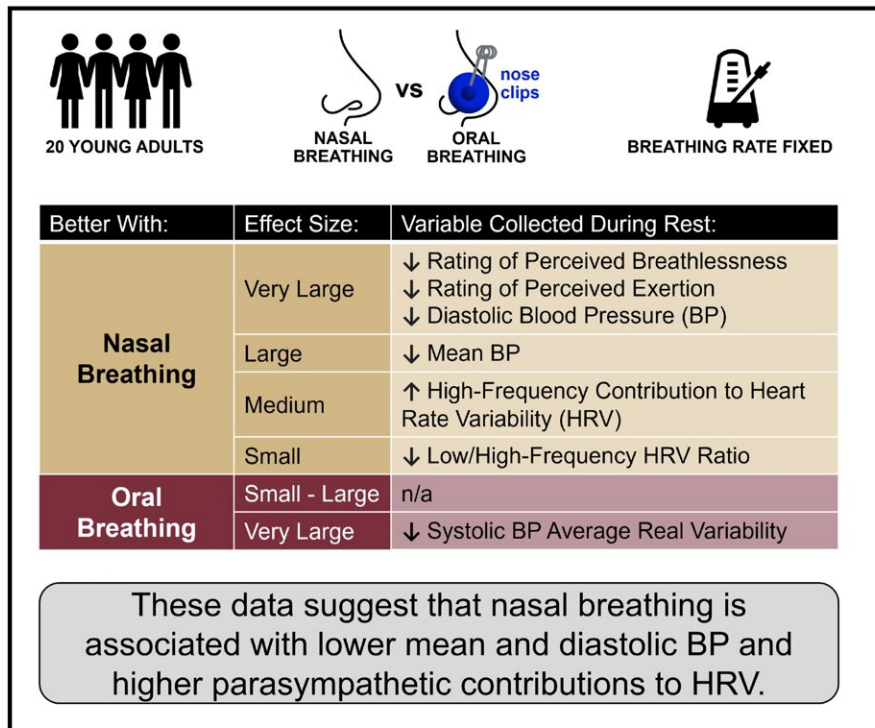


Nose breathing lowers blood pressure, may help reduce risk factors for heart disease

January 17 2024



Credit: *American Journal of Physiology-Regulatory, Integrative and Comparative Physiology* (2023). DOI: 10.1152/ajpregu.00148.2023

More than half of adults living in the U.S. label themselves as "mouth breathers"—breathing primarily through an open mouth. However, according to new research [published](#) in the *American Journal of Physiology-Regulatory, Integrative and Comparative Physiology*, breathing through the nose leads to several benefits, including lower blood pressure and other factors that could predict heart disease risk. The study was chosen as an APSselect article for January.

Cardiovascular disease is the number one cause of death in the U.S. Blood pressure and [heart rate](#) can be predictors of heart disease. Breathing patterns can affect these [bodily functions](#) due to the crosstalk that occurs between the respiratory and cardiovascular systems. Nasal breathing has been shown to relax the airways and improve breathing efficiency, but the effects of breathing through the nose on the cardiovascular system are less clear.

A group of 20 young adult volunteers participated in a crossover study consisting of rest and exercise conditions. In the rest condition, the volunteers performed both nasal-only and mouth-only breathing activities in a randomized order. First, they sat quietly for five minutes and then breathed for five minutes at their own pace. Nasal breathing was performed with the lips closed; mouth breathing was done with soft nose clips to prevent nasal airflow.

The exercise condition was meant to mimic the activity of daily living of walking at a moderate pace at a slight incline. The volunteers breathed, also in a randomized order, at their own rate for seven minutes while using a recumbent stationary bike. As with the rest condition, one activity involved mouth-only breathing and the other, nasal-only breathing. The research team measured the volunteers' blood pressure, blood oxygen levels and heart rate during each condition.

The research team found that the volunteers' [diastolic blood pressure](#) was

lower when they breathed through the nose and a lower perceived rate of exertion than when they breathed through the mouth in the rest condition, but not exercise condition. In addition, nasal breathing shifted the nervous system into a more parasympathetic state ("rest and digest" rather than "flight or fight") during the rest condition.

"We interpret the collective data to suggest that nasal compared with oral breathing provides modest, but potentially clinically relevant, improvements in prognostic cardiovascular variables at rest, but not during exercise," the researchers wrote. "This work advances our knowledge of how nasal breathing affects clinically relevant cardiovascular variables and provides foundational acute data in healthy [young adults](#) to justify future longer-term studies in other populations."

More information: Joseph C. Watso et al, Acute nasal breathing lowers diastolic blood pressure and increases parasympathetic contributions to heart rate variability in young adults, *American Journal of Physiology-Regulatory, Integrative and Comparative Physiology* (2023). [DOI: 10.1152/ajpregu.00148.2023](https://doi.org/10.1152/ajpregu.00148.2023)

Provided by American Physiological Society

Citation: Nose breathing lowers blood pressure, may help reduce risk factors for heart disease (2024, January 17) retrieved 28 April 2024 from <https://medicalxpress.com/news/2024-01-nose-lowers-blood-pressure-factors.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--