Medical Terminology and Abbreviations

Unit: Basic Skills

Problem Area: Pharmaceutical Terminology

Lesson: Medical Terminology and Abbreviations

Student Learning Objectives.

Instruction in this lesson should result in students achieving the following objectives:

1. **Interpret commonly used pharmacology abbreviations.**
2. **Translate into English any prescription or medication order written in Latin, Greek, or other common abbreviations.**

Resources.

The following resources may be useful in teaching this lesson:

E-units corresponding to this lesson plan. CAERT, Inc. http://www.mycaert.com.

Ballington, Don A., and Mary M. Laughlin. *Pharmacology for Technicians*, 5th ed. Paradigm 2012.

Ballington, Don A., and Robert J. Anderson. *Pharmacy Practice for Technicians*, 4th ed. Paradigm, 2009.

Ehrlich, Ann, and Carol L. Schroeder. *Medical Terminology for Health Professions*, 6th ed. Delmar, 2008.

Gylys, Barbara A., and Mary E. Wedding. *Medical Terminology Systems,* 6th ed. F.A. Davis, 2009.

"Medical Abbreviations, Drugs, and Medical Searches," *MediLexicon*. Accessed Dec. 8, 2015. http://www.medilexicon.com.



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"Pharmacy Technician Abbreviations," *Quizlet*. Accessed Dec. 8, 2015. https://quizlet.com/32247958/pharmacy-technician-abbreviations-flash-cards/.

"Prescription Abbreviations," *Pharmacy Tech Study*. Accessed Dec. 8, 2015. http://www.pharmacy-tech-study.com/rxabbreviations.html.

Equipment, Tools, Supplies, and Facilities

- ✓ Overhead or PowerPoint projector
- ✓ Visual(s) from accompanying master(s)
- ✓ Copies of sample test, lab sheet(s), and /or other items designed for duplication
- ✓ Materials listed on duplicated items
- ✓ Computers with printers and Internet access
- ✓ Classroom resource and reference materials

Key Terms.

The following terms are presented in this lesson (shown in bold italics):

- abbreviation
- buccal (BUCC)
- DOB
- frequency
- inscription
- intramuscular (IM) injections
- intravenous (IV) injections
- medical terminology
- oral
- order
- parenteral
- peroral (PO)
- prescriptions
- Rx
- signa
- subcutaneous (SubQ) injections
- sublingual
- subscription
- topical (TP) medications

Interest Approach.

Use an interest approach that will prepare students for the lesson. Teachers often develop approaches for their unique class and student situations. A possible approach is included here.

Ask students: "Have you taken a prescription to the pharmacy? If so, were you able to interpret what was written on the prescription?" Then explain that

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doctors use prescription abbreviations (based on Latin words) that tell the pharmacist which medication to prepare as well as the directions for use. Next, have students create a list of abbreviations with which they are familiar, and list those on the board. Highlight any abbreviations used on a medication prescription.

CONTENT SUMMARY AND TEACHING STRATEGIES

Objective 1: Interpret commonly used pharmacology abbreviations.

Anticipated Problem: What medical terms and abbreviations are commonly used in pharmacy?

I. Abbreviations

A. ***Abbreviation*** (from the Latin *brevis*, meaning *short*) is a shortened form of a word or phrase. Usually, it consists of a letter or group of letters from the word or phrase that represent the term. For as long as there have been healers and a system of writing, there has been a need to have someone who could read and prepare prescribed medications. Many of the abbreviations used today came about as a result of the need of the prescriber (orders medication) to quickly write down a certain medication, how to administer it, and the dosage to be administered.

1. Latin was the language most commonly used, so many of the abbreviations currently in use were based on Latin terms. Other pharmacy abbreviations came into use because they were commonly understood and used widely by society for activities such as cooking. Still others were derived from the measurement used by scientists, such as NaCl for sodium chloride.
2. ***Rx*** is the abbreviation for the term "prescription" and a symbol for the Latin word "recipe" (meaning to take.) The symbol is customarily part of a prescription's heading. Pharmacists and pharmacy technicians are familiar with common pharmacology abbreviations, including:

a.	aa	amount to be taken
b.	ac	before meals
c.	ad	right ear
d.	am	morning
e.	amp	ampule
f.	as	left ear
g.	au	both ears
h.	bid	twice daily

