

Polypharmacy Project Case # 5

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N322 Introduction to Pharmacology

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04/04/2022

PLEASE INSERT YOUR CLIENT SCENARIO HERE – THIS WILL BE PAGE TWO OF THE DOCUMENT

Polypharmacy Case 5

Patient: Lucy is a 68 year old female, who lives at home with daughter. She smokes 1 pack a day of cigarettes, and has for 36 years. Lucy has anxiety and has been having increased difficulty sleeping lately. She has an extensive past medical history. She was recently hospitalized and diagnosed with community acquired pneumonia.

Medical hx: hypertension, insomnia, sleep apnea (using C-pap but non-compliant), chronic obstructive pulmonary disease, arthritis, uses oxygen @ 2L nasal cannula

Wt 300 pounds Ht 5ft 2in

Allergies: Seasonal

Medications:

Hydrochlorothiazide 50 mg by mouth twice daily

Simvastatin 40 mg **by mouth** at night

Prednisone **10 mg tablets** tapering dose **by mouth** (end in 7 days)

Days 1 and 2: take 6 tablets

Days 3 and 4: take 5 tablets

Days 5 and 6: take 4 tablets

Days 7 and 8: take 3 tablets

Days 9 and 10: take 2 tablets

Days 11 and 12: take 1 tablet

Budesonide 160/4.5 mcg 2 puffs via inhalation BID

Meloxicam 15 mg by mouth once a day

Zolpidem 10mg by mouth at bedtime

Ciprofloxacin 750mg every 12 hours by mouth (end in 7 days)

Cheratussin 1tsp every 4 hours by mouth as needed

Tylenol #3 (30-300) take one tab by mouth every 4 to 6 hours PRN for pain

Albuterol sulfate 2.5 mg nebulization every 4 to 6 h-ours as needed

Drug #1	Drug Name (Generic): hydrochlorothiazide Drug Name (Trade): Microzide
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	Drug Class: Thiazide Diuretic/ Diuretic
How is the medication taken: (include dose, route, and frequency)	50 mg PO BID
Specific Directions not included above:	Take the medication in the morning to prevent nocturia (J & B Learning, 2020).
Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)	<p>Prednisone is a glucocorticoid, a class of corticosteroid, that may cause electrolyte depletion. Potassium levels must be monitored (J & B Learning, 2020).</p> <p>Meloxicam is classified as a non-steroidal anti-inflammatory drug (NSAID). NSAIDs reduce the diuretic effect of this hydrochlorothiazide (J & B Learning, 2020).</p> <p>Tylenol-3, acetaminophen-codeine, is classified as an analgesic opioid codeine combination drug. Codeine is an opioid analgesic. Opioid analgesics may cause hypotension when combined with hydrochlorothiazide (J & B Learning, 2020).</p> <p>Budesonide is classified as a corticosteroid. Corticosteroids may cause electrolyte depletion. Potassium levels must be monitored (J & B Learning, 2020).</p> <p>Significant/minor interaction: Meloxicam increases, and hydrochlorothiazide decreases potassium levels in the blood. Potassium blood levels need to be closely monitored. Hydrochlorothiazide can increase the effectiveness of meloxicam by competing for the same pathway through the kidney (Drug interaction report, 2022).</p> <p>Cheratussin and hydrochlorothiazide may lower blood pressure and may be indicated at onset of treatment, change in dosage, or when starting and stopping the drug combination (Drug interaction report, 2022).</p>
Lifestyle interactions:	The nurse advises against alcohol use due to the potential orthostatic hypotension (J & B

(Daily tobacco use, alcohol, drugs, etc.)	Learning, 2020).
Does any of the client’s past medical history contradict the use of this medication?	Gouty arthritis may become more inflamed with hydrochlorothiazide (J & B Learning, 2020).
What is the indication for use of this medication based on the client’s past medical history? (If unable to determine an indication based on past medical history, please list potential indications for use of the medication in general)	The indication for use of hydrochlorothiazide is to manage hypertension (J & B Learning, 2020).
What would you teach the client about taking this medication? You must prioritize 2 (see rubric)	1. I would tell the client to weigh herself at the same time in the same type of clothing every day and report gaining more than two pounds a day or more than five pounds a week (J & B Learning, 2020). 2. I would encourage potassium rich foods as both hydrochlorothiazide and prednisone have a potential for potassium loss. I would also explain the signs and symptoms of potassium deficiency (J & B Learning, 2020).

How much would medication cost per month if paying out of pocket?	The client would expect to pay approximately \$4.00 for a 30-day supply (Walmart Rx Program, 2020).
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Drug #2	Drug Name (Generic): simvastatin Drug Name (Trade): Zocor Drug Class: HMG-CoA reductase inhibitor/ Antilipemic
How is the medication taken: (include dose, route, and frequency)	40 mg PO Daily
Specific Directions not included above:	Take medication at night.
Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)	Simvastatin and ciprofloxacin interact. Ciprofloxacin may increase blood levels related to simvastatin. Monitoring for dose adjustment may be required frequently. S/S may be muscle pain, weakness, or tenderness, fever and dark colored urine are all signs of damage related to the combination of these drugs (Drug interaction report, 2022)
Lifestyle interactions:	Do not consume more than 1 quart of grapefruit juice while taking simvastatin as the juice increases the risk of myopathy (J & B Learning, 2020).

(Daily tobacco use, alcohol, drugs, etc.)	
Does any of the client’s past medical history contradict the use of this medication?	None.
What is the indication for use of this medication based on the client’s past medical history? (If unable to determine an indication based on past medical history, please list potential indications for use of the medication in general)	Simvastatin is prescribed to treat hyperlipidemia (J & B Learning, 2020). The client is morbidly obese with probable hyperlipidemia.
What would you teach the client about taking this medication? You must prioritize 2 (see rubric)	<ol style="list-style-type: none"> 1. I would teach the client to monitor for any signs and symptoms of myopathy. These include “muscle pain, tenderness, or weakness” (J & B Learning, 2020, p. 1000). 2. I would teach the client about the signs and symptoms of abnormal liver function. The client will identify jaundice and dark urine as a sign to call the provider ((J & B Learning, 2020).
How much would medication cost per month if paying out of pocket?	The client will expect to pay an approximate of \$9.00 for a 30 day supply (Walmart Rx Program, 2020).
Drug #3	Drug Name (Generic): prednisone

	<p>Drug Name (Trade): Rayos, Winored, Prednisone Intensol</p> <p>Drug Class: Glucocorticoid/ Immunosuppressant</p>
<p>How is the medication taken: (include dose, route, and frequency)</p>	<p>10 mg tablets tapering PO Daily</p>
<p>Specific Directions not included above:</p>	<p>Day 1/2: 6 tablets, Day 3/4: 5 tablets, Day 5/6: 4 tablets, Day 7/8: 3 tablets, Day 9/10: 2 tablets, Day 11/12: 1 tablet</p>
<p>Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)</p>	<p>Prednisone is a glucocorticoid, a class of corticosteroid, that may cause electrolyte depletion. Potassium levels must be monitored. Prednisone also lowers the effectiveness of diuretics (J & B Learning, 2020). Meloxicam is classified as a non-steroidal anti-inflammatory drug (NSAID). NSAIDs cause an increased risk for gastrointestinal bleeding (J & B Learning, 2020).</p> <p>Major interaction: Ciprofloxacin and prednisone combined can cause tendonitis. Tendon rupture can occur several months after treatment and can cause severe disability. Discontinue Ciprofloxacin if pain, swelling, or inflammation of tendons occur and notify the provider immediately if you experience these symptoms (Nursing interaction report, 2022).</p>

	<p>Moderate Interaction: Prednisone and meloxicam can increase the risk of gastrointestinal bleeding. These medications should be taken with food. The client should monitor for signs of bleeding such as coffee ground emesis, and red or tarry stools (Nursing interaction report, 2022).</p>
<p>Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)</p>	<p>The client should avoid high-sodium foods which may cause increased fluid retention. This will cause potential hypertension (J & B Learning, 2020). Alcohol should be avoided while taking prednisone due to the increased risk of gastrointestinal bleeding (J & B Learning, 2020).</p>
<p>Does any of the client’s past medical history contradict the use of this medication?</p>	<p>Prednisone should be used cautiously due to the client’s hypertension. An adverse reaction of prednisone is hypertension (J & B Learning, 2020). The client has been recently diagnosed with community acquired pneumonia. Prednisone is an immunosuppressive medication.</p>
<p>What is the indication for use of this medication based on the client’s past medical history? (If unable to determine an indication based on past medical history, please list potential indications for use of the</p>	<p>The client is taking prednisone as an anti-inflammatory agent. Prednisone is treating an acute episode of her chronic obstructive pulmonary disease (Roland, 2018).</p>

medication in general)	
What would you teach the client about taking this medication? You must prioritize 2 (see rubric)	<p>1. I would teach the client about the risks of immediately stopping prednisone.</p> <p>2. I would explain that the meloxicam should not be taken while taking prednisone. I would teach the client about how NSAIDs increase the risk of gastrointestinal bleed. I would also teach the client to take the medication with food to reduce gastrointestinal irritation (J & B Learning, 2020).</p>
How much would medication cost per month if paying out of pocket?	The client would pay approximately \$7.33 for 42 tablets needed to complete 7 days of treatment (Prescription Savings Club, 2020).
Drug #4	<p>Drug Name (Generic): budesonide</p> <p>Drug Name (Trade): Pulmicort Flexhaler</p> <p>Drug Class: Corticosteroid/ Antiasthmatic and Anti-inflammatory</p>
How is the medication taken: (include dose, route, and frequency)	60/4.5 mcg inhalation BID
Specific Directions not included above:	2 puffs
Does this medication interact with any other	Ciprofloxacin may increase the absorption of budesonide. This will cause many adverse

medication(s) on this list? (see rubric for further instruction)	effects such as hypertension and decreased ability to fight infection ("Drug Interactions between budesonide and ciprofloxacin," 2022). Meloxicam and budesonide can increase drug effects of the other, increasing the risk of toxicity (Nursing interaction report, 2022).
Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)	The client should avoid grapefruit juice as it will increase the effects of budesonide (J&B Learning, 2020).
Does any of the client's past medical history contradict the use of this medication?	The client's recent diagnosis of community acquired pneumonia may contradict the use of this medication. The medication is immunosuppressive (J&B Learning, 2020).
What is the indication for use of this medication based on the client's past medical history? (If unable to determine an indication based on past medical history, please list potential indications for use of the medication in general)	This medication is used to provide long-term therapy for COPD treatment (Heo, 2021).
What would you teach the client about taking this medication? You must prioritize 2 (see rubric)	1. I would teach the patient about the immunosuppressive effects of this drug. I would teach the client that they must not stop this drug immediately if the provider does decide

	<p>to discontinue the medication due to the pneumonia infection.</p> <p>2. I would teach the client to avoid contact with anyone that may have an infection.</p>
How much would medication cost per month if paying out of pocket?	The price of one inhaler is approximately \$97.03 (GoodRx, 2022).
Drug # 5	<p>Drug Name (Generic): meloxicam</p> <p>Drug Name (Trade): Mobic, Mobicox, Vivlodex</p> <p>Drug Class: NSAID/Antirheumatic</p>
How is the medication taken: (include dose, route, and frequency)	PO, 1 time daily, 15mg
Specific Directions not included above:	Watch taking with other NSAIDs (Nursing 2020 Drug Handbook, 2020)
Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)	<p>Significant interactions: Meloxicam and ciprofloxacin increases risk of CNS stimulation and seizures (Drug interaction report, 2022). Meloxicam and budesonide can increase drug effects of the other, increasing the risk of toxicity. Meloxicam and prednisone increase the effects of the other, increasing the risk of toxicity, also increases the risk of</p>

	<p>GI ulceration (Drug interaction report, 2022).</p> <p>Significant/minor interaction: Meloxicam increases, and hydrochlorothiazide decreases potassium levels in the blood. Potassium blood levels need to be closely monitored.</p> <p>Hydrochlorothiazide can increase the effectiveness of meloxicam by competing for the same pathway through the kidney (Drug interaction report, 2022)</p>
<p>Lifestyle interactions:</p> <p>(Daily tobacco use, alcohol, drugs, etc.)</p>	<p>The patient smokes 1 pack of cigarettes a day while suffering from hypertension and COPD. Patients are at higher risk of developing a thrombotic event, MI, stroke due to smoking, COPD, and hypertension. With adding an NSAID, this increases the risk for MI, Stroke, thrombotic events (Nursing 2020 Drug Handbook, 2020).</p>
<p>Does any of the client's past medical history contradict the use of this medication?</p>	<p>Patient has a history of hypertension. Use caution with use of other NSAID, can increase risk of MI, stroke, thrombotic effects (Nursing 2020 Drug Handbook, 2020).</p>
<p>What is the indication for use of this medication based on the client's past medical history? (If unable to determine an indication based on past medical history, please list potential indications for use of the</p>	<p>Medication is an Antirheumatic/NSAID. Patient has a history of Arthritis. NSAIDs work for pain relief and anti-inflammatory effect (Nursing 2020 Drug Handbook, 2020).</p>

medication in general)	
What would you teach the client about taking this medication? You must prioritize 2 (see rubric)	<ol style="list-style-type: none"> 1. Use caution using other NSAIDs, can increase risk of MI, Stroke, GI issues (Nursing 2020 Drug Handbook, 2020). 2. Notify the provider if you experience dizziness, GI complications, tarry stools, coughing up coffee ground emesis, severe headache, or generalized weakness. This can be a result of the moderate drug-drug interaction for prednisone and meloxicam, do not stop taking drugs without first discussing with a doctor (Drug interaction report, 2022).
How much would medication cost per month if paying out of pocket?	The client would expect to pay \$10 for a month's supply (Prescription Savings Club, 2020).
Drug # 6	<p>Drug Name (Generic): Zolpidem</p> <p>Drug Name (Trade): Ambien</p> <p>Drug Class: Sedative- hypnotic-GABA- Receptor Modulator/ Sedative, anxiolytic</p>

How is the medication taken: (include dose, route, and frequency)	10 mg, PO, At bedtime
Specific Directions not included above:	Avoid the use of alcohol. Can increase CNS depression avoid operating machinery or driving. Can impair cognitive and motor function. Taking with food can delay sleep onset.
Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)	Ciprofloxacin and zolpidem are major drug interactions. They can increase the risk for motor and mental alertness (Drug interaction report, 2022). Cheratussin AC, zolpidem, Tylenol # 3 are major drug interactions. Can result in impaired motor and mental alertness and using Tylenol # 3, Cheratussin AC, and zolpidem together can lead to CNS depression, respiratory distress, or death (Drug interaction report, 2022).
Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)	Instruct patients to avoid the use of alcohol while taking zolpidem.
Does any of the client's past medical history contradict the use of this medication?	Patients with COPD- drug increases risk for respiratory depression (Drug interaction report, 2022).

<p>What is the indication for use of this medication based on the client's past medical history? (If unable to determine an indication based on past medical history, please list potential indications for use of the medication in general)</p>	<p>The patient is taking this drug for insomnia and anxiety.</p>
<p>What would you teach the client about taking this medication? You must prioritize 2 (see rubric)</p>	<ol style="list-style-type: none">1. Cheratussin AC, zolpidem, Tylenol # 3 are major drug interactions. Can result in impaired motor and mental alertness and using Tylenol # 3, Cheratussin AC, and zolpidem together can lead to CNS depression, respiratory distress, or death (Drug interaction report, 2022)2. Ciprofloxacin and zolpidem are major drug interactions. They can increase the risk for motor and mental alertness (Drug interaction report, 2022). Use caution with driving and operating equipment (Drug interaction report, 2022). Even when completing medication use caution for the next 24 hours and get plenty of sleep while on medication (Drug interaction report, 2022). Notify the provider if you feel excessive

	drowsiness, change in sleep, or other side effects (Drug interaction report, 2022).
How much would medication cost per month if paying out of pocket?	Cost for zolpidem would be approx. \$13.46 a month (GoodRx, 2022).
Drug # 7	Drug Name (Generic): Ciprofloxacin Drug Name (Trade): Cipro Drug Class: Fluoroquinolone/Antibiotic
How is the medication taken: (include dose, route, and frequency)	750 mg, every 12 hours, PO
Specific Directions not included above:	Take medication for the full 7 days and complete all medication, do not skip doses, and take as directed. Ciprofloxacin-Food Interaction: Do not take with dairy products or calcium-fortified cereal or juices. May be consumed with meals, but do not take with Ciprofloxacin as it could make it less effective. Notify providers of vitamin and herbal usage (Drug interaction report, 2022). Do not discontinue medication without notifying the provider, unless rash, skin irritation, difficulty breathing or other s/s of allergic

	<p>reaction to drugs (Drug interaction report, 2022).</p>
<p>Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)</p>	<p>Meloxicam and ciprofloxacin increase risk of CNS stimulation and seizures (Drug interaction report, 2022).</p> <p>Simvastatin and ciprofloxacin interact. Ciprofloxacin may increase blood levels related to simvastatin (Drug interaction report, 2022). Monitoring for dose adjustment may be required frequently. S/S may be muscle pain, weakness, or tenderness, fever and dark colored urine are all signs of damage related to the combination of these drugs, notify provider of changes (Drug interaction report, 2022).</p> <p>Ciprofloxacin and budesonide have a moderate interaction. Cipro can increase the absorption of budesonide in the bloodstream, which can result in swelling, weight gain, high blood pressure, bone density loss. Adjustment to medication levels may be required to safely use both drugs. Patients will be at increased risk for infection and inadequate response to asthma attacks (Drug interaction report, 2022).</p> <p>Major interaction: Ciprofloxacin and prednisone combined can cause tendonitis.</p> <p>Tendon rupture can occur several months after treatment and can cause severe disability. Discontinue Ciprofloxacin if pain, swelling, or inflammation of tendons occur</p>

	and notify the provider immediately, if you experience these symptoms (Nursing interaction report, 2022). The use of albuterol and ciprofloxacin can interact and cause an irregular heart rhythm. (Drug interaction report, 2022)
Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)	Patient has COPD, hypertension, and arthritis. Patient also smokes 1 pack of cigarettes daily. The drug-to-drug interactions between Ciprofloxacin and budesonide can exacerbate each of these conditions.
Does any of the client's past medical history contradict the use of this medication?	Patient has COPD, hypertension, and arthritis. Patient also smokes 1 pack of cigarettes daily. The drug-to-drug interactions between Ciprofloxacin and budesonide can exacerbate each of these conditions.
What is the indication for use of this medication based on the client's past medical history? (If unable	Patient was diagnosed with Community acquired pneumonia. The drug is an antibiotic to treat the infection.

<p>to determine an indication based on past medical history, please list potential indications for use of the medication in general)</p>	
<p>What would you teach the client about taking this medication? You must prioritize 2 (see rubric)</p>	<ol style="list-style-type: none">1. Ciprofloxacin and Prednisone are a major drug interaction (Drug interaction report, 2022). Consult with a physician about changing drugs, but do not stop taking them until the provider authorizes (Drug interaction report, 2022). Notify the provider immediately if pain, swelling, inflammation of joints occur as tendonitis and severe tendon damage can occur with the use of these two drugs at same time (Drug interaction report, 2022).2. Ciprofloxacin and zolpidem are major drug interactions (Drug interaction report, 2022). They can increase the risk for motor and mental alertness (Drug interaction report, 2022). Use caution with driving and operating equipment (Drug interaction report, 2022). Even when completing medication use caution for the next 24 hours and get plenty of sleep while on medication (Drug interaction report, 2022). Notify the provider if you feel excessive drowsiness, change in sleep, or other side effects (Drug interaction report, 2022).

<p>How much would medication cost per month if paying out of pocket?</p>	<p>The cost of supply for 7 days of the medication would be \$10 (Prescription Savings Club, 2020).</p>
<p>Drug # 8</p>	<p>Drug Name (Generic): codeine / guaifenesin</p> <p>Drug Name (Trade): Cheratussin</p> <p>Drug Class: Antitussive/opioid analgesic/expectorant/Upper respiratory combination</p>
<p>How is the medication taken: (include dose, route, and frequency)</p>	<p>1 tsp, PO, every 4 hr as needed</p>
<p>Specific Directions not included above:</p>	<p>Measure liquid using dosage syringe provided only, never use home tablespoons.</p>
<p>Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)</p>	<p>Cheratussin AC, zolpidem, Tylenol # 3 are major drug interactions. Can result in impaired motor and mental alertness and using Tylenol # 3, Cheratussin AC, and zolpidem together can lead to CNS depression, respiratory distress, or death (Drug interaction report, 2022)</p> <p>Cheratussin and hydrochlorothiazide may lower blood pressure and may be indicated at onset of treatment, change in dosage, or when starting and stopping the drug</p>

	combination (Drug interaction report, 2022).
Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)	Alcohol use: Additive CNS effects, including severe respiratory depression and sedation (J & B Learning, 2020).
Does any of the client's past medical history contradict the use of this medication?	Yes, codeine is dangerous in patients with breathing problems or sleep apnea. This patient has sleep apnea and COPD. She is also currently being treated for pneumonia.
What is the indication for use of this medication based on the client's past medical history? (If unable to determine an indication based on past medical history, please list potential indications for use of the medication in general)	Cough suppressant- Community acquired pneumonia
What would you teach the client about taking this medication? You must prioritize 2 (see rubric)	<ol style="list-style-type: none"> 1. Use caution operating machinery or driving. This drug can cause drowsiness and CNS depression (J & B Learning, 2020). 2. Report any difficulty breathing or shortness of breath right away (J & B Learning, 2020).
How much would medication cost per month if	If the patient received 240 mL it would cost \$9.70 (GoodRx, 2022).

paying out of pocket?	
Drug # 9	Drug Name (Generic): acetaminophen-codeine #3 Drug Name (Trade): Tylenol #3 (30-300) Drug Class: Opioid analgesic combination
How is the medication taken: (include dose, route, and frequency)	30-300- take one tab by mouth every 4-6 hr PRN for pain
Specific Directions not included above:	Do not take more than prescribed.
Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)	Cheratussin AC, zolpidem, Tylenol # 3 are major drug interactions. Can result in impaired motor and mental alertness and using Tylenol # 3, Cheratussin AC, and zolpidem together can lead to CNS depression, respiratory distress, or death (Drug interaction report, 2022)
Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)	Alcohol use: Additive CNS effects, including severe respiratory depression and sedation, increased risk of hepatotoxicity (J & B Learning, 2020).

<p>Does any of the client's past medical history contradict the use of this medication?</p>	<p>Yes, codeine is dangerous in patients with breathing problems or sleep apnea. This patient has sleep apnea and COPD. She is also currently being treated for pneumonia.</p>
<p>What is the indication for use of this medication based on the client's past medical history? (If unable to determine an indication based on past medical history, please list potential indications for use of the medication in general)</p>	<p>Patient is taking drug for pain relief.</p>
<p>What would you teach the client about taking this medication? You must prioritize 2 (see rubric)</p>	<ol style="list-style-type: none"> 1. This medication should not be taken at the same time as Cheratussin because Cheratussin also includes codeine. 2. Report difficulty breathing immediately (J & B Learning, 2020).
<p>How much would medication cost per month if paying out of pocket?</p>	<p>If the patient received a prescription for 30 tablets it would cost an average of \$13.76 (GoodRx, 2022).</p>
<p>Drug # 10</p>	<p>Drug Name (Generic): Albuterol Sulfate</p> <p>Drug Name (Trade): ProAir HFA</p> <p>Drug Class: Bronchodilator, Adrenergics</p>

How is the medication taken: (include dose, route, and frequency)	2.5 mg nebulization every 4-6 hr as needed.
Specific Directions not included above:	Inhale a full dose of nebulizer solution over 5-15 minutes.
Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)	The use of albuterol and ciprofloxacin can interact and cause an irregular heart rhythm. (Drug interaction report, 2022). Albuterol can increase the possibility of developing hypokalemia if taken with hydrochlorothiazide due to its potassium wasting properties (J & B Learning, 2020).
Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)	Patient smokes- may provide information on the benefits of quitting smoking to manage COPD symptoms.
Does any of the client's past medical history contradict the use of this medication?	None
What is the indication for use of this medication based on the client's past medical history? (If unable to determine an indication based on past medical history, please list potential indications for use of the	Patient is taking for chronic COPD.

medication in general)	
What would you teach the client about taking this medication? You must prioritize 2 (see rubric)	<ol style="list-style-type: none"> 1. Wash mouth pieces with water once a week and let air dry (J & B Learning, 2020). 2. Do not exceed prescribed dose or frequency. If the dose becomes less effective, contact a healthcare provider (J & B Learning, 2020).
How much would medication cost per month if paying out of pocket?	The patient would pay \$10 for a 30-day supply (Prescription Savings Club, 2020).

Is there anything about this medication regimen scenario that might indicate a potential difficulty in maintaining compliance with the orders as listed?

The medication regimen for the prednisone may be confusing to the client. She has a vast list of medications with a variety of times of day to take the medications. Due to her increased difficulty with sleeping, her medications may not be taken at the suggested time. She may find that she does not leave the bed in the morning. The cost of medications may also deter the client from purchasing the medication.

Is there anything about this medication regimen scenario that might assist the client in maintaining the medication regimen as ordered?

A specialized packaging for the prednisone prescription would be helpful to the client. It would also be helpful to provide a chart for morning, night, and time ranges for all other medications. It would also be helpful to discuss where the medications are typically kept. Using a pill calendar would benefit the client. The nurse may also discuss resources available to the client for reducing the cost of medications.

What suggestions might you make to the prescriber and/or client (or questions you might ask the prescriber) to help this client scenario? (Think about decreasing the potential for interaction(s) through medication reduction, other potential medications, diet changes, lifestyle changes, etc)

Smoking Cessation

Consider quitting smoking as it increases the risk for cardiovascular events. Offer smoking cessation education information to the patient. Inform the provider/patient of a patient's lifestyle of 1 pack a day of cigarettes, hypertension, and COPD that increases the risk of cardiovascular events.

Ciprofloxacin

Ciprofloxacin interacts with multiple drugs that the patient is currently taking. There is a major risk of complications when combined with prednisone that can lead to tendonitis or tendon rupture (Drug interaction report, 2022). Another major interaction is Ciprofloxacin with zolpidem, which can increase the blood levels of zolpidem, this can severely impact mental alertness and motor coordination (Drug interaction report, 2022). Ciprofloxacin increases the absorption of budesonide in the bloodstream and can cause muscle weakness, bone density loss, and decrease the ability to fight infections which is currently contraindicated with this patient as she was prescribed ciprofloxacin for community acquired pneumonia (Drug interaction report, 2022). When ciprofloxacin is interacted with meloxicam there is moderate risk for CNS side effects (Drug interaction report, 2022). Ciprofloxacin can increase the blood level of simvastatin and increase the risk for liver damage (Drug interaction report, 2022). When using albuterol with ciprofloxacin it can increase the risk of irregular heart rhythm (Drug interaction report, 2022).

There are so many drug interactions with Ciprofloxacin and currently prescribed drugs. The possibility of another antibiotic regimen that may not have as many adverse reactions risk would be the suggestion brought forth to the provider. The client should be provided education on potassium rich foods to avoid hypokalemia from hydrochlorothiazide and albuterol use.

Cortisones

Cortisones- Prednisone and budesonide are both cortisones and it is only recommended to take one of these drugs in this category (Drug interaction report, 2022).

Tylenol #3, Cheratussin, and Zolpidem

The combination of Tylenol #3, Cheratussin, and zolpidem are serious drug interactions that affect the CNS (Drug interaction report, 2022). Review or elimination of 1 or more of these drugs would be beneficial to the patient. The patient also has a history of COPD and sleep apnea(non-compliant) the use of these three drugs in combination can lead to respiratory depression or even death for this patient. This is high risk and should be brought to the providers/patient attention for review. Each of these medications combined or on their own increases the client's risk for falls. This should be taken into consideration and education on preventing falls should be provided to the client.

What would the patients monthly out of pocket expense for all 10 medications? (Total Cost for all 10 meds)?

The patient's monthly expense for all 10 of her medications would be \$184.28, with the bulk of the cost coming from the budesonide inhaler. Many older adults utilize generic savings programs from different pharmacies to shop around and find the lowest prices. We utilized Walmart and Walgreens published lists and GoodRx for the medications not on the generic lists. This total price is factoring in the number of tablets needed for seven days of treatment of ciprofloxacin and prednisone.

Reflective Statement of Experience:

Amber Raimer: This assignment was interesting with the amount of major and moderate drug interactions that were possible. It was interesting to see that multiple drugs in the same category were also a risk factor for this patient. As an advocate, caregiver, and educator for the patient. I would reconcile the medication, discuss findings with the patient and provider, and determine if the

medication regimen is causing an impact to the quality of life of the patient. When considering the benefits that outweigh the risks with moderate medication interaction, this is especially important to discuss quality of life measures with the patient.

Chelsea Roehrig: This project was very informative when identifying and reading about the different drug interactions. It also helped open my eyes to how overwhelmed patients must feel when leaving the hospital with additional medications added to their list. As a nurse advocate, I would bring concerns about interactions and risks to the provider. I especially found the Zolpidem and codeine-containing medications concerning, given her age, COPD, and sleep apnea. As an educator, I would explain the side effects and potential adverse effects of those medications and ensure she would not mix them or take more than prescribed. I would also make sure the client understands the importance of taking all her antibiotics and finishing her tapered dose of prednisone. I would also make sure the client understands what each medication is treating and what risks are associated with each one. As a caregiver, I would monitor for signs and symptoms of adverse effects and ensure client safety.

Kristina Rentrop: This project was extremely effective in demonstrating the dangers of polypharmacy. Medications that are prescribed without considering contraindications can be life threatening for the patient. There are several prescriptions that should be reviewed and discontinued. This project further demonstrates the need for client education. There are multiple adverse effects to be monitored for this client. As a future nurse, I will make sure to review all medications and comorbidities for contraindications. This project helps to understand the role of the nurse as an advocate for client safety.

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N322 Polypharmacy Grading Rubric

Criteria	Excellent 40 points	Acceptable 31-39 points	Unacceptable 0-30 points	Points Earned
<p>Each drug should have a completed breakdown within the tables provided, which includes the following:</p> <ul style="list-style-type: none"> ● Drug class ● Generic name ● Trade name ● How is the medication taken (include dose, route, frequency) 	All key components were addressed within the paper and were accurate.	The student provided the required information for some of the medications, but not all and/or the answers provided were inaccurate. (Each individual component for each medication is worth one point)	The student failed to address a sufficient number of the listed components within the paper and/or the components were addressed but were inaccurate. (Each individual component for each medication is worth one point)	___/40
Criteria	Excellent 10 points	Acceptable 8-10 points	Unacceptable 0 - 7 points	Points Earned
Specific Directions not included above:	All key components were addressed within the paper.	The student did list some of the medications that required	Student failed to answer the	___/10

<p>● Is there any type of medication on the patient list that have specific directions?</p> <p>(before bed, before breakfast, 30 minutes before meals, etc..)</p>		<p>specific directions, however some of the medications included specific directions that were not addressed and/or were inaccurate. (For each medication this question if worth one point)</p>	<p>questions and/or the answers were inaccurate. (For each medication this question is worth one point)</p>	
Criteria	Excellent 0 points	Acceptable 16-19	Unacceptable 0-15 points	Points Earned
<p>Does this medication have any potentially serious interactions with any other medication(s) on this list, and/or potential interactions that should be closely monitored due to co-administration?</p> <p>● Do any of the medications interact with each other?</p> <p>(Please note: if there is an interaction between two medication, you MUST list that interaction on BOTH medications to receive full credit. You may utilize the</p>	<p>All medications reviewed and student explained medication interactions.</p>	<p>The student did list some of the potential interactions of the medication(s), but failed to address all potential interactions that are serious and/or need close monitoring. (for each medication listed this question is worth two points)</p>	<p>Student failed to answer question and/or The student did list some of the potential interactions of the medication(s), but failed to address all potential interactions that are serious and/or need close monitoring. (for each medication listed this question is worth two points)</p>	<p>___/20</p>

<p>same verbiage/wording on each medication, we want to know you are thinking about it when considering each medication)</p>				
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<p>Criteria</p>	<p>Excellent 5 points</p>	<p>Acceptable 4 points</p>		<p>Unacceptable 0 -3 points</p>	<p>Points Earned</p>
<p>Lifestyle interactions:</p> <ul style="list-style-type: none"> ● What lifestyle factors counteract with the medications? <p>(tobacco user, ETOH use – 3 beers daily)</p>	<p>Student showed knowledge why lifestyle would counteract with medications</p>	<p>The student listed lifestyle interactions for some of the medications, but not all and/ or the interactions listed were not priority or were incorrect. (For each medication, this question is worth half a point)</p>	<p>Student failed to answer question or the student listed lifestyle interactions for some of the medications, but not all and/ or the interactions listed were not priority or were incorrect. (For each medication, this question is worth half a point)</p>	<p>___/5</p>	

<p>past medical history? (If unable to determine an indication based on past medical history, please list potential indications for use of the medication in general)</p>		<p>appropriate indications for use. (For each medication this question is worth one point)</p>	<p>failed to capture all of the appropriate indications for use. (For each medication this question is worth one point)</p>	
Criteria	Excellent 20 points	Acceptable 16-19 points	Unacceptable 0-15 points	Points Earned
<p>What would you teach the client about taking this medication?</p> <ul style="list-style-type: none"> ● What education is needed for the medication? (For each medication listed the student must prioritize two topics for client education) <p>(You must consider all component(s) of the medication list when answering this question... if there are potential interactions with other medication this may be a</p>	<p>Student showed the importance of medication education, and appropriate prioritized client education for the scenario provided.</p>	<p>The student provided some appropriate education for the client, but failed to capture all of the appropriately prioritized education for the client. (Each topic of education is worth one point)</p>	<p>Student failed to answer the question OR The student provided some appropriate education for the client, but failed to capture all of the appropriately prioritized education for the client. (Each topic of education is worth one point)</p>	<p>___/20</p>

priority over general education for this one medication)				
Criteria	Excellent 10 points	Acceptable 8-9 points	Unacceptable 0-7 points	Points Earned
<p>Is there anything about this medication regimen/ scenario that might indicate a potential difficulty in maintaining compliance with the orders as listed?</p> <ul style="list-style-type: none"> ● Why would the patient have difficulty maintaining the medication regiment? <p>(Please consider all factors in the scenario and all information provided within your chart – including cost, insurance, frequency of administration, etc)</p>	Student had knowledge on why a patient would have difficulty with medication regiment	The student indicated some potential reasons that the client may have difficulty, however the student failed to indicate a reason OR an appropriate reason for some of the medications (This question is worth one point for each medication)	Student failed to answer the question OR the student indicated some potential reasons that the client may have difficulty, however the student failed to indicate a reason OR an appropriate reason for some of the medications (This question is worth one point for each medication)	___/10
Criteria	Excellent 10 points	Acceptable 8-9 points	Unacceptable 0-7 points	Points Earned
Is there anything about this medication regimen/ scenario that might assist	Student had knowledge on medication compliance	The student answered the question appropriately for some of the medications but	Student failed to answer the question OR The student answered the question	___/10

<p>the client in maintaining the medication regimen as ordered?</p> <ul style="list-style-type: none"> ● What factors are present to remain compliant? <p>(Please consider all factors in the scenario and all information provided within your chart - including cost, insurance, frequency of administration, etc.</p>		<p>failed to indicate all of the factors that are present that assist with compliance. (This question is worth one point for each medication)</p>	<p>appropriately for some of the medications but failed to indicate all of the factors that are present that assist with compliance. (This question is worth one point for each medication)</p>	
<p>Criteria</p>	<p>Excellent 10 points</p>	<p>Acceptable 8-9 points</p>	<p>Unacceptable 0 points</p>	<p>Points Earned</p>
<ul style="list-style-type: none"> ● How much would this medication cost per month if the patient were to pay for them out of pocket? (best assessment based off of research) ● What would the client's monthly out of pocket expense for all 10 	<p>Student showed research on medication costs</p>	<p>The student provided accurate research for some of the medications, but failed to provided research for all medications (This question is worth one point for each medication, with the total cost being worth 5 points)</p>	<p>Student failed to answer the question OR The student provided accurate research for some of the medications, but failed to provided research for all medications (This question is worth one point for each medication, with the total cost being worth 5 points)</p>	<p>___/15</p>

medications?				
Criteria	Excellent 20 points	Acceptable 16-19 points	Unacceptable 0-15 points	Points Earned
<p>The student must appropriately format the paper and include all of the following:</p> <ul style="list-style-type: none"> ● Entire document must include appropriate citations, reference page, title page, page numbers, running head, all with appropriate formatting per APA (10 points - each missing or inaccurate portion per APA is worth one point) ● The student provided a rubric attached for grading (3 points) ● The student included the provided client scenario on page 	<p>The document included a title page, the rubric, the client scenario, a reference page which included five references that were cited within the document. APA formatting was consistent with the APA manual.</p>	<p>The document did not meet all of the criteria for formatting/ referencing. See "criteria" to the left for further breakdown.</p>	<p>The document did not meet all of the criteria for formatting/ referencing. See "criteria" to the left for further breakdown.</p>	<p>___/20</p>

<p>two of the document (2 points)</p> <ul style="list-style-type: none"> ● The paper included a minimum of five references which were cited within the document (each reference with one citation is worth 5 points) 				
<p>Criteria</p>	<p>Excellent 20 points</p>	<p>Acceptable 16-19 points</p>	<p>Unacceptable 0-15 points</p>	<p>Points Earned</p>
<p>What suggestions might you make to the prescriber and/or client (or questions you might ask the prescriber) to help this client scenario? (think about decreasing the potential for interaction(s) through medication reduction, other potential medications, diet changes, lifestyle changes, etc)</p> <p>Elaborate on this, explaining why you feel it should be addressed, why it is priority and provide evidence behind</p>	<p>The student was able to identify one potential idea or question to present to the prescriber or client. This question showed evidence of good critical thinking.</p>	<p>The student was able to identify one potential idea or question to present to the prescriber or client, however there was a much higher priority question/suggestion/issue within the scenario that should have been addressed.</p>	<p>The student failed to answer the question OR the student answered the question, however the students answer was dangerously inaccurate.</p>	<p>____/20</p>

your presentation.				
Criteria	Excellent 10 points	Acceptable 8-9 points	Unacceptable 0-7 points	Points Earned
<ul style="list-style-type: none"> ● Reflective statement of experience should include the following: <ul style="list-style-type: none"> -insight into the project itself (a specific example within the project and its implications) -A basic understanding of polypharmacy -A reflection on this student nurses role in this scenario as a client advocate/educator/caregiver 	The students provided reflection showed good insight into the project itself, polypharmacy, and the nurses role in client advocacy	The student provided a reflection, however the reflection lacked one of the following <ul style="list-style-type: none"> -insight into the project itself (a specific example within the project and its implications). -A basic understanding of polypharmacy -A reflection on this student nurses role in this scenario as a client advocate/educator/caregiver 	Student failed to reflect on their project OR the student addressed only of the topics of reflection	___/10
Total Points				___/200

