HEALTHDIRECT PHARMACY SERVICES

MALA
Missouri Assisted Living Association

Medication Management

For The Assisted Living Community

Presented By: HealthDirect Pharmacy Services

Objectives



- The Medication Record (MR, MAR, e-MAR, MOR)
- Residents that Self-Administer Medications
- Providing Medication Assistance
- Medication Administration Procedures
- Performing Medication Pass & Tips
- Therapeutic Class Review & Patient Monitoring
- Medication Errors



The Medication Record

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Medication Record

- **‘ For every resident who self-administers medications with staff assistance and for the residents whom medications are administered by the ALC staff.’**

- **Lists ALL prescription and non-prescription (OTC) meds prescribed for or used by the resident.**

  — Directions for use
  — Space to document when the med is taken or administered
  — Directions for monitoring

Medication Record

- Resident name
- Apartment/Room number
- Diagnoses/conditions
- Allergies
- Rx #
- Physician/Prescriber
- Medication name, dosage form, dose, ROA
- Administration parameters
- Duration of therapy
- Date ordered, date changed, date discontinued
- Indication for use of all routine and PRN meds
- Directions for assessing efficacy of medications (i.e. Pain scale)
- Date and time med was administered
- Name/initials of administer

Medication Record

Must document refusals and/or reasons meds are not given.

— If parameters are outlined for a given medication, document at time of administration. (blood pressure, blood glucose, HR, etc.)

PRN Medications

— Date, time, dose and route of administration
— Complaints/symptoms for which the medication was taken
— Results achieved from taking the dose and time given
— Signature of personnel recording administration and effects



Residents that Self-Administer Medications

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Self-Administrating Residents



Assessed *at least* annually. Must demonstrate:

1. Knowledge of intended medication use.
2. Ability to recognize the medication
3. Ability to read the label on the medication container
4. Knowledge of the correct times to take the medications
5. Ability to produce all currently used medication containers, which reflect the current prescribed orders
6. Proper storage of all medications
7. Sufficient manual dexterity to accurately self-administer the medications
8. Ability to order medications

Information pertinent to medication administration is **still** documented on the MR.



Residents That Require Assistance

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Assisting with Medications

May Include:



- **Reminding**
  - When it is time to take the medication
  - Time to reorder a medication from the pharmacy
- **Monitoring**
  - Supervising self-administration to be safe and accurate
  - Observing the resident for signs/symptoms of common adverse effects
- **Assisting**
  - Identifying medications, reading labels, opening containers etc.
  - Applying medication as requested, disposing of used supplies
  - Filling new and old prescriptions for the resident

Assisting with Medications

Staff assisting with medication **must** be familiar with:

A. The names of medications commonly used by older adults and their intended purposes
B. Common side effects of specific medications
C. Common drug interactions
D. Signs and symptoms of adverse medication effects
E. Metric and apothecary systems of measurement, equivalences
F. Common medical and pharmacy abbreviations
G. Proper medication administration techniques
H. Infection control procedures, including proper hand washing
I. ALC medication policies and procedures

Medication Administration

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The 5 R's of Medication Administration

- Right Drug
- Right Dose
- Right Resident
- Right Route of Administration (ROA)
- Right Time of Administration

EVERY TIME!

** The 6th R = Right Documentation

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Medication Administration

- Residents are identified before each medication is given
- Hands are washed thoroughly prior to being given to **each** resident
- Are administered in accordance with the physician's directive
- Compare product and label to resident's MR
- Obtain vital signs or accucheck prior to giving medication if ordered [document in MR]

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Medication Administration

- Documentation in the MR is done at the time the medication is given by the person administering the medication
- Reviews the MR to assure all medications were given
- Resident is observed for medication effectiveness, side effects, drug interactions, allergies, etc.
- Medications for one resident **should not** be given to another resident

General Considerations

- Medication Room must always be locked
- Cart must be visible to person administering medications
  - — Should always be locked when unattended
  - — No medications should be left on top of the medication cart
- Maintain confidentiality of MR during med pass
- Provide for residents' privacy