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i.	c	with
j.	cap	capsule
k.	cmpd	compound
l.	cr	cream
m.	DAW	dispense as written
n.	D/C	discontinue
o.	disp	dispense
p.	dx	diagnosis
q.	gr	grain
r.	gtt	drop
s.	hr	hour
t.	hs	at bedtime
u.	IM	intramuscular
v.	inj	injection
w.	IV	intravenous
x.	NaCl	sodium chloride
y.	NKA	no known allergy
z.	NKDA	no known drug allergy
aa.	npo	nothing by mouth
bb.	NS	normal saline
cc.	od	right eye
dd.	os	left eye
ee.	ou	both eyes
ff.	pc	after meals
gg.	po	by mouth
hh.	pr	rectally
ii.	prn	as needed
jj.	pv	vaginally
kk.	q	every
ll.	q2h	every 2 hours
mm	qam	every morning
nn.	qh	every hour
oo.	qid	four times a day
pp.	qod	every other day
qq.	qs	sufficient quantity
rr.	Rx	prescription
ss.	stat	immediately
tt.	sup	suppository
uu.	tab	tablet
vv.	tid	3 times a day
ww.	TPN	total parenteral nutrition

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xx. tx treatment
yy. ud as directed
zz. ung ointment
aaa. wk week

B. Pharmacist and pharmacy technician roles

1. The pharmacist accurately fills prescriptions, verifies the prescribed medication and the amount of the medication the provider has prescribed, and double-checks the patient's files to spot any possible drug interactions.
2. The pharmacy technician, working under the direction of a licensed pharmacist, ensures the customer or patient receives an accurate prescription. The technician:
   a. Interprets written prescriptions
   b. Performs pharmacy calculations
   c. Maintains accuracy even when the pharmacy is busy
3. The pharmacist relies upon the pharmacy technician to:
   a. Provide an extra layer of security by correctly inputting customer and prescription data into the computer system
   b. Fill and label prescription bottles (Misinterpretation of abbreviations on a prescription could result in a serious medication error.)

Teaching Strategy: *Many techniques can be used to help students master this objective. Use VM–A. Students can use the Quizlet Web site at https://quizlet.com to create their own study sets of flashcards and take practice tests. Students can also practice pronunciation by choosing medical terminology under the search engine and clicking on the voice icon.*

Objective 2:

Translate into English any prescription or medication order written in Latin, Greek, or other common abbreviations.

Anticipated Problem: What do pharmacists and pharmacy technicians need to know to translate into English prescription or medication orders written in Latin, Greek, or common abbreviations?

II. Medical terminology

A. ***Medical terminology*** is a scientifically based language used to accurately describe the human body and its associated components, procedures, and processes. Medical terminology has an extensive history in Latin and Greek languages. Latin was the language spoken by the ancient Romans. As the Romans conquered most of Europe, the Latin language spread throughout the region. When the Romans conquered Greece, the languages merged. From the Middle Ages onward, many scientific terms were borrowed from Latin.

1. Medical terminology was created to identify anatomical structures, diagnoses, instruments, procedures, and medications.

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2. Medical terms and their roots correspond to their Latin and Greek origins. Recognizing the Latin and Greek origins is crucial to understanding medical terminology.

B. ***Prescriptions*** are written or oral directions for medications to be dispensed to a patient. A physician or other licensed practitioner issues a prescription, and a pharmacist fills that prescription. A medication ***order*** is a prescription issued and dispensed in a hospital. To fill prescriptions safely, pharmacists and pharmacy technicians must be familiar with common abbreviations and medical terminology used to write prescriptions.

