

Polypharmacy Project

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N322 Introduction to Pharmacology

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Scenario 1

**Patient:** 58 year old female

**Social history:** Patient lives alone in an apartment. Has no family in the area. Recently has lost her job and insurance. Smokes a pack of cigarettes per day but is trying to quit.

**Medical history:** Diabetes type 1, Diabetic neuropathy, HTN, hyperlipidemia, depression, insomnia & GERD

**Allergies:** Codeine & latex      **Wt:** 175 pounds      **Ht:** 5 ft. 9 in

**Medications:**

Novolin R 10 units with each meal (TID) SUBQ

Novolog sliding scale SUBQ PRN

Gabapentin 400 mg TID PO

Lisinopril 5 mg Daily PO

Benicar HCT 20mg/25mg PO Daily

Cymbalta 60mg PO daily

Ambien CR 12.5 mg as needed at bedtime

Protonix 40 mg Daily PO

Conjugated g-estrogens (premarin) .625 mg daily PO

Atorvastatin 20mg PO Daily

<b>Drug #1</b>	<b>Drug Name (Generic):</b> Insulin regular
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<b>Drug Class:</b> Antidiabetic	<b>Drug Name (Trade):</b> Novolin R
<b>How is the medication taken: (include dose, route, and frequency)</b>	10 units (TID) SUBQ
<b>Specific Directions not included above:</b>	With meals (breakfast, lunch, and dinner)
<b>Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)</b>	Lisinopril – lisinopril and Novolin R together can increase the risk of hypoglycemia.
<b>Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)</b>	Avoid drinking alcohol – alcohol can cause blood glucose levels to drop low or increase in diabetics.
<b>Does any of the client's past medical history contradict the use of this medication?</b>	None
<b>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)</b>	Patient has diabetes mellitus type 1. It is used to lower glucose levels.
<b>What would you teach the client about taking this medication?</b>	This medication is subcutaneous and the most common areas for SUBQ injections are abdomen, thigh, lower back, and upper arm. Removed insulin from refrigerator 30 minutes before use.
<b>How much would medication cost per month if paying out of pocket?</b>	<b>For 9 vials of 10 mL of Novolin R 100units/mL would cost \$240.30 monthly.</b>

<b>Drug #2</b>	<b>Drug Name (Generic):</b> Gabapentin
<b>Drug Class:</b> Anticonvulsant	<b>Drug Name (Trade):</b> Gralise, Neurontin, Horizant
<b>How is the medication taken: (include dose, route, and frequency)</b>	400 mg TID PO
<b>Specific Directions not included above:</b>	Take in the morning, afternoon, and at bedtime
<b>Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)</b>	Ambien (zolpidem) – Gabapentin and zolpidem together can increase side effects like dizziness, drowsiness, confusion, and difficulty concentrating. Cymbalta (duloxetine) – Gabapentin and duloxetine together can increase side effects like dizziness, drowsiness, confusion, and difficulty concentrating.

<b>Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)</b>	Alcohol can increase nervous system side effects like dizziness, drowsiness, and difficulty concentrating
<b>Does any of the client's past medical history contradict the use of this medication?</b>	Clients who take Gabapentin may experience suicidal thoughts. This patient has recently lost her job and insurance and lives alone which can contribute to her depression. This can increase her risk for experiencing suicidal thoughts. Diabetes can be a contradict for this medication.
<b>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)</b>	The patient has diabetic neuropathy. Gabapentin is used to treat neuropathic pain.
<b>What would you teach the client about taking this medication?</b>	Take Gabapentin with food Avoid driving or hazardous activity until you know how the medication affects you.
<b>How much would medication cost per month if paying out of pocket?</b>	<b>For 90 capsules of 400 mg of Gabapentin would cost \$54.43 a month.</b>

<b>Drug #3 Drug Class: Antidiabetic</b>	<b>Drug Name (Generic): Insulin aspart Drug Name (Trade): NovoLog</b>
<b>How is the medication taken: (include dose, route, and frequency)</b>	Sliding scale SUBQ PRN
<b>Specific Directions not included above:</b>	Eat a meal within 5 to 10 minutes of administering
<b>Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)</b>	Lisinopril – Lisinopril and NovoLog together can increase risk of hypoglycemia
<b>Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)</b>	<b>Avoid alcohol and medications that contain alcohol to prevent events of hypoglycemia</b>
<b>Does any of the client's past medical history contradict the use of this medication?</b>	
<b>What is the indication for use of this medication based on the clients past medical history? (If unable to determine an indication based on past medical history, please list potential indications for use of the</b>	Patient had diabetes mellitus type 1. This is prescribed to lower glucose levels.

