

## **SHOULD STATINS BE USED FOR SECONDARY STROKE PREVENTION IN PEOPLE WITH NORMAL CHOLESTEROL LEVELS: “PRO”**

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The most common etiology for cerebrovascular disease is atherosclerosis in the large and small arteries of the neck and brain. The earliest identifiable abnormality in the initiation of atherosclerosis is endothelial dysfunction. Over time, inflammatory cells attach to the abnormal cells, migrate through the junctions and populate this region. There is progressive build-up of plaque between the intimal and medial layers of the arteries resulting in damage to the endothelium and eventual disruption of this continuous layer of cells. There is a direct relationship between increasing levels of LDL-cholesterol (especially oxidized LDL) and the build-up of plaque in the arterial vasculature. Numerous trials have tested lipid-lowering medications, especially statins, in primary prevention and in patients following myocardial infarction and stroke. Large scale studies, especially in primary prevention has shown that the effects of statins in preventing vascular events is evident at all levels of LDL, in patients with or without symptomatic disease and irrespective of the gender of the individual. JUPITER specifically evaluated the relationship of 'normal' LDL-cholesterol in association with an increase in C-reactive protein and treatment with high dose statins. The group exposed to the active arm had a significantly lower risk of vascular disease.

The most recent guidelines for prevention of stroke and the use of statins recommend that (note that there is no mention of LDL levels where treatment should be initiated):

**“In addition to therapeutic lifestyle changes, treatment with an HMG coenzyme-A reductase inhibitor (statin) medication is recommended for the primary prevention of ischemic stroke in patients estimated to have a high 10-year risk for cardiovascular events as recommended in the 2013 “ACC/AHA Guideline on the Treatment of Blood Cholesterol to Reduce Atherosclerotic Cardiovascular Risk in Adults” (Class I; Level of Evidence A).”**

Given the seriousness of the complications associated with recurrent stroke, we recommend that statins be used in all patients who present with an acute stroke under the age of 75 years of age (and older individuals provided there are no major contraindication to the use of statins) irrespective of the level of the serum LDL- cholesterol