

UNIT 2: PHARMACOLOGY

Table of Contents

	Page
Overview	5
♦ Objectives	6
• Explain the Relationship of Drug Effects on Body Systems	6
• The 8 rights of medication administration	6
• Transcription of orders.....	6
Medication Abbreviations	7
Medical Measurements.....	10
Drug Classifications
Medication Classification Terms and Definitions.....	14
♦ Drug Sources.....	16
♦ Medication Names	17
PowerPoint Slide – Medication Names	18
♦ Medication Categories	19
Controlled Substances Power Point Slides	22
♦ Medication Forms and Types	27
♦ Liquid.....	27
• Unit Dose Ampules.....	27
♦ Solids	28
♦ Powder	29
♦ Vials	29
♦ Lotions	29
♦ Ointments.....	30

Table of Contents Continued

	Page
◆ Suppositories.....	30
◆ Transdermal Medications	30
◆ Effects of Medications	31
◆ Desired Effects.....	31
◆ Adverse Effects.....	31
◆ No Apparent Effect.....	32
◆ Drug Interactions	32
Pharmacology Terms.....	34
Medication Actions and Side Effects Activity	39
MEDICATION ADMINISTRATION	
Eight Rights of Safe Medication Administration	48
Medication Orders	51
◆ Prescription.....	51
◆ Psychotropic PRN's.....	52
◆ PRN Order Example	54
◆ Calling In Orders	56
◆ Appointment for Service/Order Sheet	56
◆ Telephone Orders.....	56
◆ Fax or Facsimile Orders.....	57
◆ Admission Process/Other Settings.....	57
◆ Psychotropic Orders.....	57
◆ Schedule II Controlled Substances	58
◆ Medical Orders	58
◆ Upon Discharge from a Hospitalization	58
Transcribing Orders.....	59
◆ New Orders.....	59
◆ Discontinued Orders	60

Table of Contents Continued

	Page
◆ Changed Orders	61
◆ Medication Ordering.....	61
◆ Initials	62
◆ Unusual Circumstances.....	62
◆ Refusal	63
Medication Administration Record (MAR)	64
General Information	64
Medication Name(s), Dose, Frequency, and Route.....	65
Order Date	65
Duly Authorized Licensed Practitioner.....	65
Times of Administration.....	65
PRN's	65
Change in Start Dates	66
MAR Review.....	66
Second Check:	66
Missing Initials on the MAR	67
Resident Refuses to Take Medication:	68
Life Span For Drugs.....	69
MAR Transcription Activity.....	70
Incident Reports.....	73
◆ Type of Errors	73
◆ Contamination.....	74
◆ Pharmacy Package/Label error	75
◆ Other	75
◆ Tips for Error Prevention	75
Routes of Administration	78
◆ Crushing Medications	78
◆ When Not To Give Medication.....	79

Table of Contents Continued

	Page
Medication Administration Procedures.....	80
◆ Designated Times.....	80
◆ Dosage.....	80
◆ Guidelines for students	81
◆ Charting (Documenting) Guidelines.....	82
Disposing of Medications.....	85
Emergency Situations	86
Medication Administration Practice.....	88
◆ Pre-Clinical (in the classroom)	88
Scenarios	90
Forms.....	95
◆ Medication Disposal Form.....	99
◆ Medication Error Form	100
◆ Medication Sign Out Record Form.....	101
◆ Missed or Late Medications.....	102
◆ Over The Counter Medication Form	103
◆ Physician’s Order.....	104

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Overview

The study of Pharmacology is fascinating and quite extensive. However, for the purposes of this CRMA course, we will look at some of the more common medications you will encounter in your facilities as well as the typical effects and/or side effects of these medications on the Body Systems.

So that you may begin using the “language” of a CRMA, this Unit will also cover common abbreviations, symbols, measurements and the classification and categories of drugs.

◆ Notes

- A discussion of the purpose and the objectives for this Unit will be facilitated by the instructor.
- The class may contain participants from different licensed facilities. It is important for each participant to understand that this is a “common” and/or standardized CRMA curriculum regarding the topic of “Pharmacology/Medication Administration.”

The information in this unit does not replace specific facility standard operating procedures.

Ice breaker from the Activities Appendix

◆ Objectives

- Use Common Medication Abbreviations
- Use Medical Measurements
- Read and Use Symbols Related to Drug Therapy
- Explain Drug Classifications
- Explain the Relationship of Drug Effects on Body Systems
- The 8 rights of medication administration
- Transcription of orders
- Explain routes of medication administration
- Store medications
- Handle emergency situations

Medication Abbreviations

So that we may talk the same language as we learn about Pharmacology, we will begin with some “common” medication abbreviations that you will need to know in order to read orders and document your medication administrations.

COMMON MEDICAL ABBREVIATIONS			
Abbreviation	Meaning	Abbreviation	Meaning
BM	Bowel Movement	OTC	Over the Counter
BP	Blood Pressure	PO or po	By Mouth
\bar{c}	With	PR	Per Rectum
CBC	Complete Blood Count	ROM	Range of Motion
DSD	Dry Sterile Dressing	Tx	Treatment
Hct	Hematocrit	\bar{s}	Without
Hgb	Hemoglobin	TPR	Temperature, Pulse & Respiration
I & O	Intake & Output	VS	Vital Signs
IV	Intravenous		
MAR	Medication Administration Record	Wgt	Weight
NPO	Nothing by Mouth	c/o	Complaint of
noc*	Night	FSBS	Finger Stick Blood Sugar
N & V	Nausea & Vomiting	FBS	Fasting Blood Sugar (Laboratory testing)

* May see these abbreviations a “line” over them.

DRUG ADMINISTRATION ABBREVIATIONS

Abbreviation	Meaning	Abbreviation	Meaning
ac*	Before Meals	Q or q*	Every
AD	Right Ear	qd or QD	Once a Day
AS	Left Ear	qh	Every Hour
AU	Both Ears	q2H, q4H, q8H	Every 2, 4 8 Hours
ad lib	As Patient Desires	qhs	Every Night at Bedtime
bid or BID	Two Times Per Day	qid or QID	Four Times a Day
cap	Capsule	qod or QOD	Every Other Day
cc	Cubic Centimeter	sc or sq	Subcutaneous
d/c or D/C	Discontinue	SL or sl	Sublingual
dr	Dram	stat	At Once
Gm or gm or G	Gram	supp	Suppository
gtt(s)	Drop(s)	susp	Suspension
HS	Hour of Sleep	tab	Tablet
I.U.	International Units	tid or TID	Three Times a Day
Mcg	microgram	Tinct., tc	Tincture
mg	Milligrams	T or Tbs	Tablespoon
ml	milliliter	t or tsp	Teaspoon
OD	Right Eye	U or Unit	Unit
OS	Left Eye	ung or oint	Ointment
OU	Both Eyes	i or ii *	One or Two
oz	Ounce	pc*	After Meals
prn	As Needed	mEq	Milli equivalents

* May see these abbreviations a “line” over them.

COMMON CHEMICAL AND DRUG ABBREVIATIONS

Abbreviation	Meaning
ASA	Aspirin (Acetylsalicylic Acid)
Ca	Calcium
Cl	Chloride
APAP	Acetaminophen
DSS	Colace (Dioctyl Sodium Silfosuccinate)
FeSO ₄	Ferrous Sulfate
H ₂ O	Water
H ₂ O ₂	Hydrogen Peroxide
I	Iodine
K	Potassium
KI	Potassium Iodine
KCL	Potassium Chloride
LiCO ₃	Lithium Carbonate
Mg	Magnesium
MOM	Milk of Magnesia
MS	Morphine Sulfate
Na	Sodium
NaCL	Sodium Chloride
NS	Normal Saline
NTG	Nitroglycerine
O ₂	Oxygen
SSKI	Saturated Solution of Potassium Iodine

Medical Measurements

Measurement of Medications

Basic Information about Measurement

We measure things continually in our life. We measure how tall we are. We measure the distance between work and home. We also weigh things. We look at the weights on food packages and our own weight on our scale at home. We measure the volume of liquids like the amount of soda or milk in a container. In fact, we use measurement on a daily basis. Yet, there are only three things we really measure:

1. weight- how heavy things are
2. volume -how much fluid container will hold
3. length - how long something is

Can you think of examples of each?

In order to measure the length, weight and volume of things we need to use a system of measurement. Today, there are three systems of measurement in use. They are:

1. Household system
2. Apothecary system
3. Metric system

Household System

This is the system of measurement that is used for cooking. When we cook, we measure foods in pounds, cups, ounces, teaspoons and the like. These units of measurement are all part of the household system. Although we have named only a few, you can look up an entire list in any cookbook available to you. These measurements are fine for cooking but they are not precise enough for dealing

with the tiny amounts of chemicals which we call medications. Some units from this system that you might see used in medicine are the following:

Unit	Abbreviation	Amount
One teaspoon	1 tsp or 1 t	5cc
One tablespoon	1 tbsp or 1 T	15cc
One ounce	1 oz	30cc

Apothecary System

This system is very old and was first used in Europe. It was used by pharmacists to measure medications until the third system was developed. This is also called the standard system. In this system, the unit for weight is the grain which is abbreviated "gr". It is based on grains of wheat. Ounces and drams are also used to weigh solids. The units for measuring liquids are minims, drams, ounces, pints and quarts. As you can see, sometimes the units are the same for weight and volume. This system is also not very precise for dealing with tiny amounts of medications. However, even today practitioners of homeopathic medicine frequently will use grains and drams when prescribing their medications.

Metric System

The metric system is the international system of measurement. As such it is the measurement system that is commonly used for medication measurement. This system is also called the Systemique Internationale or SI. It is used worldwide; the units are the same everywhere. It is precise and accurate which are important qualities to have when dealing with medication. In this system the unit of weight is the gram which is abbreviated "G or gm". The unit used to measure length is the meter, abbreviated as "M". The unit used to measure volume is liter, abbreviated as "L". Prefixes are added to these units to make them larger or smaller as needed.

The prefixes are:

Kilo - one thousand
 Hecto- one hundred
 Dekka - ten
 Milli - one thousandth
 Centi - one hundredth
 Deci - one tenth

These prefixes can be attached to any of the units to increase or decrease size. The chart below, uses grams, shows how they are used. You can make the same substitution using liters or meters.

Term	Abbreviation	Equivalent to
1 Kilogram	1 kg	2.2 lbs.
1 Hectogram	1 hg	100 grams
1 Dekagram	1 dkg	10grams
1 Decigram	1 dg	1/10 of a gram
1 Centigram	1 cg	1/100 of a gram
1 Milligram	1 mg	1/1000 of a gram
1 Liter	L	1000 mls/cc
1 milliliter	1 ml/cc	15 or 16 drops or minums
1 millimeter	1 mm	0.0397 inches
1 centimeter	1 cm	0.397 inches

The only prefixes that you will see used in medicine are: milli and centi; the others are far too large for medication measurement. You may also see the term, micrograms, used for some medications. There are 1000 micrograms (mcg) in every milligram or mg.

1000 gm	1 kg	
1 gram	1000 mgs	
1 mg	1000 mcg	

A Word About Calculations and Conversions

Facility/Agency Policy may require the CRMA to calculate or convert medication dosage. In these cases the CRMA should check, when possible, with another qualified person to assure the calculations or conversions are correct. These functions are primarily performed by a duly authorized licensed practitioner, pharmacist or a nurse.

The chart below is included merely for reference so you can see how one system's weights compares with the other system.

Household	Apothecary	Metric
1 tsp	1 dr	5 cc/ml
1 tbsp	3 dr	15 cc/ml
15 gtts	15 minims	1 ml/cc
2 tbsp	1 fluid ounce	30 ml/cc



Medication Classification Terms and Definitions

Drugs are frequently classified by their actions/uses in the human body.