Performing Med Pass

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Tablets and Capsules

- Punch the tablet or capsule directly into the medication cup

Crushing Medications

— Resident needs to have a physician order
— Consult the “Medication Not to be Crushed” List, Pharmacy
— Use tablet crusher and immediately rinse after with warm water and dish soap, rinse thoroughly

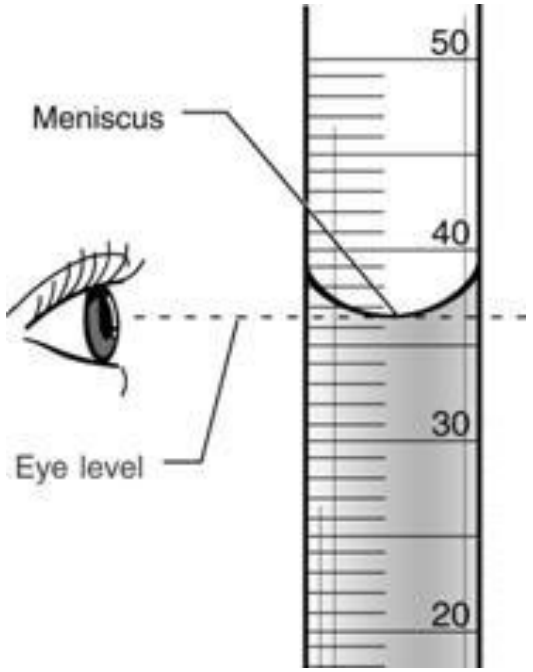
Splitting Medications

— Wash hands, use tablet splitter
— Break along the score-line

- Never reuse disposable containers for medication administration
- Always offer the resident water or appropriate liquid to help take meds

Liquids

- Shake Suspensions!
- Pour on a flat surface at eye level
- Have the resident sit up if in bed prior to giving and at least 2 minutes after dose is given
- Remain with resident until medication is swallowed
- Follow all medications with 4-8 ounces of water



Sublingual vs. ODT tablets

Sublingual Tablets

— Placed under resident's tongue until dissolved

— Not absorbed properly if swallowed

Orally Disintegrating Tablets (ODT)

— Place tablet **on top** of tongue where it will dissolve quickly

— Should not be split, crushed or chewed unless directed

— Ask the resident to swallow after it dissolves

— Offer water

Inhaled Medications (MDI) - HFA

- Shake inhalers well before use
- Prime inhaler with first use or if >2 weeks has elapsed since last use
- Close lips around inhaler mouthpiece or spacer
- Depress canister while resident breathes in slowly, hold breath for 10 seconds
- If a 2nd puff of the same medication is prescribed, at least 1 minute should elapse between puffs

- If 2 different inhalers are used, the medication that opens up the airway should be used 1st, followed by a 5 minute waiting period before the 2nd inhaler is given
  - — (**Albuterol, duoneb**)

- Steroid inhalers: rinse mouth with water after administering
  - — **Qvar, Pulmicort, Flovent, Asmanex, Symbicort, Advair, Dulera, Breo Ellipta**

Dry Powder Inhalers (DPI)

- **Advair** (fluticasone and salmeterol)
  - — After dose is primed, resident should inhale **sharp and deep** to ensure medication reaches the lungs
  - — Hold breath for 10 seconds as with MDIs
  - — Rinse mouth after use
- **Advair** expires 30 days after removing from foil pouch

Nasal Inhalations and Sprays

- **Nasal Inhalations**
  - — Have resident gently blow nose to clear nostrils
  - — Shake inhaler well, remove cap
  - — Tilt head back slightly, insert nozzle into one nostril and close the other
  - — Depress canister while resident inhales slowly, hold breath

- **Nasal Sprays**
  - — Have resident gently blow nose to clear nostrils
  - — Hold head in upright position, slightly tilted backwards
  - — Depress spray mechanism while patient ‘sniffs’
  - — Rinse outside of container with hot water and dry

Transdermal Applications [Patches]

ALWAYS REMOVE THE PREVIOUS PATCH BEFORE APPLYING A NEW PATCH

- Fold the used patch in half, placing adhesive sides together
- Dispose according to facility policy
- Rotate application sites and document locations on the MR
  - — Follow package instructions. Apply to intact skin. Avoid hair.
  - — Date and initial patch.
- Pay attention to **frequency**!! [12 hours for Lidoderm®]

