**Treatment of Blood Cholesterol in Adults:**

**The 2013 ACC/AHA Guidelines**

The new blood cholesterol treatment guidelines published by the ACC/AHA in November 2013 (1) are a paradigm shift in how we recommend treatment for our patients older than 21 years of age deemed at risk for ASCVD. The most striking change is the recommendation away from treating to a specific LDL cholesterol goal, to a more evidence-based “treat to reduce atherosclerotic cardiovascular risk” by recommending statin treatment for those people deemed at highest risk of ASCVD (and thus, those most likely to benefit). This has implications in both primary and secondary prevention, plus changes in our clinical processes and quality measures that support this aspect of care.

The new guideline did NOT provide a comprehensive approach to the detection, evaluation and treatment of lipid disorders (as was done in ATP III), and a separate 2013 Lifestyle Management workgroup provided recommendations for healthy diet and lifestyle as background for all healthy adults. The key lifestyle points for adults are eating a heart healthy diet, regular exercise, avoidance of tobacco, and maintenance of a healthy weight (2). As we work to reduce cardiovascular risk in our entire population, we know that children and adolescents are the future adult patients. Separate guidelines from 2011 are available to help support Cardiovascular Health and Risk Reduction in Children and Adolescents (3). Some commentary and discussion can also be found in references (4) and (5).

**Considerations:**

- To reduce ASCVD—focus on statin use. Other medications (niacin, fibrate) when combined with statin therapy do not have enough evidence to support their routine use for ASCVD prevention.
- Consider “Clinical ASCVD”—having had an acute coronary syndrome, history of myocardial infarction, stable or unstable angina, coronary or other revascularization, stroke, TIA, or peripheral arterial disease assumed to be atherosclerotic in origin. Rather than simply treating to an LDL of <70 or <100 as has been prior practice, the new guidelines simply recommend a high intensity statin. For people older than age 75, or those who are not a candidate for a high intensity statin, the recommendation is for a moderate intensity statin.
- Introduction of a new “Pooled Cohort Equations” Calculator to assess 10 year ASCVD risk, and recommends consideration of statin therapy at 7.5% 10 year risk of an ASCVD event. This is intended to replace other calculators (such as the Framingham 10 year Risk calculator). However there is still some controversy and debate among experts about whether or not the calculator overestimates this risk. In addition, the 7.5% ASCVD threshold for statin initiation may result in a significant increase in statin use in the population and remains somewhat
controversial among experts. The ICSI lipid guideline workgroup has not yet endorsed the use of this threshold.

- For people ages 40-75 with diabetes (either type 1 or type 2), the recommendation is to treat with a moderate or high intensity statin, rather than the previous LDL <100. The Pooled Cohort Equations calculator can also be used to differentiate between those people with diabetes who would benefit from high (10 year ASCVD risk >=7.5%) vs. moderate intensity statin therapy (<7.5% ASCVD risk).
- Moderate or high intensity statin therapy categories are defined based on their predicted effect on LDL lowering.

<table>
<thead>
<tr>
<th>High-Intensity Statin Therapy</th>
<th>Moderate-Intensity Statin Therapy</th>
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<tbody>
<tr>
<td>- Daily dose lowers LDL–C on average, by approximately ≥50%</td>
<td>- Daily dose lowers LDL–C on average, by approximately 30% to &lt;50%</td>
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<tr>
<td>- Atorvastatin (40†)–80 mg</td>
<td>- Atorvastatin 10 (20) mg</td>
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<tr>
<td>- Rosuvastatin 20 (40) mg</td>
<td>- Rosuvastin (80) mg</td>
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<td></td>
<td>- Simvastatin 20–40 mg‡</td>
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<td>- Pravastatin 40 (80) mg</td>
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<td>- Lovastatin 40 mg</td>
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<td>- Fluvastatin XL 80 mg</td>
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<td>- Fluvastatin 40 mg bid</td>
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<td></td>
<td>- Pitavastatin 2–4 mg</td>
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Specific statins and doses are noted in bold that were evaluated in RCTs. All of these RCTs demonstrated a reduction in major cardiovascular events. Statins and doses that are approved by the U.S. FDA but were not tested in the RCTs reviewed are listed in italics.

*Individual responses to statin therapy varied in the RCTs and should be expected to vary in clinical practice. There might be a biologic basis for a less-than-average response.

†Evidence from 1 RCT only: down-titration if unable to tolerate atorvastatin 80 mg in IDEAL.

‡Although simvastatin 80 mg was evaluated in RCTs, initiation of simvastatin 80 mg or titration to 80 mg is not recommended by the FDA due to the increased risk of myopathy, including rhabdomyolysis.

- Two groups that have insufficient evidence of benefit to generally recommend statin therapy are people with NYHA class II- or greater heart failure and those receiving hemodialysis.
- Baseline ALT should be performed before statin therapy and baseline CK is also reasonable to measure at initiation of therapy for patients at risk for adverse muscle events.
- After initiating therapy, recheck cholesterol at follow-up and periodically thereafter. If patient has a very low LDL-C in response to statin therapy (i.e. LDL<40) then you may consider decreasing the statin dose.
- For people 76 and older, the benefits of statin use should be individualized, ideally discussed through a shared decision making process.
Given the prevalence of ASCVD in our adult population, this change in treatment guidelines will have significant impact on our patients and our practice. Through years of education, our patients have an understanding about what their LDL cholesterol number “should be”, and this will now be a different conversation. Treating to a specific LDL target has also been a component of several quality metrics—most notably as part of the diabetes “DS” and as a measure of Optimal Vascular Care. Quality measurement groups are actively working on developing new metrics that will help us measure the optimal care under these new guidelines, though that work is still in process.

**Our clinical care recommendation to support best practice is that clinicians and care teams begin to use these new guidelines/recommendations in patient care, and no longer “treat to an LDL target”**.

As noted above, there is some controversy about whether the ACC/AHA Calculator overestimates risk, and whether the 7.5% 10 year risk is the right threshold at which to initiate treatment with a statin for primary prevention of ASCVD. Based on current evidence, the ACC/AHA Calculator seems to have the most support for its use, but until a consensus is reached with the full medical community, it would also be reasonable to use another tool such as the Framingham calculator. Similarly, for those patients at or just above the 7.5% cutoff, use of a statin is certainly appropriate and should be considered, but it is not mandatory.

A key element in our practice philosophies is patient centered care. These guidelines call out the importance of shared decision making in determining the best treatment plan for an individual person. Future work will provide material to the care teams to help facilitate this conversation between patient and care team and allow for shared decision making. Ideally, these tools will be available in different formats to best match the preferences of our patients and clinical work flow.

**References:**

- ACC/AHA Blood Cholesterol Guideline
  [http://circ.ahajournals.org/content/early/2013/11/11/01.cir.0000437738.63853.7a.full.pdf](http://circ.ahajournals.org/content/early/2013/11/11/01.cir.0000437738.63853.7a.full.pdf)
- ACC/AHA Lifestyle Management Guideline
  [http://circ.ahajournals.org/content/early/2013/11/11/01.cir.0000437740.48606.d1.full.pdf](http://circ.ahajournals.org/content/early/2013/11/11/01.cir.0000437740.48606.d1.full.pdf)
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- NEJM: A Pragmatic View of the New Cholesterol Treatment Guidelines
- Lancet: Statins, risk assessment, and the new American prevention guidelines

**Questions:** Please reply to this e-mail, and your question(s) will be directed to the author of this Pearl, Kristen Kopski, MD.
and reviewed by HealthPartners Physician Leadership.