

LESSON PLAN: 4

COURSE TITLE: MEDICATION TECHNICIAN

UNIT: II GENERAL PRINCIPLES

SCOPE OF UNIT:

This unit includes medication terminology, dosage, measurements, drug forms, transcribing physician's orders, packaging, storage, and accountability.

INFORMATION TOPIC: II-4 OR DEMONSTRATION:

MEDICATION TERMINOLOGY AND ABBREVIATIONS
(Lesson Title)

OBJECTIVES – THE STUDENT WILL BE ABLE TO:

1. Match terms to their definitions related to the administration of medications.
2. Record abbreviations related to the administration of medications.

SUPPLEMENTARY TEACHING/LEARNING ITEMS:

1. Word games.

INFORMATIONAL ASSIGNMENT:

Read Lesson Plan 4 prior to class and be prepared to discuss the information presented.

INTRODUCTION

The words used in the health care field may be strange to non-medical persons. It is important that you learn the meaning of the words and symbols used to assure accuracy and to avoid errors in the preparation, administration, and recording of medications. This lesson deals with such words and symbols.

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OUTLINE:

I. Terminology Related to Medication Administration

- A. Addiction – emotional or physiological dependence upon a drug which has progressed beyond voluntary control.
- B. Adverse drug affect – a harmful, unintended reaction to a drug administered at normal dosage.
- C. Allergic reaction.
 - 1. Hypersensitivity – unusual sensitivity to a drug such as mild skin rash, swelling, itching, and nasal congestion.
 - 2. Anaphylaxis – severe, life threatening hypersensitivity to a drug such as extreme weakness, nausea and vomiting, cyanosis, dyspnea, hypotension, shock and respiratory or cardiac arrest. Usually occurs within minutes of administering the drug.
- D. Antagonism – condition in which two drugs work against each other, decreasing effectiveness of one or both (e.g., tetracycline and antacid).
- E. Antidote – a drug given to reverse the effects of a previously given drug.
- F. Aural – pertaining to the ear.
- G. Contraindications – existing conditions that the resident may have which are incompatible with the drug (e.g., Inderal given to asthmatic resident).
- H. Controlled drugs/controlled substances – drugs covered by the Federal and State Controlled Substance Acts.
- I. Cumulative effect – buildup of a drug in the body that may occur rapidly or slowly over time.
- J. Disease – pathological or abnormal condition of the body.
- K. Dosage – amount of a medication given at one time.
- L. Drug – a substance taken into or applied to the body to treat or prevent a disease or condition (e.g., Advil).

- M. Enteric coated – tablets that are coated so that they dissolve in the small intestines rather than in the stomach.
- N. Generic name – the common name assigned to a drug; the generic name stays the same from one manufacturer to another; whereas, the trade or brand name changes with each manufacturer.
- O. Idiosyncrasy – an individual's unique hypersensitivity to a particular drug.
- P. Indications – various conditions or symptoms for which the drug may be given.
- Q. Lethal dose – amount of a drug that will cause death.
- R. Ophthalmic – pertaining to the eye.
- S. Overdose – a dose of a drug in an amount that causes an acute reaction such as coma or even death.
- T. Otic – pertaining to the ear.
- U. Parenteral – a medication route other than the digestive system such as intravenous (IV), subcutaneous (Subcut), intramuscular (IM), mucosal.
- V. Physical dependence – a physical state in which the body adapts to a drug and experiences symptoms of withdrawal when the drug is abruptly stopped or the dose is rapidly lowered. Physical dependence is a normal result of the use of certain drugs and rarely leads to addiction.
- W. Placebo – an inactive substance prescribed by a doctor as if it were an effective dose of medication and believed by the resident to be a medication.
- X. Psychological dependence – a compulsion to use a drug, often for its mood altering effects, preoccupation with obtaining and using a drug. Psychological dependence may lead to addiction.
- Y. Side effects – any effect of a drug other than the one for which it is given.
- Z. Spansule – small particles of a drug coated with compounds which require varying amounts of time to dissolve.
- AA. Subcutaneous – injected into the tissues just below the skin, dermis.
- BB. Sublingual – under the tongue, without liquid.
- CC. Synergism – two drugs working together to give an effect greater than their individual effect (e.g., analgesics with antianxiety drugs).

- DD. Therapeutic effect – the desired effect of a drug.
- EE. Tolerance – a condition in which the body becomes increasingly resistant to a drug due to continued exposure; and requiring an increased amount of a drug to produce the same effect a lesser amount previously produced.
- FF. Toxicity – symptoms or effect of poisoning of the body by a drug due to large dose of a drug or a cumulative effect of the drug.
- GG. Trade or brand name – name by which a drug is marketed; commonly recognized name of a drug.

