

Polypharmacy Project

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N322 Introduction to Pharmacology

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Background: Amy is an 87-year-old female that lives in an assisted living facility. Part of the living arrangements in the facility is a pharmacy service that delivers their meds in pre-filled medication packages (accu-pacs) every week. These packages are labeled with the date and time of administration. (see example picture attached). Amy is expected to take her medications independently. She has no family nearby to assist her. She is followed by her primary care physician as well as an endocrinologist, whom she currently visits monthly as her diabetes is not well controlled. Amy does not have a driver's license, and is experiencing significant difficulty with her vision r/t diabetic retinopathy. Amy does not drink, or use illicit drugs. Amy does have a history of smoking cigarettes (26 pack years). She quit 10 years ago, and smoked 1 pack per day for 26 years).

Insurance: Amy has good health insurance that covers the cost of her prescription medications with little co-pay.

Allergies: Sulfa & Pepto-Bismol

Diet: Controlled carbohydrates

Medical diagnosis: Type II Diabetes, diabetic retinopathy, diabetic neuropathy, osteoporosis

Drug #1	Drug Name (Generic): acetylsalicylic acid
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Drug Class: non-steroidal anti-inflammatory drug (NSAID)	Drug Name (Trade): Aspirin
How is the medication taken: (include dose, route, and frequency)	This medication is taken orally and the dose is 81 mg two times a day.
Specific Directions not included above:	If the patient gets an upset stomach after ingesting the medication, take it with food or milk to decrease symptoms (drugs.com, n.d.)
Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)	Taking ibuprofen can make aspirin less effective when used to prevent MI. If the patient has no choice but to taking both of these medications, the doctor must give a duration of time to wait in between taking drugs (drugs.com, n.d.). The patient is also taking insulin detemir which can cause hypoglycemia when combined with aspirin (Drugs.com, n.d.).
Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)	The patient does not currently smoke, use illicit drugs or drink alcohol.
Does any of the client's past medical history contradict the use of this medication?	The patient is allergic to Pepto-Bismol which contains aspirin. This could indicate an allergy to aspirin (Drugs.com, n.d.).
What is the indication for use of this medication	The patient has likely been prescribed this medication to help prevent the possibility of

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)	an MI. It also relieves pain from osteoporosis.
What would you teach the client about taking this medication?	The client should know of the risk for bleeding while taking this medication. She should also get regular labs drawn such as prothrombin time (PT4).
How much would medication cost per month if paying out of pocket?	When paying out of pocket, Aspirin costs around \$6.00 per month (Good Rx, n.d.).

<p>Drug #2</p> <p>Drug Class: dietary supplement</p>	<p>Drug Name (Generic): Calcium</p> <p>Drug Name (Trade): Calcium</p>
<p>How is the medication taken: (include dose, route, and frequency)</p>	<p>This drug is taken by mouth, two times a day, with a dose of 500 mg.</p>
<p>Specific Directions not included above:</p>	<p>Do not take this drug within one to two hours of taking an antacid. The patient should take this drug between meals and at bedtime for better absorption.</p>
<p>Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)</p>	<p>Calcium does not interact with any of the drugs the patient is currently taking.</p>
<p>Lifestyle interactions:</p> <p>(Daily tobacco use, alcohol, drugs, etc.)</p>	<p>The patient does not use tobacco, alcohol, or illicit drugs.</p>
<p>Does any of the client's past medical history</p>	<p>The patient's past medical history does not contradict this medication.</p>

contradict the use of 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 patient is taking calcium because they were diagnosed with osteoporosis. Calcium helps maintain bone health (drugs.com, n.d).
What would you teach the client about taking this medication?	The patient should get regular blood work to monitor calcium levels to make sure they do not get too high (drugs.com, n.d.).
How much would medication cost per month if paying out of pocket?	Calcium costs up to \$20.00 per month (CVS, n.d.).

Drug #3	Drug Name (Generic): a multivitamin with minerals
Drug Class: Vitamins	Drug Name (Trade): Folgard, Natalins Rx, Nestabs CBF, and Nestabs FA
How is the medication taken: (include dose, route, and frequency)	This drug is taken orally. There is no specific dose listed. This is taken once a day.
Specific Directions not included above:	Swallow capsule or tablet whole, do not crush (drugs.com, n.d.). Take this medication with 8 ounces of water (drugs.com, n.d.). Do not take with milk (drugs.com, n.d.). Do not take more than the recommended (drugs.com, n.d.).
Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)	This medication interacts with calcium and should not be taken together due to absorption issues (drugs.com, n.d.).

Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)	The patient does not currently smoke, drink alcohol, or use illicit drugs.
Does any of the client's past medical history contradict the use of this medication?	Nothing in the patient's past medical history contradicts the use of this medication.
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)	The patient is more than likely taking this medication to compensate for vitamins and minerals she is not able to ingest with the food she eats.
What would you teach the client about taking this medication?	Do not crush or chew the capsule (drugs.com, n.d.). I would also discuss the types of foods she is ingesting and possibly try and get her referred to a dietitian to help control her diabetes along with her vitamin and mineral intake (drugs.com, n.d.)
How much would medication cost per month if paying out of pocket?	The cost of multivitamins monthly is approximately \$24.00 (Good Rx, n.d.).

Drug #4	Drug Name (Generic): Docusate sodium
Drug Class: stimulant laxatives	Drug Name (Trade): Colace, DSS, Albert Docusate, Docusate Calcium, docusate sodium, DulcoEase, Phillips Liqui Gels, Silace, and Soflax.
How is the medication taken: (include dose, route, and frequency)	This medication is taken orally, two times a day, at 100 mg per dose.
Specific Directions not included above:	Take with a glass of water. Do not take if abdominal pain, nausea, or vomiting are present. Do not take for longer than a week unless directed by a doctor. Stop use if you

	experience rectal bleeding or fail to have a bowel movement after use. (<i>Docusate sodium SOFTGEL capsules 100MG</i>)
Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)	This medication interacts with mineral oil (drugs.com, n.d.).
Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)	The patient does not currently smoke, drink alcohol, or use illicit drugs.
Does any of the client's past medical history contradict the use of this medication?	The patient does not have anything in her past medical history that contradicts the use of this medication (drugs.com, n.d.)
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 taking this medication to regulate bowel movements and make them easier to pass.
What would you teach the client about taking this	The patient should be educated on increasing water intake while taking this drug

medication?	(drugs.com, n.d.). The patient should call the doctor if she goes 72 hours without a bowel movement (drugs.com, n.d.).
How much would medication cost per month if paying out of pocket?	Docusate Sodium costs around \$5.50 a month (Good Rx, n.d.).

Drug #5	Drug Name (Generic):Glyburide
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Drug Class: sulfonylureas	Drug Name (Trade): Diabeta, Glynase, and Glynase PresTab
How is the medication taken: (include dose, route, and frequency)	This medication is taken orally once a day at 10 mg per dose.
Specific Directions not included above:	This medication should be taken at the same time everyday. If a dose is missed, take it as soon as the patient remembers. This medication does not cure diabetes, but treats hyperglycemic treatment. This medication is long term therapy and should be taken along with a healthy diet. When taking this medication alcohol should be avoided (F.A. Davis, n.d.).
Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)	Glyburide should not be used with ibuprofen. This interaction can cause an increase in hypoglycemic side effects. These side effects include headache, nervousness, weakness, palpitations, and confusion. Glyburide should also not be taken with aspirin. This interaction also increases hypoglycemic side effects (Drugs.com, n.d.).
Lifestyle interactions:	This patient's lifestyle history does not interact with any of these medications prescribed. However, if the patient consumes alcohol this may affect the blood glucose

(Daily tobacco use, alcohol, drugs, etc.)	levels in the patient and cause hyperglycemia or hypoglycemia symptoms (Drugs.com, n.d.).
Does any of the client's past medical history contradict the use of this medication?	Although not contraindicated, those who have diabetes should be cautious when taking glyburide. This is because of an insulin intake. While taking glyburide, blood sugar should be monitored and controlled to minimize adverse effects (Drugs.com, n.d.).
What is the indication for use of this medication based on the client's past medical history? (If unable to determine an indication based on past medical history, please list potential indications for use of the medication in general)	This medication is used for diabetes treatment. It is used to aid blood sugar control and is used along with a diet and exercise (University of Michigan, n.d.).
What would you teach the client about taking this medication?	This medication is mainly taken with a morning meal or the first meal of the day. Blood sugar will need to be checked frequently and laboratory blood draws may be necessary. It is important to understand the symptoms of both hyperglycemia and hypoglycemia when taking this medication (University of Michigan, n.d.).
How much would medication cost per month if paying out of pocket?	Out of pocket glyburide costs about \$40.00 per month (Good Rx, n.d.).

