

Identifying & Preventing Adverse Drug Events In the Elderly

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Organizations**

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Atlantic Quality Innovation Network (AQIN)

- The federally funded Medicare Quality Innovation Network – Quality Improvement Organization (QIN-QIO) for New York State, the District of Columbia, and South Carolina.
- Led by IPRO.
- Partners include
 - Delmarva Foundation in the District of Columbia and
 - The Carolinas Center for Medical Excellence in South Carolina.
- One of 14 QIN-QIOs operating across the U.S.

Atlantic Quality Innovation Network (AQIN)

- Works toward better care, healthier people and communities, and smarter spending
- Catalyzes change through a data-driven approach to improving healthcare quality.
- Collaborates with providers, practitioners and stakeholders at the community level to share knowledge, spread best practices and improve care coordination.
- Promotes a patient-centered model of care, in which healthcare services are tailored to meet the needs of patients.

Objectives

Define adverse drug event (ADE)

Discuss patient specific factors that contribute to ADEs in seniors

Identify ADEs of commonly prescribed meds

Apply knowledge to avoid future ADEs

Adverse Drug Event Definition

ANY undesirable experience associated with the use of a medical product in a patient

Contributing Factors

Kidney function

Liver function

Multiple medications

Multiple health conditions



Most Common ADE Medications

Blood thinners

Diabetes medications

Opioids (controlled substance pain reliever)

Blood Thinners

Coumadin (warfarin or jantoven)

Eliquis

Pradaxa

Xarelto

Plavix (clopidigrel)

Aspirin

Concerns with Blood Thinners

Adherence

Blood work

Drug/Food interactions

Drug/Drug interactions

Adherence

Is the patient taking the medication as prescribed?

Are doses missed?

Does the pharmacy have the medication in stock?

Has the prescriber changed your dose since writing the prescription?

Blood Work

Coumadin, warfarin, and jantoven require regular blood level monitoring

Do you know how often you need to have your blood tested?

Do you know what range your blood work should be in?
When was your last blood draw?

Drug/Food Interactions

Coumadin, warfarin, and jantoven all have interactions with certain foods and vitamins

Are you aware of the foods that should be avoided or eaten with consistency and moderation?

Are you willing to abide by these dietary considerations for the entire time taking this medication?

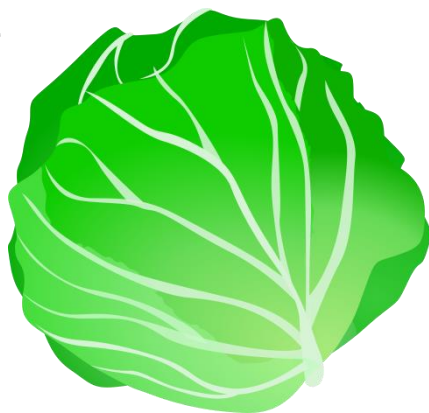
Drug/Food Interactions

Foods or vitamins containing vitamin K

What happens if you have too much of a food containing vitamin K?

What contains vitamin K?

- Leafy greens – kale, spinach, brussels sprouts, collard and mustard greens, chard, and green tea
- Cranberry juice
- Alcohol



Warfarin/Antimicrobial Interactions

This Does NOT include all possible interactions

Antimicrobials include:

- Antibiotics
- Antifungals
- Antivirals
- Anti-infectives



Antibiotics

Amoxicillin

Ampicillin

Augmentin (amoxicillin/clavulanic acid)

Avelox (moxifloxacin)

Bactrim (sulfamethoxazole/trimethoprim)

Biaxin (clarithromycin)

Cipro (ciprofloxacin)

Dicloxacillin

Antibiotics

Doxycycline

Ery-Tab (erythromycin)

Levaquin (levofloxacin)

Minocycline

Ofloxacin

Pen VK (penicillin)

Tetracycline

Zithromax (azithromycin)

Antifungals

Diflucan (fluconazole)

Griseofulvin

Itraconazole

Ketoconazole

Miconazole

Terbinafine

Voriconazole

Antivirals

Aptivus (tipranavir)

Crixivan (indinavir)

Invirase (saquinavir)

Lexiva (fosamprenavir)

Norvir (ritonavir)