NOTE: In 2004 the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) compiled a list of dangerous abbreviations. These abbreviations should be avoided and the terms written out. Please refer to your facility's Policy and Procedure Manual regarding approved abbreviations for your place of employment.

II. Abbreviations

NOTE: These abbreviations have been listed so that you will be familiar with them; however, some are no longer considered safe to use. Refer to HO 8 for recommended alternatives.

A. Abbreviations related to medication administration.

1. \overline{a} – before.
2. \overline{aa} – of each.
3. \overline{ac} – before meals.
4. ad lib – freely as desired.
5. ASAP/asap – as soon as possible.
6. BID or bid – twice a day.
7. \overline{c} – with.
8. C – Centigrade.
9. c/o – complaints of.
10. cap(s) – capsule(s).
11. cc – cubic centimeter.
12. elix. – elixir.

13. F – Fahrenheit.
14. gr – grain.
15. Gm, gm or g – gram.
16. gtt – drop.
17. h – hour.
18. IM – intramuscular.
19. Inh. – inhalant.
20. IV – intravenous.
21. Kg – kilogram
22. liq. – liquid.
23. mcg – microgram.
24. mEq. – milliequivalent.
25. mg. – milligram.
26. mL – milliliter
27. NPO – nothing by mouth.
28. p. – after.
29. $\overline{\text{pc}}$ – after meals.
30. PO/po – by mouth.
31. PRN/prn – as needed.
32. qh – every hour.
33. q4h – every four hours.
34. QID/qid – four times a day.
35. sl – sublingual.
36. sol. – solution.
37. STAT/Stat/stat – immediately.

38. subcut – subcutaneously.
39. Supp. – suppository.
40. Tab(s) – tablet(s).
41. TID/tid – three times a day.
42. tr. – tincture.

B. Common diagnoses abbreviations.

1. AIDS – autoimmune deficiency syndrome.
2. ARD – acute respiratory distress.
3. ASCVD – arteriosclerotic cardiovascular disease.
4. ASHD – arteriosclerotic heart disease.
5. BPH – benign prostatic hypertrophy.
6. CAD – coronary artery disease.
7. CHD – coronary heart disease or congenital hip dislocation.
8. CHI – closed head injury.
9. CHF – congestive heart failure.
10. COBS – chronic organic brain syndrome.
11. COLD – chronic obstructive lung disease.
12. CVA – cerebrovascular accident.
13. CVD – cardiovascular disease.
14. COPD – chronic obstructive pulmonary disease.
15. DJD – degenerative joint disease.
16. DM – diabetes mellitus.
17. HTN – hypertension.
18. IDDM – insulin dependent diabetes mellitus.
19. LLLI – left lower lobe infiltrate.

20. RLLI – right lower lobe infiltrate.
21. MI – myocardial infarction.
22. NIDDM – non insulin dependent diabetes mellitus.
23. OBS – organic brain syndrome.
24. PVD – peripheral vascular disease.
25. TIA – transient ischemic attack.
26. URI – upper respiratory infection.
27. UTI – urinary tract infection.

C. Laboratory test terminology.

1. BUN – blood urea nitrogen.
2. CBC – complete blood count.
3. C & S – culture and sensitivity.
4. ECG (EKG) – electrocardiogram.
5. FBS – fasting blood sugar.
6. MRSA – methicillin-resistant staphylococcus aureus.
7. RBC – red blood count.
8. VRE – vancomycin resistant enterococci.
9. VRSA – vancomycin resistant staphylococcus aureus.
10. WBC – white blood count.

D. Miscellaneous.

1. ADL – activities of daily living.
2. AKA – above the knee amputation.
3. ASAP – as soon as possible.
4. CC – chief complaint.

5. C.D.C. – Center for Disease Control.
6. CMS – Centers for Medicare and Medicaid Services.
7. DHSS – Department of Health and Senior Services.
8. Dx – diagnosis.
9. H₂O – water.
10. H & P – history and physical.
11. ICF – intermediate care facility.
12. I & O – intake and output.
13. LTC – long term care.
14. MAR – medication administration record.
15. MDS – minimum data set.
16. MSDS – material safety data sheet.
17. NKA – no known allergy.
18. OBRA – Omnibus Budget Reconciliation Act.
19. OSHA – Occupation Safety and Health Administration.
20. OTC – over the counter medications (non-prescription).
21. PDR – physician's desk reference.
22. RCF – residential care facility.
23. SNF – skilled nursing facility.