Amphetamine - Cerebral stimulant.

Analgesic - Pain reliever.

Antacid - Prevents or relieves gastric distress.

Antianxiety (Benzodiazepines) - Prevents or relieves anxiety.

Antiarrhythmic (Heart Rhythm Regulators) - Prevents or relieves irregular heartbeat.

Antiasthmatic (Bronchodilator) - Prevents or relieves respiratory distress.

Antibiotic - Resolves infection.

Anticoagulant - Prevents blood clotting.

Anticonvulsant (Antiepileptics) - Prevents or controls seizures.

Antidepressant - Prevents or relieves the symptoms of depression.

Antidiabetic - Controls diabetes, decreases blood sugar.

Antidiarrheal - Controls diarrhea.

Antiemetic - Controls nausea and vomiting.

Antifungal - Resolves fungus infection.

Antihistamine - Relieves allergic symptoms.

Antihyperlipidemic – Decreases Cholesterol and Triglycerides

Antihypertensive - Controls high blood pressure.

Anti-inflammatory: Steroid or NSAID - Decreases inflammation, swelling, pain.

Steroid - Naturally occurring hormone.

NSAID - (Non Steroidal Anti-Inflammatory Drug) - A synthetic anti-inflammatory drug.

Anti-ovulant - Prevents ovulation, birth control medication.

Antiparkinson - Controls tremors which are symptoms of Parkinson's disease.

Antipruritic - Relieves itching.

Antipsychotic (Neuroleptics)- Controls symptoms of psychotic diseases such as schizophrenia.

Antipyretic - Reduces fever.

Antispasmodic - Prevents muscle spasms.

Antitussive (Cough Suppressant) - Relieves cough.

Cardiac Drugs - Drugs which slow and regulate the heartbeat.

Coagulants - Causes blood to clot.

Decongestant - Relieves congestion.

Diuretic - Relieves fluid retention.

Electrolyte Supplement - Replaces depleted body chemicals.

Emetic - Causes vomiting.

Expectorant - Loosens secretions so they can be coughed up.

Hormonal Replacements - Replaces hormones in the body.

Hypnotic (Sedative) - Causes sleep.

Laxative (Cathartic) - Causes bowel movement.

Miotic - Causes constriction of the pupil of the eye.

Muscle Relaxant - Relaxes skeletal muscle.

Psychotropic - Any mind altering drug, i.e., antipsychotic, antidepressant, anti-anxiety, hypnotics.

Stool Softener – Draws fluid into the GI tract to soften stool.

Sulfa Drugs- Treats urinary tract infection.

Vaccine - Prevents disease.

Vasodilator - Relaxes and dilates blood vessels.

Vitamin Supplement - Replaces vitamins

◆ **Drug Sources**

Drug sources include five categories, plants, animals and humans, minerals or mineral products, microorganisms and man-made or synthesized substances produced in laboratories. Man-made or synthesized are the most common drugs utilized today.

Substances that have a “medicinal effect” have been around since the beginning of time and have been a part of recorded history. Drug substances can be and are used for non-medicinal purposes, and in that context they are not considered medicine.

◆ Medication Names

We need to be able to identify drugs in some way. There are four types of names that a single drug may be given.

1. *Chemical*

If we want to order a pure form, then we might use the ***chemical name***, which is a precise description of the drug's chemical composition and molecular structure.

2. *Generic*

We often order a drug by its ***generic name*** for ordering purposes. The generic name is usually much simpler than the chemical name and assures us that we are getting the drug we want without any pharmaceutical company modifications. These drugs can usually be purchased for less.

3. *Trade or Brand*

We can also use the ***trade*** or ***brand name*** for a drug. The company that has developed its own variations for the drug usually copyrights this name. We see trade names in most advertisements and publicity.

4. *Official*

Finally there is the ***official name*** for a drug. The official name is followed by United States Pharmacopoeia (USP) or National Formulary (NF), denoting its listing in one of the official publications. Often the official name is the same as the generic name with USP added to the end of it.

PowerPoint Slide – Medication Names

Slide 1

Medication Names (So What's In A Name?)



Chemical Name: Ethyl 1-Methyl-4-Plenylisonipectorat

Generic Name: Meperidine Hydrochloride

Trade Name: Demerol Hydrochloride

Official Name: Meperidine Hydrochloride USP

The Pharmacy can change manufacturer at any time; thus, the medication name changes, but this does not change the drug!

Medication Names (So What's In A Name?)



Chemical Name: Acetylsalicylic Acid

Generic Name: Aspirin

Trade Name: Ecotrin, Bayer Aspirin, St. Joseph's

Official Name: Aspirin USP

The Pharmacy can change manufacturer at any time; thus, the medication name changes, but this does not change the drug!



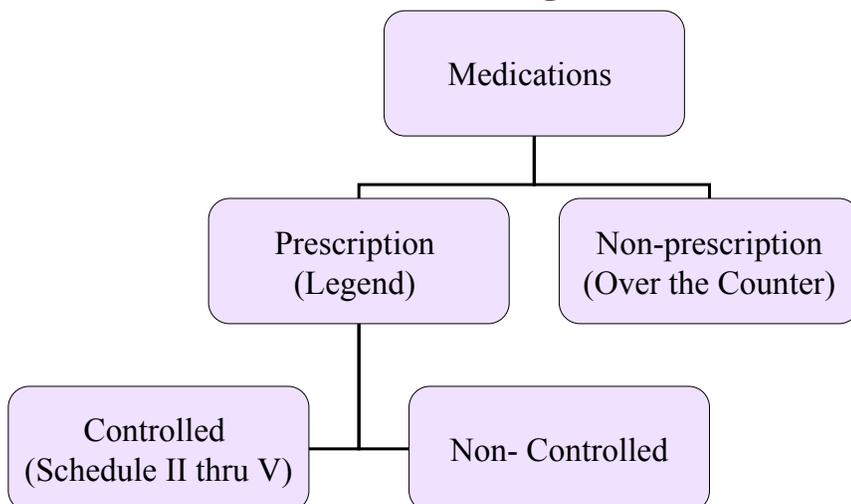
◆ **Medication Categories**

Medications are divided into two major categories: *prescription* and *non-prescription*. The distinction between the two groups is based on how we as consumers access the drugs. Prescription drugs require us to have an order from a duly authorized licensed practitioner before we can purchase the medication from the pharmacy.

The non-prescription medications are also known as “over-the-counter” (OTC) drugs because they can be purchased at the counter of several types of stores. However, in the facility *all* drugs must have a written order. Never administer a drug without a signed and dated written order. Usually, drugs that are available over-the-counter (OTC) will be included in standing orders.

Drugs in both categories must be stored and administered as required by law. Prescription drugs are divided into two sub-categories: *controlled* and *non-controlled* substances.

Medication Categories



- **Controlled Substances**

The Harrison Narcotics Act of 1914 first regulated drugs of abuse. The Controlled Substance Act of 1970 (Public Law 91-513) replaced the original Act and classifies drugs covered by the law in five (5) Schedules according to their potential for abuse and risk of bodily harm.

Controlled substances are considered to have a high potential for abuse and are regulated by the Drug Enforcement Administration (DEA). There are special laws at the state and federal level dealing with controlled drugs. Maine has specific regulations that cover their use in assisted housing programs, nursing facilities/homes, and hospitals.

The following five (5) classes of controlled substance drugs are based on their abuse potential, their actual abuse or their desirability:

Schedule I Substances have a high potential for abuse and no currently accepted medical use: For example, LSD, Heroin, Marijuana, and Mescaline.

Schedule II Substances (C II/N) have a high potential for abuse but are currently accepted for medical use.

Destruction of Schedule II medications can only be done by a licensed pharmacist, member of the Commission on Pharmacy, a representative of the Drug Enforcement Agency or a representative of the Department of Health and Human Services (Division of Licensing and Regulatory Services).

Schedule III Substances (C III) have a lower abuse potential than Schedule II, but may produce low to moderate physical dependence: For example, narcotics in combination with non-narcotic ingredients.

Schedule IV Substances (C IV) have lower abuse potential than Schedule II, but may produce low to moderate physical dependence.

Schedule V Substances (C V) have low potential for abuse and limited physical or psychological dependence.

Controlled Substances Power Point Slides

Slide 1

Schedule II (C II) Controlled Substances

- Actiq
- Adderall
- Concerta
- Dexedrine
- Dextroamphetamine
- Dilaudid
- Duragesic
- Endocet
- Endodan
- Fentanyl
- Hydromorphone
- Kadian
- Levo-Dromoran
- Levorphanol
- Merperidine
- Methadone
- Methylphenidate
- Morphine
- MS-Contin
- Nembutal
- Opium Tincture
- Oramorph SR
- Oxydone (w/APAP, w/ASA)
- Oxycontin
- Pentobarbital
- Ritalin
- Roxanol
- Roxicet
- Roxicodone
- Secobarbital
- Seconal



High potential for abuse; currently accepted medical use.

Schedule III (C III) Controlled Substances

- Tylenol with Codeine
- Alurate
- Anacin 3 with Codeine
- Anexia
- APAP with Codeine
- Ascriptin with Codeine
- Bancap HC
- Contril PDM
- Butabarbital
- Butisol
- Prelu-2
- Tussend
- Zydone
- Codiclear DH
- Codimal DH
- Didrex
- Doriden
- Empirin with Codeine
- Enpracet with Codeine
- ESG/C with Codeine
- Fiorinal with Codeine
- Hycodan
- Hycomine
- Glutethimide
- Glutethimide
- Tussionex
- Hycotuss
- Noludar
- P-V Tussin
- Paregoric
- Pentothal
- Phenaphen/Codeine
- Codeine
- Phedimetrazine
- Plegine
- Pre-State
- Triaminic DH
- Vicodin

Lower abuse potential than Schedule II; may produce low to moderate physical dependence.

Schedule IV (C IV) Controlled Substances

- Ativan
- Brevital
- Centrax
- Chlordiazapoxide
- Cylert
- Chardonna-2
- Dalmane
- Darvocet-N 50 & 100
- Darvon
- Diethylopropion
- Doral
- Equagesic
- Equanil
- Factin
- Halcion
- Ionamin
- Libritabs
- Librium
- Limbitrol
- Mebaral
- Meprobamate
- Miltown
- Noctec
- Paral
- Paxipam
- Phentermine
- Placidyl
- Propoxyphene Compound
- ProSom
- Propoxyphene
- Restoril
- Sanorex
- Serax
- Telacen
- Talwin
- Tepanil
- Tranxene
- Tenuate
- Valium
- Valrelease
- Xanax
- Phenobarbital

Lower abuse potential than Schedule III; may produce low to moderate physical dependence.

Schedule V (C V) Controlled Substances

- Acetaminophen/Codeine Elixir
- Actifed-C
- Ambenyl
- Apap/Codeine Elixir
- Cheracol
- Codimal PH
- Diphenoxylate with Atropine
- Donnagel PG
- Endal
- Guiatuss AC
- Isochlor
- Lomotil
- Naldecon CS
- Novahistine Expectorant
- Novahistine DH
- Pediacof
- Phenergan with Codeine
- Phenhistine DH
- Promethazine with Codeine
- Robitussin AC
- Robitussin DAC
- RoTuss
- Rohistine DH
- Terpin Hydrate with Codeine
- Triaminic with Codeine
- Tussar
- Tussi-Organidin

Low potential for abuse and limited physical or psychological dependence.

