

Polypharmacy Project

Casey Buchanan, BSN Student

N322 Introduction to Pharmacology

Lakeview College of Nursing

Gina Brassard MSN, RN

Date 11/8/20

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

Gary is a 60-year-old male admitted to the long-term care facility post stroke. He is alert with confusion and has extensive weakness to his right side, as well as profound oropharyngeal dysphagia. Nurses will be administering his medications for him at this time. You are the nurse completing Gary's admission head to toe assessment and medication reconciliation. Gary smokes one pack a day of cigarettes, does not drink alcohol, and has a history of smoking marijuana.

Insurance: Gary does not have any form of insurance.

Allergies: No known allergies.

Diet: Pureed diet. Nectar thick liquids.

Medical diagnosis: Dysphagia following stroke, hypertension, anemia, and asthma.

Current medications include the following:

Lovenox 40 mg SC daily

Ferrous Sulfate ER 160 mg by mouth daily

Spironolactone 50 mg by mouth twice daily

Losartan 50 mg by mouth once daily

Miralax packet 17 G mixed with juice/water by mouth every morning

Naproxen sodium 220 mg every 12 hours by mouth as needed

Multivitamin with minerals by mouth once daily

Colace 200 mg by mouth twice a day

Melatonin 2 mg by mouth every evening

Citalopram 20 mg by mouth daily

<b>Drug #1</b>  <b>Drug Class: Antithrombotic</b>	<b>Drug Name (Generic): enoxaparin</b>  <b>Drug Name (Trade): Lovenox</b>
<b>How is the medication taken: (include dose, route, and frequency)</b>	<b>40 mg</b> <b>Subcutaneous</b> <b>Once-daily</b>
<b>Specific Directions not included above:</b>	<b>Lovenox is a once-daily injection into the subcutaneous tissue. It should not be injected into the muscle. The patient should be sitting or lying down and should rotated injection sites around the umbilicus. The prefilled syringe has an air bubble that shouldn't be expelled before injection. Do not rub the injection site after administration.</b>
<b>Does this medication interact with any other medicine (s) on this list? (see rubric for further instruction)</b>	<b>Taking Lovenox with naproxen sodium can significantly increase the patient's risk of bleeding.</b>  <b>The patient takes a potassium-sparing diuretic, spironolactone. Taking spironolactone and Lovenox may cause hyperkalemia. Serum potassium levels should be monitored.</b>  <b>Lovenox and losartan also interact and can cause hyperkalemia.</b>
<b>Lifestyle interactions:</b>  <b>(Daily tobacco use, alcohol, drugs, etc.)</b>	<b>Cigarette smoking can affect the absorption, distribution, metabolism, and excretion of all medications.</b>
<b>Does any of the client's past medical history contradict the use of this medication?</b>	<b>Enoxaparin should be used cautiously in patients with a history of uncontrolled hypertension because it increases the risk of uncontrolled bleeding.</b>

	<b>This patient doesn't have insurance. Even the generic medication may be too expensive.</b>
<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>	<b>The patient is taking this medication because he had a stroke due to a blood clot. This medication prevents future blood clots.</b>
<b>What would you teach the client about taking this medication?</b>	<b>This patient is confused and will need continuous education on the administration of enoxaparin. The nurse should look for and instruct the patient to report signs of bleeding, such as bruising or blood in the urine or feces. The nurse should teach the client to use a soft toothbrush and implement bleeding precautions.</b>
<b>How much would medication cost per month if paying out of pocket?</b>	<b>Generic: \$74.65 Brand: \$825.01</b>

American Academy of Family Physicians. (n.d.). *Drug interactions with tobacco smoke*. [https://www.aafp.org/dam/AAFP/documents/patient\\_care/tobacco/drug-interactions.pdf](https://www.aafp.org/dam/AAFP/documents/patient_care/tobacco/drug-interactions.pdf).

Drugs.com. (2019). *Drug interaction report*. [https://www.drugs.com/interactions-check.php?drug\\_list=978-533,2105-0,1082-0,1489-0,1893-1224,1690-2613,1665-0,2365-487,1548-0,679-0,2758-0](https://www.drugs.com/interactions-check.php?drug_list=978-533,2105-0,1082-0,1489-0,1893-1224,1690-2613,1665-0,2365-487,1548-0,679-0,2758-0).

Drugs.com. (2019). *Enoxaparin*. <https://www.drugs.com/mtm/enoxaparin.html>.

GoodRx.com. (n.d.). *Lovenox*. [https://www.goodrx.com/lovenox?dosage=100mg-ml&form=syringe&label\\_override=Lovenox&quantity=10](https://www.goodrx.com/lovenox?dosage=100mg-ml&form=syringe&label_override=Lovenox&quantity=10).

Jones & Bartlett Learning. (2019). *2019 Nurse's drug handbook* (18<sup>th</sup>. Ed.). Burlington, MA.