Ophthalmic Administration

- **Eye Drops**
  - — Gloves should be worn when administering
  - — To minimize systemic absorption, it is recommended to press the tear duct located near the inner eye for one minute after each drop is administered or the patient can gently close his/her eye for approximately 3 minutes after
  - — If more than one eye drop is administered:
    - Most recommend waiting 5 minutes, but some require 10 minutes in between drops
- **Eye Ointments**
  - — Gloves should be worn when administering
  - — Use gauze pad to pull down lower eyelid to form a ‘pouch’, have resident look up
  - — Apply a thin line [ribbon] of ointment to the pouch, do not touch eye
  - — Have resident close eyelids and rotate eyeballs to evenly distribute the medication
  - — Try to refrain from blinking and keep eye closed for 2-3 minutes

Otic Administration

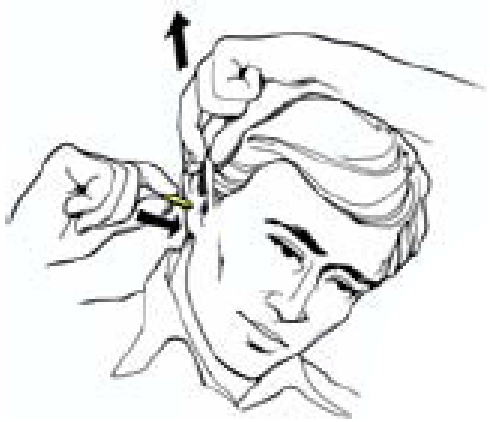
Ear Drops

— Gloves may be worn while administrating

— Hold refrigerated solutions between hands to warm to RT

— Have resident lie down so that the affected ear is facing up

— Straighten the ear canal by pulling earlobe **up** and backwards



For children under the age of 3, pull the ear **downward** and backwards to straighten the ear canal.

Injectable Meds

IM Administration (flu vaccine)

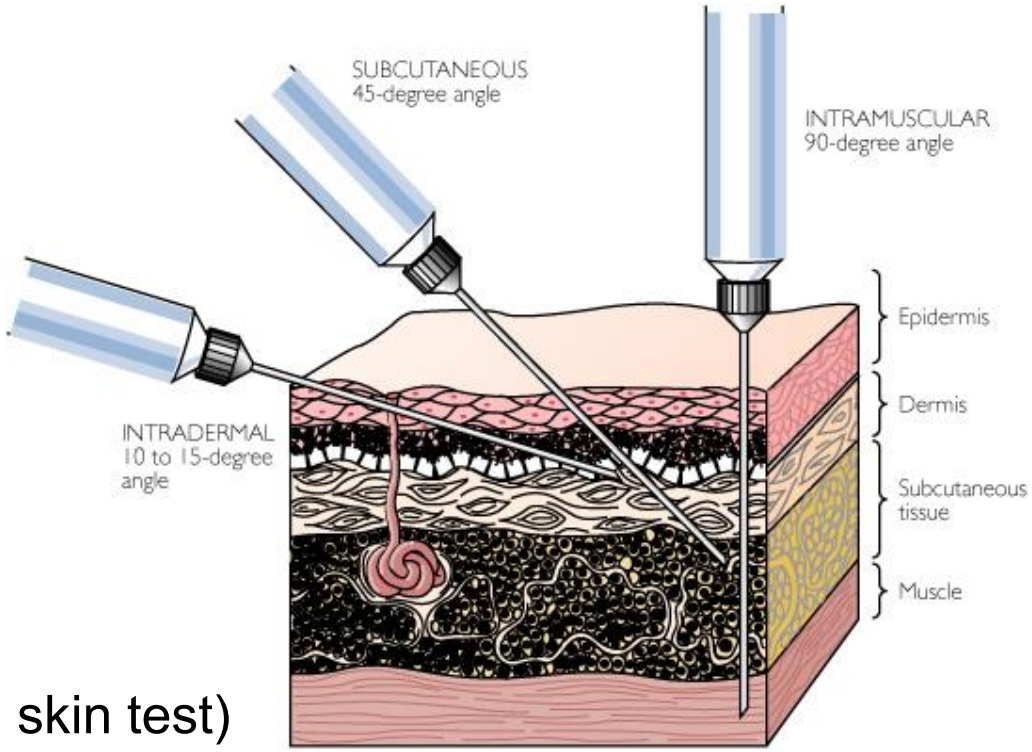
— Inject deeply into large muscle mass

SC Administration (Insulin/B12/Lovenox)

