

CDHO

COLLEGE OF DENTAL
HYGIENISTS OF ONTARIO

Drugs in Dental Hygiene Practice: Self-Build Study Guide



**Drugs in Dental Hygiene Practice:
Self-Build Study Guide**

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Introduction to the Self-Build Study Guide

The self-build study guide is an adjunct to the Drugs in Dental Hygiene Practice refresher course that will help you prepare for the Drugs in Dental Hygiene Practice Examination. Preparing for the examination involves more than knowing facts, figures, formulas, and definitions. To be successful you will need to demonstrate critical thinking, which involves more than just memorization. The self-build study guide has been designed to help you organize and process course materials so that you can increase your comprehension and ability to think critically. It also provides opportunities to practise using drug references and drug interaction checkers. Keeping in mind that the examination is open book, your completed self-build study guide will be a valuable tool for use during the examination.

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Unit 1 — Responsibilities of Prescribing and Dispensing



Activity 1.1 Accountability and professionalism

Review the following case studies/questions and select the correct answers.

Goal: Demonstrate an understanding of the responsibility of a health care professional.

1. “Stretching the Limits of Competence”

*You have worked in a restorative office for 18 years. The dentist has retired and the office has closed. After a long search, you have been hired by a dentist working in orthodontics. You have not done any orthodontics since school. You have been trained by another dental hygienist in the office. Your probationary period is coming to a close and your employing dentist has indicated that you will be getting your own case load now. You get the sense that the dentist is getting tired of “holding your hand” and is concerned that you are taking up too much of the other dental hygienist’s time. On the first day by yourself you see a client on a follow-up visit who complains that the appliance is causing constant pain. Your assessment does not reveal any obvious tissue injury but you wonder about the possibility of internal trauma. **What should you do?***

- a. Get help from a colleague outside of the office.
- b. Get help from either the dentist or the dental hygienist who trained you.
- c. Being a professional means that you have sufficient ability to find the answer on your own. Besides, your employer has suggested that you be independent.
- d. Nothing. You are not entitled to diagnose clients.

2. “Sterilization Backlog”

*You work in a large and very busy office. A dental assistant, Julia, who you consider a friend, is responsible for sterilizing the instruments. When you noticed a failed “spore test” report lying on the counter you asked Julia about what the dentist had said about it. Julia looked embarrassed and said it was a blip and, please, not to mention it to the dentist (who has been a little hard on Julia). Since then you have noticed small signs of Julia’s disorganization in the sterilization area (e.g., the supply of sterilized instruments always seems to be low, the colour strip hasn’t always changed, and the sterilizer often appears overloaded. You have tried to help out a bit but little seems to be changing. You have hesitated speaking with Julia because you are not her supervisor and you personally prefer to avoid confrontation. Today, at a staff meeting on Julia’s day off, the dentist asks everyone for feedback for a performance review for Julia and says “Well she seems to be doing OK on the sterilization of instruments because we never seem to run out.” **To whom are you primarily accountable?***

- a. The clients.
- b. The dentist.
- c. Julia.
- d. Equally to the clients, the dentist and Julia.

3. A client asks you not to record anything about her HIV positive status because the client's friend works as a dental assistant at your workplace and has access to the records. The dental assistant works primarily with supplies and chair-side assistance to the dentists and is unlikely to have professional contact with your client during your course of treatment. **What should you do?**

- a. Tell the client that anything s/he says will be recorded because of your duty of honesty.
- b. Tell the client that only relevant information will be recorded. This diagnosis is relevant and needs to be recorded.
- c. Tell the client that this diagnosis is relevant and needs to be recorded, but you will keep it separate from the chart.
- d. Say nothing but record the information.



Activity 1.2 Effective communication

Review the following case studies/questions and select the best answers.

Goal: Demonstrate an understanding of the importance of effective communication.

1. Poor communication can lead to which of the following?

- a. Less than ideal results.
- b. A complaint to the College.
- c. A lawsuit.
- d. Losing clients.

2. What is the most significant barrier to effective communication with clients?

- a. Dental hygienists are too knowledgeable.
- b. Dental hygienists' expertise makes it easy to overlook a client's perspective.
- c. Ontario is multicultural.
- d. Dental hygienists are pressed for time.



Activity 1.3 Requirements for dental hygienists under the RHPA, 1991 and other statutes

Review the following case studies/questions and select the best answers.

Goal: Recognize your professional responsibility under Ontario legislation.

1. “Cooperation with the College”

*A letter arrives from the College informing you of a complaint by a client who says you were rude to her. In fact, it was the other way around and you can barely contain your frustration at having to deal with yet another problem. You are already working 60-hour weeks. Another source of stress for you is that your mother can barely cope in her home and you, her only child in the city, are trying to persuade her to go to a retirement home. Six weeks go by and you receive a reminder letter from the College. On a visit to your family physician for a recurring cough, she diagnoses you with exhaustion and tells you to stop all work-related activity for a month. **What do you do?***

- a. Follow doctor's orders and do not respond to the complaint.
- b. Call or write the College explaining the situation and requesting an extension.
- c. Write a brief response because you must cooperate with the College.
- d. Call the client, apologize, explain your condition and ask her to withdraw the complaint.