<b>Drug #2</b>	<b>Drug Name (Generic): ferrous sulfate ER (extended-release)</b>
<b>Drug Class: Antianemic, nutritional supplement</b>	<b>Drug Name (Trade): Feosol</b>
<b>How is the medication taken: (include dose, route, and frequency)</b>	<b>160 mg Oral Once-daily</b>
<b>Specific Directions not included above:</b>	<b>Ferrous sulfate should be taken on an empty stomach with a full glass of water or juice.  It should be given 1 hour before a meal or 2 hours after a meal. Avoid taking antacids or antibiotics 1 hour before and 2 hours after.</b>
<b>Does this medication interact with any other medicine (s) on this list? (see rubric for further</b>	<b>This medication may interact with the multivitamin with minerals the patient takes.  Taking ferrous sulfate with multivitamins or minerals can cause a mineral overdose or</b>

<b>instruction)</b>	<b>serious side effects.</b>
<b>Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)</b>	<b>Cigarette smoking can affect the absorption, distribution, metabolism, and excretion of all medications.</b>
<b>Does any of the client's past medical history contradict the use of this medication?</b>	<b>This is an oral tablet. The patient is recovering from a recent stroke and has difficulty swallowing. Getting an order for an IV iron supplement would be best. With IV administration of iron, the nurse must monitor for hypertension before and immediately after giving, especially since the patient does have a history of hypertension.</b>
<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>	<b>The client is taking ferrous sulfate to prevent iron deficiency and has a history of anemia.</b>
<b>What would you teach the client about taking this medication?</b>	<b>Patient teaching for ferrous sulfate oral tablets includes not chewing iron tablets, increasing vitamin C intake, avoiding antacid use 1 hour before and 2 hours after taking iron tablets, and warning about taking only the recommended amount of iron.  As the patient recovers from his stroke, liquid iron may be easier to take. The patient should be instructed to mix the solution with water or juice and brush his teeth</b>

	<b>immediately to prevent tooth stains.</b>
<b>How much would medication cost per month if paying out of pocket?</b>	<b>Generic: \$2.22</b>

American Academy of Family Physicians. (n.d.). *Drug interactions with tobacco smoke*. [https://www.aafp.org/dam/AAFP/documents/patient\\_care/tobacco/drug-interactions.pdf](https://www.aafp.org/dam/AAFP/documents/patient_care/tobacco/drug-interactions.pdf).

Drugs.com. (2019). *Drug interaction report*. [https://www.drugs.com/interactions-check.php?drug\\_list=978-533,2105-0,1082-0,1489-0,1893-1224,1690-2613,1665-0,2365-487,1548-0,679-0,2758-0](https://www.drugs.com/interactions-check.php?drug_list=978-533,2105-0,1082-0,1489-0,1893-1224,1690-2613,1665-0,2365-487,1548-0,679-0,2758-0).

Drugs.com (2019). *Ferrous sulfate*. [https://www.drugs.com/ferrous\\_sulfate.html](https://www.drugs.com/ferrous_sulfate.html).

GoodRx.com. (n.d.). *Ferrous sulfate*. <https://www.goodrx.com/ferrous-sulfate>.

Jones & Bartlett Learning. (2019). *2019 Nurse's drug handbook* (18<sup>th</sup>. Ed.). Burlington, MA.

<b>Drug #3</b>	<b>Drug Name (Generic): spironolactone</b>
<b>Drug Class: Antihypertensive; aldosterone antagonist; diuretic.</b>	<b>Drug Name (Trade): Aldactone, Carospir</b>
<b>How is the medication taken: (include dose, route,</b>	<b>50 mg Oral</b>

<b>and frequency)</b>	<b>Twice daily</b>
<b>Specific Directions not included above:</b>	<b>This medication can be given with or without food but should be consistently given the same way. For example, if the patient started taking this medication with food, he should continue to take it with food.</b>
<b>Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)</b>	<p><b>The use of spironolactone and losartan together can increase potassium levels.</b></p> <p><b>Spironolactone and enoxaparin use can also increase potassium levels in the blood, leading to hyperkalemia.</b></p> <p><b>Spironolactone and naproxen use together should be monitored and dosage adjusted as needed. These drugs together can cause kidney damage.</b></p> <p><b>Spironolactone and citalopram can cause hyponatremia, in which blood sodium levels become too low.</b></p> <p><b>The use of spironolactone and Miralax should be monitored, especially over a long time of use, due to possible dehydration and electrolyte loss.</b></p>
<b>Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)</b>	<p><b>Using marijuana while taking spironolactone can have additive effects on lowering blood pressure. Dizziness and fainting could occur.</b></p> <p><b>Cigarette smoking can affect the absorption, distribution, metabolism, and excretion of all medications.</b></p>

<b>Does any of the client's past medical history contradict the use of this medication?</b>	<b>The patient has difficulty swallowing due to a stroke. This medication can be crushed by the pharmacist and mixed into a suspension.</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 medication in general)</b>	<b>For this patient, this medication is used to treat hypertension. This medication increases urinary excretion of sodium and water, which reduces blood volume, lowering blood pressure.</b>
<b>What would you teach the client about taking this medication?</b>	<p><b>The patient should avoid foods with potassium, such as bananas, nuts, and salt substitutes.</b></p> <p><b>I will tell the patient that I will continually check his blood pressure before and after administering the medication and that he will often need to check his blood pressure when he goes home.</b></p>
<b>How much would medication cost per month if paying out of pocket?</b>	<p><b>Generic: \$7.24</b></p> <p><b>Brand: \$86.96</b></p>

American Academy of Family Physicians. (n.d.). *Drug interactions with tobacco smoke*. [https://www.aafp.org/dam/AAFP/documents/patient\\_care/tobacco/drug-interactions.pdf](https://www.aafp.org/dam/AAFP/documents/patient_care/tobacco/drug-interactions.pdf).