— Inject into subcutaneous tissue

Intradermal Administration

— 10-15 degree angle into dermal layer (PPD skin test)



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Tips for Med Pass

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Adequate Fluid

- Bulk Laxatives (Metamucil (Psyllium), GenFiber, Reguloid)
  - — Dependent on the formulation
  - — Follow manufacturer's recommendations
- NSAIDs (Ibuprofen, Naproxen)
  - — Administer with food or milk to minimize GI irritation
- Potassium Supplements (K-Dur, Micro-K, Klor-Con)
  - — Administer with a full glass of water, with or immediately after food
  - — Physician may order to dilute, follow directive
- Bisphosphonates, bactrim, nitrofurantoin, topiramate, lithium and allopurinol should be given with 8 ounces of water

Administration Timing

- Bisphosphonates **(Actonel, Boniva, alendronate)**
  - — Give with full glass of water on an empty stomach
  - — Remain upright at least 30 minutes (60 minutes for Boniva)
  - — No food, meds or beverages for 30-60 minutes

- **Levothyroxine**
  - — Empty stomach, 30-60 minutes before breakfast
  - — Wait 4 hours before giving antacids, or any Ca, Mg, or Al containing compounds (including milk, dairy)

- PPIs (**omeprazole, Nexium, lansoprazole**, etc.)
  - — Empty stomach, 30-45 minutes before breakfast

Administration Timing

- **Antibiotics (Levaquin, Cipro, Avelox, doxycycline, tetracycline)**
  - — Must be separated from any calcium, aluminum, magnesium, and/or iron-containing product by at least 2-3 hours

- **Calcium/Iron**
  - — Calcium can bind to iron and may decrease absorption
  - — Best to wait at least 2 hours between these 2 types of supplements

- **Questran (Cholestyramine)**
  - — Other medications should be given 1 hour before or at least 4-6 hours after the administration of Cholestyramine

Administration Timing

Drug	Ciprofloxacin	Levofloxacin	Moxifloxacin
Antacids (Al/Mg)	Cmax dec 30-94%	Cmax dec 37-65% AUC dec 22-44%	Cmax dec 40% AUC dec 23-60%
Sucralfate	AUC dec 96%	No significant interaction if levo given 2 hrs before or after sucralfate	Recommended that use be avoided AUC dec 6.56 to 2.62
Iron	AUC dec 60%	Cmax dec 45% AUC dec 19%	Cmax dec 59% AUC dec 39%
Calcium	Dec bioavailability by 30%	Dec bioavailability 18%,	No Interaction

Administration Timing



MORNING MEDS

- Prednisone
- Bisphosphonates
- Thyroid medications
- Diuretics
- ADHD medications



NIGHT-TIME MEDS

- Remeron® (Mirtazapine)
- Some statins
- Singulair®
- Tri-cyclic antidepressants
- Trazodone

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Medications Given with Food

- Sulfonylureas
  - — **glipizide, glyburide, glimepiride**
- Metformin
- Prednisone
- Ibuprofen (NSAIDs)
- Multivitamins, calcium supplements
- Clarithromycin/erythromycin
- Tamsulosin (30 minutes following meal)

Note: Sinimet® [**carbidopa/levodopa**]
High fat or protein meals decreases absorption

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Hygiene Tips

- Applesauce and liquids on cart should be covered and dated
- Unused medication cups stored upside down, spoons handle up
- Crusher should be cleaned in between uses
- No contact with the medication during preparation
- Glucometers must be cleaned and disinfected
- **Hand Hygiene**:
  - *Before med pass, prior to handling medications, after coming into direct contact with a resident, before and after administration of ophthalmic, topical, vaginal, rectal, enteral and parenteral preparations*

Follow Facility P&P!