2. “Great ideas”

Doug, a drug company representative comes to your office with a “great” idea to attract clients to your practice. He is willing to give you chlorhexidine samples for you to hand out at an oral health expo you are participating in. He has a table display that includes a computerized survey that people can fill out. After answering a series of questions about their oral health the computer will identify those reporting symptoms associated with gingivitis. Those identified will get a print-out talking about the benefits of chlorhexidine and a coupon for a free 2-week sample. Your name and practice information will be included on all promotional materials and you will have the product at the expo to exchange for coupons. He claims that people will see the difference in the health of their gums within 2 weeks and will contact you for more products. At that point you will get them into your practice as future clients and will be able to offer additional services. Doug has also offered you the computer and survey tool for your reception area for as long as you stay loyal to his brand of chlorhexidine.




There are a number of potential problems with this scenario. **List as many as you can.** (e.g. You cannot dispense drugs to non-clients.)



Activity 1.4 Self-assessment of competency related to drugs in practice

Complete the self-assessment related to drugs in your dental hygiene practice. You will be asked to complete this again at the end of the course.

Goal: To self-determine if additional education on the topic of pharmacology and or drugs in practice is required.

Competency	Yes. Definitely. 	Sort of. 	No. Don't know. 
I understand the pathway drugs take through the body.			
I understand the mechanism of action as the body processes drugs.			
I record full details of all drugs taken by my clients or used during client treatment.			
I collaborate with the appropriate health care professional when I am unsure about a drug taken by my clients.			
I use current, reliable references to research drugs or combinations of drugs taken by my clients.			
I know how to manage adverse drug reactions and medical emergencies.			
I know how drugs and herbal remedies are classified.			
I know how to write an accurate and legal prescription.			
I know how to prevent and reduce medication errors.			
I know how to store and dispose of drugs.			
I know how to investigate possible drug interactions.			
I understand the actions of the major classes of drugs.			

Activity Checker



Activity 1.1 Accountability and professionalism

Answers to questions 1–3 can be found in the Registrants' Handbook, Chapter 1.



Activity 1.2 Effective communication

Answers to questions can be found in the Registrants' Handbook, Chapter 9.



Activity 1.3 Requirements for dental hygienists under the *RHPA, 1991* and other statutes

Did you review the Professional Misconduct Regulation and the Standards of Practice?



Activity 1.4 Self-assessment of competency related to drugs in practice

If you answered “sort of” or “no” to any questions in your self-assessment, you may want to pay particular attention to these areas in the course. You may also wish to seek out additional resources if necessary.

Unit 2 — Decision-Making Related to the Use of Drugs in Dental Hygiene Care



Activity 2.1 Drugs and the Dental Hygiene Process of Care

Give an example that demonstrates how drugs may affect client care and/or dental hygiene treatment for **each** stage in the *Dental Hygiene Process of Care*.

Goal: Demonstrate knowledge of Process of Care and the relevance of drugs in practice at each stage.

Process of Care	Considerations for client care/treatment



Activity 2.2 Record keeping

Write sample chart entries for each of the following:

1. Client who has taken a drug for the purposes of antibiotic prophylaxis.
2. Client for whom you have used topical anaesthetic.
3. Client for whom you have recommended the use of an analgesic for discomfort after scaling.

Goal: Demonstrate knowledge of your record keeping requirements.

1. Client who has taken a drug for the purposes of antibiotic prophylaxis.

Hint: Think of someone in your practice who has been prescribed prophylactic antibiotics.

Goal: Identify a commonly prescribed drug used for antibiotic prophylaxis and record relevant information in client record.

2. Client for whom you have used topical anaesthetic.

Hint: Think of someone in your practice that you have applied a topical anaesthetic for scaling.

Goal: Identify a drug used as topical anaesthetic and record relevant information in client record.

3. Client for whom you have recommended the use of an analgesic for discomfort after scaling.

Hint: Think of someone in your practice that you have recommended a drug for pain relief post scaling.

Goal: Identify a commonly used over-the-counter analgesic used to treat dental pain and record relevant information in client record.

Activity 2.3 Exploring unfamiliar drugs



Mrs. Smith reports during the review of her medical/dental history that she is taking a medication that you are not familiar with. In your self-build study guide, describe the steps you would take to determine if it is safe to treat Mrs. Smith.

Hint: What sources would you use to get more info about the medication?

Goal: Identify multiple sources of information that can inform your decision to treat or not to treat.



Activity 2.4 Using the CDHO Knowledge Network

A client presents with rheumatoid arthritis and says he is taking some medications but is not sure what they are. Using the CDHO Knowledge Network, identify common drugs used for this condition and discuss the considerations in treating a client with this condition.