Drugs.com. (2019). *Drug interaction report*. [https://www.drugs.com/interactions-check.php?drug\\_list=978-533,2105-0,1082-0,1489-0,1893-1224,1690-2613,1665-0,2365-487,1548-0,679-0,2758-0](https://www.drugs.com/interactions-check.php?drug_list=978-533,2105-0,1082-0,1489-0,1893-1224,1690-2613,1665-0,2365-487,1548-0,679-0,2758-0).

Drugs.com (2019). *Spirolactone*. <https://www.drugs.com/ppa/spironolactone.html>.

GoodRx.com. (n.d.). *Spirolactone*. [https://www.goodrx.com/spironolactone?dosage=25mg&form=tablet&label\\_override=Aldactone&quantity=30](https://www.goodrx.com/spironolactone?dosage=25mg&form=tablet&label_override=Aldactone&quantity=30).

Jones & Bartlett Learning. (2019). *2019 Nurse's drug handbook* (18<sup>th</sup>. Ed.). Burlington, MA.

<b>Drug #4</b>	<b>Drug Name (Generic): losartan</b>
<b>Drug Class: Antihypertensive</b>	<b>Drug Name (Trade): Cozaar</b>
<b>How is the medication taken: (include dose, route, and frequency)</b>	<b>50 mg Oral Once-daily</b>
<b>Specific Directions not included above:</b>	<b>No specific directions, but it is advised to take the same time every day.</b>
<b>Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)</b>	<b>Losartan and spironolactone together can cause hyperkalemia. Serum levels must be monitored.  Naproxen may reduce effects of losartan.</b>

	<b>Taking losartan and enoxaparin together can increase potassium levels causing hyperkalemia.</b>
<b>Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)</b>	<b>Cigarette smoking can affect the absorption, distribution, metabolism, and excretion of all medications.</b>  <b>The patient does smoke marijuana. Using marijuana while taking losartan can cause excessively low blood pressure.</b>  <b>The patient should avoid foods high in potassium due to the risk of hyperkalemia.</b>
<b>Does any of the client's past medical history contradict the use of this medication?</b>	<b>This medication comes in tablet form. The patient is unable to swallow this medication.</b>  <b>The pharmacist should be consulted to find another route or drug.</b>
<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>	<b>This medication is used to treat hypertension.</b>
<b>What would you teach the client about taking this medication?</b>	<b>I would teach the patient to avoid salt-substitutes that contain potassium due to hyperkalemia. It is also essential to make sure the patient consults their physician before starting any other medication or supplement due to a high medication interaction</b>

	<b>incidence.</b>
<b>How much would medication cost per month if paying out of pocket?</b>	<b>Generic: \$9.00</b> <b>Brand: \$118.00</b>

American Academy of Family Physicians. (n.d.). *Drug interactions with tobacco smoke*. [https://www.aafp.org/dam/AAFP/documents/patient\\_care/tobacco/drug-interactions.pdf](https://www.aafp.org/dam/AAFP/documents/patient_care/tobacco/drug-interactions.pdf).

Drugs.com. (2019). *Drug interaction report*. [https://www.drugs.com/interactions-check.php?drug\\_list=978-533,2105-0,1082-0,1489-0,1893-1224,1690-2613,1665-0,2365-487,1548-0,679-0,2758-0](https://www.drugs.com/interactions-check.php?drug_list=978-533,2105-0,1082-0,1489-0,1893-1224,1690-2613,1665-0,2365-487,1548-0,679-0,2758-0).

Drugs.com. *Losartan*. <https://www.drugs.com/ppa/losartan.html>.

GoodRx.com. (n.d.). *Losartan*. [https://www.goodrx.com/losartan?dosage=50mg&form=tablet&label\\_override=Cozaar&quantity=30](https://www.goodrx.com/losartan?dosage=50mg&form=tablet&label_override=Cozaar&quantity=30).

Jones & Bartlett Learning. (2019). *2019 Nurse's drug handbook* (18<sup>th</sup>. Ed.). Burlington, MA.

<b>Drug #5</b>	<b>Drug Name (Generic): polyethylene glycol</b>
<b>Drug Class: laxative</b>	<b>Drug Name (Trade): MiraLax</b>
<b>How is the medication taken: (include dose, route,</b>	<b>17 g</b> <b>Oral. Mixed with juice/water</b>

and frequency)	Once-daily, morning
Specific Directions not included above:	<p>Mix the powder with 4 to 8 ounces of water or juice and drink right away. Don't let it sit and drink it later.</p> <p>This medication shouldn't be used for more than seven consecutive days.</p>
Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)	<p>Taking MiraLax can increase the risk of dysrhythmias caused by drug citalopram.</p> <p>Taking MiraLax and spironolactone, especially for longer than recommended, can cause dehydration and electrolyte imbalance.</p>
Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)	Cigarette smoking can affect the absorption, distribution, metabolism, and excretion of all medications.
Does any of the client's past medical history contradict the use of this medication?	The patient has difficulty swallowing and may need to mix this medication in a thickened solution rather than just water or juice.
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 patient is most likely taking this medication to help him have bowel movements. It is unclear how long he has been taking this medication. If taking for acute purposes, it will help him have a bowel movement. However, MiraLax is often abused, and older adults become dependent on it.
What would you teach the client about taking this	This product should only be used for seven days at the most.

