

SPECIAL POINTS OF INTEREST:

- **New Cholesterol Medications**
- **Tips**
- **Guacamole**
- **Did you Know?**

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What about those new cholesterol medications?

What are the new cholesterol medications?

There are two new cholesterol medications out on the market, Praluent (alirocumab) and Repatha (evolocumab). They are not in the group of drugs called statins. These medications are PCSK-9 Inhibitors.

How do they work? PCSK-9 is an enzyme primarily produced by the liver. It's role is to bind to LDL (bad cholesterol) receptors. This causes the LDL cholesterol to be higher in the blood stream and cause problems. Praluent and Repatha are antibodies that bind to free PCSK-9 causing it to breakdown. This causes more LDL receptors on the liver to be available to remove LDL out of the bloodstream.

	Notes	High Risk	Intermediate Risk
Lipids			
Total Cholesterol (mg/dL)		248	
LDL-C Direct (mg/dL)		164	
HDL-C (mg/dL)			
Triglycerides (mg/dL)		189	158
Non-HDL-C (mg/dL) (calculated)			59
apo B (mg/dL)			
-P (nmol/L)			
LDL-P (nmol/L)		122	
(mg/dL)			

Therefore, the LDL levels are significantly lower with these medications. **How do you take these medications?** Both drugs are injections that are given either every 2 weeks or once a month. They can be administered at home by the individual or by a friend/family member. Praluent comes in a 75mg or 150mg pen that is injected every 2 weeks. It can also be given once a month by administering 300mg (2 150mg pens). Praluent is stored in the refrigerator until use but

It can be left at room temperature for 30 days if needed. Repatha can also be given once a month or every two weeks. The monthly dose is 420mg or 140mg every 2 weeks. Repatha also needs to be stored in the refrigerator but it can be kept at room temperature for up to 30 days.

What are the side effects of these medications? Either medication can cause an allergic reaction. Symptoms of an allergic reaction can be a severe rash, redness, a swollen face, or trouble breathing. Either drug can cause cold or flu-like symptoms, injection site reaction, or back pain. Some elevated blood glucose was seen with Repatha in some individuals.

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Tip of the Month

Cholesterol Lowering Foods:

1. **Oats.** Try a bowl of oatmeal or an oat based cereal like Cheerios.
2. **Beans.** Beans are high in fiber which help with lowering cholesterol. They also help you feel fuller longer.
3. **Eggplant.** Low in calories and high in fiber. Make as a meal or can be a great side.
4. **Nuts.** Nuts are always a great heart healthy snack, just remember to get the unsalted ones!
5. **Apples, Grapes, Strawberries, and citrus fruits.** These fruits are high in pectin which helps lowers LDL.
6. **Soy.** Tofu or soy milk are great additions or substitutions to a diet. (2).



Guacamole



Recipe from the book
Breaking the Salt Habit by
Erik Williams. (1).

Ingredients:

1. **3 Avocados**, peeled, pitted and mashed.
2. **2 Limes**, juiced
3. **1/2 cup Red Onion**, minced
4. **5 Tbsp. Fresh Cilantro**, chopped
5. **2 Roma Tomatoes**, finely diced
6. **2 Garlic Cloves**, minced
7. **1/2 tsp. Cumin**
8. **1 Jalapeno**, seeded

Directions:

1. In a medium bowl, mix avocados and limes.
2. Mix in remaining ingredients.
3. Refrigerate 1 hour.

Health Information

Serving size: 1 Tbsp.
Servings 16
Calories 59
Total fat 5g
Saturated fat <1g
Cholesterol 0 mg
Sodium 9 mg
Total fiber 2 g
Protein <1g
Carbohydrates 4g
Potassium 25mg
Sugar <1g

Quote of the Month: “If you believe it will work out, you will see opportunities. If you believe it won’t, you will see obstacles.” Wayne Dyer

Did you Know?

Did you know that there may be a new reversal for some blood thinners on the way? For a long time, there was only the blood thinner Coumadin (Warfarin) available to treat blood clots and atrial fibrillation. It is well known that Vitamin K can be given to help reverse the effects of Coumadin if bleeding is occurring. With the onset of “new” blood thinners over the last decade, there has been a scramble to find a reversal agent for these drugs. While the newer agents have a lot of benefits, lack of a reversal agent has been one deterrent for some people. Praxabind is a reversal agent for Pradaxa that was approved in 2015. However, it will not work on the other blood thinners. Pradaxa is a direct thrombin inhibitor while the other blood thinners (Xarelto, Eliquis, and Savaysa) are Factor Xa

Inhibitors. A Study was published in 2016 showing that a new reversal agent, Andexanet, was successful at reversing the effects of Xarelto, Eliquis, or Lovenox in 79 percent of patients that received an infusion of this drug. The drug however was not approved in 2016 and the FDA requested more information. The license is up for review again with the FDA in May. So stay tuned over the next couple months. Since the last study, the drug has continued to be studied and there were patients enrolled that were on Savaysa. It is important to remember that a reversal agent is usually used only when there is a life threatening bleeding situation and it would be given in a hospital environment. (4,5).



Who should take these medications? Repatha and Praluent are indicated to treat individuals with a condition called familial hyperlipidemia. This is a genetic condition that causes high levels of LDL cholesterol. This condition can lead to premature development of heart disease and plaque build up in other parts of the body. This condition should be suspected in individuals with a family history of premature heart disease. This condition could also be considered if the LDL is 190mg/dL or higher in someone 20 years or older. More commonly, these drugs are used for patients with atherosclerotic cardiovascular disease who require additional lowering of the LDL cholesterol. This is after a statin has been initiated and titrated to its maximal tolerated dose.



How much do they lower the cholesterol? These medications are very effective at lowering cholesterol. The LDL (bad cholesterol) may decrease as much as 50-60 percent.

How much do the PCSK9 Inhibitors cost? This is the down side. These drugs are newer and they are expensive. On average, it seems the cost is around 1100-1200 dollars per month. Now, if there is a qualifying diagnosis, hopefully the insurance will approve the medication if it is needed. For individuals with commercial insurance, a copay card from the drug company can be issued to help with cost. The drug companies also have patient assistance programs to help offset some of the cost.

To sum up, the new class of cholesterol lowering drugs called PCSK9 inhibitors are very effective at lowering cholesterol. However, they are also very expensive. Recent trials have shown that they are also capable of reducing risks of heart attack, stroke, and death in a select population. Statins are still the mainstay of therapy when it comes to the treatment of high cholesterol and heart disease. However, when statin therapy is not enough, PCSK9 inhibitors are filling the gap.

(3,6, 7, 8).