

Polypharmacy Project

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N322 Introduction to Pharmacology

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Polypharmacy Case

Background: Karen is a 40-year-old female that presents to the emergency department with complaints of severe abdominal pain with an onset of seven days ago. Karen states that the pain has gradually increased over the past week and is now currently rating the pain at 10/10. She states that she started taking her ibuprofen to assist in alleviating the pain, but it is no longer helping at all. She states that when her pain started getting worse, she started developing nausea and vomited two times this morning. Her emesis was dark and blood tinged. Her most recent bowel movements have been dark, almost black, she states. Other significant assessments include abdominal tenderness and reports of increased symptoms of GERD over the last month. Karen had a pituitary tumor surgical excision one month ago and has an extensive past medical history.

Economics: Karen is self-employed as an attorney and has her own office. Her annual income is greater than \$100,000 per year.

Insurance: Karen purchases her own medical insurance, which costs \$2000 per month. It covers 75% of the medication costs.

Allergies: NSAIDS

Diet: No added salt and low concentration sweets.

Medical Diagnosis: Cushing's, gastroesophageal reflux disease, recurrent constipation, hypertension, depression, type 2 diabetes mellitus

Current medications include the following:

POLYPHARMACY

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Hydrocortisone 15 mg every am and 5 mg in the afternoon

Metoprolol tartrate 25 mg by mouth twice a day

Spironolactone-hydrochlorothiazide 50 mg/50 mg take one tablet by mouth daily

Prozac 20 mg by mouth twice a day

Saxagliptin 5 mg once daily by mouth

Atorvastatin 10 mg by mouth daily

Tresiba 20 units SC daily

Miralax 17 grams by mouth daily

Bismuth subsalicylate 525 mg (30 mL) by mouth every six hours PRN

Ibuprofen 400 mg by mouth every six hours PRN

Drug #1	<p>Drug Name (Generic): Hydrocortisone</p> <p>Drug Name (Trade): Alkindi Sprinkle, Cortef, Cortenema (Jones and Bartlett Learning, 2024, pg. 664)</p> <p>Drug Class: (Jones and Bartlett Learning, 2024, pg. 664)</p> <p>Pharmacological: Glucocorticoid</p> <p>Therapeutic: Adrenocorticoid replacement, anti-inflammatory</p>
How is the medication taken: (include dose, route, and frequency)	This medication is taken orally. She takes fifteen milligrams every morning and five milligrams every evening.
Specific Directions not included above:	Take three 5 milligram tablets every morning with food or milk, and take one 5 milligram tablet every evening with food or milk.
Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)	This medication interacts with saxagliptin and Tresiba, as these are both drugs to control her type II diabetes mellitus. Hydrocortisone interacts with saxagliptin which is an oral antidiabetic medication. The interaction consists of possible raising blood glucose level (Nursing Drug Handbook, 2024, pg. 666). Hydrocortisone also interacts with her Tresiba, as Tresiba is a subcutaneous injection insulin which helps controls blood glucose levels. The interaction consists of reducing the effectiveness of the medication; therefore, it possibly increases blood glucose levels (Nursing Drug Handbook, 2024, pg. 666). This medication

	also interacts with ibuprofen, as both medications can cause severe gastrointestinal complications (Drugs.com). Finally, this medication also interacts with MiraLAX, as using these medications can increase the risk for dehydration and hypokalemia (Drugs.com).
Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)	The client has no lifestyle interactions. As a general awareness, the client should avoid alcohol when taking this medication, as it can cause an increased risk of gastrointestinal bleeding and distress (Nursing Drug Handbook, 2024, pg. 666).
Does any of the client's past medical history contradict the use of this medication?	No past medical history contradictions with this medication
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 client is taking this medication to help control her Cushing's diagnosis. This medication can help reduce inflammation related to Cushing's disease.
What would you teach the client about taking this medication? You must prioritize 2 (see rubric)	1. We would teach the client about the importance of not receiving any live attenuated vaccines. We would explain what a live vaccine is, along with what will happen if she were to receive a live vaccine (Nursing Drug Handbook, 2024, pg. 666). We would explain that live vaccines decrease antibody response and increase the risk of neurologic complications when

	<p>taking this medication (Nursing Drug Handbook, 2024, pg. 666).</p> <p>2. Secondly, we would teach the client the importance of taking this medication with food or a glass of milk, as taking it on an empty stomach can cause gastrointestinal issues (Nursing Drug Handbook, 2024, pg. 667).</p>
How much would medication cost per month if paying out of pocket?	Without insurance, she would pay \$41.89 per month (Goodrx.com).