Hint: Advisories contain more information than the fact sheets.

Goal: Working knowledge of the information contained within the CDHO Knowledge Network.

Drugs associated with rheumatoid arthritis	Considerations for treating

Activity Checker



<input type="checkbox"/>	<p>Activity 2.1 Drugs and the Dental Hygiene Process of Care</p> <ul style="list-style-type: none"> ✓ All five stages of Process of Care identified. ✓ Health history and client interview includes all drugs a client takes and determination if pre-medication is required (includes why this is significant). ✓ Consideration given to how medical conditions and/or drugs used to treat conditions will impact a client's oral health. ✓ Consideration given to impact this will have on scheduling appointments. ✓ Consideration given to providing intervention. ✓ Consideration given to post intervention communication and re-evaluation.
<input type="checkbox"/>	<p>Activity 2.2 Record keeping</p> <ul style="list-style-type: none"> ✓ Consulted CDHO Recommended Antibiotic Prophylaxis Regimens for the Prevention of Infective Endocarditis and Hematogenous Joint Infection. ✓ Consideration given to condition requiring pre-medication. ✓ Consideration given to prescriber. ✓ Consideration given to compliance with prescription and guidelines for antibiotic prophylaxis. ✓ Consideration given to where topical drug was used. ✓ Consideration given to why drug was used or recommended. ✓ Consideration given to Unit 2, Section 2.2.
<input type="checkbox"/>	<p>Activity 2.3 Exploring unfamiliar drugs</p> <ul style="list-style-type: none"> ✓ Consideration given to client as source. ✓ Specified multiple current and creditable resources (hard copy, electronic). ✓ Consideration given to inter-professional consultation.
<input type="checkbox"/>	<p>Activity 2.4 Using the CDHO Knowledge Network</p> <ul style="list-style-type: none"> ✓ Preference given to advisory over fact sheet. ✓ Located proper reference for both parts of the activity in the advisory. ✓ Used links from advisory to get additional drug information.

Unit 3 — Pharmacodynamics and Pharmacokinetics



Activity 3.1 Calculating and interpreting the therapeutic index

Drug A has an LD_{50} of 1200 and an ED_{50} of 100. Calculate the therapeutic index of Drug A. Is this drug likely to cause a toxic reaction? Is it clinically useful? Why or why not?

Goal: Understand the significance of the therapeutic index.

Drug A	
Therapeutic index	
Likelihood of toxic reaction	
Clinical usefulness and rationale	

Activity 3.2 Reporting adverse drug reactions

Complete the [Canada Vigilance Adverse Side Effect Reporting Form](#) for the following client:

Client: Male, 48 years old, 85 kg, 6'1", Chart ID # 123456

Health History: Allergy to sulfa drugs, no medical conditions or disorders

Reaction: Client given 1.23% APF fluoride treatment in Foamy brand trays. Client developed a rash and swelling in the lip area immediately after tray was inserted. Trays removed and client rinsed with water and expectorated remaining fluoride. No change in vital signs from assessment 30 minutes earlier. Client back to normal in 10 minutes. Vital signs normal. EMS **not** activated.

Goal: Become familiar with the Canadian Vigilance Adverse Side Effect Reporting Form.



SIDE EFFECT REPORTING FORM

Reporting suspected side effects (also known as adverse reactions) to marketed health products in Canada may contribute to the identification of previously unrecognized rare or serious side effects, which may lead to changes in the product's safety information.

Instructions on how to complete and submit this form and information about confidentiality can be found on Page 2. Complete all mandatory fields, marked by a *, and provide as much detail as possible for the remaining fields.

**FAX completed form to 1-866-678-6789
For more information call 1-866-234-2345**

PROTECTED "B" WHEN COMPLETED"