1. Prescription requirements may vary from state to state, but they should contain the patient's name, date of birth (***DOB***), prescriber name and address, and the date the prescription was written. The three parts to a prescription are the inscription, subscription, and signa.
   a. The ***inscription*** is the part of a prescription that indicates the medication prescribed, including the strength and amount.
   b. The ***subscription*** is the part of a prescription that relates the instructions about how to dispense the medication. It includes labeling and refilling information.
   c. The ***signa*** is the part of a prescription that communicates the medication's directions for use. This information is included on the label for the patient to follow in taking the medication. The medication label reads exactly as indicated on the prescription's signa.
2. The subscription and the signa may be written by the prescriber using abbreviations. Medications are available in a variety of forms and are associated with three primary routes of administration: peroral, parenteral, and topical.
   a. ***Peroral (PO)*** route (or oral route) is administration of a medication by mouth. It is the most economical and the easiest way to administer medication. ***Oral*** is administration of a medication by mouth either in a solid or liquid form. ***Sublingual (SL)*** is administration of a medication underneath the tongue. ***Buccal (BUCC)*** is administration of a medication between the cheek and gum.
   b. ***Parenteral*** route is administration of a medication by injection.
      (1) ***Intramuscular (IM) injections*** are shots given in a muscle.
      (2) ***Intravenous (IV) injections*** are shots given in a vein.
      (3) ***Subcutaneous (SubQ) injections*** are shots given in the tissue beneath the skin.
   c. ***Topical (TP) medications*** are substances applied to the surface of the skin.
3. ***Frequency*** is how often the medication is to be taken or administered. Many frequencies begin with the letter "q." Q is taken from the Latin word *quaque*, meaning once. Medication given once every four hours is indicated as "q4h." Medication given once every 6 hours is indicated as "q6h." Other common frequency abbreviations are:
   a. bid twice a day

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b.	fid	5 times a day
c.	hs	at bedtime
d.	q	every
e.	qam	every morning
f.	qd	once a day
g.	q2h	every 2 hours
h.	q7pm	every day at 7 pm
i.	qhs	every bedtime
j.	qid	4 times a day
k.	qn	every night
l.	qod	every other day
m.	qwk	every week
n.	tid	3 times a week
o.	tiw	3 times a week

Teaching Strategy: *Many techniques can be used to help students master this objective. Use VM–B through VM–D to interpret the abbreviations on a prescription. Assign LS–A.*

Review/Summary.

Use the student learning objectives to summarize the lesson. Have students explain the content associated with each objective. Student responses can be used in determining which objectives need to be reviewed or taught from a different angle. If a textbook is being used, questions at the ends of chapters may be included in the Review/Summary.

Application.

Use the included visual master(s) and lab sheet(s) to apply the information presented in the lesson.

Evaluation.

Evaluation should focus on student achievement of the objective for the lesson. Various techniques can be used, such as student performance on the application activities. A sample written test is provided.

Answers to Sample Test:

Part One: Matching

1. g
2. b
3. f
4. d
5. e
6. h

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7. a
8. c

Part Two: Completion

1. before meals
2. twice daily
3. nothing by mouth
4. drop(s)
5. by mouth
6. four times a day
7. total parenteral nutrition
8. ointment

Part Three: Short Answer

1. Frequency is how often the medication is to be taken or administered. Many frequencies begin with the letter "q." Q is taken from the Latin word *quaque* meaning once. Answers about frequency abbreviations would vary but should include five of the following:
   a. bid — twice a day
   b. fid — 5 times a day
   c. hs — at bedtime
   d. q — every
   e. qam — every morning
   f. qd — once a day
   g. q2h — every 2 hours
   h. q7pm — every day at 7 pm
   i. qhs — every bedtime
   j. qid — 4 times a day
   k. qn — every night
   l. qod — every other day
   m. qwk — every week
   n. tid — 3 times a day
   o. tiw — 3 times a week
2. Intramuscular, intravenous, and subcutaneous

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Sample Test

Name _____

Medical Terminology and Abbreviations

Part One Matching

Instructions: **Match the term with the correct definition.**

a. buccal (BUCC)
b. inscription
c. parenteral
d. peroral (PO)
e. signa
f. subcutaneous (SubQ) injections
g. sublingual (SL)
h. subscription

_____1. Administration of a medication underneath the tongue

_____2. The part of a prescription that indicates the medication prescribed, including the strength and amount

_____3. Shots given in the tissue beneath the skin

_____4. The administration of a medication by mouth

_____5. The part of a prescription that communicates the medication's directions for use

_____6. The part of a prescription that relates the instructions about how to dispense the medication

_____7. Administration of a medication between the cheek and gum

_____8. Administration of a medication by injection

Part Two: Completion

Instructions: **Provide the word or words to complete the following statements.**

1. The abbreviation ac is short for _____.



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2. The abbreviation bid is short for _____.
3. The abbreviation NPO is short for _____.
4. The abbreviation gtt is short for _____.
5. The abbreviation po is short for _____.
6. The abbreviation qid is short for _____.
7. The abbreviation TPN is short for _____.
8. The abbreviation ung is short for _____.