Drug #2	<p>Drug Name (Generic): Metoprolol tartrate</p> <p>Drug Name (Trade): Lopresor (CAN), Lopresor SR (CAN), Lopressor (Jones and Bartlett Learning, 2024, pg. 882)</p> <p>Drug Class: (Jones and Bartlett Learning, 2024, pg. 882)</p> <p>Pharmacological: Beta-adrenergic blocker</p> <p>Therapeutic: Antianginal, antihypertensive</p>
How is the medication taken: (include dose, route, and frequency)	This medication is twenty-five milligrams. She takes it orally two times a day.
Specific Directions not included above:	The client should take one tablet in the morning with breakfast and one tablet in the evening with dinner.

<p>Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)</p>	<p>This medication can interact with the clients Prozac medication, as Metoprolol tartrate can interact with this antidepressive medication. The interaction can cause increased plasma metoprolol levels, which causes a decrease in the cardioselectivity of metoprolol (Nursing Drug Handbook, 2024, pg. 884). Secondly, this medication can interact with spironolactone-hydrochlorothiazide, as it is a diuretic medication, which can also lower the blood pressure cause hypotension (Nursing Drug Handbook, 2024, pg. 884).</p>
<p>Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)</p>	<p>No lifestyle interactions noted. No interaction with tobacco, alcohol, or drugs. Overall, client should eat a well-balanced diet and get adequate exercise.</p>
<p>Does any of the client’s past medical history contradict the use of this medication?</p>	<p>No past medical history contradictions with this 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 medication in general)</p>	<p>The client is taking this medication to help control her high blood pressure. This medication helps regulate blood pressure to appropriate levels to prevent further complications of hypertension.</p>
<p>What would you teach the client about taking this medication? You must prioritize 2 (see rubric)</p>	<p>1. We would teach the client the importance of taking their blood pressure before taking this medication. If their blood pressure is already low, this medication can lower it further causing</p>

	<p>a medical crisis. She will need to be taught when to hold the medication.</p> <p>2. We would also advise the client to regularly check blood glucose levels with this medication, as the medication can prevent early warning signs of low blood glucose levels (Nursing Drug Handbook, 2024, pg. 886).</p>
How much would medication cost per month if paying out of pocket?	Without insurance, this medication would cost \$7.60 per month (Goodrx.com).
Drug #3	<p>Drug Name (Generic): Spironolactone-hydrochlorothiazide</p> <p>Drug Name (Trade): Aldactone, CaroSpir (Jones and Bartlett Learning, 2024, pg. 1263)</p> <p>Drug Class: (Jones and Bartlett Learning, 2024, pg. 1263)</p> <p>Pharmacological: Potassium-sparing diuretic</p> <p>Therapeutic: Diuretic</p>
How is the medication taken: (include dose, route, and frequency)	This medication is fifty milligrams of spironolactone, and fifty milligrams of hydrochlorothiazide taken orally once daily.
Specific Directions not included above:	We would teach the client that she can take this medication whenever she likes, as long as she takes the medication at the same time every day to promote effectiveness (Nursing Drug Handbook, 2024, pg. 1265).
Does this medication interact with any other medication(s) on this list? (see rubric for further	This medication interacts with ibuprofen, as it can decrease the antihypertensive effect of spironolactone (Nursing Drug Handbook, 2024, pg. 1264). This medication can also interact

instruction)	with Metoprolol tartrate, as they are blood antihypertensive medication which can cause hypotension (Nursing Drug Handbook, 2024, pg. 1264).
Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)	No lifestyle interactions. The client should be avoiding a high potassium diet, as a high potassium diet can cause as increased risk for severe hyperkalemia (Nursing Drug Handbook, 2024, pg. 1264). No interactions with tobacco, alcohol, or drugs.
Does any of the client's past medical history contradict the use of this medication?	No past medical history contraindications.
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 the use of this medication is to help control high blood pressure, while sparing potassium. Therefore, it helps potassium levels stay within expected ranges while lowering high blood pressure (Nursing Drug Handbook, 2024, pg. 1263).
What would you teach the client about taking this medication? You must prioritize 2 (see rubric)	<ol style="list-style-type: none"> 1. We would warn patients about driving while on this medication until they know how it affects them and if they are having any side effects (Nursing Drug Handbook, 2024, pg. 1265). 2. Secondly, we would explain to the client that they may experience dizziness if they are not