A) About the person who had the side effect				D) Suspected health product		
Reference # (if applicable)				1. Product name*	2. Strength	3. Manufacturer
1. Age*	2. Sex*	3. Height	4. Weight			
Years Months	<input type="checkbox"/> Male <input type="checkbox"/> Female	cm ft in	kg lbs oz			
5. Medical history and other related information (allergies, pregnancy, smoking/alcohol use, liver disease, etc.)				4. Lot #	5. DIN #/NPN #	
				6. Country of purchase		7. Where it was purchased/obtained
				<input type="checkbox"/> Canada <input type="checkbox"/> United States <input type="checkbox"/> Other (specify):		<input type="checkbox"/> Pharmacy <input type="checkbox"/> Grocery store <input type="checkbox"/> Internet <input type="checkbox"/> Other (specify):
				8. Product start date (yyyy-mm-dd)*		9. Product end date (yyyy-mm-dd)
B) Reporter information				At the time of the side effect, specify:		
1. Name*	2. Telephone*	3. Province/Territory		10. Dosage* (strength and quantity)	11. Frequency (e.g. twice daily)	12. How the product was taken* (e.g. by mouth)
4. Address		5. E-mail				
6. Preferred language		7. Organization (if applicable)				
<input type="checkbox"/> English <input type="checkbox"/> French				13. What was the product prescribed/taken for?		
8. Select one that best describes you						
<input type="checkbox"/> Consumer or other non-health professional <input type="checkbox"/> Physician <input type="checkbox"/> Pharmacist				14. Did use of the product stop after the side effect appeared?		
<input type="checkbox"/> Other health professional (specify):				<input type="checkbox"/> Yes <input type="checkbox"/> No		
9. Has this also been reported to the manufacturer?				15. If the product was stopped did the side effect stop?		
<input type="checkbox"/> Yes <input type="checkbox"/> No				<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Does not apply		
C) Side Effect				16. Was the product restarted after the side effect stopped?		
1. Seriousness of the side effect				<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Does not apply		
<input type="checkbox"/> Death (yyyy-mm-dd)				<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Does not apply		
<input type="checkbox"/> Life-threatening				17. If the product was restarted, did the side effect return?		
<input type="checkbox"/> Admitted to hospital				<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Does not apply		
<input type="checkbox"/> Lengthened hospital stay				18. Likelihood that the product caused the side effect		
<input type="checkbox"/> Disability				<input type="checkbox"/> Certain <input type="checkbox"/> Probably/Likely <input type="checkbox"/> Possible		
<input type="checkbox"/> Birth defect				<input type="checkbox"/> Not available/Unable to assess <input type="checkbox"/> Unlikely <input type="checkbox"/> Unrelated		
<input type="checkbox"/> Needed medical attention				19. Other health products taken at the time of the side effect, excluding treatment (length of use, timelines, etc.)		
2. Recovered after the side effect*						
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown						
<input type="checkbox"/> Recovering (explain):						
3. Side effect start date* (yyyy-mm-dd)				20. Related test/laboratory results		
4. Side effect end date (yyyy-mm-dd)						
5. Describe the side effect (timeliness, treatment, etc.)*						

* As per the Treasury Board of Canada Secretariat Government Security Policy.

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Activity 3.3 Determining pregnancy risk

In the table below and using all available resources, record a summary of the pregnancy risk and/or whether the following drugs are safe for use during pregnancy and/or breastfeeding.

Goal: Demonstrate knowledge of the significance of drugs and pregnancy and/or breastfeeding.

Drug	Pregnancy risk	Safe for pregnancy	Safe for breastfeeding
ASA			
Diazepam			
Benadryl®			
Hydrochlorothiazide			
Flu vaccine			
Marijuana			
Metformin			
Coumadin®			



Activity 3.4 Dosage differences for children and adults

Complete the chart for the following drugs indicating the adult dosage and child dosage and the route of administration for the drug.

Hint: A comparison chart allows you to organize information visually so that you can see relationships among categories or characteristics. It is a very effective format when you need to be able to understand the differences or similarities.

Goal: Demonstrate an understanding of the considerations for determining dosages of drugs.

	Adult dose	Pediatric dose	Route of administration
EpiPen® for management of anaphylaxis			
Penicillin V potassium for skin infection			
Chlorhexidine gluconate for gingivitis			
Acetaminophen for analgesia			
Lidocaine for topical anaesthesia			



Activity 3.5 Preventable causes of drug-related problems

In the chart below, draw a line to connect the definition to the proper category.

Goal: Demonstrate knowledge of commonly used terms.

Category	Definition
Over dosage	Use of a drug results in a drug-drug, drug-food, drug-supplement, or drug-disease interaction, leading to adverse effects or decreased efficacy.
Inappropriate drug selection	A medical problem is being treated with the correct drug, but the client is not adequately monitored for complications, effectiveness, or both.
Drug interactions	A medical problem that requires drug therapy is being treated with a less-than-optimal drug.
Inadequate monitoring	A client is taking a drug for no medically valid reason.
Lack of client adherence	The correct drug for a medical problem is prescribed, but the client is not taking it.
Untreated medical problem	A medical problem is being treated with too much of the correct drug.
Inappropriate treatment	A medical problem is being treated with too little of the correct drug.
Under prescribing	A medical problem requires drug therapy but no drug is being used to treat that problem.

Activity Checker



Activity 3.1 Calculating and interpreting the therapeutic index

The two parameters used to calculate the therapeutic index are the ED_{50} (the dose that produces a specified response in half the subjects) and the LD_{50} (the dose that kills half the subjects). The ratio of the two (LD_{50}/ED_{50}) is known as the therapeutic index (TI) of a drug. Drugs with a small TI are more likely to create a toxic reaction. A TI of greater than 10 is usually needed to produce a drug that is clinically useful.



Activity 3.2 Reporting adverse drug reactions

Instructions on how to fill out the form can be found on the website http://www.hc-sc.gc.ca/dhp-mpps/alt_formats/pdf/medeff/report-declaration/ser-des_form-eng.pdf



Activity 3.3 Determining pregnancy risk

Investigate the potential of a drug to cause birth defects if used during pregnancy. The risk to benefit ratio must be assessed to determine use. Take into account any risks from pharmaceutical agents or their metabolites in breast milk.



