# ASCVD (Atherosclerotic Cardiovascular Disease) 2013 Risk Calculator from AHA/ACC

## INPUTS

|  |  |
| --- | --- |
| Age  *This calculator only applies to individuals 40-75 years of age.* | **Options:** |
| Diabetes | **Options:**   * No * Yes |
| Sex | **Options:**   * Female * Male |
| Smoker | **Options:**   * No * Yes |
| Total cholesterol | **Options:** |
| HDL cholesterol | **Options:** |
| Systolic blood pressure | **Options:** |
| Treatment for hypertension | **Options:**   * No * Yes |
| Race  *Race may/may not provide better estimates of CV risk; optional* | **Options:**   * White * African American * Other |

## FORMULA

Scoring information is available in [Appendix 7 in the Goff, et al. 2014 study](https://circ.ahajournals.org/content/circulationaha/129/25_suppl_2/S49.full.pdf).

## FACTS & FIGURES

* These estimates may underestimate the 10-year risk for some race/ethnic groups, including American Indians, some Asian Americans (e.g., of south Asian ancestry), and some Hispanics (e.g., Puerto Ricans).
* It may overestimate the risk for some Asian Americans (e.g., of east Asian ancestry) and some Hispanics (e.g., Mexican Americans).
* Because the primary use of these risk estimates is to facilitate the very important discussion regarding risk reduction through lifestyle change, the imprecision introduced is small enough to justify proceeding with lifestyle change counseling informed by these results.

**Optimal Risk Factors**

For the comparison of optimal risk factors, these were defined by the following specific risk factor numbers for an individual of the same age, sex and race:

* Total cholesterol of 170 mg/dL
* HDL-cholesterol of 50 mg/dL
* *Untreated* systolic blood pressure of 110 mm Hg
* No diabetes history
* Not a current smoker

**US Preventive Services Task Force (USPSTF) Guidelines**

In 2016, the US Preventive Services Task Force (USPSTF) made similar but slightly different [recommendations](https://jamanetwork.com/journals/jama/fullarticle/2584058) for adults without a history of cardiovascular disease (CVD) to use a low- to moderate-dose statin for the prevention of CVD events and mortality when all of the following criteria are met:

1. Age 40 to 75 years
2. 1 or more CVD risk factors (ie, dyslipidemia, diabetes, hypertension, or smoking)
3. Calculated 10-year risk of a cardiovascular event of 10% or greater (B recommendation)

The USPSTF gave a B recommendation—indicating high certainty that the benefit is moderate or moderate certainty that the benefit is moderate to substantial—for starting low- to moderate-dose statins in adults ages 40 to 75 years without a history of cardiovascular disease (CVD) who have one or more CVD risk factors and a 10-year CVD risk of 10% or greater.

The USPSTF dropped its level of endorsement to C for adults with a lower 10-year risk (7.5%-10%) and made no recommendations for adults 76 years of age and older, explaining that there was insufficient evidence for this age group.

*\*Thanks to Vijay Shetty, MBBS, for this summary of the 2016 USPSTF guidelines.*

**Intensity of Statin Therapy**

|  |  |  |
| --- | --- | --- |
| Type of Statin | Taken Daily, Average LDL Lowering Effect | Types of Medication |
| High-intensity statin therapy | Approximately ≥50% | Atorvastatin 40–80 mg |
| Rosuvastatin 20-40 mg |
| Moderate-intensity statin therapy | Approximately 30% to <50% | Atorvastatin 10-20 mg |
| Rosuvastatin 5-10 mg |
| Simvastatin 20–40 mg |
| Pravastatin 40-80 mg |
| Lovastatin 40 mg |
| Fluvastatin XL 80 mg |
| Fluvastatin 40 mg |
| BID Pitavastatin 2–4 mg |
| Low-intensity statin therapy | Approximately <30% | Simvastatin 10 mg |
| Pravastatin 10–20 mg |
| Lovastatin 20 mg |
| Fluvastatin 20–40 mg |
| Pitavastatin 1 mg |

## EVIDENCE APPRAISAL