Miscellaneous Agents

- Nicorette
- Antabuse
- Chemotherapy
 - Cancer
 - HIV/AIDS
 - Multiple Sclerosis



◆ **Medication Forms and Types**

Medications are manufactured in a wide variety of forms. The variations in medication preparations make meeting the resident's needs much easier. For example, if they are unable to swallow pills, the liquid form of the same medication may be the solution.

◆ **Liquid**

• **Syrup**

This is a concentrated solution of medication and sugar (or substitute) in water or aqueous liquid. This combination is often used to give the medication a pleasant odor and taste.

• **Elixir**

A clear sweetened liquid of water and alcohol containing flavorings and medication.

• **Suspensions**

An often thick, milky preparation of an insoluble drug suspended in water. Must be shaken well before dispensing.

- ◆ Ophthalmic – for the eyes only.
- ◆ Otic – for the ears.

• **Tinctures**

Preparations of liquid medications designed for “external use” ONLY. They are not intended for internal use or consumption.

• **Unit Dose Ampules**

Sealed containers of liquid medication.

◆ Solids

• Capsule

Usually made of gelatin that serves as a container for powdered medications. Some are hard; others may be soft; but in either case, they are not to be crushed. (More information on crushing medications at the end of this unit.)

• Enteric Coated Capsules

Capsules coated with a substance designed to resist the action of gastric juices so the release will not occur until the medication reaches the alkaline secretions of the intestines. These capsules are not to be crushed or opened. (More information on crushing medications at the end of this unit.)

• Sustained Release

Often referred to as “timed, extended or controlled release”, this preparation is usually contained in a capsule, and individual portions of the medication are coated with materials that dissolve at different time rates. Some particles may be released and be absorbed immediately while other particles may not dissolve for an hour and still others in four, six, or eight hours.

• Tablets

This is usually a powdered form of a medication that is compressed or formed into a tablet. The same medication can be prepared in different doses and in different tablet shapes, colors, and labels. They may have an indented line across the face of the tablet (called scored) to assist in cutting or breaking the tablet in two. They may be crushed if the

pharmacist recommends it. (More information on crushing medications at the end of this unit.)

- **Capseal**

This is a capsule that cannot be opened. It has been sealed during the manufacturing process.

- **Troches/Lozenges**

Preparations come in various shapes but are usually flat; they are held in the mouth until dissolved, releasing the medication as it dissolves. They provide temporary high concentrations of the drug in the oral cavity until completely dissolved. Chewing or swallowing are not recommended and may cause unwanted effects.

- ◆ **Spansule**

A medicinal capsule containing many tiny beads of medicine that dissolve at spaced intervals for long-acting medication

- ◆ **Powder**

Finely divided solid particles of medication or mixtures of medications for either internal or external use.

- ◆ **Vials**

Glass containers of powdered or liquid medication usually containing multiple doses. May have a rubber stopper or a cover device that allows for multiple doses to be given easily.

- ◆ **Lotions**

Liquid suspensions intended for external topical applications. Lotions can be protective, emollient, cooling, cleansing, astringent, or antimicrobial.

◆ **Ointments**

Semisolid preparations of a medicine in a base intended for application to the skin or mucus membranes. Bases are often petroleum and lanolin. They do not wash off readily and are often used to protect sensitive areas, for soothing or for the bacteriostatic effect depending on the medication contained.

● **Ophthalmic Ointments**

Sterile ointment specifically prepared for the eyes.

◆ **Suppositories**

Medications prepared in a form appropriate for insertion into a body cavity. The molded form dissolves at body temperature in secretions of mucus membranes allowing the medication to come in contact with the mucous membranes and be absorbed for either local or systemic effect depending on the medication.

◆ **Transdermal Medications**

These medications are absorbed through the skin into the bloodstream. These may come in the form of a patch, gel, ointment or cream.

◆ **Effects of Medications**

An important responsibility for you as a CRMA is to monitor the effects of the medications you are administering. Your documentation is critical information as the physician determines the effectiveness of the prescription.

Medications typically produce one of the following effects:

- **Desired Effects**
- **Adverse Effects**
- **No Apparent Effects**

Both naturally occurring drugs and synthesized drugs are prescribed to cause a ***desired effect***. The effect is somewhat controlled by dose and the frequency the drug is administered.

• **Desired Effects**

- To prevent or eliminate a disease (Vaccines).
- To reduce or control the symptoms of a disease (Anticonvulsants).
- To alter a person's behavior or mood (Antidepressants).
- To produce a certain effect (Laxative).
- To assist the body (Antibiotics).

• **Adverse Effects**

Anything but the desired effects are considered unwanted effects, side effects, or adverse reactions. Sometimes these effects may be expected, or predictable; however, they may be unexpected, unpredictable, extremely serious, and possibly even life threatening. Adverse effects do not always occur in every person with every drug.

Every CRMA is responsible for knowing what the typical, observable or unwanted effects of a medication.

Unwanted effects may increase the longer a medication is given to a particular resident. A rash today may be the onset of an allergic reaction and full anaphylaxis at the time of the next administration. Continual observation, documentation and reporting of the effects of medication is critical.

- **No Apparent Effect**

There will be times when a medication appears to have no effect on the resident. Some reasons for this might be :

- The particular resident's body chemistry may not be affected by the medication;
- There may not be an adequate dose to have an effect;
- There may not have been sufficient time for the medication to have an observable effect.

Reporting that there were no apparent effects is critical for the re-evaluation of the situation by the medical provider.

- **Drug Interactions**

When residents are on more than one medication, it is very important to understand that drugs can interact with each other and/or other substances. It may be that one particular medication actually produces a desired effect, but in combination with yet another drug that also has a desired effect by itself, produces serious unwanted effects.

There may be either desired or unwanted effects. The more medications a person is taking, the greater the potential that medications will interact in an unpredictable way.

◆ Other Variables that Impact Medication Effects

• Gender

Men have more muscle mass than women. Therefore, medications may affect men and women differently.

• Body Weight

Medically speaking, people who weigh more may need more medication than people who weigh less or may even be underweight for their body size and age.

• Metabolic Rate

People with a high metabolism rate will absorb medications quicker than people with a slow metabolism.

• Physical Status

Large frame people may react differently to medications than small frame people.

• Psychological Aspects

The resident's frame of mind will also affect how well the medication may work.

• Age

Medication dosages are affected by age. For example, children's doses are calculated according to age and weight and in the elderly the doses are usually lower than doses for other adults.

Pharmacology Terms

Absorption

The passage of liquids or other substances including medications through a surface of the body into body fluids and tissues.

Allergic Reaction

This is an immune response that may appear as a raised, red rash that may be itchy. Additionally, an allergic reaction may include swelling to the lips, eyes, fingers, etc., that may lead to anaphylaxis.

Antagonistic

A drug that tends to counteract the effect of another drug

Carcinogenicity

As you may suspect from the “root” of this word, this is a “cancer-causing” agent.

Cumulative

After being on a medication for a long period of time, a resident may “accumulate” the medication in the body or the bloodstream possibly causing toxicity.

Dependence

After being on a medication for a long period of time, a resident may develop a physiological or a psychological need for the medication

Hypersensitivity

Exaggerated response to a medication. (Mild doses of some narcotics will over sedate some individuals.)

Idiosyncratic Response

An unusual uncommon individual response to a medication which is often the exact opposite of the desired effect.

Potentiation

The effect of one or more drugs is increased.

Synergistic

The combination of two medications produce an effect greater than either drug would alone. (Combining a muscle relaxant with a pain medication will enhance the effects of both.)

Teratogenic

A medication that causes birth defects.

Tolerance

The body's response to a drug becomes less and less over time, thus increasing the amount of drug required to achieve the same level of effect. There are two categories used to describe tolerance:

1. **Habituation:** The body develops a psychological dependency on a medication but is not affected by physiological change.
2. **Addiction:** The body develops both a psychological and a physical dependence on a medication such that when the medication is denied, there are specific withdrawal effects.

Toxic

Poisonous effects of a drug.

Action: The method by which the drug produces physiologic and biochemical changes at the cell, tissue, or organ level.

Contraindications: When a drug should not be used in specific pathophysiological conditions, during pregnancy, or with particular drugs or food.

Excretion: How a drug is removed from the body.

Indications: A sign that a drug should be used.

Metabolism: Complex of chemical and physical processes involved in the maintenance of life.

Overdose: Too much of a drug.

Precautions: Drug should be used with great caution because of a greater than average risk of untoward effects.

Sensitivity: Unusual susceptibility.

**HOW THE BODILY SYSTEMS AND
MEDICATIONS INTERACT WORKSHEET**

Name of Drug: _____

A. Drug Action

1. Desired Effects –

2. Adverse Effects –

3. Idiosyncratic Response –

4. Allergic Reactions –

5. Carcinogenicity –

6. Teratogenic –

Medication Interactions Worksheet

B. Variables affecting the drug action in a person –

1. Gender –

2. Body Weight –

3. Metabolic Rate -

4. Physical Status –

5. Psychological Aspects –

Medication Actions and Side Effects Activity

Instructions:

- ◆ Look up each Medication.
- ◆ Write in the “Drug Action” and “Side Effects” for each Medication. Limit the “Side Effects” to three of the most common and any appropriate contraindications.
- ◆ Be prepared to report your results to the class.
- ◆ Drug cards may be required/used at the discretion/request of the instructor with specific instructions from the instructor.
- ◆ A different form of drug worksheet may also be utilized at the discretion of the instructor.

Medication Actions and Side Effects Worksheet

Medication	Action	Side Effects
Analgesics/Antipyretics Tylenol (acetaminophen)		
NSAIDS Advil, Motrin (ibuprofen)		
Gastric inhibitors Zantac (ranitidine hydrochloride)		
Tagamet (cimetidine)		
Antianxiety Xanax (alprazolam)		
Ativan (lorazepam)		

Medication Actions and Side Effects Worksheet

Medication	Action	Side Effects
Analgesics/Antipyretics Tylenol (acetaminophen)		
Antiarrhythmics Cordarone (amiodarone hydrochloride)		
Norpace (disopyramide phosphate)		
Anti anginals Procardia (nifedipine)		
Cardizem (diltiazem hydrochloride)		
Inderal (propranolol hydrochloride)		

Medication Actions and Side Effects Worksheet

Medication	Action	Side Effects
Inotropics Digateline (digitoxin)		
Lanoxin, Digoxin (digitoxin)		
Antibiotics Keflex (cephalexin)		
Bactrim, Septra (co-trimoxazole)		
Tetracycline (doxycycline)		
Anti-infectives Cipro, Ciproxin (ciprofloxacin)		
Biaxin (clarithromycin)		

Medication Actions and Side Effects Worksheet

Medication	Action	Side Effects
Spasmolytics Pyridium (phenazopyridine hydrochloride)		
Urispas (flavoxate hydrochloride)		
Antihypertensives Capoten (captopril)		
Toprol (metoprolol succinate)		
Lopressor (Metoprolol)		
Clonidine Hydrochloride (Catapres)		
Corticosteroids Deltasone (prednisone)		

Medication Actions and Side Effects Worksheet

Medication	Action	Side Effects
Antiparkinsons Cogentin (benztropine mesylate)		
Artane (trihexyphenidyl)		
Antipsychotics Clozaril (clozapine)		
Serentil (mesoridazine besylate)		
Risperdal (risperidone)		
Navane (thiothixene)		

Medication Actions and Side Effects Worksheet

Medication	Action	Side Effects
Antivirals Zovirax (acyclovir sodium)		
Antiemetics Reglan (metoclopramide hydrochloride) Compazine (prochlorperazine)		
Antifungals Nizoral (ketoconazole) Mycostatine (nystatin)		

Medication Actions and Side Effects Worksheet

Medication	Action	Side Effects
Bronchodilators Proventil, Ventolin (albuterol)		
Atrovent (ipratropium bromide)		
Anticoagulant Coumadin (warfarin sodium)		
Anticonvulsants Klonopin (clonazepam)		
Depakote (divalproex sodium)		

Medication Actions and Side Effects Worksheet

Medication	Action	Side Effects
Antidepressants Paxil (paroxetine hydrochloride)		
Zoloft (sertraline hydrochloride)		
Potassium Supplement K-Dur (potassium chloride)		
Hormones Synthroid (levothyroxine)		

Medication Actions and Side Effects Worksheet

Medication	Action	Side Effects
Stool Softener Colace, Dialose (docusate sodium)		
Miotics Ocuser Pilo (pilocarpine)		
Oral Hypoglycemics (Antidiabetics) Glucophage (Metformin) Micronase (Glyburide)		

Eight (8) Rights of Safe Medication Administration

The ***RIGHT*** resident –

Each time you administer a medication, you must ensure you are giving it to the person for whom the order was written. If a doubt arises, you must stop, and get clarification as to whom you are to be medicating.

