

PPI vs H2 blockers

Medication info:

PPI: Nexium

- Action: Nexium is used to treat the symptoms of GERD. It works by blocking proton pumps and reducing the production of acid in the stomach.
- Classification: proton pump inhibitor
- Indications: indicated for treatment of GERD, dyspepsia, peptic ulcer disease, and Zollinger-Ellison Syndrome
- Route: PO, IV
- Contraindications: Erlotinib, Nelfinavir, Rilpivirine, patients with kidney problems
- Side effects: severe stomach pain, diarrhea (watery, bloody), seizure, kidney problems, low magnesium, headache, nausea, gas, constipation, or dry mouth
- Black box warning: None
- Assessment/Monitoring:
 - GI assessment prior to administration/monitor post administration
 - Monitor for blood in stool
 - Monitor kidney enzymes and magnesium levels
 - Monitor LOC seizure like activity
- Patient teaching: If taking prescription version, pt should ask HCP whether acid reducers can be taken with Nexium. Stop use and inform HCP if rash or joint pain develops. Therapy can increase risk of Salmonella so make sure possible contaminants are handled and cooked properly.
- Costs: Prescription: ~\$200 without insurance; OTC: ~\$20

H2 Blockers: Famotidine

- Action: Used to treat ulcers of the stomach and intestines and prevent them from returning. It also prevents and treats heartburn and anything associated with acid indigestion. It works by reducing the amount of acid in the stomach.
- Blocks H2 receptors of gastric parietal cells, leading to inhibition of gastric secretions
- Metabolized by the liver
- Classification: Histamine H2 Antagonist
- Indications: Ulcer, GERD, heartburn, hypersecretory conditions

Students: Julia Arendell, Niki McCoy, Rebecca Morales, Stephanie Pigg

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- Route: injection, oral suspension, tablet, IV
- Contraindications: Kidney disease, and Elderly
- Side Effects: Constipation, bloody diarrhea, bloody vomit, dizziness, agitation, prolong QT intervals, fast irregular heartbeat, anxiety, cough, confusion, seizure
- Black box warning: None
- Assessment/Monitoring:
 - GI assessment prior to administration/monitor post administration
 - Monitor for blood in stool/emesis
 - Monitor kidney/liver enzymes - in some cases cause elevation
 - Monitor LOC for confusion/seizure like activity
- Patient teaching:
 - Signs of infection (sore throat, fever, chills)
 - Immediately call the doctor if you have severe dizziness, fainting, or seizures
 - Common side effects are headache, constipation, or diarrhea
 - Make sure to share all medications (prescribed, OTC, and herbal) with your provider
 - Encourage lifestyle changes such as: reducing stress, stop smoking, limit alcohol, and avoid caffeine as much as possible to help the medicine work better
- Cost: average retail price of \$36.49, with coupons can be around \$3.00

Video Script:

- Pre fight weigh in (action of drugs, classification, indications for drug, and route of admin.)
 - Nexium (stephanie/julia) weigh in
 - **Julia:** “Today Esomeprazole better known as Nexium is in the proton pump inhibitors class”
 - **Julia:** “Throughout the fight Nexium will be trying to decrease the amount of acid produced in the stomach”
 - **Julia:** “Nexium what are your indications for today’s fight?”
 - **Stephanie:** “I will try to treat the symptoms of GERD and other conditions involving excessive stomach acid by blocking proton pumps and reducing the production of acid in the stomach”
 - **Julia:** “That will be a challenge, and what is your intended route of administration?”
 - **Stephanie:** “I will be administering punches orally or IV”
 - Famotidine (niki/rebecca) weigh in

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- **Rebecca:** "Today Famotidine better known as Pepcid is in the Histamine H2 Antagonist class"
- **Rebecca:** "Throughout the fight Pepcid will be trying to treat ulcers of the stomach and intestines while preventing them from returning. She will also try to prevent and treat heartburn and anything associated with acid indigestion"
- **Rebecca:** "Pepcid what are your indications for today's fight?"
- **Niki:** "I will try to treat and prevent ulcers, GERD, heartburn, and hypersecretory conditions"
- **Rebecca:** " Today should be a good fight then, what is your intended route of administration?"
- **Niki:** "I will be administering punches today by mouth & IV"
- Wrap up weigh in
 - **Julia:** "Based on the weigh ins it looks like today should be a pretty evenly matched fight"
 - **Rebecca:** "I know, both drugs are fighting for very similar reasons, but I think Nexium has a leg up in the fight today"
 - **Julia:** "I guess we will see, we will start the fight in about 2-3 minutes to allow the fighters to walk to their coaches and then we will get going"
 - **Rebecca:** "Ladies and gentlemen get ready for close fight today in the ring, we will have Nexium in the pink and Pepcid in the blue"
- Fight (contraindications, assessments, side effects)
 - Coaches talking to each fighter
 - Nexium coaching
 - **Julia:** "Okay, today will be close between y'all but you will need to contraindicate any patients with kidney problems"
 - **Stephanie:** "Sounds good, I will do my best to assess for any GI issues before administration and monitor it after administration, monitor blood in the stool,