<b>medication?</b>	<b>Once the patient has recovered and can eat solid foods, increasing fiber in his diet and performing moderate exercise, such as walking, can help facilitate bowel movements without using a laxative.</b>
<b>How much would medication cost per month if paying out of pocket?</b>	<b>Generic: \$12.51 Brand: \$20.52</b>

American Academy of Family Physicians. (n.d.). *Drug interactions with tobacco smoke*. [https://www.aafp.org/dam/AAFP/documents/patient\\_care/tobacco/drug-interactions.pdf](https://www.aafp.org/dam/AAFP/documents/patient_care/tobacco/drug-interactions.pdf).

Drugs.com. (2019). *Drug interaction report*. [https://www.drugs.com/interactions-check.php?drug\\_list=978-533,2105-0,1082-0,1489-0,1893-1224,1690-2613,1665-0,2365-487,1548-0,679-0,2758-0](https://www.drugs.com/interactions-check.php?drug_list=978-533,2105-0,1082-0,1489-0,1893-1224,1690-2613,1665-0,2365-487,1548-0,679-0,2758-0).

Drugs.com. (2019). *MiraLax*. <https://www.drugs.com/miralax.html#faq>.

GoodRx.com. (n.d.). *Miralax*. [https://www.goodrx.com/miralax?dosage=30-doses-of-17g-dose&form=bottle-of-powder&label\\_override=polyethylene+glycol+3350+non-prescription&quantity=1](https://www.goodrx.com/miralax?dosage=30-doses-of-17g-dose&form=bottle-of-powder&label_override=polyethylene+glycol+3350+non-prescription&quantity=1).

<b>Drug #6</b>	<b>Drug Name (Generic): Naproxen sodium</b>
----------------	---

<b>Drug Class: Analgesic, anti-inflammatory, antipyretic.</b>	<b>Drug Name (Trade): Aleve</b>
<b>How is the medication taken: (include dose, route, and frequency)</b>	<b>220 mg Oral Every 12 hours as needed</b>
<b>Specific Directions not included above:</b>	<b>Take with food to reduce GI upset.</b>
<b>Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)</b>	<p><b>Taking naproxen and enoxaparin together can increase the risk of bleeding.</b></p> <p><b>Naproxen and spironolactone must be monitored when taking together. Blood pressure and kidney function must continually be monitored.</b></p> <p><b>Naproxen may reduce the effects losartan has on lowering blood pressure.</b></p> <p><b>Taking naproxen and citalopram together can increase the risk of bleeding.</b></p>
<b>Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)</b>	<b>Cigarette smoking can affect the absorption, distribution, metabolism, and excretion of all medications.</b>
<b>Does any of the client's past medical history contradict the use of this medication?</b>	<p><b>This medication should be closely monitored when given to patients with hypertension because it can worsen it.</b></p> <p><b>This patient has asthma. Patients with asthma shouldn't take NSAIDs because they can trigger a life-threatening asthma attack.</b></p> <p><b>The patient has difficulty swallowing and will not be to take this medication orally.</b></p>

<p><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></p>	<p><b>The patient is taking this to relieve mild to moderate pain and inflammation.</b></p>
<p><b>What would you teach the client about taking this medication?</b></p>	<p><b>I would teach the patient only to take the recommended dosage. I would also advise him to discuss with his doctor about taking a different medication, such as acetaminophen or Tylenol, to relieve pain due to asthma complications.</b></p>
<p><b>How much would medication cost per month if paying out of pocket?</b></p>	<p><b>\$4.85</b></p>

American Academy of Family Physicians. (n.d.). *Drug interactions with tobacco smoke*. [https://www.aafp.org/dam/AAFP/documents/patient\\_care/tobacco/drug-interactions.pdf](https://www.aafp.org/dam/AAFP/documents/patient_care/tobacco/drug-interactions.pdf).

Drugs.com. (2019). *Drug interaction report*. [https://www.drugs.com/interactions-check.php?drug\\_list=978-533,2105-0,1082-0,1489-0,1893-1224,1690-2613,1665-0,2365-487,1548-0,679-0,2758-0](https://www.drugs.com/interactions-check.php?drug_list=978-533,2105-0,1082-0,1489-0,1893-1224,1690-2613,1665-0,2365-487,1548-0,679-0,2758-0).

Drugs.com. (2020). *Naproxen*. <https://www.drugs.com/naproxen.html>.

GoodRx.com. (n.d.). *Naproxen*. <https://www.goodrx.com/aleve>.

Jones & Bartlett Learning. (2019). *2019 Nurse's drug handbook* (18<sup>th</sup>. Ed.). Burlington, MA.

WebMD. (2020). *Aspirin and other drugs that may trigger asthma*. <https://www.webmd.com/asthma/guide/medications-trigger-asthma>.