Drug #6	Drug Name (Generic): Insulin Detemir
Drug Class: Antidiabetics, Insulins	Drug Name (Trade): Levemir
How is the medication taken: (include dose, route, and frequency)	This drug is injected into the subcutaneous tissue, at 15 units per dose at bedtime.

<p>Specific Directions not included above:</p>	<p>This drug should be injected into an area with fatty tissue. The abdomen and thigh will suffice (Drugs.com, n.d.). Rotate sites after each injection. Do not engage in activities that require undivided attention (driving, use of machinery, etc).</p>
<p>Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)</p>	<p>Aspirin is a moderate contraindication for insulin detemir. The combination of these two drugs can cause hypoglycemia (Drugs.com, n.d.).</p>
<p>Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)</p>	<p>Alcohol greatly impacts clients with diabetes causing hypo and hyperglycemia making the patient have poorly controlled glucose (Drugs.com, n.d.). However, the patient does not drink alcohol so no lifestyle change is needed.</p>
<p>Does any of the client's past medical history contradict the use of this medication?</p>	<p>None of the client's past medical history contradicts the use of insulin detemir.</p>
<p>What is the indication for use of this medication based on the client's past medical history? (If unable to determine an indication based on past medical history, please list potential indications for use of the</p>	<p>The patient has diabetes which causes them to have abnormally high glucose. This long-acting insulin is used to lower blood glucose levels after a few hours post administration and up to 24 hours (Drugs.com, n.d.).</p>

medication in general)	
What would you teach the client about taking this medication?	Missed doses should be taken when it's realized except when it's close to the time of the next dose. In this case the previous dose should be skipped (Drugs.com, n.d.). If you have muscle cramps, pain, weakness, or abnormal heartbeat, contact emergency services immediately. This is a sign of low potassium; this medication can cause low potassium. Have glucose tablets or other high sugar foods ready in case the insulin causes low blood sugar. Low blood sugar can cause seizures and coma (Drugs.com, n.d.). This medication should not be mixed with other insulin or other medications, stored in a syringe, or taken if it appears cloudy or a different color.
How much would medication cost per month if paying out of pocket?	Levemir costs approximately \$557.00 per month (Good Rx, n.d.).

Drug #7	Drug Name (Generic): insulin aspart
Drug Class: Insulin	Drug Name (Trade): Novolog
How is the medication taken: (include dose, route, and frequency)	The dosage for Novolog is dependent on the patient's blood sugar levels. Administration of Novolog should be done 5-10 minutes before a meal and with a subcutaneous injection (Sinha, 2020). This medication should be administered at bedtime as well. Injection sites include the abdomen, upper arm, buttocks, or thigh. A rotation of sites is necessary to avoid damage (Sinha, 2020).
Specific Directions not included above:	Protect this medication from heat and light. When administering this medication avoid skin that is damaged, scaly, bruised or tender. Medication should appear odorless and

	<p>clear. Do not use medication if cloudy or colored (Rxlist, 2021).</p>
<p>Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)</p>	<p>There is a moderate risk when taking Novolog and aspirin together because it will likely result in hyperglycemia. When taking Novolog and aspirin together, a smaller dosage of Novolog may be necessary. Frequent blood glucose monitoring is also recommended (Drugs.com, n.d.).</p> <p>There is a moderate risk when taking Novolog and glyburide together. Taking these medications together can increase the risk of hypoglycemia. Dosage adjustment of Novolog and glucose monitoring may be necessary (Drugs.com, n.d.).</p>
<p>Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)</p>	<p>There are no lifestyle interactions indicated. The patient does not smoke, drink or do drugs and is on a controlled carbohydrate diet.</p>
<p>Does any of the client's past medical history contradict the use of this medication?</p>	<p>Contraindications include renal impairment, hypoglycemia, or hypersensitivity to insulin (Rxlist, 2021). The patient has Type II diabetes, and hypoglycemia can occur if using an injection of more insulin than necessary. The patient should monitor blood</p>

	levels before administering Novolog (2021).
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)	Novolog is a drug that is commonly used to treat Type II diabetes. Novolog controls blood sugar levels in adults (Sinha, 2020).
What would you teach the client about taking this medication?	After taking Novolog, avoid operating machinery until the medicinal effect is determined. Avoid consuming alcohol, including alcohol found in over-the-counter medications. Alcohol can cause hypoglycemia and should be avoided. Monitor for signs and symptoms of hypoglycemia such as headache, hunger, dizziness, nausea, shakiness, and anxiety (Sinha, 2020).
How much would medication cost per month if paying out of pocket?	Insulin aspart costs over \$400.00 per month without insurance (Sutherby, 2021).