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assess kidney enzymes and magnesium levels, and monitor LOC due to risk of seizures”

- **Julia:** “Throughout the fight you may face some side effects like severe stomach pain, watery or bloody diarrhea, headache, nausea, gas, constipation, or dry mouth”
- **Stephanie:** “Okay, now let's go win this fight!”

■ Famotidine coaching

- **Rebecca:** “You will have some challenges today, especially with contraindications of kidney problems and the elderly”
- **Niki:** “That’s okay, I can handle it I will be sure to assess the GI system prior to administration and monitor it after administration, monitor for blood in stool and emesis, monitor kidney and liver enzymes, and monitor LOC for confusion and seizure like activity”
- **Rebecca:** “You might also face some side effects like constipation, bloody diarrhea, bloody vomit, dizziness, agitation, prolong QT intervals, fast irregular heartbeat, anxiety, cough, confusion, seizure”
- **Niki:** “This fight will be tough to win, but I think I got this!”

○ Fight

- **Rebecca & Julia:** Improvise and mention side effects or contraindications again
- After 2 rounds we will stop and announce Nexium the winner due to it being the “stronger” med (no black box warnings for either)
 - **Stephanie:** “About how much money did this fight cost me?”
 - **Julia:** “With your prescription it was about \$200 without insurance, but an over the counter version cost you about \$20”
 - **Julia:** “You definitely took a bigger hit to your wallet than the patient on Pepcid”
 - **Niki:** “So how much did this fight cost me?”

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- **Rebecca:** “Retail cost of Pepcid is about \$36.49, but if you use coupons you can get it for about \$3”
- **Niki:** “Oh that is way less than it costs for Nexium”
- Post fight interviews (patient teaching and drug cost)
 - Nexium post fight interview
 - **Julia:** “You had a great fight today against the symptoms of GERD”
 - **Julia:** “Make sure to stop using Nexium and let your HCP know if you develop a rash or joint pain”
 - **Stephanie:** “Okay, do I need to look out for an increased risk of salmonella as well?”
 - **Julia:** “Definitely, you are at a much higher risk of contracting salmonella while taking Nexium”
 - Famotidine post fight interview
 - **Rebecca:** “Make sure to stop using Pepcid if you experience any signs of infection such as a sore throat, fever, or chills”
 - **Niki:** “Okay, I will also try to reduce my stress, stop smoking, limit my alcohol, and avoid caffeine as much as possible while taking this medication”
 - **Rebecca:** “Those are all very good choices that you are trying to make while taking Pepcid”

Resources:

- Drugs.com [Internet]. Pepcid and Nexium information from Drugs.com;1996 - 2018 [Cited 5 April 2021]. Available from: [Pepcid Complete Uses, Side Effects & Warnings - Drugs.com/](#) and [Nexium Uses, Dosage, Side Effects - Drugs.com](#)
- Medscape.com [Internet] Pepcid and Nexium information from Medscape.com; 1995 - 2020 [Cited 5 April 2021]. Available from: [Pepcid, Act \(famotidine\) dosing, indications, interactions, adverse effects, and more \(medscape.com\)](#) and [Nexium, Nexium 24HR \(esomeprazole\) dosing, indications, interactions, adverse effects, and more \(medscape.com\)](#)
- “Famotidine (Oral Route) before Using - Mayo Clinic.” *Www.mayoclinic.org*, www.mayoclinic.org/drugs-supplements/famotidine-oral-route/before-using/drg-20072972.

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- *Nexium (Esomeprazole Magnesium): Uses, Dosage, Side Effects, Interactions, Warning.* (2020, May 27). RxList. <https://www.rxlist.com/nexium-drug.htm#indications>
- Newman, T. (2017, October 19). *What you should know about Nexium.* Medical News Today. <https://www.medicalnewstoday.com/articles/247873>