

**Harvard Medical School Department of
Continuing Education and the Cardiovascular
Division of the Department of Medicine,
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Cardiology Rounds
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Pathophysiology of Intermittent Claudication in Peripheral Arterial Disease.

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Objectives:

Peripheral arterial disease (PAD) is a common cardiovascular disorder managed by a variety of cardiovascular and primary care physicians. PAD is associated with a marked increased risk of cardiovascular events and limb symptoms leading to reduced exercise performance and quality of life. In this issue of *Cardiology Rounds*, Dr. Hiatt describes the complex pathophysiology of claudication in patients with PAD. This issue will help readers understand the role that limitations in blood flow, as well as alterations in muscle metabolism, play in contributing to claudication. This background information provides an approach to treatment that includes not only revascularization, but also exercise and medication, in addressing different aspects of claudication pathophysiology.

Questions: Only one answer is correct.

1. What percentage of elderly persons is affected by peripheral arterial disease?
 - a. 5%
 - b. 10%
 - c. 15%
 - d. 20%

2. Patients with claudication have reduced exercise performance and quality of life. Compared with age-matched controls, to what extent is exercise performance reduced in patients with claudication?
 - a. 10%
 - b. 25%
 - c. 50%
 - d. 75%

3. In patients with PAD, reduced blood flow caused by atherosclerotic occlusions in the peripheral circulation completely explains the functional limitations.
True False

4. What best explains the reduction in exercise performance in patients with claudication?
- a. Calf blood flow
 - b. Ankle-brachial index
 - c. Citrate synthase activity
 - d. Muscle accumulation of short-chain acylcarnitines
5. A formal exercise-training program will improve exercise performance in patients with claudication. This benefit is largely due to improvements in collateral blood flow.
- True False
6. Cilostazol is a medication that improves exercise performance and quality of life in patients with claudication. This benefit is due to:
- a. Vasodilation
 - b. Improvement in lipid profile
 - c. Effects on vascular smooth muscle
 - d. Unknown
7. L-arginine is an effective therapy for claudication
- True False

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