III. Summary and Conclusion

- A. Terminology related to medication administration.
- B. Abbreviations related to medication administration.

This lesson has introduced you to terms, and abbreviations commonly used by those responsible for accurately and safely preparing, administering, and recording medications. The next lesson deals with dosage, measurement, and drug forms.

ERROR-PRONE ABBREVIATIONS, SYMBOLS, AND DOSE DESIGNATIONS

This list presents abbreviations, symbols, and dose designations that are considered prone to causing medication errors. These items should be considered "dangerous" for handwritten, preprinted, or electronic forms of communication.

Abbreviations	Intended Meaning	Misinterpretation	Correction
µg	Microgram	Mistaken as "mg"	Use "mcg"
AD, AS, AU	Right ear, left ear, each ear	Mistaken as OD, OS, OU (right eye, left eye, each eye)	Use "right ear," "left ear," or "each ear"
OD, OS, OU	Right eye, left eye, each eye	Mistaken as AD, AS, AU (right ear, left ear, each ear)	Use "right eye," "left eye," or "each eye"
BT	Bedtime	Mistaken as "BID" (twice daily)	Use "bedtime"
cc	Cubic centimeters	Mistaken as "u" (units)	Use "mL"
D/C	Discharge or discontinue	Premature discontinuation of medications if D/C (intended to mean "discharge") has been misinterpreted as "discontinued" when followed by a list of discharge medications	Use "discharge" and "discontinue"
IJ	Injection	Mistaken as "IV" or "intrajugular"	Use "injection"
IN	Intranasal	Mistaken as "IM" or "IV"	Use "intranasal" or "NAS"
HS hs	Half-strength At bedtime, hours of sleep	Mistaken as bedtime Mistaken as half-strength	Use "half-strength" or "bedtime"
IU**	International unit	Mistaken as IV (intravenous) or 10 (ten)	Use "units"
o.d. or OD	Once daily	Mistaken as "right eye" (ODS-oculus dexter), leading to oral liquid medications administered in the eye	Use "daily"
OJ	Orange juice	Mistaken as OD or OS (right or left eye); drugs meant to be diluted in orange juice may be given in the eye	Use "orange juice"
Per os	By mouth, orally	The "os" can be mistaken as "left eye" (OS-oculus sinister)	Use "PO," "by mouth," or "orally"
q.d. or QD**	Every day	Mistaken as q.i.d., especially if the period after the "q" or the tail of the "q" is misunderstood as an "l"	Use "daily"
qhs	At bedtime	Mistaken as "qhr" or every hour	Use "at bedtime"
qn	Nightly	Mistaken as "qh" (every hour)	Use "nightly"
q.o.d. or QOD**	Every other day	Mistaken as "q.d." (daily) or "q.i.d." (four times daily) if the "o" is poorly written	Use "every other day"
q1d	Daily	Mistaken as q.i.d. (four times daily)	Use "daily"
q6PM, etc.	Every evening at 6 PM	Mistaken as every 6 hours	Use "6 PM nightly" or "6 PM daily"
SC, SQ, sub q	Subcutaneous	SC mistaken as SL (sublingual); SQ mistaken as "5 every;" the "q" in "sub q" has been mistaken as "every" (e.g., a heparin dose ordered "sub q 2 hours before surgery" misunderstood as every 2 hours before surgery)	Use "subcut" or "subcutaneously"
ss	Sliding scale (insulin) or ½ (apothecary)	Mistaken as "55"	Spell out "sliding scale;" use "one-half" or "1/2"
SSRI	Sliding scale regular insulin	Mistaken as selective-serotonin reuptake inhibitor	Spell out "sliding scale (insulin)"
SSI	Sliding scale insulin	Mistaken as Strong Solution of Iodine (Lugol's)	
1/d	One daily	Mistaken as "tid"	Use "1 daily"
TIW or tiw	3 times a week	Mistaken as "3 times a day" or "twice in a week"	Use "3 times weekly"
U or u**	Unit	Mistaken as the number 0 or 4, causing a 10-fold overdose or greater (e.g., rU seen as "40" or 4u seen as "44"); mistaken as "cc" so dose given in volume instead of units (eg., 4u seen as 4cc)	Use "unit"