Drug #8	Drug Name (Generic): Ranibizumab
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<p>Drug Class: vascular endothelial growth factor A (VEGF-A) antagonists</p>	<p>Drug Name (Trade): Lucentis</p>
<p>How is the medication taken: (include dose, route, and frequency)</p>	<p>This drug is administered by the physician, monthly, and at 0.5 mg per dose. This drug is injected into the back of the eye (vitreous cavity).</p>
<p>Specific Directions not included above:</p>	<p>This injection is an intravitreal injection which means it is necessary that the procedure be controlled aseptic. Aseptic procedures include the usage of sterile gloves, drapes, and medical equipment. It may be necessary to provide anesthetics. It is likely a broad-spectrum microbicide be administered before the injection procedure (Rxlist, 2021).</p>
<p>Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)</p>	<p>Ranibizumab does not interfere with any of the medications on the client's medication list (Drugs.com, n.d.).</p>
<p>Lifestyle interactions:</p>	<p>The patient does not drink, smoke, participate in usage of recreational drugs, and is on a controlled carbohydrate diet. The patient's lifestyle does not interact with the drug</p>

(Daily tobacco use, alcohol, drugs, etc.)	ranibizumab.
Does any of the client's past medical history contradict the use of this medication?	Ranibizumab can interact when a patient is experiencing increased intraocular pressure (Drugs.com, n.d.). This patient has been diagnosed with diabetic retinopathy, which has the potential to increase intraocular pressure (AOA, n.d.).
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)	Ranibizumab is used to treat diabetic retinopathy. Diabetic retinopathy is damage to the eyes which is caused by diabetes (American Society of Health-System Pharmacists, n.d.).
What would you teach the client about taking this medication?	After taking this medication it is recommended to avoid driving, so it would be beneficial to arrange a ride after attending the appointment. It is important to know to call the physician if experiencing eye bleeding, eye swelling, flash vision, and chest pain (American Society of Health-Systems Pharmacists, n.d.).
How much would medication cost per month if paying out of pocket?	The cost per month for 0.5 mg Ranibizumab is \$1231.00 if paying out of pocket (Drugs.com, 2021).

Drug #9 Drug Class: Anticonvulsants, GABA Analogs	Drug Name (Generic): Gabapentin Drug Name (Trade): Neurontin and Gralise.
How is the medication taken: (include dose, route,	This drug is taken orally, three times a day, at 300 mg per dose.

and frequency)	
Specific Directions not included above:	This medication should not be crushed or chewed. The medication should be swallowed whole to prevent adverse effects. Do not split medication unless recommended by a pharmacist. The doctor may adjust the dosage based on patient tolerance (Cunha, 2021).
Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)	Gabapentin has moderate interactions with calcium (Cunha, 2021).
Lifestyle interactions: (Daily tobacco use, alcohol, drugs, etc.)	No lifestyle interactions are necessary because the patient does not drink alcohol. If the patient were to begin drinking alcohol there can be an increase in neurological effects such as dizziness and difficulty concentrating. The patient should alert the physician if drinking lifestyle changes (Drugs.com, n.d.).
Does any of the client's past medical history contradict the use of this medication?	This patient has osteoporosis. Studies have shown that gabapentin has effects on bone density and growth, which can worsen osteoporosis (Kanda et al., 2017).
What is the indication for use of this medication based on the client's past medical history? (If unable	Gabapentin is frequently prescribed to patients with diabetic neuropathy to relieve nerve pain related to diabetes (Cunha, 2021).

to determine an indication based on past medical history, please list potential indications for use of the medication in general)	
What would you teach the client about taking this medication?	When taking gabapentin, do not stop abruptly. Store tablets in a dark and dry area at room temperature. If a dose is missed, skip the missed dose if close in time to the next dose (Pacific Sinus Center, n.d.).
How much would medication cost per month if paying out of pocket?	The average monthly cost of Gabapentin is \$88.00 (Good Rx, n.d.).