Activity 3.4 Dosage differences for children and adults

- ✓ Adult and children dosages differ based on weight and body surface area. There are no standard dosages for children. Drug references contain a range for pediatric doses. Children's doses are usually in liquid form. Supply is expressed as a dosage amount per a commonly used quantity.
- ✓ Examples:
 - 250mg/5ml
 - 100mg/ml
 - 50mcg/1ml



Activity 3.5 Preventable causes of drug-related problems

Drug-related problems are common in the elderly and include drug ineffectiveness, adverse drug effects, overdose, underdose, and drug interactions. The Merck Manual gives a good overview of this topic and includes definitions.

Unit 4 — Drugs Used In and Affecting Dental Hygiene Care



Activity 4.1 Using drug databases

Look up the following drugs in the three resources from your previous website search and complete the following table.

Goal: Demonstrate ability to find and use drug resources in practice.

Name of drug	Drug schedule	Source(s) where information was found	Prescription needed? Y/N
St. John's wort			
Advil®			
Warfarin			
Peridex®			
Methotrexate			
Echinacea			
Pilocarpine			
Lipitor®			
Plavix®			
Salbutamol			



Activity 4.2 Designated Drugs Regulation

In your own words, describe the relevance of this legislation to dental hygienists. What drugs does this legislation apply to?

Hint: You will learn new material better if you put it into your own words. Point form is fine for this.

Goal: Develop a working knowledge of the Designated Drugs Regulation.

[illegible]

Activity 4.3 Using current sources for drug information

Look in your CPS or eCPS, drug information handbook/reference and textbooks to find listings for chlorhexidine. A single source may not have all of the information. Complete the table below by indicating the source(s) you used to find the information about each property.

DRUG SUMMARY: Generic: Chlorhexidine Gluconate 0.12% (Brand names: Peridex® Oral Rinse, Oro-cleanse®, Hibidil® 1:2000)		
Indications	Antibacterial dental rinse, active against Gram-positive and Gram-negative organisms, facultative anaerobes, aerobes and yeast.	Source:
Contraindications and cautions	Hypersensitivity to any component of the formulation. No precautions needed re: local anesthetic or vasoconstrictors. No precautions re: effects on bleeding.	Source:
Mechanism of action	Binds to cell walls and alters bacterial cell osmotic equilibrium and leakage of potassium and phosphorous resulting in a bacteriostatic effect. At high concentrations of chlorhexidine, cytoplasmic contents of the bacterial cell will precipitate and result in cell death.	Source:
Time to peak	30% of active ingredient retained in oral cavity after rinsing.	Source:
Metabolism	Unknown; poorly absorbed from GI tract.	Source:
Excretion	Primarily excreted in feces.	Source:
Half-life elimination	Unknown; detectable levels not present after 12 hours.	Source:
Drug scheduling	Schedule 1.	Source:
Adverse or side effects including systemic and oral	Increase in calculus Changes in taste Staining of oral surfaces (mucosa, teeth, tongue).	Source:
Pregnancy/ Lactation risk	Unknown	Source:
Drug interactions	No known interactions.	Source:



Activity 4.4 Legislation related to dental hygienists

Describe the relevance of the *Drug and Pharmacies Regulation Act* to dental hygienists. What drugs does this legislation apply to?

Goal: Understand how the *Drug and Pharmacies Regulation Act* impacts dental hygiene practice.



Activity 4.5 Drug summaries for antibiotics

Complete a drug summary using current resources for all local and systemic antibiotics you typically encounter in your dental hygiene practice.

Goal: Identify the antibiotics used in practice and become familiar with their properties.

DRUG SUMMARY: Generic: (Brand names:)		
Indications		Source:
Contraindications and cautions		Source:
Mechanism of action		Source:
Time to peak		Source:
Metabolism		Source:
Excretion		Source:
Half-life elimination		Source:
Drug scheduling		Source:
Adverse or side effects including systemic and oral		Source:
Pregnancy/ Lactation risk		Source:
Drug interactions		Source:

DRUG SUMMARY: Generic: (Brand names:)		
Indications		Source:
Contraindications and cautions		Source:
Mechanism of action		Source:
Time to peak		Source:
Metabolism		Source:
Excretion		Source:
Half-life elimination		Source:
Drug scheduling		Source:
Adverse or side effects including systemic and oral		Source:
Pregnancy/ Lactation risk		Source:
Drug interactions		Source:

DRUG SUMMARY: Generic: (Brand names:)		
Indications		Source:
Contraindications and cautions		Source:
Mechanism of action		Source:
Time to peak		Source:
Metabolism		Source:
Excretion		Source:
Half-life elimination		Source:
Drug scheduling		Source:
Adverse or side effects including systemic and oral		Source:
Pregnancy/ Lactation risk		Source:
Drug interactions		Source:

DRUG SUMMARY: Generic: (Brand names:)		
Indications		Source:
Contraindications and cautions		Source:
Mechanism of action		Source:
Time to peak		Source:
Metabolism		Source:
Excretion		Source:
Half-life elimination		Source:
Drug scheduling		Source:
Adverse or side effects including systemic and oral		Source:
Pregnancy/ Lactation risk		Source:
Drug interactions		Source:



Activity 4.6 Fluoride toxicity

Describe the dangers associated with acute and chronic fluoride toxicity. Include reference to the safely tolerated dose (STD) and certainly lethal dose (CLD).