Controlled Substances

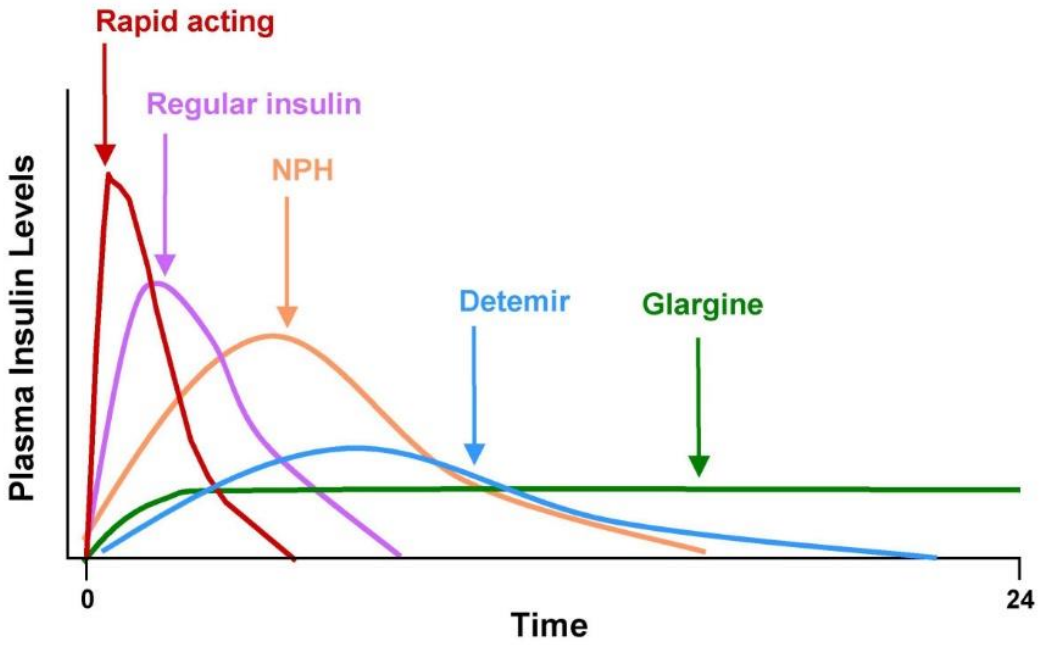
- Sign at the time of administration
- ALWAYS make sure cart / cabinet is double locked and secure
- Physically look at each card to verify count at shift change
- By signing at the end of shift you are saying the count is correct
- Professional Liability + Licensure
- **Accountable** in a court of law

Insulin Administration

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Insulin



Insulin type	Recommended Administration	Onset
Rapid-acting	15 minutes before or immediately after a meal	15 minutes
Short-acting	30 minutes before a meal	30-60 minutes
Intermediate-acting	30-60 minutes before a meal	1-3 hours
Combination	Analogs – 15 minutes before a meal Regular – 30 minutes before a meal	15 minutes 30 minutes
Long-acting	Same time every day	4-5 hours 2-4 hours

Insulin Administration

- Unused vials/pens should be stored in refrigerator
  - — Record date opened/expiration
- Rotate injection sites
  - — Same general area for consistency [abdomen] – **documentation**
- Suspensions should be rolled to mix prior to injection
  - — NPH, Mixes
- If two types of insulins are administered together, draw up the regular clear insulin first, then the NPH
- Routine blood glucose monitoring
  - — Adjust therapy and efficacy
  - — Diet, exercise, stress, illness will affect blood glucose

Insulin Storage

- ALL insulin is good until the expiration date when it is unopened **AND** in the refrigerator
- OPENED insulin can be stored in the refrigerator or at room temperature
- Insulin MUST have an expiration date written on the vial from date opened (room temp or fridge)
- Lantus insulin- 28 days from date opened (room temp or fridge)

** Always check your facilities policy and procedures for discarding insulin

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Therapeutic Class Review & Patient Monitoring

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Patient Monitoring Overview

For Drug **Efficacy** and **Safety**

- β-blockers, anti-arrhythmics, antihypertensives
  - — Blood pressure, heart rate
- Diuretics
  - — Blood pressure, edema
- Change in DM meds [oral and insulin]
  - — Accuchecks, s/s of hypo and hyper glycemia
- Antipsychotics/ anxiolytics/ antidepressants
  - — Identify target behaviors
  - — SE include EPS, falls, weight gain, diabetes, dyslipidemia, drowsiness, tremors, etc.
- Pain Medications
  - — Respiratory rate, efficacy, pain scales