<b>medication in general)</b>	
<b>What would you teach the client about taking this medication?</b>	This medication is subcutaneous and the most common areas for SUBQ injections are abdomen, thigh, lower back, and upper arm. Removed insulin from refrigerator 30 minutes before use.
<b>How much would medication cost per month if paying out of pocket?</b>	<b>10 mL of 100 units/mL of Novolog insulin would cost 311.59</b>

<b>Drug #4</b> <b>Drug Class: ACE inhibitor</b>	<b>Drug Name (Generic): Lisinopril</b> <b>Drug Name (Trade): Prinivil, Qbrelis, Zestril</b>
<b>How is the medication taken: (include dose, route, and frequency)</b>	5 mg daily PO
<b>Specific Directions not included above:</b>	First dose take at bedtime to prevent dizziness. Do not stop taking this medication without consulting doctor
<b>Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)</b>	Novolog – Lisinopril and NovoLog together can increase risk of hypoglycemia Novolin R – Lisinopril and Novolin R together can increase the risk of hypoglycemia Ambien CR (zolpidem) – This combination can have additive effectives in lowering blood pressure.
<b>Lifestyle interactions:</b> <b>(Daily tobacco use, alcohol, drugs, etc.)</b>	<b>Avoid drinking alcohol it can lower blood pressure and may increase other side effects of lisinopril</b> <b>Do not use potassium supplements or salt substitutes while taking this medication</b>
<b>Does any of the client's past medical history contradict the use of this medication?</b>	Patient has diabetes mellitus type 1 and is on insulin. This can increase her risk of hypoglycemic events.
<b>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)</b>	Patient has a history of hypertension. This medication is used to cause vasodilation which lowers blood pressure.
<b>What would you teach the client about taking this medication?</b>	Educate the patient to drink plenty of water each day Educate the patient to measure blood pressure often
<b>How much would medication cost per month if paying out of pocket?</b>	<b>30 tablets of mg of lisinopril cost \$4.97 a month.</b>

<b>Drug #5</b> <b>Drug Class: ARB inhibitor</b>	<b>Drug Name (Generic): Hydrochlorothiazide and Olmesartan</b> <b>Drug Name (Trade): Benicar HCT</b>
<b>How is the medication taken: (include dose, route, and frequency)</b>	20mg/25mg PO daily
<b>Specific Directions not included above:</b>	None
<b>Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)</b>	Cymbalta (duloxetine) – This combination can increase the risk of hyponatremia
<b>Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)</b>	<b>Drinking alcohol can lower blood pressure and increase side effects of medication</b>
<b>Does any of the client's past medical history contradict the use of this medication?</b>	Potential contradicts are high cholesterol and diabetes. Before taking this medication, tell doctor of these complication to see if this medication is safe for patient.
<b>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)</b>	Olmesartan is an ARB inhibitor which prevents vasoconstriction and lowers blood pressure and improves blood flow. Hydrochlorothiazide is a diuretic and helps reduce risk of fluid retention. This is used to treat the patient's hypertension.
<b>What would you teach the client about taking this medication?</b>	Avoid using potassium containing salt substitutes Avoid becoming overheated or dehydrated during exercise Drink lots of fluids
<b>How much would medication cost per month if paying out of pocket?</b>	<b>30 tablets of 20mg/25mg of Benicar HCT would be \$14.75</b>

<b>Drug #6</b> <b>Drug Class: SSNRI</b>	<b>Drug Name (Generic): Duloxetine</b> <b>Drug Name (Trade): Cymbalta</b>
<b>How is the medication taken: (include dose, route, and frequency)</b>	60 mg PO daily
<b>Specific Directions not included above:</b>	do not stop using Cymbalta without consulting doctor
<b>Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)</b>	Gabapentin – this combination together can increase side effects like dizziness, drowsiness, confusion, and difficulty concentrating. Ambien CR – This combination together can increase side effects like dizziness, drowsiness, confusion, and difficulty concentrating.

<b>Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)</b>	<b>Avoid drinking alcohol is can increase risk of liver damager</b>
<b>Does any of the client's past medical history contradict the use of this medication?</b>	Potential contradict could be hypertension and diabetes.
<b>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)</b>	This medication is used to treat major depressive disorder and diabetic neuropathy. This patient has a history of depression and diabetic neuropathy.
<b>What would you teach the client about taking this medication?</b>	<b>Ask doctor before using an NSAID because it can cause easy bruising and bleeing</b>
<b>How much would medication cost per month if paying out of pocket?</b>	<b>30 tablet of 60 mg of Cymbalta will cost \$12.73</b>