Goal: Demonstrate working knowledge of the significance of STD and CLD.

[illegible]

Activity 4.7 Drug summaries for anaesthetics

Complete a drug summary using current resources for all anaesthetics you typically use in your dental hygiene practice.

Goal: Identify the anaesthetics used in practice and become familiar with their properties.

DRUG SUMMARY: Generic: (Brand names:)		
Indications		Source:
Contraindications and cautions		Source:
Mechanism of action		Source:
Time to peak		Source:
Metabolism		Source:
Excretion		Source:
Half-life elimination		Source:
Drug scheduling		Source:
Adverse or side effects including systemic and oral		Source:
Pregnancy/ Lactation risk		Source:
Drug interactions		Source:

DRUG SUMMARY: Generic: (Brand names:)		
Indications		Source:
Contraindications and cautions		Source:
Mechanism of action		Source:
Time to peak		Source:
Metabolism		Source:
Excretion		Source:
Half-life elimination		Source:
Drug scheduling		Source:
Adverse or side effects including systemic and oral		Source:
Pregnancy/ Lactation risk		Source:
Drug interactions		Source:

DRUG SUMMARY: Generic: (Brand names:)		
Indications		Source:
Contraindications and cautions		Source:
Mechanism of action		Source:
Time to peak		Source:
Metabolism		Source:
Excretion		Source:
Half-life elimination		Source:
Drug scheduling		Source:
Adverse or side effects including systemic and oral		Source:
Pregnancy/ Lactation risk		Source:
Drug interactions		Source:

DRUG SUMMARY: Generic: (Brand names:)		
Indications		Source:
Contraindications and cautions		Source:
Mechanism of action		Source:
Time to peak		Source:
Metabolism		Source:
Excretion		Source:
Half-life elimination		Source:
Drug scheduling		Source:
Adverse or side effects including systemic and oral		Source:
Pregnancy/ Lactation risk		Source:
Drug interactions		Source:

DRUG SUMMARY: Generic: (Brand names:)		
Indications		Source:
Contraindications and cautions		Source:
Mechanism of action		Source:
Time to peak		Source:
Metabolism		Source:
Excretion		Source:
Half-life elimination		Source:
Drug scheduling		Source:
Adverse or side effects including systemic and oral		Source:
Pregnancy/ Lactation risk		Source:
Drug interactions		Source:



Activity 4.8 Drug summaries for over-the-counter (OTC) drugs

Complete a drug summary using current resources for the following OTC drugs or supplements that may be commonly taken by clients in your dental hygiene practice:

- ✓ Ibuprofen
- ✓ Oil of oregano
- ✓ Vitamin C
- ✓ Glucosamine
- ✓ Echinacea

Goal: Demonstrate an understanding that the properties OTC drugs are significant to dental hygiene practice.

DRUG SUMMARY: Generic: (Brand names:)		
Indications		Source:
Contraindications and cautions		Source:
Mechanism of action		Source:
Time to peak		Source:
Metabolism		Source:
Excretion		Source:
Half-life elimination		Source:
Drug scheduling		Source:
Adverse or side effects including systemic and oral		Source:
Pregnancy/ Lactation risk		Source:
Drug interactions		Source:

DRUG SUMMARY: Generic: (Brand names:)		
Indications		Source:
Contraindications and cautions		Source:
Mechanism of action		Source:
Time to peak		Source:
Metabolism		Source:
Excretion		Source:
Half-life elimination		Source:
Drug scheduling		Source:
Adverse or side effects including systemic and oral		Source:
Pregnancy/ Lactation risk		Source:
Drug interactions		Source:

DRUG SUMMARY: Generic: (Brand names:)		
Indications		Source:
Contraindications and cautions		Source:
Mechanism of action		Source:
Time to peak		Source:
Metabolism		Source:
Excretion		Source:
Half-life elimination		Source:
Drug scheduling		Source:
Adverse or side effects including systemic and oral		Source:
Pregnancy/ Lactation risk		Source:
Drug interactions		Source:

DRUG SUMMARY: Generic: (Brand names:)		
Indications		Source:
Contraindications and cautions		Source:
Mechanism of action		Source:
Time to peak		Source:
Metabolism		Source:
Excretion		Source:
Half-life elimination		Source:
Drug scheduling		Source:
Adverse or side effects including systemic and oral		Source:
Pregnancy/ Lactation risk		Source:
Drug interactions		Source:

DRUG SUMMARY: Generic: (Brand names:)		
Indications		Source:
Contraindications and cautions		Source:
Mechanism of action		Source:
Time to peak		Source:
Metabolism		Source:
Excretion		Source:
Half-life elimination		Source:
Drug scheduling		Source:
Adverse or side effects including systemic and oral		Source:
Pregnancy/ Lactation risk		Source:
Drug interactions		Source:



Activity 4.9 Drug summaries for emergency drugs

In your self-build study guide complete a drug summary using current resources for all drugs in your emergency kit.