<p>Drug #10</p> <p>Drug Class: Nonsteroidal anti-inflammatory drugs (NSAIDs)</p>	<p>Drug Name (Generic): ibuprofen</p> <p>Drug Name (Trade): Advil, Motrin</p>
<p>How is the medication taken: (include dose, route, and frequency)</p>	<p>This drug is 400 mg and taken every six hours, as needed, for pain.</p>
<p>Specific Directions not included above:</p>	<p>To lessen stomach upset, take Ibuprofen with food or milk (Durbin, 2021).</p>
<p>Does this medication interact with any other medication(s) on this list? (see rubric for further instruction)</p>	<p>Ibuprofen should not be taken with aspirin. This reduces effects of the aspirin which could be dangerous for those who take it to prevent heart attack or stroke. It also increases the risk of stomach bleeding and can cause side effects such as nausea, vomiting with blood, dizziness, and black tarry stools (Drugs.com, n.d.).</p> <p>Ibuprofen should not be taken with glyburide. Taking these two medications together increases the risk of hyperglycemia, headache, dizziness, nervousness, tremor, hunger, and weakness (Drugs.com, n.d.)</p>
<p>Lifestyle interactions:</p>	<p>There are no lifestyle interactions that affect Ibuprofen.</p>

(Daily tobacco use, alcohol, drugs, etc.)	
Does any of the client's past medical history contradict the use of this medication?	Currently the patient is able to use Ibuprofen without any disease interactions. However, if a patient develops kidney problems related to diabetes they should avoid taking ibuprofen (Griffith, 2021).
What is the indication for use of this medication based on the client's past medical history? (If unable to determine an indication based on past medical history, please list potential indications for use of the medication in general)	This medication is used for pain related to diabetic neuropathy.
What would you teach the client about taking this medication?	I would teach the client to avoid taking this medication if there is a development of stomach bleeding or dark tarry stools. I would suggest the medication be taken with food or milk. I would also inform the patient about avoiding overdose by only taking the prescribed amount (Durbin, 2021).

How much would medication cost per month if paying out of pocket?	A monthly supply of ibuprofen is approximately \$12.00 (Drugs.com, n.d.)
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Is there anything about this medication regimen scenario that might indicate a potential difficulty in maintaining compliance with the orders as listed?

Amy is living in an assisted living facility and is expected to take her medications independently. They are given to her each week in pre-filled medication packages, but due to Amy's decreased vision from diabetic retinopathy, Amy may not be able to see medications that come in the form of small tablets. Some doses may be missed because of this. Since Amy is given a week's worth of medication at once, she may also confuse medications and the time they should be taken. Some of Amy's medications are injections and these may also be difficult for Amy to administer on her own if she cannot see well.

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

Living in an assisted living facility and receiving medications in a pre-filled pack each week that contain the date and time for administration could help Amy take the regimen as ordered by having fewer doses to keep track of at once and having clear directions to follow. Having facility staff available to help will also be beneficial.

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 suggest to the client to stay in a routine and keep medications together that are taken at the same times. A pill tray may also be beneficial to organize Amy's pills for the week into separate days and time slots. This could help Amy avoid taking medications together that are not intended to be taken together. For example, calcium should be taken at least 2 hours after an antacid. If Amy is taking an antacid, she could out the calcium pill and the antacid in 2 different time slots that are at least 2 hours apart.

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

The total cost for all ten medications is approximately \$2,383.50. This is a huge cost going to medications per month for this patient, and most patients most likely cannot afford to pay this out of pocket monthly.

Reflective Statement of Experience:

This project was an eye opener, especially when it came to the realization how much medications really cost our patients. The most expensive medication was over \$1000.00. That is probably more than most can afford. It was interesting to see how some of these drugs do interact with each other. If medical reconciliation was not completed on this patient, there could be adverse effects due to

drug interactions or disease interactions. It was also interesting to note that insulin like the Levemir and Novolog have to be monitored extra carefully in those with diabetes. Although these medications treat diabetes, having the symptoms associated with diabetes such as hyperglycemia or hypoglycemia can cause medicinal interactions. Knowing how important it is to reconcile drugs for our patients can help in clinical practice immensely, especially with those patients who are prescribed numerous types of medications. This information will be useful in the future to ensure that our patients are receiving quality care.

References

American Society of Health-System Pharmacists. (n.d.). *Ranibizumab injection*. Medline Plus.