<b>Drug #7 Drug Class: Sedative</b>	<b>Drug Name (Generic): Zolpidem extended-release tablets Drug Name (Trade): Ambien CR</b>
<b>How is the medication taken: (include dose, route, and frequency)</b>	12.5 mg PO PRN
<b>Specific Directions not included above:</b>	Take at bedtime
<b>Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)</b>	Cymbalta – This combination increases side effects like dizziness, drowsiness, confusion, and difficulty concentrating. Gabapentin – This combination increases side effects like dizziness, drowsiness, confusion, and difficulty concentrating. Lisinopril – This combination may have additive effects in lowering blood pressure
<b>Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)</b>	<b>Avoid alcohol</b>
<b>Does any of the client's past medical history contradict the use of this medication?</b>	Contraindicated with this medication is depression. This patient has a history of depression. She has recently lost her job and insurance and may experience extreme sense of depression.
<b>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</b>	This medication is used to treat insomnia. My patient is diagnosed with insomnia.

<b>history, please list potential indications for use of the medication in general)</b>	
<b>What would you teach the client about taking this medication?</b>	Take this medication on an empty stomach Take this medication right before you go to bed Swallow pill whole, do not break, chew, or crush
<b>How much would medication cost per month if paying out of pocket?</b>	<b>30 tablets of 12.5 mg of zolpidem ER is \$25.60 a month</b>

<b>Drug #8</b>	<b>Drug Name (Generic): Pantoprazole</b>
<b>Drug Class: Proton pump inhibitors (PPI)</b>	<b>Drug Name (Trade): Protonix</b>
<b>How is the medication taken: (include dose, route, and frequency)</b>	40 mg PO Daily
<b>Specific Directions not included above:</b>	Take with or without food Do not crush, chew, or break tablet.
<b>Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)</b>	Cymbalta (duloxetine) – this combination may have minor side effects and may not be relevant in all patient. Lipitor (atorvastatin) – this combination may increase the blood levels and effects of atorvastatin. This can increase the risk of liver damage Diuretics or “water pills” can interact with Protonix, but Benicar HCT is not on the list for interactions.
<b>Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)</b>	None
<b>Does any of the client’s past medical history contradict the use of this medication?</b>	None
<b>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)</b>	This is used to treat erosive esophagitis from GERD. Patient has a history of GERD.
<b>What would you teach the client about taking this medication?</b>	Use this medicine for the full prescribed length of time, even if symptoms quickly improve If you have diarrhea that is watery or blood, call your doctor.
<b>How much would medication cost per month if</b>	<b>30 tablets of 40 mg of pantoprazole cost \$10.93 for one month.</b>

paying out of pocket?	
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<b>Drug #9</b>	<b>Drug Name (Generic): Conjugated estrogen</b>
<b>Drug Class: hormone replacement</b>	<b>Drug Name (Trade): Premarin</b>
<b>How is the medication taken: (include dose, route, and frequency)</b>	.625 mg PO daily
<b>Specific Directions not included above:</b>	
<b>Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)</b>	Lipitor (atorvastatin) – this combination may have minor interactions but may not be clinically relevant in all patients.
<b>Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)</b>	Smoking
<b>Does any of the client's past medical history contradict the use of this medication?</b>	Taking this drug with hypertension, diabetes, and high cholesterol put her at risk for blood clots, stroke, and/or heart attack.
<b>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)</b>	This medication is used to treat menopause symptoms. This patient is 58 year old and is probably still experiencing some menopausal symptoms.
<b>What would you teach the client about taking this medication?</b>	Report any unusual vaginal bleeding right away Avoid smoking – this will increase your risk for blood clots, stroke, or heart attack
<b>How much would medication cost per month if paying out of pocket?</b>	<b>30 tablets of .625mg of Premarin cost \$166.93 monthly.</b>

<b>Drug #10</b>	<b>Drug Name (Generic): Atorvastatin</b>
<b>Drug Class: HMG CoA reductase inhibitor</b>	<b>Drug Name (Trade): Lipitor</b>
<b>How is the medication taken: (include dose, route, and frequency)</b>	20 mg PO Daily
<b>Specific Directions not included above:</b>	Take this medication at the same time each day
<b>Does this medication interact with any other</b>	Conjugated estrogen (Premarin) – this combination may have minor interactions but may not

<b>medication(s) on this list? (see rubric for further instruction)</b>	be clinically relevant in all patients. Pantoprazole (Protonix) – this combination may increase the blood levels and effects of atorvastatin. This can increase the risk of liver damage
<b>Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)</b>	Minimize drinking alcohol because it can raise triglycerides and increase your risk for liver failure
<b>Does any of the client’s past medical history contradict the use of this medication?</b>	Diabetes – increases in HbA1c and fast serum glucose levels have been reported with the use of atorvastatin.
<b>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)</b>	To lower blood levels of “bad” cholesterol and to increase levels of “good” cholesterol, and to lower triglycerides. Patient has a medical history of hyperlipidemia.
<b>What would you teach the client about taking this medication?</b>	Avoid drinking more than 1 liter of grapefruit juice per day to avoid dangerous side effects.
<b>How much would medication cost per month if paying out of pocket?</b>	<b>30 tablets of 20 mg of atorvastatin is \$8.85</b>