<b>Drug #7</b>	<b>Drug Name (Generic): Multivitamin with minerals</b>
<b>Drug Class: Nutritional supplement</b>	<b>Drug Name (Trade): Berocca</b>
<b>How is the medication taken: (include dose, route, and frequency)</b>	<b>One by mouth daily.</b>
<b>Specific Directions not included above:</b>	<b>Don't take this medication with dairy products, calcium, or antacids.</b>
<b>Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)</b>	<b>The patient takes a multivitamin and ferrous sulfate. There is a possibility the patient may receive too much iron supplement.  A multivitamin can interact with naproxen and spironolactone.</b>
<b>Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)</b>	<b>Cigarette smoking can affect the absorption, distribution, metabolism, and excretion of all medications.</b>
<b>Does any of the client's past medical history</b>	<b>The patient has dysphagia. A vitamin in solution form would be best.</b>

<b>contradict the use of this medication?</b>	
<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>	<b>The patient takes a multivitamin with minerals to supplement nutrition.</b>
<b>What would you teach the client about taking this medication?</b>	<b>I would teach the patient only to take the recommended daily dose. I would tell him to take with a full glass of water and avoid dairy products. I would also tell the patient to take the medication regularly to get the most benefit.</b>
<b>How much would medication cost per month if paying out of pocket?</b>	<b>\$5.00</b>

American Academy of Family Physicians. (n.d.). *Drug interactions with tobacco smoke*. [https://www.aafp.org/dam/AAFP/documents/patient\\_care/tobacco/drug-interactions.pdf](https://www.aafp.org/dam/AAFP/documents/patient_care/tobacco/drug-interactions.pdf).

Drugs.com. (2019). *Drug interaction report*. [https://www.drugs.com/interactions-check.php?drug\\_list=978-533,2105-0,1082-0,1489-0,1893-1224,1690-2613,1665-0,2365-487,1548-0,679-0,2758-0](https://www.drugs.com/interactions-check.php?drug_list=978-533,2105-0,1082-0,1489-0,1893-1224,1690-2613,1665-0,2365-487,1548-0,679-0,2758-0).

Drugs.com. (2019). *Multivitamins and minerals*. <https://www.drugs.com/mtm/multivitamins-and-minerals.html>.

GoodRx.com. (n.d.). *Multivitamins and mineral supplements*. <https://www.goodrx.com/multivitamin-and-mineral-supplements>.

<b>Drug #8</b>	<b>Drug Name (Generic): docusate</b>
<b>Drug Class: Stool softener</b>	<b>Drug Name (Trade): Colace</b>
<b>How is the medication taken: (include dose, route, and frequency)</b>	<b>200 mg Oral Twice daily</b>
<b>Specific Directions not included above:</b>	<b>It is best to take this medicine at bedtime, with a full glass of water. Colace should not be taken longer than seven days in a row due to possible dependence development.</b>
<b>Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)</b>	<b>There are no interactions; however, the patient also takes an additional laxative Miralax. The patient is most likely dependent on these medications now to have a bowel movement.</b>
<b>Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)</b>	<b>Cigarette smoking can affect the absorption, distribution, metabolism, and excretion of all medications.</b>
<b>Does any of the client's past medical history contradict the use of this medication?</b>	<b>The patient is unable to swallow this medication currently, following a stroke.</b>
<b>What is the indication for use of this medication</b>	<b>The patient uses this medication to help facilitate a bowel movement.</b>

<b>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>	
<b>What would you teach the client about taking this medication?</b>	<b>I would teach the patient that following the stroke recovery, he should drink lots of fluids, increase fiber intake, and get frequent exercise to help decrease dependence on medication to have a bowel movement.</b>
<b>How much would medication cost per month if paying out of pocket?</b>	<b>\$4.13</b>

American Academy of Family Physicians. (n.d.). *Drug interactions with tobacco smoke*. [https://www.aafp.org/dam/AAFP/documents/patient\\_care/tobacco/drug-interactions.pdf](https://www.aafp.org/dam/AAFP/documents/patient_care/tobacco/drug-interactions.pdf).

Drugs.com. (2020). *Colace 2-in-1*. <https://www.drugs.com/mtm/colace-2-in-1.html>.

Drugs.com. (2019). *Drug interaction report*. [https://www.drugs.com/interactions-check.php?drug\\_list=978-533,2105-0,1082-0,1489-0,1893-1224,1690-2613,1665-0,2365-487,1548-0,679-0,2758-0](https://www.drugs.com/interactions-check.php?drug_list=978-533,2105-0,1082-0,1489-0,1893-1224,1690-2613,1665-0,2365-487,1548-0,679-0,2758-0).

GoodRx.com. (n.d.). *Colace*. <https://www.goodrx.com/colace>.

Jones & Bartlett Learning. (2019). *2019 Nurse's drug handbook* (18<sup>th</sup>. Ed.). Burlington, MA.

<b>Drug #9</b>	<b>Drug Name (Generic): melatonin</b>
<b>Drug Class: Dietary supplement</b>	<b>Drug Name (Trade):</b>
<b>How is the medication taken: (include dose, route, and frequency)</b>	<b>2 mg Oral Once-daily</b>
<b>Specific Directions not included above:</b>	<b>This medication is taken in the evening.</b>
<b>Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)</b>	<b>There is a slight risk for adverse reactions while taking a blood thinner such as Lovenox.</b>
<b>Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)</b>	<b>Cigarette smoking can affect the absorption, distribution, metabolism, and excretion of all medications.</b>
<b>Does any of the client's past medical history contradict the use of this medication?</b>	<b>This patient is currently unable to swallow medications. This patient also has hypertension, which is contraindicated.</b>
<b>What is the indication for use of this medication based on the client's past medical history? (If unable</b>	<b>The patient is taking this supplement to help him sleep better at night.</b>

<b>to determine an indication based on past medical 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>	<b>I would instruct this patient that he may be drowsy after taking this medication, so avoid any activities that may cause harm, such as driving.</b>
<b>How much would medication cost per month if paying out of pocket?</b>	<b>\$4.20</b>

American Academy of Family Physicians. (n.d.). *Drug interactions with tobacco smoke*. [https://www.aafp.org/dam/AAFP/documents/patient\\_care/tobacco/drug-interactions.pdf](https://www.aafp.org/dam/AAFP/documents/patient_care/tobacco/drug-interactions.pdf).

