



# Regions III, IV & V Conference



Kroger/SNPhA Clinical Skills Competition

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Coordinator

Kathy Monangai

National Vice President

## **PATIENT CASE**

Maria Lopez Espinoza is a 70-year-old Hispanic female with a past medical history of hypertension, glaucoma, and osteoporosis. Her hypertension is well managed. She hasn't had any changes in vision or ocular pressure. She broke her leg due to a fall a month ago. She has a T-score of -3 and her Orthopedist wants to initiate a new therapy. Before her fall, her friend had convinced her to start taking Vitamin D3 for bone health and to prevent bone deterioration.

She is a retired educator and spends most of her days volunteering at a local elementary school. Most of her day is spent standing up and assisting with children in the classroom. She is coming to Kroger Pharmacy to pick up her new medication along with her other medications which are ready to be picked up. Ms. Lopez Espinoza states she is interested in adding supplements to her diet, and she would appreciate a recommendation on which supplement will support her bone health. She is also interested in wearing contacts because she loses her glasses often. She would like your recommendation on if she should talk to her optometrist.

### **Current Medication Profile**

\*NEW\* Fosamax® (Alendronate) 70 mg: 1 tablet by mouth once weekly  
Xalatan® (Latanoprost) 1 drop: in the right eye at bedtime  
Zestril® (Lisinopril) 20 mg: 1 tablet by mouth once daily

Allergic to shellfish

Immunizations up to date

### **Clinical Counseling Pearls**

- Counsel on new prescription(s)
- Advise patient on potential drug-drug and/or drug-food interactions
- Counsel on medication administration
- Counsel patient on OTC medication(s) and/or nonpharmacologic interventions
- Recommend therapeutic lifestyle modifications

## **IMPORTANT NOTE**

**The information provided in this answer key is detailed for completeness. Student pharmacists are expected to use professional judgement to educate the patient with the most pertinent counseling points within the allotted time (5 minutes).**

**Student pharmacists are evaluated on professional knowledge, clinical pearls, communication skills, and patient interaction during the counseling session.**

## ANSWER KEY

### New Prescription

Fosamax – bisphosphonate medication

- Take one 70 mg tablet by mouth every week
  - With a full glass (6 to 8 ounces) of water while in an upright position
  - Take upon rising for the day and not before rising or at bedtime
  - Take at least 30 min before the first food, beverage, or medication of the day including calcium supplements or antacids. Do not lie down for at least 30 min after the dose and until the patient eats food to help prevent esophageal damage
- This drug may cause abdominal pain, acid regurgitation, esophageal bleeding, constipation, diarrhea, dyspepsia, musculoskeletal pain, or nausea
- Discontinue this medication and report signs/symptoms of incapacitating or severe bone, joint, or musculoskeletal pain, symptoms of osteonecrosis of the jaw (pain, swelling, infection of jaw/gums, numbness, gum loss), dysphagia, or new or worsening heartburn
- If a dose is missed, take it as soon as possible. If it's closer to the time of the next dose, skip the missed dose and return to your regular dosing schedule. Do not double doses.
- Store in room temperature, a dry place, and away from children
- Warnings/Precautions
  - Contraindicated in patients with hypocalcemia and esophageal abnormalities (eg, stricture or achalasia) that delay esophageal emptying
  - Use with caution in impaired renal function (CrCl less than 35 mL/min)
  - Mineral metabolism disturbances, such as vitamin D deficiency, should be corrected prior to administration and monitored throughout treatment
  - Worsening of active upper gastrointestinal disease, esophageal adverse events, and gastric and duodenal ulcers have been reported and may occur
  - Atypical fractures of the thigh, which may constitute therapy interruption
  - Osteonecrosis of the jaw, generally associated with tooth extraction and/or local infection with delayed healing, has been reported; increased risk with invasive dental procedures, poor oral hygiene, comorbid disorders, or with concomitant chemotherapy, angiogenesis inhibitors, or corticosteroids; May require discontinuation if necessary

### Drug Interactions

#### *Drug-Food Interactions*

- Alendronate and dairy foods (moderate)
  - May result in decreased absorption of alendronate
- Alendronate and orange juice (minor)
  - May result in decreased alendronate bioavailability
- Alendronate and foods (minor)
  - May result in decreased alendronate bioavailability

## **OTC Medication**

Caltrate 600 + D3 – vitamin and mineral supplement

This supplement contains calcium and vitamin D, which is a more appropriate recommendation. According to the American Association of Clinical Endocrinologists, daily supplementation with vitamin D3 at a dose of 1,000 to 2,000 IU is typically needed to maintain optimal serum 25(OH)D levels. For adults aged 50 and older, the recommended calcium intake (dietary plus supplements if necessary) is 1,200 mg/day. The patient should discontinue their previous vitamin D supplement and take this medication for increased calcium absorption.

