



UNC  
ESHELMAN  
SCHOOL OF PHARMACY

## Regions I & II Conference



Innovate. **Interact.** *inspire.*

**SNPhA/Kroger Clinical Skills Competition**  
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**Coordinator**  
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## PATIENT CASE

Julia Wallace is a 45-year-old Hispanic woman with a past medical history of hypothyroidism, type 2 diabetes, and new-onset hypertension (last reading 152/96). Her diabetes is controlled but she still experiences some nerve pain. Her consulting career is stressful at times and she doesn't always make time to exercise. Because she travels frequently, she eats out often and enjoys cocktails with dinner.

She was recently diagnosed with hypertension and came to Kroger Pharmacy to pick up her new medication. Mrs. Wallace mentioned that her doctor told her to get something over the counter for hemorrhoid relief. She is trying to decide between suppositories and medicated wipes. The doctor also suggested that she buy a blood pressure machine for daily monitoring.

### Medication Profile

\*NEW\* Lisinopril 5 mg by mouth once daily  
Levothyroxine 88 mcg by mouth once daily  
Metformin 500 mg by mouth twice daily  
Gabapentin 300 mg by mouth twice daily

No allergies on profile  
Immunization record is not up-to-date

### Clinical Counseling Pearls

- Counsel on new prescription
- Advise patient on potential drug-drug and/or drug-food interactions
- Counsel patient on OTC medication
- Counsel patient on proper blood pressure measurement techniques
- Recommend lifestyle modifications

### **IMPORTANT NOTE**

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

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

## ANSWER KEY

### New Prescription

#### *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 elevating 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 a previous treatment with an ACE-inhibitor
  - Use with caution in impaired renal function
  - Risk for potentially serious hyperkalemia is increased with 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

### Drug Interactions

#### *Drug-Drug Interactions*

- Lisinopril and metformin (moderate) – ACE-inhibitors may enhance the adverse/toxic effect of metformin, including risk for hypoglycemia and lactic acidosis.
  - Monitor patient response to metformin closely if the patient is taking the two drugs together, especially if the patient has other risk factors for hypoglycemia or lactic acidosis.
    - Hypoglycemia symptoms: tremor, palpitations, fatigue, sweating, confusion
    - Lactic acidosis symptoms: fast and shallow breathing, muscle pain or cramping, lack of appetite, fatigue
  - *NOTE: The degree to which ACE-inhibitors contribute to an increased risk is unclear, but closer monitoring is likely prudent when possible.*

#### *Drug-Food Interactions*

- Levothyroxine and soy (moderate) – may result in decreased effectiveness of levothyroxine

## **OTC Medication**

### *Suppositories – hemorrhoid relief*

Preparation H is contraindicated in hypertension. JW's diagnosis precludes her from using topical vasoconstrictors, such as phenylephrine, which may be systemically absorbed when administered rectally and could exacerbate her condition. Topical vasoconstrictors should only be used under the advice of her physician.

### *Medicated Wipes – hemorrhoid relief*

Tucks Medicated Cooling Pads contain witch hazel, which is a more appropriate recommendation. It is an astringent that forms a protective layer to help reduce irritation. Adverse effects are uncommon.

Directions for use:

- When practical, clean the affected area with mild soap and warm water, and rinse thoroughly
- Gently dry by patting or blotting with toilet tissue or a soft cloth before applying
- Apply externally to the affected area up to 6 times daily or after each bowel movement
- Discard the pad after application
- Do not use more than directed
- Do not put directly in the rectum by using fingers or any mechanical device or applicator
- Stop use and ask a doctor if rectal bleeding occurs, condition worsens, or condition does not improve within 7 days

## **Blood Pressure Measurement Techniques**

- Keep a blood pressure diary to monitor daily readings
- Take your blood pressure in the morning before food, caffeine, or any medications. Be sure to empty your bladder before taking the reading. If you exercise after waking, take your blood pressure before exercising.
- Take at least two readings 1 minute apart in the morning, and again in the evening before dinner.
- Rest your arm at heart level on a table or desk. Place your feet flat on the ground with your back straight and supported in a chair. Sit calmly and do not talk during the measurement.
- Place the cuff on bare skin rather than over clothing.
- Blood pressure goal is <130/80 according to 2017 ACC guidelines
  - *If students state that the goal is <140/90 according to JNC 8, they should be awarded fewer points.*