Drugs.com. (2019). *Drug interaction report*. [https://www.drugs.com/interactions-check.php?drug\\_list=978-533,2105-0,1082-0,1489-0,1893-1224,1690-2613,1665-0,2365-487,1548-0,679-0,2758-0](https://www.drugs.com/interactions-check.php?drug_list=978-533,2105-0,1082-0,1489-0,1893-1224,1690-2613,1665-0,2365-487,1548-0,679-0,2758-0).

Drugs.com. (2020). *Melatonin*. <https://www.drugs.com/melatonin.html>.

GoodRx.com. (n.d.). *Melatonin*. <https://www.goodrx.com/melatonin>.

<b>Drug #10</b>	<b>Drug Name (Generic): citalopram</b>
-----------------	--

<b>Drug Class: Antidepressant</b>	<b>Drug Name (Trade): Celexa</b>
<b>How is the medication taken: (include dose, route, and frequency)</b>	<b>20 mg Oral Once-daily</b>
<b>Specific Directions not included above:</b>	<b>Take as prescribed. Don't abruptly stop taking citalopram.</b>
<b>Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)</b>	<p><b>Taking citalopram and naproxen together can increase the risk of bleeding.</b></p> <p><b>Taking citalopram and enoxaparin together can increase the risk of bleeding.</b></p> <p><b>Taking citalopram and spironolactone can cause sodium levels in the blood to drop, causing hyponatremia.</b></p> <p><b>Taking citalopram and Miralax together can cause irregular heart rhythms. This is rare but is often life-threatening when it occurs.</b></p>
<b>Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)</b>	<p><b>Cigarette smoking can affect the absorption, distribution, metabolism, and excretion of all medications.</b></p> <p><b>Using cannabis can increase the side effects of citalopram, such as extreme dizziness and confusion.</b></p>
<b>Does any of the client's past medical history contradict the use of this medication?</b>	<b>The patient is currently unable to swallow this medication.</b>

<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>	<b>The patient is taking this medication to treat depression.</b>
<b>What would you teach the client about taking this medication?</b>	<b>I would teach the client to consult with the healthcare team before starting any other medications. I would teach the client to report adverse reactions right away.</b>
<b>How much would medication cost per month if paying out of pocket?</b>	<b>\$4.00</b>

American Academy of Family Physicians. (n.d.). *Drug interactions with tobacco smoke*. [https://www.aafp.org/dam/AAFP/documents/patient\\_care/tobacco/drug-interactions.pdf](https://www.aafp.org/dam/AAFP/documents/patient_care/tobacco/drug-interactions.pdf).

Drugs.com. (2019). *Citalopram*. <https://www.drugs.com/citalopram.html>.

Drugs.com. (2019). *Drug interaction report*. [https://www.drugs.com/interactions-check.php?drug\\_list=978-533,2105-0,1082-0,1489-0,1893-1224,1690-2613,1665-0,2365-487,1548-0,679-0,2758-0](https://www.drugs.com/interactions-check.php?drug_list=978-533,2105-0,1082-0,1489-0,1893-1224,1690-2613,1665-0,2365-487,1548-0,679-0,2758-0).

GoodRx.com. (n.d.). *Citalopram*. <https://www.goodrx.com/citalopram>.

Jones & Bartlett Learning. (2019). *2019 Nurse's drug handbook* (18<sup>th</sup>. Ed.). Burlington, MA.

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

The first issue with this medication regimen is most of his medications are oral tablets. This patient had a stroke and is unable to swallow pills safely. Another problem in this scenario is that the patient doesn't have health insurance. While many of his medications are available in less costly generic forms, the medicines add up, and the patient may not afford them. There are also two significant drug interactions and several moderate drug interactions. The first considerable drug interaction is with the blood thinner, Lovenox, NSAID pain medication, and naproxen. These two drugs combined can significantly increase the patient's risk of bleeding. Another

significant drug interaction is between spironolactone and losartan. When taken together, these two drugs may increase potassium levels, causing hyperkalemia. The patient also has asthma, and NSAIDs can induce an asthma attack.

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

Several of the drugs could be given in a solution or IV form while the patient cannot swallow. The nurse should consult with the pharmacist on what the best administration route would be and what drugs can be given in a different form. The patient can swallow thick liquids, and medication solutions might be mixed with the liquid.

**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)**

Naproxen has many drug interactions with medications the client is currently taking and shouldn't be given at this time. Other pain medications with less severe interactions, such as acetaminophen, should be given. The patient should also be educated on the importance of smoking cessation. The client smokes one pack of cigarettes a day, as well as smokes marijuana. Smoking affects how a medication is used in the body and contributes to many co-morbidities such as hypertension, increases the risk of stroke, and can induce asthma attacks. The patient should also try to decrease and eventually stop the use of laxatives and stool softeners. Once the

patient has recovered more from his stroke, he should be encouraged to drink six to eight glasses of water, increase his fiber intake, and exercise to help facilitate bowel movements.

