Antioxidants and Endothelial Dysfunction in Young and Elderly People: Is Flow-Mediated Dilation Useful to Assess Acute Effects?

To the Editor:

Wray et al reported that acute consumption of antioxidants by healthy subjects had diametrically different effects: flow-mediated dilation increased in elderly people but decreased in young people. The opposite effects are difficult to interpret and reconcile with the measured biomarkers of oxidative stress and NO synthesis/bioavailability. Although not representative, an example for the strong limitation of acute changes is the enhancing effect of certain diuretics on the renal excretion of the NO metabolites nitrite and nitrate, which renders NO synthesis measurement impossible.2

In conclusion, the informational value of flow-mediated dilation concerning acute effects of antioxidants on endothelial function is rather low.4 Plethysmography and accurate assays for nitrite and oxidative stress biomarkers3 are more reliable to measure reactive hyperemia and endothelial function in clinical studies.5

None.


Antioxidants and Endothelial Dysfunction in Young and Elderly People: Is Flow-Mediated Dilation Useful to Assess Acute Effects?
Dimitrios Tsikas, Markus Flentje, Jonas Niemann and Darko Modun

Hypertension. 2012;60:e5; originally published online June 4, 2012;
doi: 10.1161/HYPERTENSIONAHA.112.194399
Hypertension is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 75231
Copyright © 2012 American Heart Association, Inc. All rights reserved.
Print ISSN: 0194-911X. Online ISSN: 1524-4563

The online version of this article, along with updated information and services, is located on the World Wide Web at:
http://hyper.ahajournals.org/content/60/1/e5

Permissions: Requests for permissions to reproduce figures, tables, or portions of articles originally published in Hypertension can be obtained via RightsLink, a service of the Copyright Clearance Center, not the Editorial Office. Once the online version of the published article for which permission is being requested is located, click Request Permissions in the middle column of the Web page under Services. Further information about this process is available in the Permissions and Rights Question and Answer document.

Reprints: Information about reprints can be found online at:
http://www.lww.com/reprints

Subscriptions: Information about subscribing to Hypertension is online at:
http://hyper.ahajournals.org//subscriptions/