Cardiovascular Medications

Antihypertensives

— ACE Inhibitors (ACEi)

> **Lisinopril, ramipril, enalapril**

— Angiotensin II Receptor Blockers (ARBs)

> **Losartan, valsartan, candesartan**

— Beta Blockers

> **Atenolol, metoprolol, carvedilol**

— Calcium Channel Blockers

> **Amlodipine, diltiazem, verapamil**

— Diuretics

> **Furosemide, hydrochlorothiazide, torsemide, spironolactone**

— Vasodilators

> **Isosorbide mononitrate, hydralazine**

— Anticoagulants

> **Apixaban, rivaroxaban, warfarin**

— Antiplatelets

> **Aspirin, clopidogrel, ticagrelor**

Cardiovascular Medications - Monitoring

Antihypertensives & Vasodilators

- Vitals (blood pressure, heart rate)
- Dizziness, orthostasis
- Peripheral edema, shortness of breath
- Chest pain, irregular heartbeat

Diuretics

- Renal function, dehydration, orthostasis

Anticoagulants & Antiplatelets

- Any s/s of bleeding, bruising

Antiglycemics

- **Biguanides**
  — Metformin
- **Sulfonylureas**
  — Glipizide, glimepiride
- **Thiazolidonediones (TZDs)**
  — Pioglitazone
- **DPP-4 Inhibitors**
  — Sitagliptin, saxagliptin, linagliptin
- **SGLT-2 inhibitors**
  — Canagliflozin, dapagliflozin, empagliflozin
- **GLP-1 Receptor Agonist**
  — Semaglutide, liraglutide, dulaglutide
- **Insulin**
  — Pioglitazone
  — Rapid (lispro, aspart)
  — Regular
  — NPH
  — Long (glargine, detemir)

Hypoglycemia

Signs/Symptoms

— Confusion, irritability, or both
— Visual disturbances, such as double and
— Blurred vision, headaches
— Pale skin, sweating, chills
— Shaky, lightheaded, dizzy
— Anxiety or nervousness
— Tingling sensation in mouth
— Hunger and nausea
— Serious: seizures and unconsciousness

Treatment

— Consume 15-20 grams of glucose or simple carbs:

- glucose tablets/gel tube
- 2 tablespoons of raisins
- 4 ounces (1/2 cup) of juice or regular soda
- 8 ounces of nonfat or 1% milk
- hard candies, jellybeans, gumdrops

— Recheck blood glucose after 15 minutes. Repeat if necessary. Eat a snack if your next meal is more than 1-2 hours away.

Antibiotics

- Penicillins
  - — Penicillin G, Amoxicillin
- Cephalosporins
  - — Cephalexin, ceftriaxone, cefazolin
- Carbapenems
  - — Meropenem, Imipenem-Cilastatin, Ertapenem
- Aminoglycosides
  - — Gentamicin, tobramycin
- Clindamycin
- Vancomycin
- Tetracyclines
  - — Doxycycline, Tetracycline
- Macrolides
  - — Azithromycin, Erythromycin
- Fluoroquinolones
  - — Ciprofloxacin, levofloxacin
- Sulfonamides
  - — Sulfamethoxazole-trimethoprim (Bactrim)

Antibiotic Monitoring

- Most common = **Gastrointestinal** (GI)
  - — Nausea, vomiting, diarrhea, bloating, abdominal pain
- Rash (maculopapular, unspecified)
  - — Penicillins, cephalosporins, sulfonamides, clindamycin
- Light Sensitivity (fluoroquinolones, sulfonamides)
- Drug Interactions (macrolides, fluoroquinolones, Bactrim®)

Severe Adverse Reactions

- Anaphylactic Reactions & Severe Skin Reactions
- Angioedema
- Nephrotoxicity & Ototoxicity (Aminoglycosides- i.e.. gentamycin)