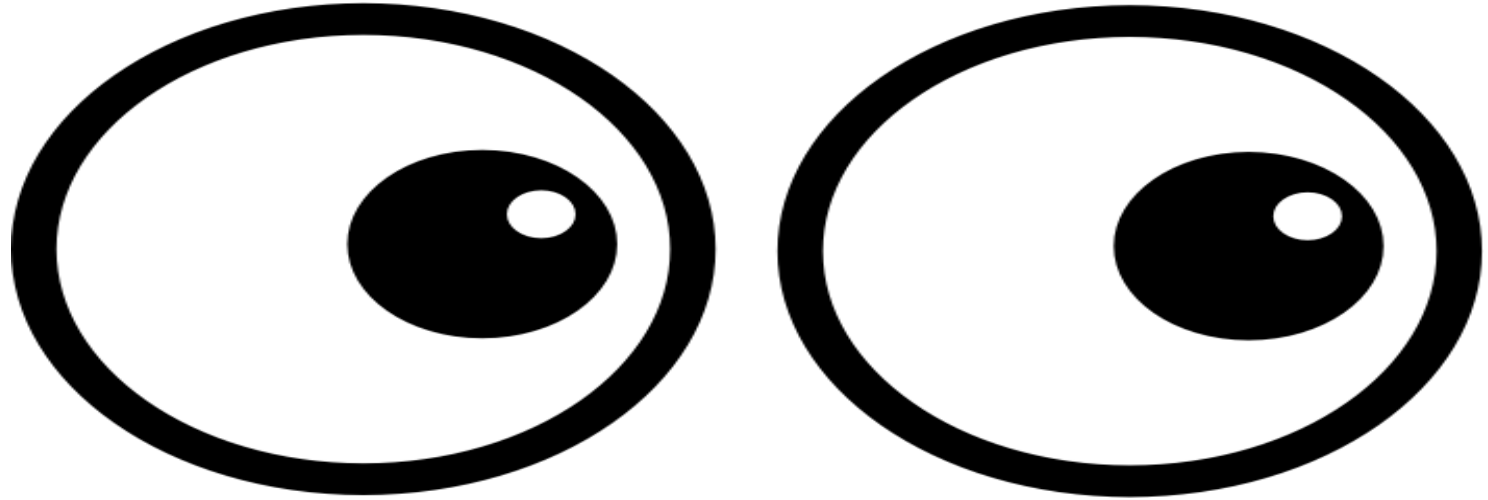
Prezista (darunavir)

Tamiflu (oseltamivir)

Viracept (nelfinavir)

Other Anti-infectives

Flagyl (metronidazole)



What to look for...

Signs of Bleeding

Increased bruising

Bleeding gums/nose

Bright red blood in stool

Black (tarry) stool

Signs of Clotting

Stroke

- **Facial drooping**
- **Numbness or weakness on one side of the body**
 - **Arm**
 - **Leg**
 - **Entire side of body**
- **Speech difficulty**

Signs of Clotting

Heart Attack

- Chest pain
- Arm pain
- Trouble breathing
- Tightness in chest
- Nausea
- Cold sweat
- Lightheaded



Signs of Clotting

Deep Vein or Arterial Thrombosis (clot)

- Pain in an extremity
- Swelling
- Redness
- Numbness

Diabetes Medications

Almost all diabetes medications

Includes oral and injectable medications

Too many to list



Concerns with Diabetes Medications

Blood sugar levels going too LOW

- Blood sugar = blood glucose
- Low blood glucose = hypoglycemia

Adherence

Blood work

Drug/drug interactions

Low Blood Sugar

Even taking diabetes medications correctly can lead to low blood sugar

Can be dangerous...even life threatening

At home monitoring can help identify and prevent low blood sugar

Knowing the signs and symptoms of low blood sugar is key!

Signs & Symptoms of Low Blood Sugar

Confusion*

Sweating/chills*

Shaking*

Dizziness*

Nervousness/anxiety*

Nausea*

Rapid heart beat

Seizures



Irritability*

Headache*

Weakness*

Tiredness*

Blurred/impaired vision

Lack of coordination

Anger or sadness

Unconsciousness

* Most Common

How to Treat Low Blood Sugar

Consume 15-20 grams of glucose or simple carbohydrates

Check your blood glucose after 15 minutes

If blood glucose is still low, REPEAT

Examples of 15 grams of glucose/simple carbohydrates

Glucose tablets (see instructions on package)

Glucose gel (see instructions on package)

4oz (½ cup) of juice or regular soda (NOT diet)

1 tablespoon sugar, honey, or corn syrup

Hard candies, jelly beans, or gumdrops (see package to determine how many to consume)

Tips for Avoiding Low Blood Sugar

Take medications exactly as prescribed

If you miss a dose, do NOT double up on the next dose

Monitor blood sugar as directed by your prescriber

Learn to recognize the signs of low blood sugar early so you can treat it before it becomes worse

Causes of Low Blood Sugar

Taking more of your medication than is prescribed

Not eating your normal amount of food

Being sick

Increase in physical activity from normal

Taking medications that interact with your diabetes medications



Interactions/Medications

Taking multiple diabetes medications

- Additive effect of lowering blood sugar

Antibiotics

Alcohol

****Not an all inclusive list****

Help Yourself!!