Calcium – mineral supplement

This supplement is contraindicated in hypercalcemia. As adults age, the absorption of calcium can vary. This supplements the calcium patients receive from daily foods and fortified foods.

Black Cohosh – herbal supplement

This herbal supplement is cultivated from the flowering plant *Actaea racemosa*. It is sometimes used to treat menopausal symptoms, which makes it an inappropriate recommendation. Drug interactions are very common.

Directions for use:

- Take one (1) tablet one to two times daily with food or as directed by a physician
- Do not use more than directed

## **Lifestyle Modifications**

- Weight reduction through diet and exercise
- Incorporate physical activity into a daily routine
  - Moderate to vigorous weight-bearing, resistance exercise
  - At least 30 minutes about 5 times per week
- Balance-improving exercises to minimize falls
- Avoiding tobacco and excessive use of alcohol
- Eliminating potential risk factors for falling

## **Additional Considerations**

*Bone Pain*

- The American Association of Clinical Endocrinologists and U.S. Preventive Services Task Force recommend BMD testing for all women aged 65 and older as well as younger postmenopausal women at increased risk for bone loss and fractures

## **Additional Counseling (Existing Prescriptions)**

## Latanoprost - glaucoma medication

- Put one drop of solution in the affected eye(s) once daily, in the evening
- Do not exceed once-daily dosing. Advise the patient to remove contact lenses prior to instilling this drug. Lenses may be reinserted 15 minutes following installation. Allow at least 5 minutes between instillation of this drug and other ophthalmic products
- This drug may cause eye pain/stinging, ocular hyperemia, conjunctival hyperemia, eye discharge, blurred vision, burning and stinging, conjunctival hyperemia, foreign body sensation, itching, and upper respiratory tract infection/nasopharyngitis/influenza
- Open bottles may be stored at room temperature up to 25 degrees C for up to 6 weeks
- Warnings/Precautions
  - Contraindicated in patients with hypersensitivity to latanoprost and the agent's other components including benzalkonium chloride
  - Concomitant use with prostaglandins or prostaglandin not recommended
  - Bacterial keratitis and reactivation of herpetic keratitis have been reported
  - Macular edema, including cystoid macular edema, has been reported; use caution in patients with aphakia, pseudophakia who have a torn posterior lens capsule, or known risk factors for macular edema
  - Pigmentation of the iris, periorbital tissues (eyelid) and eyelashes has been reported; increases with duration of use; iris pigmentation may be permanent; pigmentation of periorbital tissues and eyelash changes are often reversible
  - Eyelash and eye vellus hair changes, including increased thickness, pigmentation, and number of lashes or hairs, and misdirected growth, has been reported; changes are typically reversible after discontinuation
  - Use not recommended in patients with active intraocular inflammation or history of it as inflammation may be exacerbated

## Lisinopril – blood pressure medication

- Take one 5 mg tablet by mouth every morning (with or without meals)
- This drug may cause nausea, vomiting, dizziness, headache, or angioedema of the face, lips, throat, or intestines
- Report any signs or symptoms of low blood pressure, persistent cough, vomiting, or angioedema of the face, lips, throat, or intestines
- Do not suddenly discontinue this medication
- Consult with the pharmacist before taking any over-the-counter cough, cold, and allergy medications
- Minimize potassium-rich foods or any over-the-counter potassium-containing supplements, as lisinopril has an increased risk of elevated serum potassium (e.g. bananas, cantaloupe, potatoes, sweet potatoes, white beans)
- If a dose is missed, take it as soon as possible. If it's closer to the time of the next dose, skip the missed dose and return to your regular dosing schedule. Do not double doses.
- Store in a cool, dry place away from sunlight and children

- Warnings/Precautions
  - Contraindicated in patients with a history of angioedema related to previous treatment with an ACE-inhibitor
  - Use with caution in impaired renal function
  - The risk for potentially serious hyperkalemia is increased with the use of potassium-sparing drugs, potassium supplements, diabetes mellitus, and impaired renal function
  - Hypoglycemia may occur when therapy is added to patients taking oral antidiabetics and/or insulin
  - Angioedema and/or severe hypotension may warrant discontinuation
  - Rarely associated with a syndrome that starts with cholestatic jaundice or hepatitis and progresses to fulminant hepatic necrosis and sometimes death