Medical Terminology and Abbreviations

THE ART of writing prescriptions dates back to ancient times. The symbol Rx (meaning "take") was established centuries ago and is still used today. Some of the earliest writings deciphered are for preparing medicines. A need for accuracy in prescription writing made it necessary for a universal and standard language to be adopted. Many current abbreviations are derived from the Latin language. Interpreting common medical terminology and abbreviations are skills all pharmacy technicians must develop.

Objective:

Interpret medical terminology and abbreviations.

Key Terms:

- 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

Understanding Medical Terminology and Abbreviations

ABBREVIATIONS

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.

Latin

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.

FIGURE 1. The pharmacy technician, working under the direction of a licensed pharmacist, helps ensure the customer or patient receives an accurate prescription. The technician interprets written prescriptions, performs pharmacy calculations, and maintains accuracy.

Rx

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:

TABLE 1. Common Pharmacology Abbreviations

ABBREVIATION	DEFINITION
aa	amount to be taken
ac	before meals

ABBREVIATION	DEFINITION
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
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

ABBREVIATION	DEFINITION
q	every
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

Pharmacist and Pharmacy Technician Roles

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.

The pharmacy technician, working under the direction of a licensed pharmacist, ensures the customer or patient receives an accurate prescription. The technician:

- Interprets written prescriptions
- Performs pharmacy calculations
- Maintains accuracy even when the pharmacy is busy

The pharmacist relies upon the pharmacy technician to:

- Provide an extra layer of security by correctly inputting customer and prescription data into the computer system
- Fill and label prescription bottles (Misinterpretation of abbreviations on a prescription could result in a serious medication error.)

MEDICAL TERMINOLOGY

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.

FIGURE 2. Medical terminology is a scientifically based language used to accurately describe the human body and its associated components, procedures, and processes.

Medical terminology was created to identify anatomical structures, diagnoses, instruments, procedures, and medications. Medical terms and their roots correspond to their Latin and Greek origins. Recognizing the Latin and Greek origins is crucial to understanding medical terminology.

Prescriptions

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.

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.

Inscription

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

Subscription

The **subscription** is the part of a prescription that relates the instructions about how to dispense the medication. It includes labeling and refilling information.

Signa

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.

Routes of Administration

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.

Peroral (PO)

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.

Parenteral

Parenteral route is administration of a medication by injection. **Intramuscular (IM) injections** are shots given in a muscle. **Intravenous (IV) injections** are shots given in a vein. **Subcutaneous (SubQ) injections** are shots given in the tissue beneath the skin.

FIGURE 3. The pharmacy technician must be familiar with routes of administration. Some medications are taken orally in pill or capsule form. Others are injected with a syringe.

Topical

Topical (TP) medications are substances applied to the surface of the skin.

FURTHER EXPLORATION...

ONLINE CONNECTION: Dangerous Abbreviations

The Institute for Safe Medication Practices (ISMP) Web site provides a list of error-prone abbreviations, symbols, and dose designations. Review these common prescription errors at http://ismp.org/Tools/errorproneabbreviations.pdf. Explain why some of the commonly used abbreviations are considered to be dangerous. Research the ISMP and the FDA's campaign to eliminate the use of error-prone abbreviations. Identify other abbreviations that you would recommend be added to the listing. Think of other ways to promote safe practices and prevent errors when interpreting prescriptions and medication orders.

Frequency

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 shown in Table 2.

TABLE 2. 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

Summary:

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. 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. 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.

Prescriptions include all the information needed for the pharmacist or pharmacy technician to fill the prescription, including correct dosage form, time of administration, and route of administration. Prescription requirements may vary state by state, but they should contain the patient's name and date of birth (DOB), the date

the prescription was written, the inscription, the subscription, and the signa. To fill the prescription safely, the pharmacist and pharmacy technician must be familiar with the common abbreviations used in prescriptions.

The role of the pharmacist is to dispense medications safely and in accordance with state and federal dispensing laws. The pharmacy technician, working under the direction of a licensed pharmacist, helps fill and label prescriptions for customers or patients. The technician must be able to interpret written prescriptions, perform pharmacy calculations, and maintain accuracy even when the pharmacy is busy. The pharmacist relies on the pharmacy technician to provide an extra layer of security by correctly inputting customer and prescription data into the computer system, as well as filling and labeling prescription bottles.

Checking Your Knowledge:

1. Explain the component parts of a prescription.
2. Explain the three primary routes of medication administration.
3. List five examples of common dosage abbreviations.
4. List five examples of common frequency abbreviations.
5. Explain the role of the pharmacist and the pharmacy technician in medication safety.

Expanding Your Knowledge:

The current medication prescribing process relies on handwritten prescriptions and is prone to error. Visit your local pharmacy to investigate the pros and cons of using electronic prescribing (e-prescribing). Report your findings to the class.

Web Links:

Descriptive Abbreviations
https://www.youtube.com/watch?v=W1XWxaHQCWo

General Pharmacology Abbreviations
http://www.medword.com/abbrevs-pharm.html

Prescription Abbreviations
http://healthinsurance.about.com/od/prescriptiondrugs/a/understanding_MD_Rx.htm

Understanding Your Prescription
http://www.spineuniverse.com/treatments/medication/understanding-your-prescription