

# Heat exposure increases myocardial blood flow: Study

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Myocardial blood flow (MBF) increases about twofold with exposure that increases the core temperature by 1.5 degrees Celsius, according to a study [published](#) online June 11 in the *Annals of Internal Medicine*.

Hadiatou Barry, from the Université de Montréal, and colleagues quantified the MBF requirements of heat exposure in a laboratory-based study involving 61 participants: 20 healthy young adults (mean age, 28 years), 21 healthy [older adults](#) (mean age, 67 years), and 20 older adults with [coronary artery disease](#) (CAD; mean age, 70 years). Participants were heated until their core temperature increased 1.5 degrees Celsius; before heat exposure and at every increase of 0.5 degrees Celsius in core temperature, MBF was measured.

The researchers found that MBF increased in healthy young adults, healthy older adults, and older adults with CAD at a core temperature increase of 1.5 degrees Celsius (change, 0.8, 0.7, and 0.6 mL/min/g, respectively), representing a change of 2.08-, 1.79-, and 1.64-fold, respectively, from preexposure values. In post hoc analyses, imaging evidence of asymptomatic heat-induced [myocardial ischemia](#) was seen in seven adults with CAD (35 percent).

"This study found that passive heat exposure increases MBF, to an extent that can predispose some adults living with CAD to asymptomatic myocardial ischemia," the authors write.

**More information:** Hadiatou Barry et al, The Effect of Heat Exposure on Myocardial Blood Flow and Cardiovascular Function, *Annals of Internal Medicine* (2024). [DOI: 10.7326/M24-3504](https://doi.org/10.7326/M24-3504)

Eliseo Guallar et al, Feeling the Heat: Cardiovascular Consequences of Heat Exposure Under Controlled Experimental Conditions, *Annals of Internal Medicine* (2024). [DOI: 10.7326/M24-0882](https://doi.org/10.7326/M24-0882)

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