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

If the patient had all generic medications, the cost would be \$127.80.

**Reflective Statement of Experience:**

This was a great project to investigate how different medications interact with each other. Many factors must be considered with medication administration. There are many side effects and interactions, some that can be avoided or reduced, but others that can't be. It is essential to weigh the benefits with the adverse outcomes to treat the patient appropriately with medications. I also thought looking up medication prices was significant, along with comparing the cost of generic versus name-brand drugs. The price difference is enormous and can make a difference in someone being able to afford their medications.

### References

Drugs.com. (2019). *Citalopram*. <https://www.drugs.com/citalopram.html>.

Drugs.com. (2020). *Colace 2-in-1*. <https://www.drugs.com/mtm/colace-2-in-1.html>.

Drugs.com. (2019). *Drug interaction report*. [https://www.drugs.com/interactions-check.php?drug\\_list=978-533,2105-0,1082-0,1489-0,1893-1224,1690-2613,1665-0,2365-487,1548-0,679-0,2758-0](https://www.drugs.com/interactions-check.php?drug_list=978-533,2105-0,1082-0,1489-0,1893-1224,1690-2613,1665-0,2365-487,1548-0,679-0,2758-0).

Drugs.com. (2019). *Enoxaparin*. <https://www.drugs.com/mtm/enoxaparin.html>.

Drugs.com (2019). *Ferrous sulfate*. [https://www.drugs.com/ferrous\\_sulfate.html](https://www.drugs.com/ferrous_sulfate.html).

Drugs.com. *Losartan*. <https://www.drugs.com/ppa/losartan.html>.

Drugs.com. (2020). *Melatonin*. <https://www.drugs.com/melatonin.html>.

Drugs.com. (2019). *MiraLax*. <https://www.drugs.com/miralax.html#faq>.

Drugs.com. (2019). *Multivitamins and minerals*. <https://www.drugs.com/mtm/multivitamins-and-minerals.html>.

Drugs.com. (2020). *Naproxen*. <https://www.drugs.com/naproxen.html>.

Drugs.com (2019). *Spironolactone*. <https://www.drugs.com/ppa/spironolactone.html>.

GoodRx.com. (n.d.). *Citalopram*. <https://www.goodrx.com/citalopram>.

GoodRx.com. (n.d.). *Colace*. <https://www.goodrx.com/colace>.

GoodRx.com. (n.d.). *Ferrous sulfate*. <https://www.goodrx.com/ferrous-sulfate>.

GoodRx.com. (n.d.). *Losartan*. [https://www.goodrx.com/losartan?dosage=50mg&form=tablet&label\\_override=Cozaar&quantity=30](https://www.goodrx.com/losartan?dosage=50mg&form=tablet&label_override=Cozaar&quantity=30).

GoodRx.com. (n.d.). *Lovenox*. [https://www.goodrx.com/lovenox?dosage=100mg-ml&form=syringe&label\\_override=Lovenox&quantity=10](https://www.goodrx.com/lovenox?dosage=100mg-ml&form=syringe&label_override=Lovenox&quantity=10).

GoodRx.com. (n.d.). *Melatonin*. <https://www.goodrx.com/melatonin>.

GoodRx.com. (n.d.). *Miralax*. [https://www.goodrx.com/miralax?dosage=30-doses-of-17g-dose&form=bottle-of-powder&label\\_override=polyethylene+glycol+3350+non-prescription&quantity=1](https://www.goodrx.com/miralax?dosage=30-doses-of-17g-dose&form=bottle-of-powder&label_override=polyethylene+glycol+3350+non-prescription&quantity=1).

GoodRx.com. (n.d.). *Multivitamins and mineral supplements*. <https://www.goodrx.com/multivitamin-and-mineral-supplements>.

GoodRx.com. (n.d.). *Naproxen*. <https://www.goodrx.com/aleve>.

GoodRx.com. (n.d.). *Spironolactone*. [https://www.goodrx.com/spironolactone?dosage=25mg&form=tablet&label\\_override=Aldactone&quantity=30](https://www.goodrx.com/spironolactone?dosage=25mg&form=tablet&label_override=Aldactone&quantity=30).

Jones & Bartlett Learning. (2019). *2019 Nurse's drug handbook* (18<sup>th</sup>. Ed.). Burlington, MA.

WebMD. (2020). *Aspirin and other drugs that may trigger asthma*. <https://www.webmd.com/asthma/guide/medications-trigger-asthma>.

## N322 Polypharmacy Grading Rubric

Criteria	Excellent 40 points	Acceptable 31-39 points	Unacceptable 0-30 points	Points Earned
----------	------------------------	----------------------------	-----------------------------	---------------

Each drug should have a completed breakdown within the tables provided, which includes the following: <ul style="list-style-type: none"> <li>• Drug class</li> <li>• Generic name</li> <li>• Trade name</li> <li>• How is the medication taken (include dose, route, frequency)</li> </ul>	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
<b>Criteria</b>	<b>Excellent 10 points</b>	<b>Acceptable 8-10 points</b>	<b>Unacceptable 0 - 7 points</b>	<b>Points Earned</b>
Specific Directions not included above: <ul style="list-style-type: none"> <li>• Is there any type of medication on the patient list that have specific directions?  (before bed, before breakfast, 30 minutes before meals, etc..)</li> </ul>	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
<b>Criteria</b>	<b>Excellent 0 points</b>	<b>Acceptable 16-19</b>	<b>Unacceptable 0-15 points</b>	<b>Points Earned</b>
Does this medication have any potentially serious interactions with any other medication(s) on this list, and/or potential interactions that should be	All medications reviewed and student explained	The student did list some of the potential interactions of the medication(s), but failed to address all potential	Student failed to answer question and/or The student did list some of the potential	___/20