1. PULL/BEFORE- Check the bottle's label before taking medication from cabinet. You should be comparing it to the MAR.
2. POUR/DURING - Before removing the medication from the bottle, compare the label with the MAR.
3. PREPARED/AFTER - When the medication has been prepared, prior to giving the med and before returning the medication to the cabinet, compare the label with the MAR.

The ***RIGHT*** medication –

Each time you administer a medication, you must ensure you are giving the right drug. This is done by completing the following three checks:

1. PULL/BEFORE - Check the bottle's label before taking medication from cabinet. You should be comparing it to the MAR.
2. POUR/DURING - Before removing the medication from the bottle, compare the label with the MAR.
3. PREPARED/AFTER - When the medication has been prepared, prior to giving the med and before returning the medication to the cabinet, compare the label with the MAR.

The ***RIGHT*** dose –

Each time you administer a medication, you must ensure you are giving the right dose.

1. PULL/BEFORE - Check the bottle's label before taking medication from cabinet. You should be comparing it to the MAR.
2. POUR/DURING - Before removing the medication from the bottle, compare the label with the MAR.
3. PREPARED/AFTER - When the medication has been prepared, prior to giving the med and before returning the medication to the cabinet, compare the label with the MAR.

The ***RIGHT*** time –

Each time you administer a medication, you must ensure that it is the right time for this medication.

1. PULL/BEFORE - Check the bottle's label before taking medication from cabinet. You should be comparing it to the MAR.
2. POUR/DURING - Before removing the medication from the bottle, compare the label with the MAR.
3. PREPARED/AFTER - When the medication has been prepared, prior to giving the med and before returning the medication to the cabinet, compare the label with the MAR.

As a standard of practice, medications may be administered one hour before to one hour after the scheduled time unless otherwise specified by the physician.

The ***RIGHT*** route –

Dependent upon the specific order written by the physician, there must be no variation to this order.

1. PULL/BEFORE - Check the bottle's label before taking medication from cabinet. You should be comparing it to the MAR.
2. POUR/DURING - Before removing the medication from the bottle, compare the label with the MAR.

3. PREPARED/AFTER - When the medication has been prepared, prior to giving the med and before returning the medication to the cabinet, compare the label with the MAR.

This may seem overwhelming at first, but if you do it enough it becomes a habit that ensure the safety of the person who is receiving the medication from you.

The ***RIGHT*** to know –

Each individual has the right to know what medications they are receiving, the expected effects and side effects, and why they are receiving this medication. This information should be conveyed to the consumer in a manner he/she can understand.

The ***RIGHT*** to refuse –

Individuals have the legal right to refuse taking their medication. This is supported by the 14th Amendment to The Constitution of the United States and State Laws. This being so, it is the providers responsibility to educate the person to the benefits of the medication but to be supportive of the individual's choice.

The ***RIGHT*** documentation –

It is extremely important that the ***RIGHT*** documentation also be performed as part of the medication administration process. This is an important medical-legal responsibility. Prompt recording of pertinent medication administration information and adverse reactions is a must. Initialing the MAR means that you have given the person the medication and that they have taken it. (Refer to the “Documentation” section of this unit for more information.)

Medication Orders

CAUTION: It is not within the “Scope of Practice” for the CRMA to make recommendations to the duly authorized licensed practitioner for suggesting medications or changes of times of medications. It is within the Scope of Practice for the CRMA to report signs and symptoms that may require changes in medication régime.

No person may administer medications without a valid written order on file. Order may be written on a variety of forms, as long as the order contains all of the required elements. Required elements are:

1. Resident’s name
 2. Name of medication
 3. Dosage
 4. Time to be administered
 5. Date order was written
 6. Route
 7. Any special instructions
 8. Practitioner’s signature
- ◆ Electronic Signatures are acceptable and binding.

◆ Prescription

A prescription is usually a 3x5-sized piece of paper that is one leaf of a pad.

Prescription forms must have all of the above elements along with:

1. authorized provider’s name,
2. address,
3. phone number,
4. DEA number (a unique number denoting their ability to write prescriptions for controlled substances).

The authorized person writes the order using the required elements. The pharmacist dispenses the medication and keeps the

prescription on file. The program may retain a copy of the prescription as the written order.

◆ Psychotropic PRN's

These orders must be very detailed as well and include the following:

- a. Resident's name
- b. Name of medication
- c. Route
- d. Time to be administered
- e. Directions for administration
- f. Specific indications for use
- g. Exact dosage
- h. Exact time frames between dosages
- i. Maximum dosage to be given in a 24-hour period
- j. When the provider wants to be notified
- k. Signature of duly authorized licensed practitioner
 - ◆ Electronic Signatures are acceptable and binding.
- l. Date of the order

REMEMBER:

2.41 “Psychotropic Medications” means antipsychotic agents, major tranquilizers, antidepressant agents, anxiolytic agents and hypnotic agents.

Antipsychotic Medications means the counteracting or diminishing of the symptoms of psychotic disorders, such as schizophrenia, paranoia, and bipolar disorder.

7.2.4 PRN Medications.**7.2.4.1 PRN Psychotropic medications.**

Psychotropic medications ordered "as needed" by the duly authorized licensed practitioner, shall not be administered unless the duly authorized licensed practitioner has provided detailed behavior-specific written instructions, including symptoms that might require use of medication, exact dosage, exact time frames between dosages and the maximum dosage to be given in a twenty-four (24) hour period. Facility staff shall notify the duly authorized licensed practitioner within twenty-four (24) hours when such a medication has been administered, unless otherwise instructed in writing by the duly authorized licensed practitioner.

7.2.4.2 A person qualified to administer medications must be on site at the assisted living program or residential care facility whenever a resident(s) have medications prescribed “as needed” (PRN) if this medication is not self-administered.

In no event, however, shall antipsychotic-type psychotropic medications be prescribed on a PRN basis only, having no routinely scheduled and administered doses.

Slide 1

PRN Order Example

Margaret Z. Smith, MD
55 Middle Street
Anywhere, USA 12345
(555) 555-2525

Suzie Jones DOB: 05/00/00

01-14-03 Valium 2 mg tablet

Take one tab P.O. q 2h PRN for symptoms of anxiety,
not to exceed 20 mg in a 24 hour period. Notify
physician if more than 2 doses are needed.

Margaret Z. Smith, M.D.

- **PRN Order Activity**

Can you identify what is missing from this Order?

PRN Order Example

Margaret Z. Smith, MD
55 Middle Street
Anywhere, USA 12345
(555) 555-2525

10-23-XX Valium 2 mg tablet

Take one tablet t.i.d., prn

Margaret Z. Smith, M.D.

◆ **Calling In Orders**

Physician's often 'call in' or fax prescriptions to the pharmacy where the individual usually obtains his/her medications.

When that happens the program overseeing the medications may not receive a prescription or order. In that case, the program must request an order or a copy of the signed order maintained at the duly authorized licensed practitioner's office, clinic or pharmacy.



◆ **Appointment for Service/Order Sheet**

The program may maintain specific order sheets that can be used to exchange information to the provider (pursuant to an authorized release of information).

If an individual receiving services is learning the skills necessary to independently manage his/her illness(es) and the medications prescribed for those illnesses, the program may wish to encourage the person to make a written list of his/her needs in lieu of an official form. In that case, a prescription or order written on the originating agency form is acceptable.

◆ **Telephone Orders**

From time to time it may be necessary to receive an order over the telephone. In that case a Registered Nurse, Licensed Practical Nurse or Pharmacist may take the order and write it down. CRMA's may transcribe and utilize the order.



The provider and the nurse are encouraged to make use of alternate technology such as faxes so as to provide a written copy (when possible).

The originating provider must sign telephone orders within five working days of the receipt of the order.

◆ Fax or Facsimile Orders

Fax(ed) orders are legal acceptable orders if signed and dated by the duly authorized licensed practitioner and may be received by the CRMA

◆ When Must Orders be Written or Re-Written

As with most professions, the medical field has not arrived at a “paperless” environment even with all of the technology advancements. In fact, paperwork is critical to the record keeping process, which means there is a lot of paperwork the CRMA must know and be responsible for.

◆ Admission Process/Other Settings

Individuals must have valid written orders when admitted to a facility.

When individuals have day programs, respite or transition visits to a facility, their provider ***must*** furnish orders to the program for any medications that will be administered during the visit.

◆ Psychotropic Orders

Orders for psychotropic medications may not exceed three months accept as specified below:

- 7.1.7** Orders for medications and treatments shall be in writing, signed and dated by a duly authorized licensed practitioner and shall be in effect for the time specified by the duly authorized licensed practitioner, but in no case to exceed twelve (12) months, unless there is a written reorder. Orders for psychotropic medications shall be reissued every three (3) months, unless otherwise indicated by the duly authorized licensed practitioner. Standing orders for individual residents are acceptable when signed and dated by the duly authorized licensed practitioner.

◆ **Schedule II Controlled Substances**

Please see pages 93 & 94 for additional information regarding Schedule II Controlled Substances.

◆ **Medical Orders**

Long-term medical orders and standing orders must be re-written every year. They must be re-written signed and dated by the duly authorized practitioner.

If ordered more frequently, it should be so noted on the MAR.

◆ **Upon Discharge from a Hospitalization**

Upon admission to another facility (such as a hospital), all existing orders are no longer in effect. Upon return to the facility, all orders must be reviewed and approved by the resident's duly authorized licensed practitioner within 72 hours. During that timeframe, orders that are signed and dated by the discharging duly authorized licensed practitioner are the current acceptable orders. Prior to admission to another facility all medications must be removed from service and placed in a locked area in accordance with Section 7.7.



Transcribing Orders

Whenever a resident returns from a physician visit or is visited by the physician at the facility, the resident's record must be reviewed for new orders.

◆ New Orders

If there is a new order, be sure to read it carefully before proceeding.

If there are any questions about the order, ask for clarification before going any further.

Clarification may come from contacting the physician, the pharmacy via fax, or the licensed staff person at your facility.

Carry out every aspect of the order once there has been clarification. For example:

- ◆ Receive order.
- ◆ Read order and determine completeness of order and that you understand the order.
- ◆ Contact the pharmacy with new prescription (telephone or fax).
- ◆ Write the medication order on the MAR in blue or black ink. Special instructions may be written in red ink with the alternate name of the drug in green or another color to bring attention to these items.
- ◆ Indicate date and time to begin medication. A highlighter may be used to block out the days prior to the start of the med.
- ◆ Indicate time/times medication is to be given keeping in mind that if facility times do not coincide with times previously given they should be matched as closely as possible to the current ordered times; ie. t.i.d., b.i.d., etc.
- ◆ Indicate date and time to stop medication, if appropriate.

