**Medical Column February 2015**

**Test Your Knowledge**

**Lipids, Fats, and Other Stuff**

Think you know about your cholesterol? Let’s just find out. See how many of these questions you get right—or maybe just close.

1. Which of the following is the worst for your cholesterol level?
	1. A pork chop
	2. A baked potato
	3. Diet soft drinks
	4. A tossed salad with bleu-cheese dressing
2. Which causes the greatest release of insulin?
	1. Two ounces of olive oil
	2. Half a stick of salt-free butter
	3. Twelve roasted and salted almonds
	4. One tablespoon of sugar-free marmalade
	5. Three slices of microwaved bacon
3. The percentage of healthy twenty-year-old military recruits with evidence of aortic atherosclerosis (hardening of the arteries) found at autopsy is:
	1. Less than 1 percent
	2. 85 percent
	3. 20 percent
	4. 50 percent
	5. 3 percent
4. Which of the following has not been shown to reduce cholesterol levels?
	1. A low-carbohydrate diet
	2. Garlic
	3. Increased dietary fiber (more than 30 grams/day)
	4. Red yeast rice
	5. The Mediterranean diet
5. Individuals taking a statin drug should avoid which of the following?
	1. Ibuprofen
	2. Their doctor
	3. Grapefruit juice
	4. Alcohol in any form
	5. Edamame
6. Which of the following statements is true?
	1. There are fourteen separate steps in our body’s manufacture of the cholesterol molecule
	2. Ideally, your total cholesterol should be less than 75 mg/dl
	3. There is more cholesterol in three cashew nuts than fifteen peanuts
	4. Palm tree oil is better for you than non-virgin olive oil
	5. While coronary artery disease is very common, there is no connection between it and the development of plaques in our carotid and femoral arteries

Answers:

1. The answer is a baked potato. Loaded with carbohydrates, it is rapidly converted to glucose, driving up your insulin level. This results in your body storing fat and manufacturing cholesterol. A pork chop just doesn’t do this.
2. Insulin is released from the pancreas when glucose enters the blood stream. Olive oil, butter, and bacon (no matter how it’s cooked) don’t contain any glucose or carbohydrates. While almonds contain a few grams of carbs per serving, marmalade (and other jams and jellies—sugar-free or otherwise) is the clear winner here, or loser.
3. The answer here is sobering. As many as 20 percent of military recruits who met an untimely death and had autopsies performed had clear evidence of the development of atheromatous (cholesterol) streaks in the lining of their aortas. The disease process starts early, largely thought to be due to poor dietary decisions starting at an early age. Genetics and a sedentary lifestyle also play big roles.
4. This one is a little tricky. The low-carb and Mediterranean diets have clearly been shown to reduce cholesterol and other lipid levels. It’s also been demonstrated that adding fiber to our diets does a lot of good things, including lowering our cholesterol levels. But what about red yeast rice? The extract of this fermented rice product has been utilized by the Chinese for centuries. It’s also available a little closer to home in many health-food stores. It’s been shown to significantly reduce levels of total cholesterol as well as LDL, the “bad” cholesterol. And garlic? The conventional wisdom used to be that various forms of garlic, in addition to keeping vampires at bay, could lower your cholesterol by as much as 10 percent. Recently, large studies—some lasting six months or more—shed light on this issue. The daily ingestion of the equivalent of one clove of garlic had no effect on lipid levels. None. So the answer here is *garlic.*
5. The correct answer is grapefruit juice. A component of this fruit interferes with the metabolism and breakdown of some statin drugs. This causes the statin blood level to rise, causing an increased incidence of side effects. Grapefruit *in moderation* (a small glass or one half of the fruit) is probably okay. Ibuprofen is okay as well, though it should be avoided by those with diabetes, high blood pressure, and kidney disease. As a physician, I can attest that some doctors are to be avoided. Alcohol is not forbidden while taking a statin drug. Nor is edemame, though I’m a little suspect of the fancy name for what is actually an immature soy bean. I suppose it’s the same reason some people prefer a “rasher of bacon” rather than a slice, or “nocturnal enuresis sounds better than bedwetting.
6. None of these answers are true. There are forty-three separate steps in the manufacture of cholesterol. A total cholesterol level of 75 mg/dl would be very concerning and point to the presence of a serious underlying problem such as malnutrition or cancer. A level of 150 would be wonderful. And remember, there is *no* cholesterol in plants, vegetable, or fruits. This includes the nut and legume families. Palm tree oil is bad and should always be avoided. Virgin versus non-virgin olive oil is a matter of taste and price and there is no significant nutritional difference. The same plaque process that occurs in our coronary arteries may very well be happening in other major arteries in our body—and vice versa.

Got ‘em all right? Let’s see how you do next time.