	consuming enough fluids, so they need to make sure that they are drinking enough (Nursing Drug Handbook, 2024, pg. 1265).
How much would medication cost per month if paying out of pocket?	Without insurance, this medication would cost \$45.60 per month (Goodrx.com).
Drug #4	<p>Drug Name (Generic): fluoxetine hydrochloride (Jones and Bartlett Learning, 2024, pg. 580)</p> <p>Drug Name (Trade): Prozac</p> <p>Drug Class: (Jones and Bartlett Learning, 2024, pg. 580)</p> <p>Pharmacological: Selective serotonin reuptake inhibitor (SSRI)</p> <p>Therapeutic: Antidepressant</p>
How is the medication taken: (include dose, route, and frequency)	This medication is twenty milligrams taken orally two times a day.
Specific Directions not included above:	This drug is given twice daily; therefore, the client should take one tablet in the morning and the second tablet at noon (Nursing Drug Handbook, 2024, pg. 580).
Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)	This medication interacts with ibuprofen. The interaction consists of increased anticoagulant activity and risk for bleeding (Nursing Drug Handbook, 2024, pg. 581). This medication also interacts with Metoprolol Tartrate, as Prozac can increase the effects of it (Drugs.com).
Lifestyle interactions:	No tobacco, alcohol, or drug interactions. Overall, the client should monitor her blood glucose levels closely, as this medication can cause hypoglycemia (Nursing Drug Handbook,

(Daily tobacco use, alcohol, drugs, etc.)	2024, pg. 583).
Does any of the client’s past medical history contradict the use of this medication?	There are no contraindications with the clients past medical history.
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 client has a past medical history of depression; therefore, the indication for this medication is to treat her depression (Nursing Drug Handbook, 2024, pg. 580).
What would you teach the client about taking this medication? You must prioritize 2 (see rubric)	<ol style="list-style-type: none"> 1. We would educate the client about noticing any increased thoughts about suicide, as this medication can increase the risk for suicide. We would tell them to contact their provider if they are experiencing any increasing thoughts about harming themselves (Nursing Drug Handbook, 2024, pg. 583). 2. We would educate the client on understanding that this drug may take several weeks of taking the medication to notice any changes and to evaluate the full effect of the medication (Nursing Drug Handbook, 2024, pg. 583).
How much would medication cost per month if paying out of pocket?	Without insurance, this medication would cost \$464.93 per month (Goodrx.com).
Drug # 5	Drug Name (Generic): Saxagliptin

	<p>Drug Name (Trade): Onglyza (Jones and Bartlett Learning, 2024, pg. 1221)</p> <p>Drug Class: (Jones and Bartlett Learning, 2024, pg. 1221)</p> <p>Pharmacological: Dipeptidyl peptidase-4 (DPP-4) inhibitor</p> <p>Therapeutic: Antidiabetic</p>
<p>How is the medication taken: (include dose, route, and frequency)</p>	<p>This medication is five milligrams taken orally, one time daily.</p>
<p>Specific Directions not included above:</p>	<p>The client needs to take this medication at the same time every day (Nursing Drug Handbook, 2024, pg. 1222).</p>
<p>Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)</p>	<p>This medication may interact with Tresiba, as they are both drugs for diabetes (Nursing Drug Handbook, 2024, pg. 1222). The medication is taken orally, whereas Tresiba is taken subcutaneously. They both help control blood glucose levels; therefore, if taken too close together or taking too much without eating, it can possibly cause hypoglycemia. Secondly, this medication interacts with hydrocortisone which can reduce the effectiveness of saxagliptin (Drugs.com).</p>
<p>Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)</p>	<p>There are no lifestyle interactions with the patient's lifestyle, although we would always inform the client to make sure that they are eating a well-balanced diet and getting adequate</p>

	exercise. No interactions with tobacco, alcohol, or drugs.
Does any of the client's past medical history contradict the use of this medication?	No contraindications with the clients past medical history.
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 medication is being used because the client has a history of diabetes; therefore, this medication helps control blood sugar levels. (Nursing Drug Handbook, 2024, pg. 1221).
What would you teach the client about taking this medication? You must prioritize 2 (see rubric)	<p>1. We would educate the client about taking the medication at the same time every day. Although the medication needs to be taken at the same time every day, it does not need to be taken with a meal (Nursing Drug Handbook, 2024, pg. 1222).</p> <p>2. We would educate the client on noticing signs of hypoglycemia and how to treat low blood glucose levels. Furthermore, we would teach about the importance of monitoring blood glucose levels to prevent dropping too low (Nursing Drug Handbook, 2024, pg. 1222).</p>
How much would medication cost per month if paying out of pocket?	Without insurance, this medication would cost \$171.47 per month (Goodrx.com).
Drug # 6	Drug Name (Generic): atorvastatin calcium (Jones and Bartlett Learning, 2024, pg. 121)