Goal: Demonstrate knowledge of and properties of drugs found in a medical emergency kit.

DRUG SUMMARY: Generic: (Brand names:)		
Indications		Source:
Contraindications and cautions		Source:
Mechanism of action		Source:
Time to peak		Source:
Metabolism		Source:
Excretion		Source:
Half-life elimination		Source:
Drug scheduling		Source:
Adverse or side effects including systemic and oral		Source:
Pregnancy/ Lactation risk		Source:
Drug interactions		Source:

DRUG SUMMARY: Generic: (Brand names:)		
Indications		Source:
Contraindications and cautions		Source:
Mechanism of action		Source:
Time to peak		Source:
Metabolism		Source:
Excretion		Source:
Half-life elimination		Source:
Drug scheduling		Source:
Adverse or side effects including systemic and oral		Source:
Pregnancy/ Lactation risk		Source:
Drug interactions		Source:

DRUG SUMMARY: Generic: (Brand names:)		
Indications		Source:
Contraindications and cautions		Source:
Mechanism of action		Source:
Time to peak		Source:
Metabolism		Source:
Excretion		Source:
Half-life elimination		Source:
Drug scheduling		Source:
Adverse or side effects including systemic and oral		Source:
Pregnancy/ Lactation risk		Source:
Drug interactions		Source:

DRUG SUMMARY: Generic: (Brand names:)		
Indications		Source:
Contraindications and cautions		Source:
Mechanism of action		Source:
Time to peak		Source:
Metabolism		Source:
Excretion		Source:
Half-life elimination		Source:
Drug scheduling		Source:
Adverse or side effects including systemic and oral		Source:
Pregnancy/ Lactation risk		Source:
Drug interactions		Source:

DRUG SUMMARY: Generic: (Brand names:)		
Indications		Source:
Contraindications and cautions		Source:
Mechanism of action		Source:
Time to peak		Source:
Metabolism		Source:
Excretion		Source:
Half-life elimination		Source:
Drug scheduling		Source:
Adverse or side effects including systemic and oral		Source:
Pregnancy/ Lactation risk		Source:
Drug interactions		Source:

Activity Checker



Activity 4.1 Using drug databases

Becoming familiar with the different drug references will prepare you for the examination.



Activity 4.2 Designated Drugs Regulation

Consult the Designated Drugs Regulation schedule 1.



Activity 4.3 Using current sources for drug information

Be sure to consult multi-sources for the information requested.



Activity 4.4 Legislation related to dental hygienists

The *Drug and Pharmacy Act* permits dental hygienists to buy drugs they use while providing dental hygiene services without the requirement of a prescription.



Activity 4.5 Drug summaries for antibiotics

Be sure to think of as many drugs as you can and practise looking them up. The drug summary sheets will become your reference for the examination.



Activity 4.6 Fluoride toxicity

Dental hygienists should be able to estimate the toxic potential of fluoride in case of accidental poisoning and advise of appropriate treatment.



Activity 4.7 Drug summaries for anaesthetics

Be sure to think of as many drugs as you can and practise looking them up. The drug summary sheets will become your reference for the examination.



Activity 4.8 Drug summaries for OTC drugs

Be sure to think of as many drugs as you can and practice looking them up. The drug summary sheets will become your reference for the examination.



Activity 4.9 Drug summaries for emergency drugs

Use articles to verify what drugs should be in a medical emergency kit.

Unit 5 — Issuing Prescriptions and Dispensing Drugs

Activity 5.1 Writing a prescription

Imagine your employer (dentist) has asked you to fill in a prescription form for your client for premedication due to a hip replacement. In your self-build study guide and using all available resources, write a prescription for antibiotic prophylaxis for Mr. Smith.

Hint: If you do not have an employer, use an imaginary name and address.

Goal: Demonstrate the ability to apply legislation and practice guidelines when writing and/or interpreting a prescription.

Sam Smith
123 Toronto Rd
Scarborough, ON A1A 1A1
Birthdate: July 30, 1952
Telephone 416-555-5555
No known allergies or contraindications to any antibiotics



Prescription

Name _____ Date _____

Address _____

Telephone _____





Activity 5.2 Risk management strategies

Devise a policy for your practice that includes risk management strategies and methods to reduce the risk of medication errors.

Hint: Use the articles from your readings in this section to help devise your policy.

