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## Coronary plaque in asymptomatic people with HIV vs non-HIV asymptomatic community- and symptomatic higher-risk populations

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### Background

The risk of heart disease is higher among people with HIV (PWH), including among younger individuals with lower estimated heart disease risk. It is also common for PWH to have plaque (fatty and/or calcified build up) in the walls of the blood vessels that supply the heart (coronary arteries). However, it is not fully understood how heart disease and plaque among PWH compares to populations without known HIV.

We compared populations without known HIV (PWOH) to PWH enrolled in the Mechanistic Substudy of REPRIEVE. REPRIEVE is a global clinical trial that showed treatment with pitavastatin (a cholesterol-lowering medication) significantly reduces heart disease (including heart attack and stroke) in PWH. U.S. REPRIEVE participants in the Mechanistic Substudy as well as participants of the studied non-HIV populations underwent CT scans of the blood vessels that supply the heart. From the CT scans, fatty and calcified plaque deposits in the blood vessel walls were measured. A coronary artery calcium (CAC) score was then calculated based on the amount of calcium observed in the vessels and used clinically for heart disease risk estimation, i.e., clinically a CAC score of 0 means no calcium was observed and suggests that an individual is at lower risk of developing heart disease in the future.

### Goals of the Study

To better understand differences in heart disease and plaque between PWH and PWOH, we compared plaque across participants from three different studies: PWH *without* heart disease signs and at low risk for heart disease (REPRIEVE), PWOH *without* heart disease signs and at low risk for heart disease (SCAPIS), and PWOH *with* heart disease signs and at increased risk for heart disease (PROMISE).

#### ➤ The participants:

REPRIEVE	SCAPIS	PROMISE
○ 755 PWH	○ 23,558 PWOH	○ 2,291 PWOH
○ Average age: 51	○ Average age: 57	○ Average age: 60
○ 124 (16%) female sex	○ 11,471 (49%) female sex	○ 1,218 (53%) female sex

#### ➤ The findings:

- Participants in REPRIEVE (PWH at low risk for heart disease) were more likely to have plaque compared to participants in SCAPIS (PWOH at low risk for heart disease) and had a similar likelihood of plaque as participants in PROMISE (PWOH at increased risk for heart disease).
- Among participants with a CAC score of 0, participants in REPRIEVE were significantly more likely to have non-calcified plaque compared to participants in SCAPIS and PROMISE.

**Conclusion:** PWH at low risk for heart disease in REPRIEVE had a greater burden of plaque compared to PWOH at low risk for heart disease in SCAPIS and a similar burden of plaque compared to PWOH at increased risk for heart disease in PROMISE. For PWH, a CAC score of 0 should not be taken to mean that an individual does not have plaque, due to the relatively high rate of non-calcified plaque presence.

REPRIEVE Trial Website: [reprivetrials.org](http://reprivetrials.org)

*The findings shared in this summary are from the REPRIEVE population at a specific point in time. These findings are descriptive and not intended to change clinical care. If you have questions about what you've read, please talk to members of the REPRIEVE study team at your local site or a health care provider*