- ◆ Bracket the order by drawing a line down the left side and across the bottom of the order and sign your full name, title and the date. This may be done in red ink.
- ◆ Request another staff person review your steps to assure accuracy.
- ◆ Although the standard of practice may be to use different color ink or highlighters to denote different situations, follow company policy.

◆ **Discontinued Orders**

Finally, there are times a medication order will be “discontinued” or “stopped.” Steps to follow for this process include:

- ◆ Follow the process for “New Orders”.
- ◆ Review and note the Order.
- ◆ Find the ordered medication on the MAR.
- ◆ Yellow out the Order on the MAR.
- ◆ Document in the remaining space – “Order d/c’d.” then sign and date.
- ◆ Fax the Order to the Pharmacy.

This would complete the paper work portion; however, you must remember to complete the following:

- ◆ Remove the medication and any backup supply from the active medications area and lock them separately from other active medications until reordered or destroyed.
- ◆ Document the # to be returned to the Pharmacy (attach a communication slip).
- ◆ Document the # to be transferred to administration for destruction. Attach Schedule II Individual Record/Control Sheet to medication.
- ◆ Place the d/c’d medications in a locked area for return to the Pharmacy.
- ◆ If the medication is a Scheduled II, there needs to be an accounting of the # of meds remaining in the following:
 - ✓ Bound Book
 - ✓ MAR
 - ✓ Individual Record/Control Sheet

These meds must be stored under double lock in a separate area and disposed of according to regulation.

◆ **Changed Orders**

Steps to follow include:

- ◆ Follow the process for “New Orders”.
- ◆ Review and note the order.
- ◆ Transcribe the new order in the MAR.
- ◆ Yellow out the old order/remaining days.
- ◆ Document in the remaining space – “See New Order.”
- ◆ Date and initial what you have done on the MAR.
- ◆ Fax changes to the Pharmacy – alert them if you will need the med or not.
- ◆ Flag the bubble pack by placing a sticker on it and document – “Change in Order.”
- ◆ Note the med change in “Change-of-Shift Report.”

◆ **Medication Ordering**

It is the responsibility of everyone passing medications to assure that medications ordered by the duly authorized licensed practitioner are available in the facility for the resident.

All CRMA’s should be checking medication amounts to assure that there is at least a 5 day supply of the medication for the resident. It is not excusable to omit a medication because it was not reordered. This is a medication error and should be treated as such.

Persons responsible for passing medications are also responsible to assure that there is at least a 5 day supply of medication on hand and should be reordering the medication, if appropriate, when there is only a 5 day supply left. This includes liquid medications and treatments.

Liquid medications should be reordered when there is only a quarter of the bottle left. Medications in tubes, creams, ointments,

etc. should be reordered when there is only a quarter of the container left.

Remember, liquid medications often contain extra of the medication. If there is liquid medication left after the d/c date, dispose of it accordingly.

Documentation

The cardinal rule of Medication Administration is ***“If it is not documented, it did not happen!”*** Therefore, documenting all aspects of the medication administration process is critical to the CRMA. The following section discusses typical documentation issues and procedures. However, it is imperative that the CRMA know and abide by all facility-specific medication administration documentation policies and procedures.

◆ Initials

After a medication has been administered, an entry is made on the front of the MAR in the corresponding date and time block in ***black or blue ink only.***

Documentation consists of the initials of the administering staff on the front of the MAR. Additionally, on the MAR form, an entry is made by noting one’s initials and full signature with credentialing initials, (CRMA), upon first administering medications in a given month.

◆ Unusual Circumstances

If unusual circumstances around medication administration need to be documented, the CRMA must ensure that there is written documentation on the MAR by placing a circle around his/her initials signifying that interested staff should look for further documentation. Further documentation should be on the back of the MAR or on a Facility/Agency specific form.

◆ Refusal

Administering staff shall document refusals by initialing the block as usual, circling the initials and making a note on the MAR in the space provided on the back of the MAR for such documentation. Complete other necessary forms as required by other programs.

Medication Administration Record (MAR)

An individual personalized Medication Administration Record (MAR) shall be kept of all treatments, drugs, and medications ordered and administered.

Medication Administration Records (MAR's) provide a monthly record of medication orders and administration.

MAR's are checked against valid orders:

1. At the time orders are transcribed.
2. When the order is double-checked by staff.
3. At the beginning and end of each month by a CRMA or other staff designated by the facility. This review may be required to be done by a Registered Nurse as outlined in the Level IV Assisted Housing regulation.

Other staff members or staff certified to administer medications may be assigned to prepare monthly MAR's. The following describes the information that is required on the MAR.

General Information

Enter the person's name, the month and year at the bottom of the form. Enter the number of the page for that month on the top bar.

Example: If the person has three sheets in use for that month, the transcriber writes 1 of 3 on the first page, 2 of 3 on the second page, and 3 of 3 on the third page.

If more pages are added during the month, the count must be adjusted by lining out the summary number on each page and entering the correct new number:

From 1 of 3 to 1 of 4.

Document allergies and sensitivities. This may be done in red ink.

Note that all sections of the MAR (s) must be filled in.

Medication Name(s), Dose, Frequency, and Route

It is best practice to have medication ordered as the first name and the alternate name entered in each box. (e.g. acetaminophen (ordered). On MAR it would appear as “acetaminophen (Tylenol)”

Note the available strength of the medication. If calculation or conversion is required for administering the appropriate dose, contact your pharmacist or licensed nurse (if one is available).

If the same medication is given in different dosages during the day use a different box for each dose.

Order Date

Note the most recent written order date in the lower left-hand corner of the box.

Duly Authorized Licensed Practitioner

Note the duly authorized licensed practitioner name may be placed in the box.

Times of Administration

If possible, group medications in the same time frames on the same sheet. For example, 8 a.m.

PRN's

All prn medications should be grouped on a separate sheet. The word PRN may be written in Red ink or Underlined in Red ink. There should be enough space on the MAR to document the number of times the PRN medication could be given in a 24 hour period. Be sure that all PRN's include a frequency and/or time interval to be administered.

Change in Start Dates

When a medication has been reordered without change, the transcribing staff person should line out the old date and indicate the new date to the right and initial.

MAR Review

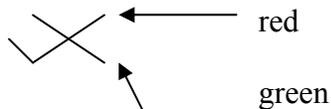
Each facility will have specific procedures for reviewing MAR's that may include some of the following steps:

First Check:

1. Start at date of annual physical **OR** physician order.
2. Review those orders with new MAR.
3. Place a check (√) on side of medication. (In red ink.)
4. Place an "0" if unable to locate med order with current physician order.
5. Review all physician orders since last renewal – place a red (√) when order is located.
6. If order has been d/c'd, yellow out the order/date when it was d/c'd and initial.

Second Check:

- ◆ Read each medication and the instructions.
- ◆ Place a line through the check (√) when the order reads the Same. This line should be in green ink or other alternate color as per facility policy.



- ◆ Transcribe any new order that has been added to the MAR since the first check was completed.

Missing Initials on the MAR

If a staff member has not written his/her initials onto the MAR and the medication time has passed, the person who identifies the blank block shall notify the person responsible for the missing documentation and determine if the medication itself was not administered.

The person who found the empty block in either circumstance should initiate an incident report as an error in documentation.

If the occurrence was due to an emergency and the medication was administered, the block should remain empty until the staff that administered the medication can return before the end of his/her shift to sign off on the MAR. If the CRMA whose initials were missing is not located to initial the MAR before the end of his/her shift, this incident becomes a “medication error” and an Incident Report must be filled out.

Remember, there is a 1 hour window before and after the scheduled time for administration; however, there may be additional orders expanding this time frame. Please check with the duly authorized practitioner, but in any event, bring this to the attention of your supervisor. **Be sure to check with the appropriate persons prior to not giving a medication because it is late.**

If the facility uses “bubble packs,” the staff person’s initials and date may be on the pack to validate that the medication was passed.

Blank spaces on MARs will be counted as deficiencies upon review by the Division of Licensing and Regulatory Services.

Resident Refuses to Take Medication:

- ◆ Explain to the resident why it is important to take the medication as prescribed by the physician.
- ◆ Encourage the resident to cooperate and offer the medication at fifteen (15) minute intervals not to exceed one hour before or after the scheduled dosage time.
- ◆ If resident still refuses, do not force.
- ◆ Circle initials for refusal on MAR - write reason on reverse side and note in resident's chart.
- ◆ Fill out a necessary forms per policy.
- ◆ Call Administrator/supervisor on call for direction.
- ◆ Also you may refer to the regulations covering this topic.
- ◆ Continued refusal requires you to notify the physician for possible changes in the resident's condition and new orders.

Life Span For Drugs

- Nonprescription medicines must be *dated* when they are opened, and discarded when they have expired.
- Any medication in a bottle must be dated when the bottle is opened.
- Expiration dated on medications in bottles or other containers should be circled and checked by the person administering medications prior to administration.
- Insulin must be dated when opened and expire after 28 days.
- Nitroglycerin tablets must be dated when opened and expire 90 days after the bottle has been opened.
- Vaccines must be dated when opened and disposed of after 30 days or the expiration date of the lot specified by the manufacturer.
- Calcitonin nasal spray must be dated when opened and expires 30 days after opening if not refrigerated.
- Check with the pharmacy if no expiration date is apparent on any medication or treatment.
- In general, most medications have an expiration date listed on the label. However, if changes in composition of the drug are noted before that date, immediately alert the consulting pharmacist. The drug should be discarded or returned for credit.
- **Please check the lifespan of Inhalers with the Pharmacist as there are some that should be replaced after 30 days once they have been opened.**

◆ MAR Transcription Activity

NOTES

Directions: Transcribe the following orders to a MAR. Include all necessary information including the time to be administered.

The instructor will give you an example of a Medication Administration Record that your organization uses, or he/she may utilize the example in the back of the text.

The instructor will give you the resident/client name a physician's name and the date of the orders.

This transcription activity may be used for the 6 transcribed orders as indicated on page 90.

1. Cardizem CD 240 mg capsules
Take 1 capsule P.O., daily

2. Micronase 5 mg tablets
Take 2 tabs P.O. BID
Before breakfast and before supper

3. Theophylline 300 mg SR tablets
Take 1 tab P.O., q 12 hours

4. Nitroglycerin 6.5 mg capsules
1 capsule P.O., BID

5. Nortriptyline 25 mg capsules
Take 1 capsule P.O., daily at HS

6. Xanax 0.25 mg tablets
Take 1 tab P.O., TID

7. Xanax 0.25mg
Take 1 tab PO q4h PRN for anxiety in addition to scheduled dose for increased pacing, crying, hand wringing. Max 3 doses in 24 hours.

8. Milk of Magnesia 30cc
P.O., at hs prn if no BM x 2 days

9. Aspirin 81 mg tablet; one tablet po daily.

10. Diamox 250 mg. PO
One tablet po twice a day.

11. Risperdal 3 mg.
Tablet ½ tablet po three times a day.

12. Digoxin 0.125 mg.;
One tablet po every day in the morning.
Hold if Apical Pulse below 60

13. Vitamin C 500 mg. 1 tablet po q d.

NOTES

14. Vitamin C 500 mg tablet

1 Tablet PO daily

On the 12th of the month, during pouring of meds, you drop one Vitamin C tablet. Please document appropriately on the MAR.

15. Current month/current day/ current year. Erythromycin
250 mg P.O. TID x 10 days

Incident Reports

In the event of a medication error, staff *must* complete a Medication Incident Form.