Dose Designations And Other Information	Intended Meaning	Misinterpretation	Correction
Trailing zero after decimal point (e.g., 1.0 mg)**	1 mg	Mistaken as 10 mg if the decimal point is not seen	Do not use trailing zeros for doses expressed in whole numbers
No leading zero before a decimal dose (e.g., .5 mg)**	0.5 mg	Mistaken as 5 mg if the decimal point is not seen	Use zero before a decimal point when the dose is less than a whole unit
Drug name and dose run together (especially problematic for drug names that end in "L" such as Inderal40 mg; Tegretol300 mg)	Inderal 40 mg Tegretol 300 mg	Mistaken as Inderal 140 mg Mistaken as Tegretol 1300 mg	Place adequate space between the drug name, dose, and unit of measure
Numerical dose and unit of measure run together (e.g., 10mg, 100mL)	10 mg 100 mL	The "m" is sometimes mistaken as a zero or two zeros, risking a 10- to 100-fold overdose	Place adequate space between the dose and unit of measure
Abbreviations such as mg. or mL. with a period following the abbreviation	mg mL	The period is unnecessary and could be mistaken as the number 1 if written poorly	Use mg, mL, etc. without a terminal period
Large doses without properly placed commas (e.g., 100000 units; 1000000 units)	100,000 units 1,000,000 units	100000 has been mistaken as 10,000 or 1,000,000; 1000000 has been mistaken as 100,000	Use commas for dosing units at or above 1,000, or use words such as 100 "thousand" or 1 "million" to improve readability
Drug Name Abbreviations	Intended Meaning	Misinterpretation	Correction
ARA A	Vidarabine	Mistaken as cytarabine (ARA C)	Use complete drug name
AZT	Zidovudine (Retrovir)	Mistaken as azathioprine or aztreonam	Use complete drug name
CPZ	Compazine (prochlorperazine)	Mistaken as chlorpromazine	Use complete drug name
DPT	Demerol-Phenergan-Thorazine	Mistaken as diphtheria-pertussis-tetanus (vaccine)	Use complete drug name
DTO	Diluted tincture of opium, or deodorized tincture of opium (Paregoric)	Mistaken as tincture of opium	Use complete drug name
HCl	Hydrochloric acid or hydrochloride	Mistaken as potassium chloride (The "H" is misinterpreted as "K")	Use complete drug name unless expressed as a salt of a drug
HCT	hydrocortisone	Mistaken as hydrochlorothiazide	Use complete drug name
HCTZ	hydrochlorothiazide	Mistaken as hydrocortisone (seen as HCT250 mg)	Use complete drug name
MgSO4**	magnesium	Mistaken as morphine sulfate	Use complete drug name
MS, MS04**	morphine sulfate	Mistaken as magnesium sulfate	Use complete drug name
MTX	methotrexate	Mistaken as mitoxantrone	Use complete drug name
PCA	procaïnamide	Mistaken as Patient Controlled Analgesia	Use complete drug name
PTU	propylthiouracil	Mistaken as mercaptopurine	Use complete drug name
T3	Tylenol with codeine No. 3	Mistaken as liothyronine	Use complete drug name
TAC	triamcinolone	Mistaken as tetracaine, Adrenalin, cocaine	Use complete drug name
TNK	TNKase	Mistaken as "TPA"	Use complete drug name
ZnSO4	Zinc sulfate	Mistaken as morphine sulfate	Use complete drug name

Stemmed Drug Names	Intended Meaning	Misinterpretation	Correction
"Nitro" drip	Nitroglycerin infusion	Mistaken as sodium nitroprusside infusion	Use complete drug name
"Norfloxx"	Norfloracin	Mistaken as Norflex	Use complete drug name
"IV Vanc"	Intravenous vancomycin	Mistaken as Invanz	Use complete drug name
Symbols	Intended Meaning	Misinterpretation	Correction
3	Dram	Symbol for dram mistaken as "3"	Use the metric system
℥	Nubun	Symbol for minim mistaken as "mL"	
x3d	For three days	Mistaken as "3 doses"	Use "for three days"
> and <	Greater than and less than	Mistaken as opposite of intended; mistakenly use incorrect symbol; "< 10" mistaken as "40"	Use "greater than" or "less than"
/ (slash mark)	Separates two doses or indicates "per"	Mistaken as the number 1 (e.g., "25 units/10 units" misread as "25 units and 110" units)	Use "per" rather than a slash mark to separate doses
@	At	Mistaken as "2"	Use "at"
&	And	Mistaken as "2"	Use "and"
+	Plus or and	Mistaken as "4"	Use "and"
°	Hour	Mistaken as a zero (e.g., q2° seen as q 20)	Use "hr," "h," or "hour"

** Identified abbreviations above are also included on the JCAHO's "minimum list" of dangerous abbreviations, acronyms, and symbols that must be included on an organization's "Do Not Use" list, effective May 1, 2005. Reprinted with permission © ISMP 2006.