Goal: Devise a plan to prevent, reduce and manage the risk of medication errors in your practice.

[illegible]

Activity 5.3 Product monographs and Safety Data Sheet

Review the [SDS for Peridex](#)[®]. What precautions must be taken when transporting or storing this product?

Goal: Be familiar with a SDS and indications for transporting and storing chlorhexidine.



Activity 5.4 Drug labelling of OTC drugs

Complete a drug label for 4 tablets of Ibuprofen (400 mg) taken from a bottle of 100 tablets and given to a client following a scaling appointment for pain.

Goal: Understanding of the requirements for labelling OTC drugs in practice.



Activity 5.5 Drug interactions

Using the interactions checker, consider the following clients and determine what considerations should be taken.

Goal: A working knowledge of how to use a drug interaction checker.

- i. When you complete Mr. Jones medical history, you discover that he is taking warfarin and Ginkgo biloba. Are there interactions between these drugs?

- ii. You want to recommend that Mrs. Smith take regular acetaminophen for pain following her scaling appointment. Her medical history reveals that she is taking Lipitor® for high cholesterol. What concerns would you have regarding the interactions between these drugs?

- iii. You are considering taking over-the-counter Advil Cold and Sinus®. Enter this drug along with any current medications, supplements or herbal remedies that you are taking including alcoholic beverages. Are there any potential interactions of concern?

Activity Checker



Activity 5.1 Writing a prescription

Consult sample prescription, guidelines for pre-med and prepare prescription for the signature of the dentist (employer).



Activity 5.2 Risk management strategies

Using the article about the top 10 ways to prevent errors, describe how you would make sure these things could be prevented.



Activity 5.3 Product monographs and Safety Data Sheet

Temperature and the environment may impact certain drugs.



Activity 5.4 Drug labelling of OTC drugs

Refer to labelling of drugs in your readings. How does this apply to over-the-counter drugs?



Activity 5.5 Drug interactions

Enter all medications, foods and beverages that may impact each client.

Unit 6 — Preparing for the Examination






Activity 6.1 Self-assessment II

Now that you have completed all the course readings and activities, please complete the following self-assessment.

Hint: This is the initial self-assessment from Unit 1. Your answers should be different this time.

Goal: To identify further learning that may need to take place in order to pass the **Drugs in Dental Hygiene Practice Examination (DDHPE)**.

Competency	Yes. Definitely. 	Sort of. 	No. Don't know. 
I understand the pathway drugs take through the body.			
I understand the mechanism of action as the body processes drugs.			
I record full details of all drugs taken by my clients or used during client treatment.			
I collaborate with the appropriate health care professional when I am unsure about a drug taken by my clients.			
I use current, reliable references to research drugs or combinations of drugs taken by my clients.			
I know how to manage adverse drug reactions and medical emergencies.			
I know how drugs and herbal remedies are classified.			
I know how to write an accurate and legal prescription.			
I know how to prevent and reduce medication errors.			
I know how to store and dispose of drugs.			
I know how to investigate possible drug interactions.			
I understand the actions of the major classes of drugs.			

6.2 Open-book exams

The DDHPE is an open-book examination. In an open-book exam you are evaluated on understanding rather than recall and memorization. The examination can be completed from your home computer and you can access your self-build study guide, drug references, text books and the Internet. The examination is timed.

You will be expected to:

- ✓ Apply material to new situations.
- ✓ Analyze elements and relationships.
- ✓ Synthesize, or structure.
- ✓ Evaluate using your material as evidence.

Do not underestimate the preparation needed for an open-book exam

Your time will be limited to 120 minutes, so the key is proper organization in order to quickly find data, and/or information you use in your answers.

Preparation

- ✓ Keep your pharmacology knowledge current.
- ✓ Prepare brief, concise notes on ideas and concepts being tested.
- ✓ Carefully select what references you will use for the exam.
- ✓ Include your own commentary on the information that will provide rationale for your answers.
- ✓ Challenge yourself with how you would answer questions, and what options and resources you may need to consider.

Organize your reference materials, your “open book”

- ✓ Make your reference materials as user-friendly as possible so that you don't lose time locating what you need.
- ✓ **Familiarize yourself** with the format, layout and structure of your text books and source materials.
- ✓ **Organize these with your self-build study guide** for speedy retrieval, and index ideas and concepts with pointers and/or page numbers in the source material.
(Develop a system of tabs/sticky notes, colour coding, concept maps, etc. to mark important summaries, headings, sections.)
- ✓ **Write short, manageable summaries** of content for each grouping.
- ✓ **List out data and formulas** separately for easy access.

Test taking

- ✓ Set aside undisturbed time to take the examination. You cannot pause the time countdown.
- ✓ Read the questions carefully to understand what is expected.
- ✓ Make good use of time.
- ✓ Quickly review the number of questions and note how much time each could take.
- ✓ First answer the questions that you are confident of and/or for which you will not need much time checking out the resources.
- ✓ Leave more complex and difficult questions for later.