<p>closely monitored due to co-administration?</p> <ul style="list-style-type: none"> <li>Do any of the medications interact with each other?</li> </ul> <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>medication interactions.</p>	<p>interactions that are serious and/or need close monitoring. (for each medication listed this question is worth two points)</p>	<p>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>	
---	---------------------------------	---	--	--

Criteria	Excellent 5 points	Acceptable 4 points	Unacceptable 0 -3 points	Points Earned
<p>Lifestyle interactions:</p> <ul style="list-style-type: none"> <li>What lifestyle factors counteract with the medications?</li> </ul> <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</p>	<p>___/5</p>

			listed were not priority or were incorrect. (For each medication, this question is worth half a point)	
<b>Criteria</b>	<b>Excellent 10 points</b>	<b>Average 8-9</b>	<b>Unacceptable 0-7 points</b>	<b>Points Earned</b>
<ul style="list-style-type: none"> <li>Does any of the client's past medical history contradict the use of this medication?</li> </ul>	Student showed knowledge why the client's past medical history would contradict the use of the medication(s).	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)	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)	___/10
<b>Criteria</b>	<b>Excellent 10 points</b>	<b>Acceptable 8-9 points</b>	<b>Unacceptable 0-7 points</b>	<b>Points Earned</b>
<ul style="list-style-type: none"> <li>What is the indication for use of this medication based on the client's</li> </ul>	Student showed knowledge of medications	The student provided appropriate indications for some of the medications, but failed to capture all of the	Student failed to answer the question or The student	___/10

<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>and what conditions corresponds with medications</p>	<p>appropriate indications for use. (For each medication this question is worth one point)</p>	<p>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><b>Criteria</b></p>	<p><b>Excellent 20 points</b></p>	<p><b>Acceptable 16-19 points</b></p>	<p><b>Unacceptable 0-15 points</b></p>	<p><b>Points Earned</b></p>
<p>What would you teach the client about taking this medication?</p> <ul style="list-style-type: none"> <li>• What education is needed for the medication? (For each medication listed the student must prioritize two topics for client education)</li> </ul> <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 priority over general</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>

education for this one medication)				
<b>Criteria</b>	<b>Excellent 10 points</b>	<b>Acceptable 8-9 points</b>	<b>Unacceptable 0-7 points</b>	<b>Points Earned</b>
<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"> <li>Why would the patient have difficulty maintaining the medication regiment?</li> </ul> <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
<b>Criteria</b>	<b>Excellent 10 points</b>	<b>Acceptable 8-9 points</b>	<b>Unacceptable 0-7 points</b>	<b>Points Earned</b>
<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"> <li>What factors are</li> </ul>	Student had knowledge on medication compliance	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 point	Student failed to answer the question OR The student answered the question appropriately	___/10

<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>		for each medication)	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)	
<b>Criteria</b>	<b>Excellent 10 points</b>	<b>Acceptable 8-9 points</b>	<b>Unacceptable 0 points</b>	<b>Points Earned</b>
<ul style="list-style-type: none"> <li>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)</li> <li>What would the client's monthly out of pocket expense for all 10 medications?</li> </ul>	Student showed research on medication costs	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)	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)	___/15
<b>Criteria</b>	<b>Excellent 20 points</b>	<b>Acceptable 16-19 points</b>	<b>Unacceptable 0-15 points</b>	<b>Points Earned</b>
The student must	The document	The document did not meet	The document	___/20

<p>appropriately format the paper and include all of the following:</p> <ul style="list-style-type: none"> <li>• 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)</li> <li>• The student provided a rubric attached for grading (3 points)</li> <li>• The student included the provided client scenario on page two of the document (2 points)</li> <li>• The paper included a minimum of five references which were cited within the document (each reference with one citation is worth 5 points)</li> </ul>	<p>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>all of the criteria for formatting/ referencing. See “criteria” to the left for further breakdown.</p>	<p>did not meet all of the criteria for formatting/ referencing. See “criteria” to the left for further breakdown.</p>	
---	--	---	--	--

Criteria	Excellent 20 points	Acceptable 16-19 points	Unacceptable 0-15 points	Points Earned
<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 your presentation.</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.	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.	The student failed to answer the question OR the student answered the question, however the students answer was dangerously inaccurate.	___/20
Criteria	Excellent 10 points	Acceptable 8-9 points	Unacceptable 0-7 points	Points Earned
<ul style="list-style-type: none"> <li>Reflective statement of experience should include the following:               <ul style="list-style-type: none"> <li>-insight into the project itself (a specific example within the project and its implications)</li> <li>-A basic understanding of polypharmacy</li> </ul> </li> </ul>	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"> <li>-insight into the project itself (a specific example within the project and its implications).</li> <li>-A basic understanding of polypharmacy</li> <li>-A reflection on this student</li> </ul>	Student failed to reflect on their project OR the student addressed only of the topics of reflection	___/10

POLYPHARMACY

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