◆ Type of Errors

Although extensive policies and procedures are in place to eliminate errors from the medication administration process, sometimes errors do occur. Some of the types of errors may include the following:

- **Documentation**

An error that occurs when a medication is administered but the signature is not present or a PRN med is administered but no results are documented.

- **Omission**

The medications were not given or were not documented.

- **Commission**

Any violation of the first 5 rights of medication administration.

- Med
- Time
- Person
- Route
- Dose

- **Refusal**

Although a refusal is not an error, in the event of a refusal, administering staff will explain the risks and benefits of refusing medications to the person, document the refusal on the Incident Report, and report the refusal to senior staff on call for any additional direction.

The provider must be notified. If the individual continues to refuse the medication and the prescribing provider does not wish to discontinue the medication, the prescribing provider may request that a log of refusals be kept until the next appointment.

- **Transcription**

A medication order improperly transcribed.

- **Wrong Dosage**

The wrong dose of the medication was administered.

- **Wrong Medication**

The wrong medication was administered.

- **Wrong Person**

The medication was administered to the incorrect person.

- **Wrong Time**

A medication was administered at a time other than when it was ordered to be administered.

- ◆ **Contamination**

Medications show some evidence of tampering, deterioration, or damage. The medication in question shall be destroyed and its destruction documented on the MAR or medication inventory sheet that notes the number, type, appearance, and prescription number.

If a question as to the status of a whole vial of medications exists, it must be withdrawn from use and reported to the issuing pharmacy at the earliest possible time.

If a med is dropped on the floor, it must be destroyed and documented on the MAR with a witness present.

◆ Pharmacy Package/Label error

The medication has been improperly labeled, or the label does not correspond to the order and or is illegible. Medications are to be returned to the Pharmacy for proper labeling within 2 working days.

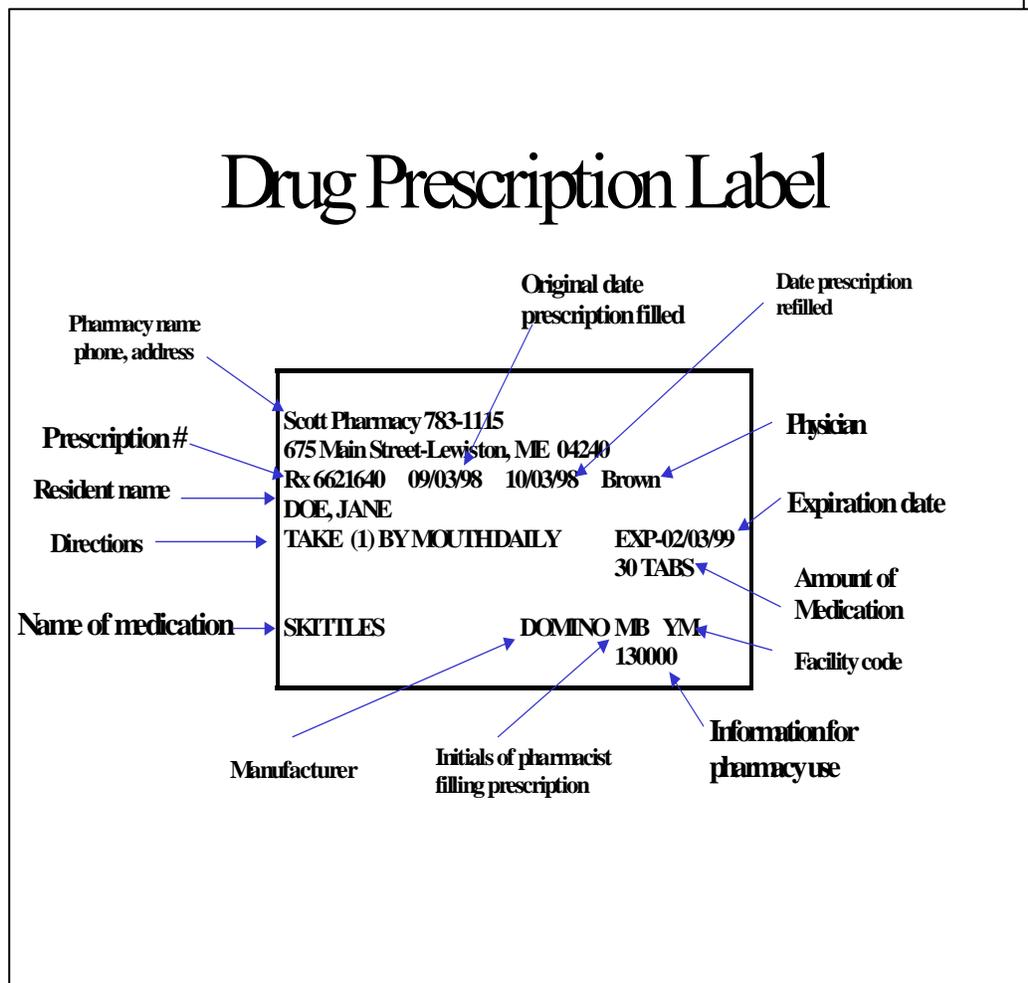
If there is a change in dosage and the new dosage can be obtained from the existing form of medication you may apply a pharmacy “change in order” sticker and continue to use up the existing supply.

◆ Tips for Error Prevention

- If administering medications is part of your assignment, review new information in the log or on the MAR prior to administering any medications.
- Review the times and medications that have to be administered prior to starting.
- Review the medications you have administered before leaving to make sure you have given and documented all medications.
- Review any new orders or other information with the staff member who relieves you.
- If there are duplicate duly authorized licensed practitioner orders, contact the practitioner for clarification.
- If pain medications or psychotropics are ordered with a range of dosing and symptoms be sure to get clarification on which dose should be utilized for which symptoms.

- If a licensed nurse takes a telephone order that you transcribe, the order must be signed by the duly authorized licensed practitioner within 5 working days of the order.
- Be sure samples from physician offices are labeled with the person's name for whom they are intended.
- Inhalers, nebulizers and breathing apparatus must include symptoms to report to the duly authorized licensed practitioner.
- Be sure that ALL medications, including PRN medications on the MAR are ordered from the pharmacy and available for administration when needed.
- Be sure that all scheduled and PRN psychotropic medication orders have the symptoms for which they are to be administered for.
- Be sure that all medication orders have a coinciding diagnosis from the duly authorized licensed practitioner.

Slide 1



Routes of Administration

Medications may be administered utilizing a variety of methods; oral, rectal, vaginal, topical, eye drops, eardrops, nose drops and inhalants.

◆ **Crushing Medications**

Some residents are unable to swallow solid oral medications. For these residents medications may be crushed; but, not all medications can be crushed. Crushing medications may produce unwanted pharmacological effects in the resident and may be tantamount to administering doses of the medication, other than as prescribed. Crushing any medication should be avoided unless a liquid dosage form or substitute in liquid form is not available.

• **What Can and Can't Be Crushed?**

Sublingual tablets ***should not*** be crushed.

Delayed-release or time-released medications ***can not*** be crushed.

Coated tablets, in general, ***should not*** be crushed.

Some Coated tablets ***should never*** be crushed if:

- The active medication is surrounded by an enteric or protective coating.
- The medication is formulated to provide slow release or extended release.
- The medication has a bitter or poor taste.
- The medication may cause discoloration of the mouth and teeth or may cause chemical burning of the mouth or throat.
- If the medication is in a capsule that is not permanently sealed, and you have the pharmacist's OK to open it, you may open it and mix it with applesauce, ***but do not crush the contents.***

When in DOUBT, Call the Pharmacist.

When crushing meds:

- ◆ Use a clean mortar and pestle, a tablet crusher or other acceptable means. Place tablet between two (2) clean appropriate surfaces for crushing.

- ◆ Mix the medication with a small volume of applesauce immediately before administration.
- ◆ Avoid using Jell-O, dairy products or puddings because their pH is alkaline and may bind with the medication.
- ◆ If you give the medication with a hot drink, make sure it's not too hot or the medication might break down.

◆ **When Not To Give Medication**

If one or more of the following required items is missing, do not give medications:

- ◆ No physician's order. Never give a medication without a physician's order.
- ◆ No MAR. Where is it?
- ◆ The pharmacy label is not legible. Note: This does not mean you just don't give the medication. You must take care of this situation if the resident is supposed to receive a particular medication. The point is not to give a medication if you're not sure what it is.
- ◆ Resident exhibits a dramatic change in status: If the resident is showing signs of seizures, unconsciousness, difficulty breathing or any other change which appears to be health-threatening, do not administer the medication. Follow the instructions given for reporting an emergency health-threatening situation. Call 911 or an ambulance and the doctor.

If you have any doubt that you have the right resident, right drug, right dosage, right time or right route, get assistance from another staff member or call the administrator on-call.

Medication Administration Procedures

These procedures vary from facility to facility. Most of the time medications are scheduled during a person's awake hours; however, when medications are scheduled at night, you will have to wake them up to give them.

◆ Designated Times

- ◆ A new CRMA should check with the facility they are working for in order to learn what the policy is around medication administration times. These may vary from facility to facility. Some other common medication time considerations are:
 - Watch that medications ordered “A.C.”, “P.C.”, and “*with food*” are given at appropriate times.
 - Give antispasmodics (*Bentyl, Donnatal, Reglan, Propulsid, etc.*) thirty minutes before meals.
 - Give long-acting drugs (*time released, sustained released*) at equal intervals - every 6 hours rather than **QID**, etc.
 - All medication must be passed within one hour on either side of the designated time (unless otherwise ordered by the duly authorized licensed practitioner).
 - All new medication orders must be started after the next *regular* medication delivery unless ordered “*Now*” or “*Stat*” per pharmacy Policy and Procedures.

◆ Dosage

- ◆ The term “dosage” means: the number of tablets, capsules or amount of liquid/solid to be given. Give exact number of **tablets/capsules or amount** ordered. Have the transcriber document any variation of usual dosage ordered per facility policy.
- ◆ Do not “*estimate*” liquid doses. Do measure at eye level, on a flat surface. Use a syringe for odd amounts (**i.e. 7ml, 3.4ml**).
- ◆ Do not calculate any drug doses unless you have been trained and it is permitted by facility policy. The pharmacy label should include the dosage.
- ◆ Question instructions from the pharmacy or physician to give amounts which are unusual to measure, such as “**3.33 cc**”.
- ◆ Splitting of medications shall be at the discretion of Facility/Agency policy.

◆ Guidelines for students

- ◆ Wash hands – gloves are not a substitute for this step.
- ◆ Pre-pouring refers to the practice of setting up medications for one or more persons prior to the scheduled time, and administering them at a later time. **Do not pre-pour any medication, or open unit dose packages until administration of medication.**
- ◆ Do not touch any tablets or capsules with fingers. Maintain sanitary techniques during medication administration.
- ◆ Identify individual before administering medications.
- ◆ All medications given must be labeled for that individual or are from facility approved house stock.
- ◆ Do not leave the individual until all pills and liquids are swallowed.
- ◆ Wash hands (with soap and water or waterless hand cleaners) after each medication administration.
- ◆ Do not touch the inside or rim of the medication cup.
- ◆ Wear single use gloves as necessary. Situations in which gloves should always be worn are; when giving rectal medications, vaginal medications, anything with an infection.
- ◆ Before and after administering eye drops, wash hands with soap and water.
- ◆ Watch for expired and discontinued medications.
- ◆ Do not give a **PRN** drug every day at the same hour. Individual's medication therapy should be evaluated. The order may need to be changed to routine order, when appropriate.
- ◆ The individual's privacy must be maintained during all treatments. Treatments include the administration or application of eye medications, patches and injections.

