



## **Statin Facts:**

Reduce risk of heart attack and stroke by 25-35%. This is huge.

Aspirin can help reduce by 12.5% ( 1/3 as effective) if high risk or prior MI.

FYI- Mediterranean diet and exercise can reduce risk 30% so you should be doing this.

Statins don't just lower "bad" cholesterol, they lower heart and stroke risk. It's not just about numbers, it's about combined cardiovascular risk. They *may* lower risk of some cancers ( prostate, colon ), depression, some eye problems, and bone loss but more study needed.

To clarify, taking a statin is slow benefit, so compliance is important. Taking a statin for 5 years prevents one cardiovascular event in every 20 patients with cardiovascular disease, and one in every 50 high risk patients without cardiovascular disease. The higher the risk, the greater the benefit over time *even if cholesterol isn't elevated*

## **Statin Fears:**

**Muscle Damage** - The actual incidence of muscle damage by statins is only 0.1%

You need to treat 22,727 with a statin for 1 year to find 1 case of this.

Also, Red Yeast Rice isn't safer than a statin, because it IS a statin. It contains Lovastatin, which is produced when rice is fermented with yeast. Yes, statins came from nature.

**Memory problems** - FDA added labeling in 2012 for all statins to include warning of postmarketing reports of ill-defined memory impairment and confusion that were reversed on discontinuation.

This is anecdotal, and not related to dementia. Studies including over 23,000 patients showed significant 29% reduction in new-onset dementia in statin-treated patients. ( Mayo Clin Proc. 2013 Nov;88[11]1213-21).

Another meta-analysis, including 27 studies, concluded there is "moderate-quality evidence" to suggest statin users have no increased incidence of dementia, mild cognitive impairment, or any change in neurocognitive scores.

FDA warning came out of a rate of reported cognitive-related adverse event of 1.9 cases per 1 million statin prescription, identical to the rate for Plavix and essentially the same as the 1.6 cases per 1 million rate for Losartan blood pressure medication (Ann Intern Med. 2013 Nov 19;159[10]:688-97).

If enough people take a medication, these same issues will occur, so treating cardiovascular disease may uncover some adverse events that may or may not be related to the medication.

**Muscle Aches** - the STOMP study ( effect of statins on skeletal muscle function and performance) found 420 randomized healthy statin-naive subjects in a double-blind fashion to 80mg Lipitor or placebo for 6 months. The incidence of muscle aches was 9.4% in the Lipitor ( Atorvastatin) group compared to 4.6% in the placebo-treated control group. Muscle strength on formal testing was not reduced to any extent in the myalgia/muscle ache patients on



# TENNESSEE FAMILY MEDICINE

John Millspaugh, MD

Tim O'Leary, PA-C

Mark Compton, PA-C

Atorvastatin than myalgia/muscle ache patients on placebo. (Circulation. 2013 Jan 1;127[1]:96-103).

So the true incidence of myalgia on the high-dose stain is 5% ( subtract placebo from treated groups).

So it's not 20 or 30% of people, only 1 in 20 *may* have muscle aches. It's real, but not everybody, and it is reversible off the medication, and may be related to the nocebo effect.

The Statin-associated muscle symptoms study: beware of the nocebo effect published in the Lancet May 2017. This study showed in 10,000 patients at risk of heart and artery disease. When they did not know which drugs they were given, those taking sugar pills were no more likely than those taking statins to report side effects. But when patients were given statins were told what they were taking, reports of muscle pain rose by 41%. It's precisely the expectation of harm that is likely causing the increase in muscle pain and weakness, rather than the drug itself. Potentially hundreds of thousands of people are dying because they choose not to take statins for fear of side effects that do not exist according to the study author. The blinded part of the trial where nobody knew if taking statin or placebo there was no difference in erectile dysfunction or memory but sleep disturbance was less common in those taking statins.

**Diabetes** - A study of more than 91,000 participants treated with statins for 4 years concluded that for every 255 patients treated with a statin for 4 years there would be one extra case of new-onset type 2 diabetes diagnosed. The risk of this is dwarfed by the reduction in cardiovascular events. (Lancet. 2010 Feb 27;375[9716]:735-42).

Genetic studies showed that a less active 3-hydroxy-3-methylglutaryl-coenzyme A reductase genes are associated with lower LDL, higher body weight and waist circumference, and increased plasma insulin and plasma glucose which means the risk is basically already there, plus statins reduce heart disease risk in diabetics.

**Hemorrhagic Stroke** - the SPARCL study ( Stroke Prevention by Aggressive Reduction in Cholesterol Levels) evaluated 4,731 patients with recent stroke or transient ischemic attack ( TIA ) were randomized to high dose atorvastatin or placebo. Atorvastatin for secondary prevention reduced the overall stroke risk, by reducing ischemic strokes. The incidence of hemorrhagic stroke was 2.3% on atorvastatin vs 1.4% in placebo group. The risk for hemorrhagic stroke was greatest with a previous history of hemorrhagic stroke, and even more with uncontrolled blood pressure of 160-179/100-109 mm Hg at last clinic visit prior to the stroke. Most strokes are ischemic, not hemorrhagic, in this study 67% of the strokes entered into the study where ischemic, only 2% were hemorrhagic for instance.

**Liver Dysfunction** - This is very rare, but we monitor this. Elevations are more likely found to be from alcohol consumption or high carbohydrate diets that cause fatty liver disease.

Statins are not recommended unless the benefit outweighs the risk, so before you rely on second hand stories, anecdotal evidence, or worse yet: the Internet and Facebook ads please think about the actual science, actual risk and actual benefit from healthy diet, exercise and medication when indicated.