<https://medlineplus.gov/druginfo/meds/a607044.html>

AOA. (n.d.). *Diabetic retinopathy*. American Optometric Association. <https://www.aoa.org/healthy-eyes/eye-and-vision-conditions/diabetic-retinopathy?sso=y>

Cunha, P. (2021). *Gabapentin*. RxList. https://www.rxlist.com/consumer_gabapentin_neurontin_gralise/drugs-condition.htm

CVS. (n.d.). *Calcium Supplements*. CVS pharmacy. <https://www.cvs.com/shop/vitamins/minerals/calcium>

Drugs.com. (n.d.). *Drug interactions report*. Drugs.com. https://www.drugs.com/interactions-check.php?drug_list=1147-0,243-0,464-3804,1665-19727,2365-0,1185-0,1343-2388,1341-802,1990-0,1310-0

Drugs.com. (n.d.). *Drug interactions report*. Drugs.com. https://www.drugs.com/interactions-check.php?drug_list=1310-0,243-0,464-3788,1665-0,2365-0,1185-0,1343-2388,1341-802,1990-0,1147-0

Drugs.com. (n.d.). *Drug interactions report*. Drugs.com. https://www.drugs.com/interactions-check.php?drug_list=243-0,464-3788,1665-0,2365-0,1185-0,1343-2388,1341-802,1990-0,1147-0,1310-0

Drugs.com. (n.d.). *Glyburide disease interactions*. Drugs.com. <https://www.drugs.com/disease-interactions/glyburide.html#hypoglycemia>

Drugs.com. (n.d.). *Ibuprofen prices, coupons and patient assistant programs*. Drugs.com. <https://www.drugs.com/price-guide/ibuprofen>

Drugs.com. (n.d.). *Lucentis interactions*. Drugs.com. <https://www.drugs.com/drug-interactions/ranibizumab-ophthalmic,lucentis.html>

Drugs.com. (2021). *Lucentis prices, coupons and patient assistance*. Drugs.com. <https://www.drugs.com/price-guide/lucentis>

Drugs.com. (n.d.). *Novolog interactions*. Drugs.com. <https://www.drugs.com/drug-interactions/insulin-aspart,novolog.html>

Durbin K. (2021). *Ibuprofen*. Drugs.com. <https://www.drugs.com/ibuprofen.html#interactions>

F.A. Davis. (n.d.). *Glyburide*. Dave's Drug Guide. <https://www.drugguide.com/ddo/view/Davis-Drug-Guide/109050/all/glyBURIDE>

Good Rx. (n.d.). *Aspirin*. GoodRx. <https://www.goodrx.com/aspirin?>

[dosage=81mg&form=tablet&label_override=aspirin&quantity=90&sort_type=popularity](https://www.goodrx.com/aspirin?dosage=81mg&form=tablet&label_override=aspirin&quantity=90&sort_type=popularity)

Good Rx. (n.d.). *Docusate sodium*. Good Rx. <https://www.goodrx.com/docusate-sodium>

Good Rx. (n.d.). *Gabapentin*. Good Rx. https://www.goodrx.com/gabapentin?gclid=Cj0KCQjw8eOLBhC1ARIsAOzx5cG7zyH2aEiYfexNmclNnzCdGIB3lkOeQH-a9pk5gkWGhN2jjUVcVHcaAmGGEALw_wcB&gclsrc=aw.ds

Good Rx. (n.d.) *Glyburide*. Good Rx. <https://www.goodrx.com/glyburide>

Good Rx. (n.d.) *Levemir*. Good Rx. <https://www.goodrx.com/levemir>

Good Rx. (n.d.). *Multivitamin with flouride*. Good rx. <https://www.goodrx.com/multivitamin-with-fluoride>

Kanda J, Izumo N, Kobayashi Y, Onodera K, Shimakura T, Yamamoto N, Takahashi HE, Wakabayashi H. (2017). Effects of the antiepileptic drugs phenytoin, gabapentin, and levetiracetam on bone strength, bone mass, and bone turnover in rats. *National Library of Medicine*. 40(11), 1934-1940. doi: 10.1248/bpb.b17-00482. PMID: 29093341.

National Institutes of Health. (n.d.). *Docusate sodium SOFTGEL capsules 100MG*. U.S. National Library of Medicine. Retrieved November 7, 2021, from <https://dailymed.nlm.nih.gov/dailymed/fda/fdaDrugXsl.cfm?setid=d15b10b9-18c8-4b3a-9b3f-9604f6ac5963&type=display>.

Pacific Sinus Center. (n.d.). *Patient education*. Oregon Ear, Nose, & Throat. <http://oregon-ent.com/patient-education/hw-view.php?DOCHWID=d03182a1>

Rxlist. (2021). *Novolog*. Rxlist. <https://www.rxlist.com/novolog-drug/patient-images-side-effects.htm#info>

Sinha, S. (2020). *Novolog*. Drugs.com. <https://www.drugs.com/novolog.html>

Sutherby, R. (2021). *The cost of insulin without insurance*. Rx saver. <https://www.rxsaver.com/blog/cost-of-insulin-without-insurance>

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