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

The patient has a lot of medication that are due at multiple different times throughout the day. This can be overwhelming for someone who is still active throughout the day. A few of these medications interact with each other and can cause dizziness, drowsiness, and difficulty concentrating. If she is taking them throughout the day then it could be hard for her to function properly with them than without them.

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

The patient could take most of her meds at night before she goes to sleep. This could help reduce the stress of trying to remember what medications she took in the morning and what medications she needs to take in the evening. The side effects of the interaction of these

drugs can cause dizziness, drowsiness, and difficulty concentrating. If she takes them at night, it will help her avoid feeling the side effects and continue to take them.

**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)**

I would ask the provider if we could try to manage the hyperlipidemia through exercise and a nutritional diet. Hyperlipidemia can be brought into a healthy range through diet and lifestyle changes. I would educate the patient that with 30 minutes of moderate activity a couple days a week can make a difference. If the patient agreed to manage hyperlipidemia through diet and exercise, this could help the patient be more physical throughout the day and may help with her insomnia. This lifestyle change could potentially remove to medications from her medication regimen. Since the patient has not been able to quit, I would ask the provider if he would be comfortable with removing the Premarin. Smoking, diabetes, hyperlipidemia, and hypertension increases her risk for stroke, blood clots, and heart attack. Since she has multiple risk factors, I would not be comfortable as her nurse encouraging her to take this medication.

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

Even with coupons applied, the total monthly cost out of pocket expense for this patient would be \$851.08.

**Reflective Statement of Experience:**

I enjoyed this project. When you learn a medication, it's hard to remember everything about it. The practice of learning about medications, why they are prescribed, and how they interact with each other helps remember the medication better. Some of the information, I had to dig for. I felt confident using information from lecture in the patient education and specific directions.

**References**

Ambien CR: Indications, Side Effects, Warnings. (n.d.). <https://www.drugs.com/cdi/ambien-cr.html>

Ambien CR Prices, Coupons & Savings Tips. (n.d.). <https://www.goodrx.com/ambien-cr>

Atorvastatin: Drug Uses, Dosage, Side Effects. (n.d.). <https://www.drugs.com/atorvastatin.html>

Atorvastatin Prices, Coupons & Savings Tips. (n.d.). <https://www.goodrx.com/atorvastatin>

Benicar HCT Uses, Side Effects & Warnings. (n.d.). <https://www.drugs.com/mtm/benicar-hct.html>

Benicar HCT Prices, Coupons & Savings Tips. (n.d.). <https://www.goodrx.com/benicar-hct>

Cymbalta Uses, Dosage, Side Effects & Warnings. (n.d.). <https://www.drugs.com/cymbalta.html>

Cymbalta Prices, Coupons & Savings Tips. (n.d.). <https://www.goodrx.com/cymbalta>

Gabapentin: Uses, Dosage, Side Effects, Warnings. (n.d.). <https://www.drugs.com/gabapentin.html>

Gabapentin Prices, Coupons & Savings Tips. (n.d.). <https://www.goodrx.com/gabapentin>

Lisinopril: Uses, Dosage, Side Effects & Warnings. (n.d.). <https://www.drugs.com/lisinopril.html>

Lisinopril Prices and Lisinopril Coupons. (n.d.). <https://www.goodrx.com/lisinopril>

Novolin R Uses, Side Effects & Warnings. (n.d.). <https://www.drugs.com/mtm/novolin-r.html>

Novolin R Prices, Coupons & Savings Tips. (n.d.). <https://www.goodrx.com/novolin-r>

NovoLog (insulin aspart) Uses, Dosage, Side Effects. (n.d.). <https://www.drugs.com/novolog.html>

Novolog Prices, Coupons & Savings Tips. (n.d.). <https://www.goodrx.com/novolog>

Premarin: Uses, Dosage, Side Effects. (n.d.). <https://www.drugs.com/premarin.html>

Premarin Prices, Coupons & Savings Tips. (n.d.). <https://www.goodrx.com/premarin>

Protonix Uses, Dosage & Side Effects. (n.d.). <https://www.drugs.com/protonix.html>

Protonix Prices, Coupons & Savings Tips. (n.d.). <https://www.goodrx.com/protonix>