

**Harvard Medical School Department of
Continuing Education and the Cardiovascular
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Cardiology Rounds
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Pathophysiology of Vascular Dysfunction in Diabetes

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Objectives:

In this issue of *Cardiology Rounds*, Dr. Beckman reviews vascular endothelial cell function and the impact of diabetes on the endothelium. He presents the results of physiological investigations in patients with diabetes that were performed in an effort to understand the mechanisms underlying the greater rates of atherosclerosis in diabetes. This issue will help readers to:

- discuss the role of the endothelium in vascular health and the impact of endothelial dysfunction on the development of atherosclerosis
- understand the commonly used techniques to assess conduit artery vascular function in humans
- review the mechanisms by which diabetes impairs vascular function
- describe the pathophysiological response of the endothelium to diabetes mellitus that enhances the risk of atherosclerosis in this disease.

Test:

1. The endothelium regulates leukocyte diapedesis.

True False

2. Important endothelium-derived vasodilators include nitric oxide.

True False

3. In determining endothelial function in humans, the parameter of interest is the time to return to baseline of blood flow and artery size.

True False

4. Patients with diabetes have attenuated fibrinolysis and augmented coagulation?

True False

5. Intracellular vascular smooth muscle glucose concentration mirrors extracellular glucose concentration.

True False

6. Nitric oxide synthase is an important source of superoxide anion in diabetes.

True False

7. In contrast to other risk factors, diabetes causes the development of atherosclerotic lesions via a noninflammatory pathway.

True False

To receive AMA category 1 credit, you must correctly answer 60% of the test questions.

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