Part Three: Short Answer

Instructions: **Answer the following:**

1. Describe medication frequency, and list five examples of frequency abbreviations.

2. List the three parenteral routes of drug administration.

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COMMON PHARMACOLOGY ABBREVIATIONS

ABBREVIATION	DEFINITION
aa	amount to be taken
ac	before meals
ad	right ear
am	morning
amp	ampule
as	left ear
au	both ears
bid	twice a day
ac	before meals
c	with
cap	capsule
cmpd	compound
cr	cream
DAW	dispense as written
D/C	discontinue
disp	dispense
dx	diagnosis

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ABBREVIATION	DEFINITION
gr	grain
gtt	drop
hr	hour
hs	at bedtime
IM	intramuscular
inj	injection
IV	intravenous
NaCl	sodium chloride
NKA	no known allergy
NKDA	no known drug allergy
npo	nothing by mouth
NS	normal saline
od	right eye
os	left eye
ou	both eyes
pc	after meals
po	by mouth
pr	rectally
prn	as needed
pv	vaginally
q	every

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ABBREVIATION	DEFINITION
q2h	every 2 hours
qam	every morning
qh	every hour
qid	4 times a day
qod	every other day
qs	sufficient quantity
Rx	prescription
stat	immediately
sup	suppository
tab	tablet
tid	3 times a day
TPN	total parenteral nutrition
tx	treatment
ud	as directed
ung	ointment
wk	week

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HOW TO INTERPRET A PRESCRIPTION

Rx

John Smith, M.D.
200 West St.
Chicago, IL 60466
(773) 555-2300 Fax: (773) 555-2311

DOB: Aug. 10, 1990

Date: Sep. 1, 2016

Pt. Name: Sally Baker

Address: 1500 16th St.
Chicago, IL 60466

Lorazapam 0.5mg

120 cap

1 po q4-6h prn anxiety

Refill: 5 times (no refill unless indicated)

John Smith M.D.

Substitution is mandatory unless the words DAW appear in the box below

DAW

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Prescriber: _____

Prescriber address: _____

Prescriber phone: _____

Date written: _____

Patient name: _____

Patient address: _____

Date of birth: _____

Drug name: _____

Dosage: _____

Route of administration: _____

Frequency: _____

Quantity dispensed: _____

Refill: _____

DAW: _____

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TEACHER INFORMATION KEY: PRESCRIPTION INTERPRETATION

Prescriber: John Smith M.D.

Prescriber address: 200 West St. Chicago, IL 60466

Prescriber phone: 773-555-2300

Date written: Sept. 1, 20—

Patient name: Sally Baker

Patient address: 1500 16th St. Chicago, IL 60466

Date of birth: August 10, 1990

Drug name: Lorazapam

Dosage: 0.5mg

Route of administration: by mouth

Frequency: every 4 to 6 hours as needed

Quantity dispensed: 120 capsules

Refill: 5

DAW: dispense as written



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FREQUENCY ABBREVIATIONS

ABBREVIATION	DEFINITION
bid	twice a day
fid	5 times a day
hs	at bedtime
q	every
qam	every morning
qd	once a day
q2h	every 2 hours
q7pm	every day at 7 pm
qhs	every bedtime
qid	4 times a day
qn	every night
qod	every other day
qwk	every week
tid	3 times a day
tiw	3 times a week

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LS–A

Name _____

Common Prescription Abbreviation Categories

Purpose

The purpose of the activity is to sort common prescription abbreviations into categories.

Objectives

1. Demonstrate knowledge of the most commonly used prescription abbreviations.
2. Sort common pharmacy abbreviations into six categories: amounts, dosage forms, times, routes of administration, sites of administration, and frequency.

Materials

- lab sheet
- paper
- VM–A
- writing utensil

Procedure

1. Work individually for this assignment.
2. Using the VM–A common pharmacy abbreviations list, group the abbreviations into the following six categories on your paper:
   a. Amounts
   b. Dosage forms
   c. Times
   d. Routes of administration
   e. Sites of administration
   f. Frequency
3. Participate in a class discussion of the common pharmacy abbreviations sorted into groups.
4. Turn in your assignment to your instructor.

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