Wear a med alert bracelet or something that will alert others that you are diabetic in case you become unconscious



Opioids

- **Used to treat moderate to severe pain**
- **Need to be used with caution in the elderly**
- **Controlled substances**
- **Have abuse and addiction potential**

Concerns with Opioids

Opioids can cause...

- Drowsiness
- Dizziness
- Confusion
- Decreased breathing
- Lowered blood pressure
- Nausea
- Constipation



ALL of these INCREASE risk of FALLS

How to Avoid Opioid Issues

- **ONLY** take if absolutely necessary
- Take as little as possible to treat pain
- Do **NOT** take any medication that is not prescribed to you
- Do **NOT** share your medication with others
- Store your medication in a safe/secure place
- Dispose of medication properly

What now??

You know 3 drug classes that are associated with high incidence of ADEs

You know what symptoms to look for

BUT
What do you do...

When You Recognize a Sign/Symptom?

- Immediately treat to avoid worsening of problem
- Notify your doctor and/or pharmacist
- If severe, go to nearest emergency room



How to Prevent ADEs



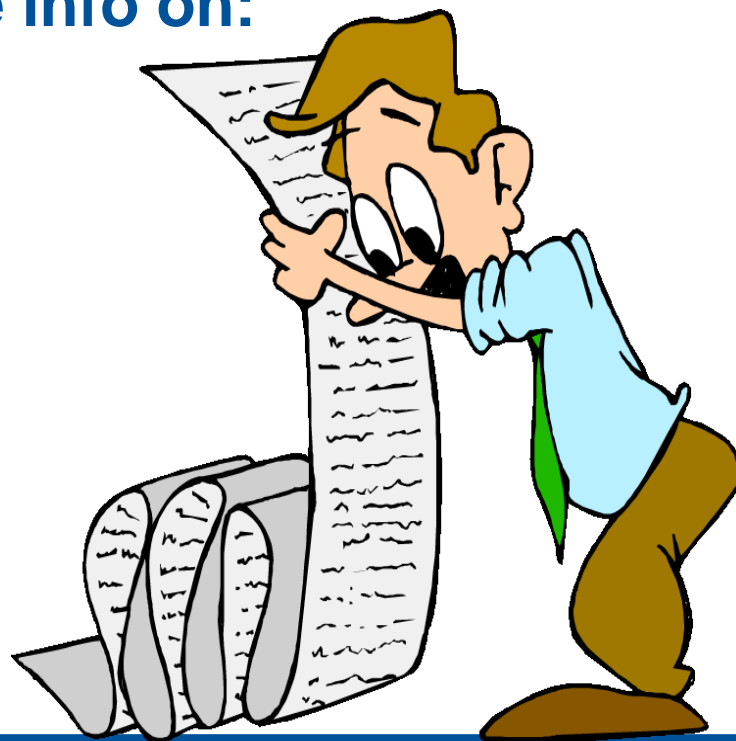
- Only take medication prescribed for you
- Do NOT share your medications with others
- Take your medications exactly as prescribed
- Never skip a dose or increase a dose unless instructed to do so by your physician
- Ask your pharmacist or doctor before taking any over the counter or herbal medications

How to Prevent ADEs

ALWAYS have a list of your medications with you

The list should include up-to-date info on:

- Medication name
- Strength
- How often you take it
- Why you take it
- Prescriber



How to Prevent ADEs

Inform EVERY physician of ALL medications you are currently taking

- Including over the counter and herbal medications

Get ALL medications from the same pharmacy

- If you have to use different pharmacies, tell each pharmacist ALL of the medications you are taking



How to Prevent ADEs

ASK QUESTIONS!!!!!!

Be your own advocate

Don't expect your prescriber to ask all the right questions

Don't expect your prescriber to know all the medications you are taking

How to Prevent ADEs

KNOW your medicine!

KNOW your pharmacist!!

Ask questions about your medications

Confirm with your pharmacist that all new prescriptions are okay with what you are currently taking

Choose the best answer

Alice is on warfarin and started an antibiotic 4 days ago. Now she is having black, tarry stools. What should she do?

- A.** Wait and see if it goes away in a couple days
- B.** Call her doctor
- C.** Go to the emergency room
- D.** Stop taking the antibiotic
- E.** Stop taking her warfarin

Choose the best answer

What could Alice have done to prevent this from happening?

- A. Tell the prescriber she is a warfarin patient**
- B. Tell the pharmacist she is a warfarin patient**
- C. Give a list of all her meds to the prescriber**
- D. Ask the pharmacist if the antibiotic interacts with any of her medications**
- E. All of the above**

Thank You!

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