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COURSE TITLE: MEDICATION TECHNICIAN

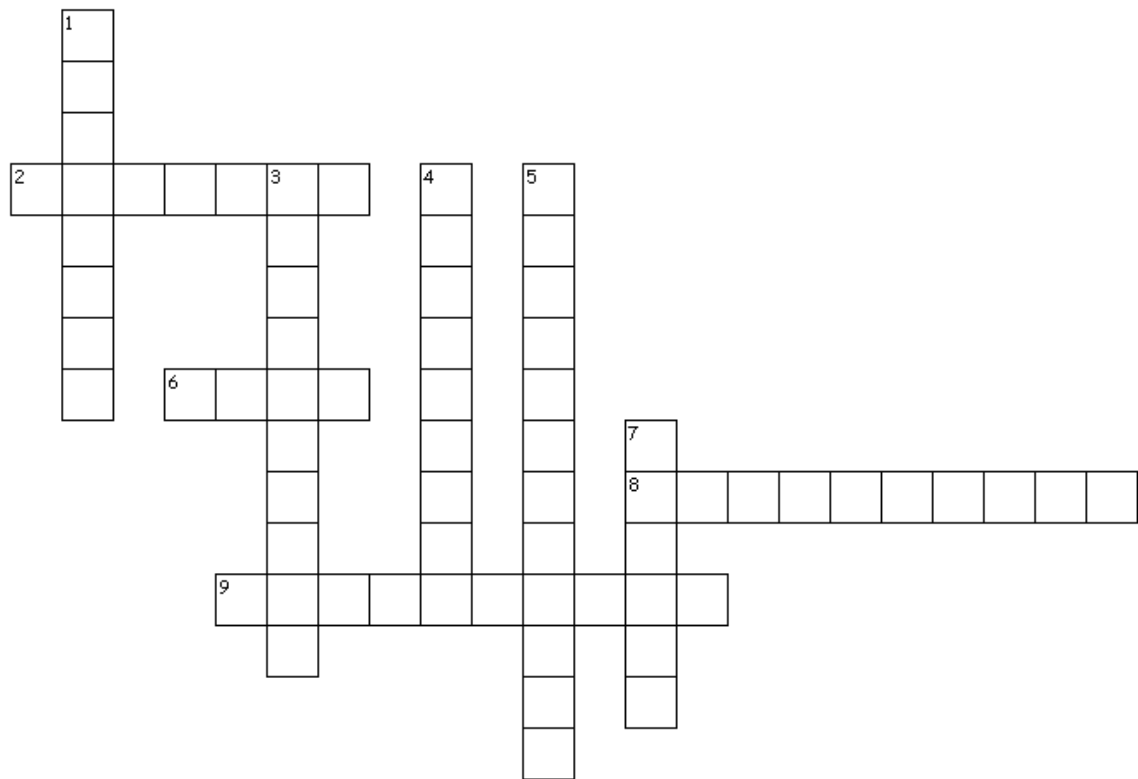
UNIT: II GENERAL PRINCIPLES

EVALUATION ITEMS:

Write the correct abbreviation in the blank.

- | | |
|---|-------------------------------------|
| ____ 1. By mouth | ____ 21. Hour |
| ____ 2. Intramuscular | ____ 22. Complains of |
| ____ 3. Intravenous | ____ 23. Activities of daily living |
| ____ 4. Nothing by mouth | ____ 24. Before meals |
| ____ 5. Capsule | ____ 25. As needed |
| ____ 6. Centigrade | ____ 26. Four times daily |
| ____ 7. Drop | ____ 27. Immediately |
| ____ 8. Fahrenheit | ____ 28. Three times daily |
| ____ 9. Grain | ____ 29. With |
| ____ 10. Gram | ____ 30. Intake and output |
| ____ 11. Liquid | ____ 31. History and physical |
| ____ 12. Milligram | ____ 32. No known allergy |
| ____ 13. Milliliter | ____ 33. Water |
| ____ 14. Suppository | ____ 34. Long-term care |
| ____ 15. Solution | ____ 35. Intermediate care facility |
| ____ 16. Medication administration record | |
| ____ 17. Tablet | |
| ____ 18. After meals | |
| ____ 19. Freely as desired | |
| ____ 20. Twice daily | |

Complete the Crossword Puzzle



Across

2. pathological or abnormal condition of the body
6. pertaining to the ear
8. pertaining to the eye
9. not in or through the digestive system

Down

1. symptoms or effect of poisoning of the body by a drug due to a large dose of a drug or a cumulative effect of the drug
3. under the tongue without liquid
4. emotional or physiological dependence upon a drug which has progressed beyond voluntary control
5. injected into the tissues just below the skin, dermis
7. amount of medication given at one time