- ◆ If a bubble is broken by accident on a bubble pack, discard the pill, **do not** tape pills back into the bubble.
- ◆ Observe orders to hold drugs when pulse/BP is low.
- ◆ Observe all pharmacy warning labels such as **“give with water,” “do not give with antacids”, etc.**
- ◆ Apply all transdermal medications according to manufacturers' instructions, remembering to rotate sights of application.
- ◆ Avoid giving antacid with orange juice.
- ◆ Metamucil must be dissolved in 6-8 oz. of water.
- ◆ All **KCL** liquids must be diluted before administering.
- ◆ Liquid concentrates (*e.g. Mellaril, Thorazine, etc.*) should be diluted in liquid before administration. Check manufacturer's labeling for correct dilution.

- ◆ **Lanoxin** must not be given with antacid, **Ascriptin** or **Bufferin**. Separate doses by one hour or more.
- ◆ Do not crush sustained release, enteric coated drugs, drugs containing iron (**Theragram Hemetinic, Ferro Folic-500, Iberet Folic, Feosol**) or any other medications so labeled.
- ◆ Do not give non-steroids (**NSAID**) to a resident **allergic** to aspirin (**ASA**).
- ◆ Do not transfer anything into a different container with an improvised label. CRMA's are not allowed to affix a new label or change a prescription label.
- ◆ If using a stock item, remember that the container is not to be removed from the medication area/cart. It is to be placed in a medicine cup.
- ◆ Know what you are giving and why. If you don't know, **LOOK IT UP** or call the **PHARMACY**.
- ◆ **Pay attention to medications that sound alike that are very different medications and have very different effects. Example: zantac and xanax, loratadine and lorazepam.**
- ◆ **When measuring liquid medication be sure that the medication cup is on a level surface and you are viewing it at eye level.**

◆ **Charting (Documenting) Guidelines**

- ◆ Chart medication when given, as per facility policy. Please keep in mind every medication that is uncharted is considered an error.
- ◆ Sign out controlled medications when given. Use the Individual Accountability Sheet and/or the Bound Book.
- ◆ Chart actual hours, not shift.
- ◆ **“Administration of medications ordered as needed (PRN) shall be documented and shall include the date, time given, medication and dosage, route, reason given, results or response and initials or signature of administering individual. Treatments ordered PRN shall be documented in the same manner.” (7.12.4) Chart all PRN's on Medication Administration Record or facility/agency specific form.**



Medication Storage

Medications may arrive at your facility in two ways. They may be delivered by the pharmacy or picked up at the pharmacy by program staff. You need to follow the policies of your facility for further direction.

When receiving medications from the pharmacy you should check the label against the duly authorized licensed practitioner order. It may appear on your order form as a sticker from the prescription label or the complete written order. Verify the amount of medication received before signing any forms. All drugs must be stored in their original containers as they were received from the pharmacy.

The labels must be kept intact on all medications. If a label becomes difficult to read, call the pharmacy and ask that it be replaced with a legible label. CRMA's are not allowed to relabel medications.

7.3 Medication storage.

7.3.1 Residents who self-administer medications and who handle their own medical regime may keep medications in their own room. To ensure the safety of the other residents, the facility will provide a locked area/container, if necessary. *[Class III]*

7.3.2 Medications administered by the assisted living program, residential care facility, or private non-medical institutions shall be kept in their original containers in a locked storage cabinet. The cabinet shall be equipped with separate cubicles, plainly labeled, or with other physical separation for the storage of each resident's medications. It shall be locked when not in use and the key carried by the person on duty in charge of medication administration. *[Class III]*

- 7.3.3** Medications/treatments administered by the assisted living program, residential care facility or private non-medical institution for external use only shall be kept separate from any medications to be taken internally. *[Class III]*
- 7.3.4** Medications administered by the assisted living program, residential care facility or private non-medical institution, which require refrigeration, shall be kept safely stored and separate from food by placement in a special tray or container, except vaccines, which must be stored in a separate refrigeration unit that is not used to store food. Refrigeration shall be forty-one (41) degrees Fahrenheit or below. A thermometer shall be used to ensure proper refrigeration. *[Class III]*
- 7.4 Temporary absences.** When a temporary absence from the facility is expected to be greater than seventy-two (72) hours, medications leaving the facility (except those by residents who self-administer) must be in a form packaged and labeled by a pharmacist. For medications leaving the facility for seventy-two (72) hours or less, the medication shall be packaged in such a way as to facilitate self-administration or administration by a responsible party of the correct medication at the appropriate time. Properly certified or licensed staff will use acceptable methods and procedures for preparing medications for leaving the facility. Staff will follow the same policies used in the facility for administering medications. The name of the resident and the name and strength of each drug, as well as the directions from the original prescription package, should be conveyed to the resident or their responsible party along with all cautionary information in writing, either directly on an envelope containing the appropriate dose or on a separate instruction sheet. If the medication is sent in original container, pills must be counted and documented upon leaving and returning to the facility. *[Class III]*
- 7.6 Improperly labeled medications.** For medications administered by the assisted living program, residential care facility, or private non-medical institution, all pharmaceutical containers having soiled, damaged, incomplete, incorrect, illegible or makeshift labels shall be returned to the original dispensing pharmacy for relabeling within two (2) working days or shall be disposed of in accordance with the requirements contained in Section 7.9. *[Class III]*

Disposing of Medications

When a prescription is discontinued or medications are left after a person's transfer or death, your responsibility is to remove all the drugs from storage. These medications should be returned to the Pharmacy if permitted/allowed.

If any drug is accidentally contaminated or not usable, disposal must be recorded and witnessed by two competent employees designated by the Administrator. This may be done on the MAR or Medication Disposal form.

- Person's name
- Medication name (The medication script # may be included according to facility policy.)
- Date
- Why it is being discarded
- Your signature/witness
- Number of pills/capsules, etc.

Schedule II medications *must be* destroyed by a representative of the department, a licensed Pharmacist, a representative on the Commission of Pharmacy or a representative of the Drug Enforcement Agency.

You must not dispose of any drug by yourself.

Medications of a resident must be destroyed by the facility. Medications may only be given to family members with an order from the duly authorized licensed practitioner.

Remember, each facility will have its own medication disposal procedures – be sure to know them!

Emergency Situations

Medication administration is not without risks. Even when you have done everything properly there can be unexpected reactions to medication that result in a true emergency. If this happens, you must have a plan of action and be prepared to implement that plan.

EMERGENCIES

Everyone is concerned about, “*When should I call the ambulance?*” For instance, most people would have difficulty stating what the circumstances would have to be before they would make that call for assistance. It may help if you think through the following definition.

An emergency situation may be defined as *unexpected* situation that *something can* and *must be done immediately* or the *worse.*” Examples of possible emergency include the following:



a “*serious, be done* about situation *will get* situations may

- Any respiratory condition that the rate, rhythm, and depth of ventilations are too high or too low.
- Any bleeding that cannot be controlled by direct pressure, elevation, ice, and immobilization. If pressure points or a tourniquet is necessary, a physician must evaluate the injury.
- Any seizure activity that is continuous or with short times between seizures.
- Any behavior that is harmful and/or dangerous to the resident, other residents, or staff.
- Ingestion of anything that may be harmful even if no symptoms are present.

REMEMBER: “When in doubt, ship them out!”

Poisoning/Overdosing

In Maine, Poison Control can be reached toll free by dialing:

1-800-222-1222

Be prepared to describe the following:

- What was taken.
- How much was taken.
- How long ago it was taken.
- Any symptoms that you may be observing.

If you have any doubt, **call 911** first; then call Poison Control.

Do not induce vomiting unless directed to do so by a qualified health care professional.

Medication Administration Practice

It is important for you to watch your Instructor's demonstration of the various administration techniques and then use your "practice time" wisely.



Remember, you will be administering medications "for real" in a "real facility" to "real residents" very shortly. You ***must pass the Clinical Component*** of this CRMA Course at ***100 percent*** in order to receive your CRMA Certification.

The "Pre-Clinical" and "Clinical" information is included here for your easy reference.

◆ Pre-Clinical (in the classroom)

- ◆ Step by step demonstration by RN
- Demonstrate/Review all Routes of Administration
 - ◆ **Refer to unit 3 for procedures for medication administration.**
- Review new physician order (minimum of 6 different medications).
 - ◆ Review classification of each medication
 - ◆ Review therapeutic effects
 - ◆ Review side effects
- **Pour Medications**
- **Pass Medications**
- **Document Medication Pass**

- Refer to the CRMA Medication Administration Skills Checklist

- **Physician Order Samples for In-Class Demonstration**

Directions:

- **Participants re-demonstrate Medication Administration Process and Vital Signs to Instructor – minimum of 6 medication administrations (6 orders). Orders from the Transcription exercise beginning on page 71 may be utilized.**
- **By the 6th in class pass, the participant should be able to demonstrate the medication pass with 100% accuracy.**
- **Medication Administration Scenarios MUST include:**
(Refer to page 92)

Orders

- ◆ Schedule II.
- ◆ Holding Meds for: BP or Pulse out of parameters, blood/lab work and/or Doctor's order.
- ◆ Antibiotic (e.g., time limited example like 10 days, Keflex)
- ◆ Taper Dose (e.g., Prednisone)
- ◆ PRN Psychotropic (Ativan)
- ◆ Routine or general order
- ◆ Standing order
- ◆ Stat order (Lasix)
- ◆ Liquid measure (roxinol 20 mgs/ml, give 10 mgs q 3-4 hrs prn)
- ◆ Dose range (eg., ASA 325 mgs, 1 to 2 tabs po as needed q 4 hours for mild to severe pain)

Scenarios

- ◆ Refusal.
- ◆ Schedule II, III, IV, and/or V Control Substances documentations.
- ◆ Calculations – split scored medications; participant determine amount of medication to administer (e.g., resident needs 300 mg; pills come in 200 mg).
- ◆ Holding Meds for BP or Pulse out of parameters, blood work and/or Doctor's order.
- ◆ Leave of Absence (LOA) and/or Out-of-Building Procedures – For less than 72 hours and/or over 72 hours i.e. Hospitalization.
- ◆ Dosage increase or decrease.

**ALL IN CLASS MEDICATION PASSES AND
TRANSCRIPTION EXERCISES MUST BE SIGNED OFF
BY BOTH THE INSTRUCTOR AND THE STUDENT**

Scenarios

Instructor Notes:

- Utilize as many of the following scenarios as possible.
 - Add more Scenarios if you would like and time allows.
 - Have participants work individually and/or in small groups
 - Have participants report out their answers to the class.
 - Fill out the Doctor's Script(s) and MAR(s) as needed to complete the following Scenarios:
1. Bob, the client you work with at the Residential Treatment Program, has Strep throat and has been started on a new prescription. Please utilize the attached Dr.'s script and MAR to transcribe the new order.
 2. Pertaining to the above question, transcribing an order is only the 1st step in safe Medication Administering. Please list the other guidelines used to ensure safety. Please name these guidelines and briefly describe how you utilize them to create safety while passing medications.
 3. Days into the antibiotic treatment, Bob shows you his back, which has a red, raised rash, which is itchy. Please outline your actions at this point.
 4. Mary is getting ready to take the meds you have prepared for her. She states she doesn't want to take the "pink pill" because it upsets her stomach and makes her feel "woozy." The pink pill is her new antipsychotic medication, which was added to her drug regimen 2 ½ months ago. What action(s) should you take?
 5. How do you document a refusal?
 6. Patricia, a client you have known for the past year, takes a medication called Coumadin because she has had blood clots in the past. She has just returned from her new medical doctor's appointment and on the standing orders form, you note that he doctor has checked off the permission for her to have Ibuprofen PRN for pain. What are your concerns at this point? What are your actions going to be?