Psychotropics

- **Antidepressants**

  SSRIs

  — Fluoxetine, Sertraline, Escitalopram, Citalopram

  SNRIs

  — Venlafaxine, Duloxetine, Tricyclic Antidepressants

  Tricyclic Antidepressants (TCAs)

  — Amitriptyline, Nortriptyline

- **Anxiolytics**

  — Lorazepam, Alprazolam, Buspirone, Hydroxyzine

- **Antipsychotics**

  1st generation (typical)

  — Haloperidol, Chlorpromazine

  2nd generation (atypical)

  — Olanzapine, Quetiapine, Risperidone, Clozapine

- **Mood stabilizers**

  — Lithium, Depakote, Lamotrigine

- **Sedative / hypnotics**

  — Zolpidem, Lunesta, Belsomra, Trazodone

Psychotropic Monitoring

- Drowsiness, dizziness, or fatigue
- Difficulty sleeping (insomnia)
- Nausea, constipation, or upset stomach
- Headaches
- Sexual dysfunction
- Weight gain or loss
- Falls
- Abnormal movements (e.g., shaking or stiffness)
- Confusion or disorientation
- Balance Problems
- Restlessness
- Metabolic disorders

Analgesics (Pain Medication)

- **Non-Opioids**
  - NSAIDs
    - — Ibuprofen, naproxen
  - Acetaminophen
  - Topicals
    - — Lidocaine, Bengay
- **Gabapentinoids**
  - Lyrica, gabapentin
- **Opioids**
  - Codeine, Tramadol
  - Morphine, Hydrocodone
  - Oxycodone, Fentanyl

Controlled Substance Monitoring

- **Benzodiazepines**
  - — nausea
  - — drowsiness
  - — confusion
  - — delirium
  - — dizziness
  - — ataxia

- **Opiates**
  - — constipation
  - — nausea / vomiting
  - — abdominal pain
  - — depression
  - — drowsiness / fatique
  - — ataxia
  - — respiratory depression

Document in administration and nursing notes any side effects, alert physician if sedation or somnolence occurs.

Medication Errors

Medication Management

For The Assisted Living Community

What is a Medication Error?

- Preparing or administering a drug not following:
  - **— Physician's orders**
  - **— Manufacturer's specifications**
  - **— Professional standards and principles**

- Regulations require that:
  - **— Facility has medication error rate < 5% AND**
  - **— Residents have no significant medication errors**

Definitions: Medication Error

- Medication Error Rate **(< 5%)**

$$\frac{\text{Number of errors observed}}{\text{Opportunities for errors}} \times 100$$

— Includes both **significant** and non-significant med errors

- Significant Medication Error:
  - **— Causes resident discomfort**
  - **— Jeopardizes resident's health and safety**

Types of Med Errors

- Omission errors
- Unauthorized drug errors
- Wrong Resident
- Wrong Dose
- Wrong Route
- Wrong Rate
- Dispensing Errors
- Incorrect Drug Preparation
- Deteriorated Drug Incident
- Passing Expired Meds
- Wrong Time
- Wrong Administration Technique
- Prescribing Errors

Have detailed policies and procedures outlined for reporting med errors.
Always communicate pharmacy errors with pharmacy.

Expired Medication = Medication Error

- Always check expiration date on medication before administering medication
- **NEVER** administer a medication with an **expired** expiration date
- If medication has a “Beyond Use Date” Or “Shortened Expiration date” and the date opened/expire is **missing:**
  - — Do **NOT** administer until you have investigated the correct date
  - — Assume the medication is expired if this cannot be determined

Shortened Expiration Dates

- **Lantus** – 28 days
- **Levemir** – 42 days
- **Humalog/ Novolog** – 28 days
- **Advair** – 30 days
- **Spiriva** – 90 days
- **Symbicort** – 90 day
- **Serevent** – 42 days
- **Breo Ellipta** – 42 days
- **Miacalcin** – 42 days
- **Xalatan** (latanoprost) – 42 days

Drug Not Available

Error of omission if not given within scheduled time

— Call Pharmacy

- Emergency Box / On-site drug cabinets (Omnicell®)
- On-Call Pharmacist

— Call **MD**

- Hold med until available
- Alternative medication order

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Discussion

Thank you!