drugs used in Dentistry
 - 1. types
 - 2. spectrum
 - 3. resistance
 - 4. adverse reactions
 - 5. contraindications
- F. Antibiotic Prophylaxis
 - 1. indications
 - 2. dental procedures
 - 3. regimens
- G. Antifungal and Antiviral Agents
 - 1. types
 - 2. indications
 - 3. adverse reactions
 - 4. contraindications

VII. Anesthetics TIME ALLOCATED: 3 HOURS

A. Local

1. mechanism of action
2. pharmacokinetics
3. pharmacologic effects
4. adverse reactions
5. choice and dosage

B. General

1. methods of administration
2. mechanism of action
3. classification
4. contraindications

VIII. Oral Conditions, Fluorides, Antiplaque and Antigingivitis Agents TIME ALLOCATED: 2 HRS

A. Terminology

B. Fluoride toxicity

C. Mechanism of Action

1. fluoride
2. antiplaque and antigingivitis agents

D. Systemic Fluoride

E. Topical Fluoride

F. Oral Conditions and their Treatment

IX. Cardiovascular Drugs TIME ALLOCATED: 2 HOURS

A. Contraindications

B. Indications

1. CHF
2. arrhythmias
3. angina pectoris

C. Antihypertensive Drugs

1. mechanisms
2. uses
3. adverse effects

D. Anticoagulants

1. uses
2. adverse effects
3. dental implications

X. Psychotherapeutic Drugs TIME ALLOCATED: 2 HOURS

A. Psychiatric Disorders

B. Antipsychotic Agents

1. adverse reactions
2. drug interactions
3. uses
4. dental implications

- C. Antidepressant Drugs
 - 1. effects
 - 2. adverse reactions
 - 3. drug interactions
 - 4. poisoning
 - 5. uses
 - 6. dental implications

XI. Adrenocorticosteroids and Diabetes TIME ALLOCATED: 2 HOURS

- A. Definitions
- B. Routes of Administration
- C. Mechanism of Action
 - 1. pharmacologic effects
 - 2. adverse reactions
- D. Dental Implications

XII. Respiratory Drugs TIME ALLOCATED: 1 HOUR

- A. Process of an Allergic Reaction
- B. Definitions
- C. Antihistamines
 - 1. uses
 - 2. adverse effects
 - 3. contraindications

XIII. Gastrointestinal Drugs TIME ALLOCATED: 1 HOUR

- A. Antacids
- B. Sacralfate
 - 1. uses
 - 2. adverse effects
- C. Reflux
- D. Mixed-Anti-Infective Therapy
- E. Chronic Inflammatory Bowel Disease

XIV. Immunotherapy TIME ALLOCATED: 2 HOURS

- A. Overview of Specific Immunity
- B. Immunostimulation
- C. Immunosuppressive Agents
- D. Cytokine Therapy
- E. Immunotherapy in AIDS

XV. Special Subjects in Pharmacology TIME ALLOCATED: 7 HOURS

- A. Analgesic Use for Effective Pain Control
 - 1. Pain classification, assessment and misconceptions
 - 2. Analgesic selection
 - 3. Principles of analgesic Use

B. Management of Fear and Anxiety

1. Indications for use
2. Identification of fearful or anxious client
3. Pharmacologic approaches to managing fear and anxiety in the dental client.
 - a. conscious sedation
 - b. deep sedation
 - c. general anesthesia

C. Antimicrobial Agents in the Prevention and Treatment of Infection

1. Treatment of orodental infection
2. Commonly used antimicrobial drugs
3. Antibiotics for special dental indications

D. Oral Complications of Cancer Therapy

1. Chemotherapy
 - a. direct oral toxicities
 - b. indirect oral toxicities
2. Radiotherapy
 - a. acute reactions
 - b. late reactions

E. Drugs of Abuse

1. Characteristics and terminology
2. Abuse of opioids
3. Abuse of sedative-hypnotics
4. Abuse of cocaine, amphetamines and other psychomotor stimulants.
5. Abuse of hallucinogens
 - a. psychedelic
 - b. deliriant
6. Abuse of marijuana
7. Abuse of inhalants
8. Dental implications of drug abuse
 - a. dentists as target of drug abuse
 - b. drug abuse among dentists
 - c. medical and dental complications of drug abuse
 - d. drug interactions in drug abuse
 - e. pain control and drug abuse

F. Geriatric Pharmacology

1. Physiological changes associated with aging
2. Nonphysiologic aspects of aging
3. Pharmacologic changes associated with aging
4. Implications for dentistry