## **Lifestyle Modifications**

- DASH-like diet high in fruits, vegetables, and whole grains, low in sugar and saturated fat
- Reduce sodium intake
- Weight reduction
- Incorporate physical activity into daily routine – moderate to vigorous intensity exercise for 30 minutes 5 times per week
- Limit alcohol intake to 1 drink per day

- Reduce stress
  - Get more sleep and try to have a consistent sleep schedule and/or bedtime routine to wind down.
  - Use relaxation techniques like meditation, yoga, or deep breathing exercises. These can be incorporated throughout the day and on-the-go while traveling for work.
  - Incorporating exercise into the daily routine can be beneficial. She may consider taking a walk in the morning or during lunch breaks.
  - Be more intentional about taking personal time to rejuvenate and refocus.
- Update immunization record
  - Annual flu shot
  - Td once + Td booster every 10 years
  - Pneumovax (PPSV23), if patient has not received it previously (indication: diabetes)
  - BONUS: In 5 years, the Shingrix vaccine will be available for the patient

### **Additional Considerations**

#### *Nerve Pain*

- The patient is currently on gabapentin 300 mg twice daily and is still experiencing some nerve pain. The target dose is 900-3600 mg per day.
  - Adherence: Verify that the patient is taking the medication properly (twice daily) before recommending any dose adjustments.
  - Consider contacting the doctor to increase the dose slightly and see if there is any improvement.

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

#### *Levothyroxine – thyroid medication*

- Take one 88 mcg tablet by mouth every morning on an empty stomach (30-60 minutes before breakfast or any other medications).
- Take this medication 4 hours apart from any antacids, iron, calcium supplements, or foods rich in calcium or iron (e.g. dairy, red meats).
- Improvement of symptoms may not be evident for several weeks.
- Do not suddenly discontinue this drug.
- Side effects include hyperthyroidism (fatigue, heat intolerance, fever, sweating, hyperactivity, tremors, palpitations, myocardial infarction) or seizures.
- If a dose is missed, take it as soon as possible. If it is closer to the time of the next dose than the dose that was missed, skip the missed dose and return to the regular dosing schedule. Do not double doses.
- Store in a cool, dry place away from sunlight and children
- Warnings/precautions
  - Use is relatively contraindicated in patients with diagnosed but as yet uncorrected adrenal cortical insufficiency, untreated thyrotoxicosis, and in patients with acute myocardial infarction
  - Use with caution in nursing mothers, in patients with cardiovascular disorders (such as angina pectoris), hypopituitarism, or diabetes, and in patients currently taking oral anticoagulants

### *Metformin – diabetes medication*

- Take one 500 mg tablet twice daily with meals.
- Side effects may include diarrhea, dyspepsia, flatulence, nausea, vomiting, headache, increased sweating, or asthenia.
- Avoid excessive amounts of alcohol.
- If a dose is missed by more than a couple of hours, skip it and return to the regular dosing schedule. Do not double doses.
- Stay well hydrated during therapy by drinking plenty of fluids.
- Monitor for symptoms of hypoglycemia (increased thirst, headaches, trouble concentrating, blurred vision, frequent urination, fatigue).
- Store in a cool, dry place away from sunlight and children
- Warnings/precautions
  - Contraindicated in patients with impaired renal function and impaired hepatic function
  - Temporarily discontinue therapy when undergoing radiologic studies involving parenteral administration of iodinated contrast material because of effects on renal function
  - Do not use in patients with acute or chronic metabolic acidosis, including diabetic ketoacidosis
  - Fatal lactic acidosis may occur in patients with elevated blood levels of metformin or if the patient is dehydrated
  - Monitor renal function to avoid drug accumulation

### *Gabapentin – nerve pain medication*

- Take one 300 mg capsule twice daily (with or without meals)
- Take at least 2 hours after any aluminum- and magnesium-containing antacids.
- Avoid alcohol while taking this medication.
- Do not abruptly stop taking this medication.
- Report any new or worsening depression, suicide ideation, or unusual changes in mood or behavior.
- Side effects may include peripheral edema, ataxia, nystagmus, fatigue, nausea, vomiting, or hostility.
- Contact the doctor immediately if symptoms of anaphylaxis or angioedema occur.
- If a dose is missed, take it as soon as possible. Do not double doses.
- Store in a cool, dry place away from sunlight and children
- Warnings/precautions
  - Do not discontinue abruptly due to a possibility of precipitating seizures; discontinue gradually over a period of 1 week
  - Use caution in patients with renal impairment