	<p>Drug Name (Trade): Lipitor (Jones and Bartlett Learning, 2024, pg. 121)</p> <p>Drug Class: (Jones and Bartlett Learning, 2024, pg. 121)</p> <ul style="list-style-type: none"> • Pharmacologic class: HMG-CoA reductase inhibitor • Therapeutic class: Antihyperlipidemic
<p>How is the medication taken: (include dose, route, and frequency)</p>	<p>This medication is taken by mouth. She takes ten milligrams by mouth daily.</p>
<p>Specific Directions not included above:</p>	<p>While this medication can lower lipid levels, it is not a cure. Diet, exercise, and drinking lots of water need to be part of the patient's everyday lifestyle. It is also important to note that this medication can be taken whenever the patient desires; however, it needs to be taken at the same time every day (Jones and Bartlett Learning, 2024, pg. 123).</p>
<p>Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)</p>	<p>This medication does not interact with any of her other personal medications.</p>
<p>Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)</p>	<p>Patient has denied usage of drugs, alcohol, or tobacco use. However, it is still important to educate the patient that drinking alcohol, while on this medication, can increase the risk of liver damage. As always, drinking grapefruit juice with this medication can cause unwanted side effects (Drugs.com).</p>

<p>Does any of the client's past medical history contradict the use of this medication?</p>	<p>Karen does not appear to have any contraindications for this medication regarding her past medical history. However, in general, patients will not take this medication if they have acute liver failure (Jones and Bartlett Learning, 2024, pg. 121). This medication may also cause harm to an unborn baby and may cross the barrier when breastfeeding (Drugs.com).</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>There is no specific indication of use regarding this patient. This medication is given if someone has hyperlipidemia. The medication will lower the cholesterol levels to prevent further damage, such as a heart attack, angina, or a stroke. This medication can also be given to children ten to seventeen years old who have a condition known as heterozygous hypercholesterolemia. This genetic condition makes the removal of cholesterol impossible because the body cannot do it (Drugs.com).</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 can affect blood glucose levels. Since she has type II diabetes, she needs to ensure that she is monitoring her personal levels (Jones and Bartlett, 2024, pg. 123). 2. For this drug to reach its upmost therapeutic effects, the patient needs to take it at the same time every day (Jones and Bartlett Learning, 2024, pg. 122).
<p>How much would medication cost per month if paying out of pocket?</p>	<p>According to GoodRx, this medication, with no insurance coverage, on average, can cost \$63.90 (GoodRx).</p>
<p>Drug # 7</p>	<p>Drug Name (Generic): insulin degludec (Drugs.com) Drug Name (Trade): Tresiba</p>

	Drug Class: Insulin (Drugs.com)
How is the medication taken: (include dose, route, and frequency)	She takes twenty units subcutaneously daily.
Specific Directions not included above:	While insulin is a drug that has proven to have beneficial effects regarding blood sugar, it is very dangerous if not used correctly. It is important never to try any conversions of the dose of insulin. This specific medication is given in either 100 units/mL or 200 units/mL. Attempts on conversions can lead to serious medication math errors. It is important to check blood sugar levels daily while on this medication and to understand what the levels should be at. Make sure to rotate injection sites, and never give it in the muscle or the vein (Drugs.com).
Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)	This medication may interact with saxagliptin, which also helps with controlling blood sugar (Drugs.com). This medication may interact with hydrocortisone because that medication may reduce the effectiveness of this insulin (Drugs.com). This drug may interact with bismuth subsalicylate, which can lower blood sugar (Drugs.com).
Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)	Patient has denied usage of tobacco, alcohol, or drugs. However, it is still important to educate the patient on the potential side effects. For those who are diabetic, drinking alcohol can raise blood sugar levels, which will interfere with the medication. It would be best to never drink or drink occasionally (Devi, 2024).