7. Tom's physician has just faxed you an order to D/C Tom's Tegretol due to a drop in WBC's. Please utilize the attached MAR and D/C the Tegretol appropriately and outline the steps to prepare the medication for disposal.
8. Mary needs a Lithium Level drawn in the AM. What steps do you need to tell both Mary and the night shift staff to ensure an accurate Blood Level? If you do not know this answer, please outline who you would use as a resource to determine this information.
9. One of your clients has just returned from their Mental Health Center appointment and has a prescription for Celexa. When you look it up in your Drug Reference Book, you do not find it. Who and what are your resources to find out information about this medication?
10. The label on the liquid medication you are preparing to administer states to pour 15 ml. BID. When you compare this label to the MAR, you note that the MAR calls for 45 ml. BID. What are your actions at this point?
11. Richard takes a medication called Lanoxin 0.125mg. daily. What are the special issues or standards that you should follow with this medication?
12. You are preparing to pour morning medications for Mr. Smith. You note that the MAR calls for him to receive Digoxin (Lanoxin) .125mg at 8:00 am. While performing the "EIGHT RIGHTS" of safe medication administration, you note that the label on the bottle reads 025mg at 8:00 am. Please outline your response to this, *in order of priority*, to ensure the person's safety, as well as what documentation is necessary.
13. On the third day of antibiotic treatment for a sinus infection, you notice Mary scratching her stomach, then her back. When you ask what is going on, she shows you her back, which is covered with a fine red rash. What do you do next to ensure Mary's safety?
14. John has been on a hypoglycemic agent, Diabinese, for the last month. He was recently diagnosed with Diabetes, and doesn't seem to be happy about his new diet and needing to exercise more. When you approach him about his dose of Diabinese, he refuses, stating, "I'm not taking that sugar pill. I don't want to have Diabetes any more." What might some of your actions look like with this situation?

- a. How do you document a refusal?
- b. Which of the “Eight Rights” is highlighted here?

15. Mr. Smith has been on a new antipsychotic medication for the past 5 days. He has been c/o light-headedness and dizziness for the past 2 days. This morning he tells you that he doesn't feel he can get up for breakfast due to these symptoms. What information do you need to gather? What do you need to get for VS? Who do you need to notify? How will you ensure Mr. Smith's safety.
16. Mr. Jones, the client you took orders off on this morning, has been receiving his PRN Haldol every two hours due to an increase in auditory hallucinations today. It is now 6:00 pm and he has received a total of 6mg of the PRN Haldol. In addition, he has received his 5mg. scheduled dose of Haldol. He is now complaining of difficulty swallowing and stiffness in his neck. He tells you that when this has happened in the past, they have given him 50 mg of Benedryl, which he found immediately helpful. What are your actions?
17. After 4 months of being on Clozaril, your client, Paul, has a seizure. When notified, the physician initiates the anticonvulsant medication Tegretol. When you look these medications up in your medication reference book, you find both these medications have a high risk of causing a potentially lethal side effect. What steps do you take to ensure that safe medication administration happens for this client?

◆ Questions & Answers

• Issuance of Multiple Prescriptions for Schedule II Controlled Substances

1. [What does this rule allow a practitioner to do?](#)
2. [What are the requirements for the issuance of multiple prescriptions for schedule II controlled substances?](#)
3. [Does this rule require or mandate a practitioner to issue multiple prescriptions for schedule II controlled substances?](#)
4. [What is the effective date of the rule change?](#)
5. [Is there a limit on the number of schedule II dosage units a practitioner can prescribe to a patient?](#)
6. [Is there a limit on the number of separate prescriptions per schedule II substance that may be issued during the 90-day time period?](#)
7. [How is the issuance of multiple schedule II prescriptions different than issuing a refill of a schedule II prescription?](#)
8. [Is post-dating of multiple prescriptions allowed?](#)
9. [What is expected of the pharmacist?](#)

Q. What does this rule allow a practitioner to do?

A. A practitioner may provide individual patients with multiple prescriptions for the same schedule II controlled substance to be filled sequentially. The combined effect of these multiple prescriptions is to allow the patient to receive, over time, up to a 90-day supply of that controlled substance.

Q. What are the requirements for the issuance of multiple prescriptions for schedule II controlled substances?

A. Requirements for issuance:

- Each prescription issued is for a legitimate medical purpose by an individual practitioner acting in the usual course of his/her professional practice.
- The individual practitioner must provide written instructions on each prescription indicating the earliest date on which a pharmacy may fill each prescription
- The issuance of multiple prescriptions is permissible under applicable state laws.
- The individual practitioner complies fully with all other applicable requirements under the Controlled Substances Act and implementing regulations, as well as any additional requirements under state law.

Q. Does this rule require or mandate a practitioner to issue multiple prescriptions for schedule II controlled substances?

A. No. This rule does not require individual practitioners to issue multiple prescriptions or to see their patients only once every 90 days.

Q. What is the effective date of the rule change?

A. This rule became effective on December 19, 2007.

Q. Is there a limit on the number of schedule II dosage units a practitioner can prescribe to a patient?

A. There is no federal limit as to the amount of controlled substances a practitioner can legitimately prescribe. However, if a registered practitioner issues multiple schedule II prescriptions, he /she is limited to the combined effect of allowing a patient to receive, over time, up to a 90-day supply of a particular schedule II controlled substance.

Q. Is there a limit on the number of separate prescriptions per schedule II controlled substance that may be issued for the 90-day supply?

A. The rule does not stipulate how many separate prescriptions per schedule II controlled substance may be issued for the 90-day supply. It is up to the practitioner to determine how many separate prescriptions to be filled sequentially are needed to provide adequate medical care. For example, a practitioner may issue three 30-day schedule II prescriptions to cover a 90-day supply or he/she may issue nine prescriptions for the same schedule II controlled substance, each for a ten-day supply, having the combined effect of a 90-day supply.

Q. How is the issuance of multiple schedule II prescriptions different than issuing a refill of a schedule II prescription?

A. The issuance of refills for a schedule II controlled substance is prohibited by law. The use of multiple prescriptions for the dispensing of schedule II controlled substances, under the conditions set forth in the Final Rule, ensures that the prescriptions are treated as separate dispensing documents, not refills of an original prescription. Each separate prescription must be written for a legitimate medical purpose by a practitioner acting in the usual course of professional practice. Each separate

prescription must contain written instructions indicating the earliest date on which a pharmacy may fill each prescription.

Q. Is post-dating of multiple prescriptions allowed?

A. No. Federal regulations have always required that all prescriptions for controlled substances "be dated as of, and signed on, the day when issued." [21 CFR 1306.05\(a\)](#).

Q. What is expected of the pharmacist when filling a prescription issued pursuant to this regulation?

A. Where a prescription contains instructions from the prescribing practitioner indicating that the prescription shall not be filled until a certain date, no pharmacist may fill the prescription before that date. In addition, when filling any prescription for a controlled substance, a pharmacist who fills multiple prescriptions issued in accordance with this regulation has a corresponding responsibility to ensure that each sequential prescription was issued for a legitimate medical purpose by a practitioner acting in the usual course of professional practice. [21 CFR 1306.04\(a\)](#).

◆ Providers and interested Parties, please note the highlighted blue question regarding shedule II prescription physician orders. This is federal and the state law is the same.

Forms

The following pages contain a variety of blank forms that will be useful for the activities planned in this Unit.

Forms that are used by the facility/agency may/can be used by the instructor.

Anywhere Programs of Maine

Medication Administration Record

 Anywhere Facility

 Backwoods Facility

 Intown Facility

Medications	Hour	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31			
Medications	Hour	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31			

Nurse's Orders, Medication Notes, and Instructions on Reverse Side

Charting For		Through		
Physician		Telephone No.		Medical Record No.
Alt. Physician		Alt. Telephone		
Allergies				
Diagnosis				
Medicaid Number		Medicare Number		Complete Entries Checked:
				By:

Resident	Resident Code	Room No.	Bed	Facility Code
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◆ **Medication Error Form**

Anywhere Programs of Maine
Medication Error Discipline Report Form

Anywhere Facility

Backwoods Facility

Intown Facility

STAFF _____

TYPE OF DISCIPLINE

- VERBAL WARNING*
 - WRITTEN WARNING*
 - WRITTEN WARNING AND 30 DAY PROBATION*
 - TERMINATION AND NOTIFICATION OF C.R.M.A. REGISTRY*
- DATE* _____

DISCIPLINE DATE _____

REASON _____

PLAN OF ACTION _____

Jody Smith, R.N.

EMPLOYEE SIGNATURE

TEAM LEADER

◆ Medication Sign Out Record Form

Anywhere Programs of Maine Medication Sign Out Record *(Release of Prescribed Medications)*

Name of Individual: _____

Pharmacy RX Number	Medication Name	Prescribed By:	Amount Released	Amount Returned	Orders Attached Yes / No

Special Instructions: _____

Name of person completing this form: _____
(Please Print)

Signature: _____ Title: _____

Date: _____
 Witness signature (optional) _____ Date: _____

I hereby certify that I have received the above-listed medications and instructions for continuing my care. I assume responsibility for the listed medications.

Signature _____ Date: _____
(To Be Completed Upon Return To Anywhere Programs of Maine)

Does medication appear to be in good condition? Yes No

Signature of Person returning the Medication(s): _____

Signature of Staff receiving the Medication(s): _____

Does it appear that the medication(s) were given according to physicians' order(s)?
 Yes No

If No, please explain: _____

◆ Missed or Late Medications

Anywhere Programs of Maine
Nursing Orders
For Missed or Late Medications

Name: _____ Initial Date: _____

Residence: _____

Phone Number: _____

<p>Medication: _____</p> <p>_____</p> <p>↑ Omit if outside ½ hour window ↑ May give up to 2 hours later ↑ May give up to 4 hours later ↑ Omit the next dose ↑ May combine with the next dose ↑ May give late, but space succeeding doses _____ hours apart ↑ May give any time in 24 hours Special Notes: _____ _____ _____ _____</p> <p style="text-align: right;">Date: _____</p>	<p>Medication: _____</p> <p>_____</p> <p>↑ Omit if outside ½ hour window ↑ May give up to 2 hours later ↑ May give up to 4 hours later ↑ Omit the next dose ↑ May combine with the next dose ↑ May give late, but space succeeding doses _____ hours apart ↑ May give any time in 24 hours Special Notes: _____ _____ _____ _____</p> <p style="text-align: right;">Date: _____</p>
<p>Medication: _____</p> <p>_____</p> <p>↑ Omit if outside ½ hour window ↑ May give up to 2 hours later ↑ May give up to 4 hours later ↑ Omit the next dose ↑ May combine with the next dose ↑ May give late, but space succeeding doses _____ hours apart ↑ May give any time in 24 hours Special Notes: _____ _____ _____ _____</p> <p style="text-align: right;">Date: _____</p>	<p>Medication: _____</p> <p>_____</p> <p>↑ Omit if outside ½ hour window ↑ May give up to 2 hours later ↑ May give up to 4 hours later ↑ Omit the next dose ↑ May combine with the next dose ↑ May give late, but space succeeding doses _____ hours apart ↑ May give any time in 24 hours Special Notes: _____ _____ _____ _____</p> <p style="text-align: right;">Date: _____</p>

↑ Keep a record of missed or late medications for review at the next appointment. (Incident Report Form).

Provider's Signature: _____ Date: _____

◆ Physician's Order

Medication Programs of Maine Physician's Orders

Anywhere Facility

Backwoods Facility

Intown Facility

Resident's Name: _____

Date:	Orders:

Date:	Orders:

