

**NCEP GUIDELINES**  
Jonathan Stoehr, M.D., Ph.D.  
**Week 21**

**Educational Objectives:**

1. Be familiar with the role that LDL-cholesterol plays in determining cardiovascular risk, and understand when statin therapy is indicated
2. Describe the important risks of statin therapy and understand how to monitor your patients for these effects
3. Understand and use Therapeutic Lifestyle Change as an essential component of treatment of dyslipidemias
4. Be prepared to counsel patients about the above objectives

**CASE ONE:**

**Mrs. N. is a 55-year-old woman who presents to your office for routine preventive care. She has no complaints and no medical history. She is a lifelong nonsmoker, and takes no medications. Her blood pressure is 128/75, and her exam is unremarkable. Fasting labs show total cholesterol (TC) = 226, HDL=32, triglycerides (TG)= 100, LDL=174. You counsel her on lifestyle changes and refer her to a nutritionist. She returns in 6 months stating she has done her best with her adherence to the AHA diet and is exercising regularly. She has lost a few pounds. You repeat her fasting lipids and find :TC =217, HDL=35, Triglyceride (TG) =90, LDL=164.**

**Question:**

1. **Estimate Mrs. N's 10-year risk of a "hard" cardiovascular event (MI or cardiac death). Would Mrs. N's cardiovascular risk be lowered with the addition of a medication? If so, to what goal should this patient be treated?**

**CASE ONE CONTINUED:**

**Hesitant to start medical therapy, she tells you "Doc, my next door neighbor got terrible back aches on Lipitor, but then tried this nutritional supplement called Red Yeast Rice, and his cholesterol came down. Can I try that instead?"**

2. What are the most common adverse effects of statin therapy? What is the incidence of each?
3. What is the appropriate follow-up for surveillance of side-effects of statin therapy?

**Bonus Question:**

4. What is Red Yeast Rice, and how does it lower cholesterol? Can this product also cause myopathy?

**CASE TWO:**

Mr. G is a 60-year-old man who returns to your clinic after being diagnosed with diabetes one week earlier. He was given prescriptions for a glucometer, lancets, test strips, and metformin. He was counseled on diet and exercise and is trying to keep up with all of the lifestyle changes you requested. He has a history of HTN (on HCTZ and lisinopril), but no cardiovascular events and negative treadmill MIBI two years ago. He is a nonsmoker and has no family history of early CAD. He returns today for follow-up, feeling that he has somewhat more energy. BP today is 129/84. His exam reveals an overweight man but is otherwise unremarkable. Fasting labs checked today showed a glucose of 125, TC= 217, HDL=33, TG=220, LDL=140.

5. Which of this patient's lipid abnormalities should be treated first, and to what target? What medication and dose would you recommend?
6. Therapeutic Lifestyle Change (TLC) includes specific dietary advice endorsed by the ACC/AHA based on clinical evidence. List at least 4 specific dietary changes that have been shown to lower LDL. Under what circumstances should statins be started concurrently with TLC?

**7. Have clinical studies shown an LDL-lowering benefit of weight loss? What about regular physical exercise?**

**Primary References:**

1. Pasternak RC, Smith SC Jr., Bairey-Merz CN, Grundy SM, Cleeman JI, Lenfant C. American College of Cardiology. American Heart Association. National Heart, Lung and Blood Institute. ACC/AHA/NHLBI Clinical Advisory on the Use and Safety of Statins. *Circulation* 2002;106;1024-1028.
2. Grundy SM, Cleeman JI, Merz CN, Brewer HB Jr, Clark LT, Hunninghake DB, Pasternak RC, Smith SC Jr, Stone NJ. National Heart, Lung, and Blood Institute. American College of Cardiology Foundation. American Heart Association. Implications of recent clinical trials for the National Cholesterol Education Program Adult Treatment Panel III guidelines. *Circulation* 2004; 110; 227-239.
3. Fletcher B, Berra K, Ades P, Braun LT, Burke LE, Durstine JL, Fair JM, Fletcher GF, Goff D, Hayman LL, Hiatt WR, Miller NH, Krauss R, Kris-Etherton P, Stone N, Wilterdink J, Winston M. Council on Cardiovascular Nursing. Council on Arteriosclerosis, Thrombosis, and Vascular Biology. Council on Basic Cardiovascular Sciences. Council on Cardiovascular Disease in the Young. Council on Clinical Cardiology. Council on Epidemiology and Prevention. Council on Nutrition, Physical Activity, and Metabolism. Council on Stroke. Preventive Cardiovascular Nurses Association. Managing abnormal blood lipids: a collaborative approach. *Circulation* 2005;112;3184-3209. (Only Tables 5 and 6 are included here, however, the entire article is very useful for when time allows.)