Does any of the client's past medical history contradict the use of this medication?	There appears to be no contraindications regarding the patients past medical history. However, some contraindications of use for this medication would be if someone is allergic to it (Drugs.com). This medication should not be used with those in a hypoglycemic episode (FDA, 2022).
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)	Since this patient has type II diabetes, she takes this medication to help control her blood sugar to the appropriate level.
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 about the medication interactions that she is at risk for because she is on an insulin degludec, which may interact with the saxagliptin, hydrocortisone, and the bismuth subsalicylate.2. I would then teach the patient about the importance of taking this medication appropriately. As we have learned in class, heparin, warfarin, and insulin are the top three medication errors that are made in hospitals. The patient will need to understand the importance of double-checking the medication she has withdrawn and making sure she gives herself the medication subcutaneously.

How much would medication cost per month if paying out of pocket?	Without insurance, this medication costs \$238.92 (GoodRx.com)
Drug # 8	Drug Name (Generic): polyethylene glycol 3350 (Drugs.com) Drug Name (Trade): MiraLAX (Drugs.com) Drug Class: Laxatives (Drugs.com)
How is the medication taken: (include dose, route, and frequency)	She takes seventeen grams of MiraLAX by mouth daily.
Specific Directions not included above:	It is important to read the directions on the bottle for how to take MiraLAX. If the doctor prescribes it for a certain amount of time, follow their directions. Use the cap of the bottle to measure the amount of powder. Drink the MiraLAX the moment it is poured and stirred. This medication cannot be saved for later. Only take this medication once per day. Never more (Drugs.com).
Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)	This medication does interact with hydrocortisone. Because both medications have a laxative effect, chronic use of both increases the risk of dehydration and hypokalemia (Drugs.com).
Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)	Patient denies previous usage of tobacco, alcohol, and drugs. However, it is important to realize the potential effects of drinking alcohol and taking polyethylene glycol. This medication needs to be taken with lots of fluids to help the stool move along through the

	<p>intestines. Drinking alcohol can make you dehydrated because it causes the person to urinate more on average. Also, drinking alcohol can cause diarrhea, which in turn can cause further dehydration (Clista, 2024).</p>
<p>Does any of the client's past medical history contradict the use of this medication?</p>	<p>While the patient has not been given an official diagnosis regarding her recent abdominal pain, the signs and symptoms point to a potential intestinal blockage. If that is the case, the patient should not be using polyethylene glycol 3350. Never use laxatives when there is a blockage because it can worsen the situation (Drugs.com). Additionally, patients in general should not take this medication if they are allergic to it or have an eating disorder (Drugs.com).</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>She has recurrent constipation listed in her medical history. She uses MiraLAX often to help with that particular problem.</p>
<p>What would you teach the client about taking this medication? You must prioritize 2 (see rubric)</p>	<p>1. For one thing, she should not take this medication because of her current symptoms. However, if she still chooses to, it will be important to educate the client on the importance of drinking lots of water. Since laxatives can cause diarrhea, it will be important to increase fluid</p>

	<p>intake.</p> <p>2. It says that Karen has recurrent and chronic constipation. This could be because of the everyday use of her laxatives. This medication is not recommended to take every day as the colon slowly loses its ability to form the feces on its own, which in turn causes constipation (Cleveland Clinic, 2023).</p>
How much would medication cost per month if paying out of pocket?	Without insurance, this product averages \$27.11 (GoodRx.com).
Drug # 9	<p>Drug Name (Generic): bismuth subsalicylate</p> <p>Drug Name (Trade): Pepto Bismol (Drugs.com)</p> <p>Drug Class: antidiarrheals (Drugs.com)</p>
How is the medication taken: (include dose, route, and frequency)	She takes 525 milligrams (30 mL) by mouth every six hours as needed.
Specific Directions not included above:	When measuring the bismuth subsalicylate, use the measuring device given, not a kitchen spoon. If using the chewable tablets, ensure that they are thoroughly chewed before swallowing. It is important to drink plenty of fluids when taking this medication. Do not take more than the recommended amount, as it will create more serious side effects (Drugs.com).
Does this medication interact with any other medication(s) on this list? (see rubric for further	This medication can interact with insulin degludec because they both can lower the blood

instruction)	sugar (Drugs.com).
Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)	Patient has denied usage of tobacco, alcohol, or drugs. While there is little studied regarding the interaction between this medication and alcohol, it is found to be counterintuitive. The purpose of bismuth subsalicylate is to reduce the inflammation throughout the gastrointestinal tract. Alcohol can cause the opposite effect because it can irritate the gastrointestinal tract (Nall, 2019).
Does any of the client's past medical history contradict the use of this medication?	Because the patient has blood in her stool, this medication is contraindicated because it can increase the risk of bleeding (Drugs.com). In general, patients should not take this medication if they have stomach ulcers or are allergic to this medication. Patients under twelve years old should not be given this medication (Drugs.com).
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 client is taking this medication because it relieves symptoms of diarrhea, heartburn, indigestion, and upset stomach. Due to gastroesophageal reflux disease and the fact that she is experiencing a sudden increase in symptoms from the past month, she is taking this medication in hopes to control her symptoms (Drugs.com).
What would you teach the client about taking this medication? You must prioritize 2 (see rubric)	1. This medication can interact with her insulin because they both can lower the blood sugar even more (Drugs.com). It would maybe be better to find another alternative medication to

	<p>help her with her gastroesophageal reflux disease.</p> <p>2. If she still chooses to take this medication, it would be important to educate the client on the proper use of this medication. Under any circumstances, a patient should never take more than the recommended amount. Some think if they do, their symptoms will be relieved faster or that it will be more effective. However, that is not true and can cause serious side effects (Drugs.com).</p>
How much would medication cost per month if paying out of pocket?	Without insurance, this medication averages \$19.05 (GoodRx.com).
Drug # 10	<p>Drug Name (Generic): ibuprofen</p> <p>Drug Name (Trade): Advil (Drugs.com)</p> <p>Drug Class: Nonsteroidal anti-inflammatory drugs (Drugs.com)</p>
How is the medication taken: (include dose, route, and frequency)	She takes 400 milligrams by mouth every six hours as needed.
Specific Directions not included above:	Ibuprofen can upset the gastrointestinal tract. Patients need to take this medication with food and drink a full glass of water. Stay upright for fifteen to thirty minutes to prevent irritation in the esophagus. This medication increases the risk for bleeding, especially the longer someone is on it. Only take ibuprofen if it is essential (Jones and Bartlett, 2024, pg. 684-685).
Does this medication interact with any other	This medication interacts with hydrocortisone. These medications increase the risk for

<p>medication(s) on this list? (see rubric for further instruction)</p>	<p>gastrointestinal tract side effects such as inflammation or bleeding (Drugs.com). This medication also interacts with Prozac because they both increase the anticoagulant activity and risk for bleeding (Nursing Drug Handbook, 2024, pg. 581). This medication interacts with spironolactone as it can decrease the antihypertensive effect (Nursing Drug Handbook, 2024, pg. 1264).</p>
<p>Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)</p>	<p>Patient denies tobacco, alcohol, or drug use. However, it is important to educate about the side effects of alcohol and ibuprofen. Taking these together can increase the risks of a gastrointestinal bleed. Additionally, it can harm the kidneys and decrease alertness when used together (Pietrangelo, 2023).</p>
<p>Does any of the client's past medical history contradict the use of this medication?</p>	<p>According to her current allergies list, it says she is allergic to NSAIDs, in which ibuprofen is classified under this. She should not be taking ibuprofen if she is allergic to it.</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>She has been taking this medication for the past week because of the severe abdominal pain she has been experiencing. However, she says that the medication is no longer helping to ease her pain.</p>
<p>What would you teach the client about taking this</p>	<p>1. The patient states that she is allergic to this medication. I would educate her about</p>

medication? You must prioritize 2 (see rubric)	discontinuing this medication. 2. However, if she still chose to take this medication, I would educate about the maximum dosage for ibuprofen. In one day, no one should be taking more than 3,200 milligrams of ibuprofen.
How much would medication cost per month if paying out of pocket?	Without insurance, this medication costs about \$15.04 (GoodRx.com).

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

Kacee: Due to our client's busy schedule, she may find it difficult to take some of her medication at the same time every day, such as Saxagliptin and Spironolactone-hydrochlorothiazide as both need to be taken at the same time every day. Secondly, I feel she may find it difficult to remember to take her Hydrocortisone medication correctly, as the client is prescribed to take three tablet every morning and only one tablet every night. With her busy schedule, she may forget to take the nighttime dose and then take three tablets in the

morning. Additionally, the client may find it hard to take her Prozac, as she is supposed to take one tablet in the morning and one tablet at noon. This may be difficult because who says she always takes a lunch break at noon, or that she is available to take this second dose of medication at noon.

Taylor: For one thing, our patient is a lawyer who owns her own practice. She is a very busy woman. Finding time and ensuring that she takes her medications may strike as a challenge. I do not see her having issues taking her atorvastatin. With her Tresiba, this will require frequent monitoring of her glucose, which may come as a problem. I also could see a potential challenge of taking her MiraLAX every day. For one thing, you must actually drink the solution. Second, taking MiraLAX will speed up the gastrointestinal movements. She may not have the time to use the bathroom frequently. If she is one that takes her as needed medications every set amount of time, she may forget or get busy and not take her bismuth subsalicylate or her ibuprofen. Since her insurance covers seventy-five percent of the costs of the medications, money will not strike as an issue regarding the medications listed previously.

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

Kacee: I feel a medication organizer would for sure help our client. One of the ones that has a morning, lunch, and nighttime section to put medication in. I have even seen ones where you can pop the individual day out of the organizer that way you can take it with you

but not have a big bulky medication organizer with you. Secondly, I would recommend that the client carries snacks with her in case of a hypoglycemic event were to happen when she is working.

Taylor: She would benefit from a medication organizer. This can go where she goes. This way, even though her day is busy, she can stop, take the medicines, and keep going on with her day. Having a good diet, such as fiber, non-irritating foods, and drinks such as coffee, would be a good way for her to potentially come off some medications such as the bismuth subsalicylate and MiraLAX. Also, a good diet would be a way for her to help manage her type II diabetes and gastrointestinal reflux disease.

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)

Kacee: I would make suggestions to the provider about her hydrocortisone, as it interacts with multiple of her medications, and she takes multiple tablets in the morning, along with a tablet at night. I might suggest that they change the medication to something with less interactions and with possible being able to take only one tablet a day instead of three in the morning and one at nighttime.

Secondly, I would ask about possibly changing her Prozac medication to something that she does not have to take at lunch time, as she might not always take the second dose of her medication based on her busy schedule. Also, this medication interacts with Metoprolol tartrate therefore possibly not allowing her blood pressure medication to work, so I would suggest a medication that is only taken one

time per day and that does not interact with her blood pressure medication. Lastly, I would ask about the ibuprofen as she states that she is allergic to it but still is taking it. Also, the medication interacts with her antidepressive medication, Prozac, therefore making it possible to not work as well.

Taylor: I do not feel there should be a change in her atorvastatin. Her insulin degludec reacts with her saxagliptin, hydrocortisone, and bismuth subsalicylate. I would ask the doctor the following questions:

Is there an alternative to the bismuth subsalicylate since it also interacts with a couple other medications? Is there a different type of insulin to give her that would not interact with the hydrocortisone?

The MiraLAX interacts with her hydrocortisone, which I would consider a much more important medication. I would recommend that she take a stool softener instead of the MiraLAX. It is evident that it is not beneficial as she still has constipation, which is probably because she takes it every day. I would also educate her on foods that are high in fiber because diet can play a role in constipation. The same also goes for the bismuth subsalicylate. It also interacts with insulin, which I feel is a more beneficial medication. I would ask the doctor if there is a better medication. Is there a surgery that can be done to help correct the GERD? Is there a medication that has the same effects as the MiraLAX and the bismuth subsalicylate? As far as her ibuprofen usage, she claims she is allergic to it. She needs to stop this medication all together. Is there an alternate pain medication she can use that is not an NSAID?

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

- If the patient did not have insurance and had to pay out of pocket, it would cost a total of \$1,095.51. This is so disturbing because even though she has medical insurance, millions of people do not. It is daunting to know that some people will pay this money each month, and some do not even get their medication simply because they cannot afford it.

Reflective Statement of Experience:

- Tayelor Lowe: First, this project taught me the importance of medical insurance. This has reiterated to me the importance of having this back up in place. Unforeseen circumstances happen constantly such as a new diagnosis of diabetes, a car accident, or cancer. When situations like this happen, being able to pay for services and medications can mean life or death. This project also taught me that so many of the medications people take interact with the other medications they take. It is important to be honest with the doctor about every medication someone takes- herbs, vitamins, minerals, over the counter medications, and prescription medicines. Lastly, we have talked about this in class, but actually going through the project and seeing first hand how over the counter medications can be used inappropriately, just as much as prescription medications. A lot of the over the counter medications can cause significant effects when mixed with other medications. Additionally, taking too much of an over the counter medication, such as ibuprofen, can be so damaging.
- Kacee Sands: My firsthand experience of this project has shown me how much medications can truly cost you without insurance, it shown me the importance of helping the clients have access to cheaper medications when possible such as suggesting generic or educating them on using Goodrx that can give you discounts on medications. This project has also shown

me how so many medications interact with other medications that you take. In my mind it is crazy that the provider that prescribes these medications do not look at the possible interactions with medication you are already taking before prescribing them. Lastly it has shown me the importance of informing your provider about any over the counter medication you take and being honest with them about vitamins, herbs and supplements as all these things can have serious consequences to medication that you are prescribed from the doctor.

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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
<p>Specific Directions not included above:</p> <ul style="list-style-type: none"> • Is there any type of medication on the patient list that have specific directions? <p>(before bed, before breakfast, 30 minutes before meals, etc..)</p>	All key components were addressed within the paper.	The student did list some of the medications that required specific directions, however some of the medications included specific directions that were not addressed and/or were inaccurate. (For each medication this question is worth one point)	Student failed to answer the questions and/or the answers were inaccurate. (For each medication this question is worth one point)	___/10

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> <ul style="list-style-type: none"> Do any of the medications interact with each other? <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 same verbiage/wording on each medication, we want to know you are thinking about it when considering each medication)</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>

Criteria	Excellent 5 points	Acceptable 4 points	Unacceptable 0 -3 points	Points Earned
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<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>Criteria</p>	<p>Excellent 10 points</p>	<p>Average 8-9</p>	<p>Unacceptable 0-7 points</p>	<p>Points Earned</p>
<ul style="list-style-type: none"> • Does any of the client's past medical history contradict the use of this medication? 	<p>Student showed knowledge why the client's past medical history would contradict the use of the medication(s).</p>	<p>Student provided answers to the question(s), but failed to answer all the questions and/or the answers provided were inaccurate. (For each medication this question is worth one point)</p>	<p>Student failed to answer question or Student provided answers to the question(s), but failed to answer all the questions and/or the answers provided were inaccurate. (For each medication this question is worth one point)</p>	<p>___/10</p>
<p>Criteria</p>	<p>Excellent 10 points</p>	<p>Acceptable 8-9 points</p>	<p>Unacceptable 0-7 points</p>	<p>Points Earned</p>
<ul style="list-style-type: none"> • What is the 	<p>Student showed knowledge of</p>	<p>The student provided</p>	<p>Student failed to answer the</p>	<p>___/10</p>

<p>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>medications and what conditions corresponds with medications</p>	<p>appropriate indications for some of the medications, but failed to capture all of the appropriate indications for use. (For each medication this question is worth one point)</p>	<p>question or The student provided appropriate indications for some of the medications, but failed to capture all of the appropriate indications for use. (For each medication this question is worth one point)</p>	
<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 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>

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

<p>present to remain compliant?</p> <p>(Please consider all factors in the scenario and all information provided within your chart – including cost, insurance, frequency of administration, etc.</p>		<p>point for each medication)</p>	<p>compliance. (This question is worth one point for each medication)</p>	
<p>Criteria</p>	<p>Excellent 15 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 medications? 	<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>
<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>The student must appropriately format the paper and include all of the following:</p> <ul style="list-style-type: none"> • Entire document must include 	<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</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>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)</p> <ul style="list-style-type: none"> • The student provided a rubric attached for grading (3 points) • The student included the provided client scenario on page two of the document (2 points) • The paper included a minimum of five references which were cited within the document (each reference with one citation is worth 5 points) 	<p>consistent with the APA manual.</p>			
Criteria	Excellent 20 points	Acceptable 16-19 points	Unacceptable 0-15 points	Points Earned
What suggestions might	The student was able to identify	The student was able to	The student failed to answer	____/20

<p>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 your presentation.</p>	<p>one potential idea or question to present to the prescriber or client. This question showed evidence of good critical thinking.</p>	<p>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 question OR the student answered the question, however the students answer was dangerously inaccurate.</p>	
<p>Criteria</p>	<p>Excellent 10 points</p>	<p>Acceptable 8-9 points</p>	<p>Unacceptable 0-7 points</p>	<p>Points Earned</p>
<ul style="list-style-type: none"> • Reflective statement of experience should include the following: -insight into the project itself (a specific example within the project and its implications) -A basic understanding of polypharmacy 	<p>The students provided reflection showed good insight into the project itself, polypharmacy, and the nurses role in client advocacy</p>	<p>The student provided a reflection, however the reflection lacked one of the following -insight into the project itself (a specific example within the project and its implications). -A basic understanding of polypharmacy</p>	<p>Student failed to reflect on their project OR the student addressed only of the topics of reflection</p>	<p>___/10</p>

-A reflection on this student nurses role in this scenario as a client advocate/educator/caregiver		-A reflection on this student nurses role in this scenario as a client advocate/educator/caregiver		
Total Points				<u> </u> /200