

What are blood thinners?

Blood thinners are medications that make the blood less sticky, preventing new blood clots from forming and existing clots from growing. Clots are lumps of thickened blood that form when the blood hardens from liquid to solid, blocking arteries and potentially causing a heart attack or stroke.

Women who are at high risk for blood clots in the arteries (including women with PAD) may be given blood-thinning drugs to prevent clots and reduce the risk of [heart attack](#) , [stroke](#) , and dying of heart or blood vessel disease.

Aspirin and clopidogrel (*klo-PID-oh-grel*, brand name Plavix) are the most commonly used blood thinners in women with PAD. Click "Next" to learn about the benefits of these medications and who should receive them.

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What is aspirin?

Aspirin is a blood-thinning medication that stops blood clots from forming by preventing small blood cells (platelets) from sticking to each other. It is the most widely used medication to prevent heart attack and stroke.

Aspirin

Generic name:

aspirin (*acetylsalicylic acid*)

Brand name:

[Bayer](#) ,

[St. Joseph](#) ,

[Ecotrin](#)

How it is given:

Pill (the most common daily doses are 81 mg [baby aspirin] and 325 mg)

What it is used for:

- To reduce the risk of heart attack, stroke, and dying of heart and blood vessel disease in women with
- To prevent blood clots in [women who have had a procedure to treat peripheral artery disease](#)
- To treat heart attack and stroke

You should not be treated with it if:

- You are allergic or intolerant to aspirin
- You have suffered a bleeding (hemorrhagic) stroke
- If you have stomach ulcers, ask your doctor if it is safe to take aspirin

Pregnancy/nursing:

You should not take aspirin in the last 3 months of pregnancy or while breastfeeding.

See also:

[Aspirin & Heart Disease](#)

[Aspirin & Stroke](#)

Who should take aspirin to treat PAD?

Most women with PAD or [carotid artery disease](#) should take daily aspirin to reduce the risk of heart attack, stroke, and dying of heart or blood vessel disease.

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Women who have had a procedure to treat artery disease, such as [peripheral artery bypass surgery](#),

[angioplasty and stents](#)

, or

[carotid endarterectomy](#)

, should take aspirin for the rest of their lives to prevent to prevent blood clots.

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The benefits of aspirin are not as clear in women who have been diagnosed with PAD using an [ankle-brachial index test](#), but do not have [symptoms of PAD](#) and do not have other forms of artery disease or risk factors for heart attack and stroke.

5

Who should not take aspirin?

While many women benefit from taking daily aspirin to prevent heart attack and stroke, for women with certain conditions the risk of bleeding outweighs the benefits. Women who have recently had a bleeding stroke or who are currently bleeding (such as from a stomach ulcer or recent surgery) should not take aspirin. Never start an aspirin regimen without first discussing it with your doctor.

If you have had an allergic reaction to aspirin in the past, or have developed *aspirin resistance* (a condition in which aspirin becomes less effective at thinning the blood), ask your doctor if it is safe for you to take aspirin. You should not take daily aspirin (or most other painkillers) if you drink more than three alcoholic drinks per day. This combination increases your risk of liver damage and bleeding in the stomach.

What are the benefits of aspirin in women with PAD?

Aspirin can prevent heart attack, stroke, and dying of heart or blood vessel disease in women at risk, including women with PAD. The use of daily aspirin in women who do not have PAD symptoms is controversial.

A large analysis of blood-thinning drugs (mostly aspirin) in 9,716 high-risk patients with PAD found that these medications reduced heart risk. The chance of having a heart attack, stroke, or dying of heart or blood vessel disease was lowered by 23% in patients with leg pain during exercise (*intermittent claudication*), 22% in patients who had [peripheral artery bypass surgery](#), and 29% who had an

[angioplasty and stent procedure](#)

to treat PAD.

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The benefits were similar in women and men. Another study of 2,420 patients with PAD (28% were women) found aspirin reduced the risk of dying by 28% over an 8-year period.

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Although aspirin can prevent serious complications in women with PAD who are at high risk for heart attack and stroke, the benefits are less clear in women who do not have [PAD symptoms](#). A trial of 3,350 patients (72% were women) with PAD based on an [ankle-brachial index test](#)

but without PAD symptoms found that daily aspirin did not prevent heart attack, stroke, or worsening PAD compared with placebo (sugar pill).

5

Neither women nor men showed a benefit of aspirin in this study. Other trials have had similar results.

8

Current guidelines recommend that all women with PAD receive daily aspirin to prevent heart attack, stroke, and dying of heart or blood vessel disease.² However, given the results of recent studies, you may want to discuss the risks and benefits of daily aspirin with your doctor if you have PAD but do not have any symptoms or other high-risk conditions.

What is the best dose of aspirin?

In women with PAD, guidelines recommend daily aspirin doses between 75 mg and 100 mg.^{2,3} In the US, most doctors prescribe 81 mg a day (baby aspirin).

9

Higher doses are no more effective at preventing heart disease and stroke but are more likely to cause stomach problems and bleeding side effects.

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You should work with your doctor to determine the aspirin dose that is best suited to you.

What are the possible side effects of aspirin?

Because aspirin interferes with the blood's ability to clot, the most serious side effect of regular aspirin use is bleeding in the stomach, which is more common in people older than 70 years. Serious bleeding is rare (less than 3% of patients taking regular aspirin), but is 40% more likely to occur in women.¹¹ Tell your doctor immediately if you experience unusual bruising or bleeding, such as nosebleeds, blood in the urine, or black or bloody stool.

12

Side effects that are more common include upset stomach and nausea. Enteric-coated or buffered aspirin may be easier on your stomach, but there is no evidence it is safer.

Although rare, some women are allergic to aspirin. Seek emergency medical attention if you experience any of these signs of an allergic reaction:

- Hives, rash, or itching
- Swelling
- Faintness, dizziness, or loss of consciousness
- Difficulty breathing
- Numbness or tingling
- Chest pain or pressure

If you are taking daily aspirin, you should not take naproxen (Aleve), ibuprofen (Advil, Motrin), or other NSAIDs (*non-steroidal anti-inflammatory drugs*). These drugs may make aspirin less effective and can increase the risk of serious side effects, including liver and kidney damage, when combined with aspirin.

Are there any alternatives to aspirin for women with PAD?

If you cannot take aspirin, another type of blood thinner called clopidogrel can also reduce the risk of heart attack, stroke, and dying of heart or blood vessel disease.² Click "Next" to learn more.

What is clopidogrel?

Clopidogrel (*klo-PID-oh-grel*) is a prescription blood-thinning medication that stops blood clots from forming by preventing small blood cells (platelets) from sticking to each other. Clopidogrel is slightly more powerful than aspirin, and is a safe and effective alternative for women who cannot take aspirin, or for whom aspirin is not strong enough to prevent clots.

See also:

[Clopidogrel & Heart Disease](#)

[Clopidogrel & Stroke](#)

Clopidogrel	
Generic name:	clopidogrel bisulfate
Brand name:	Plavix
How it is given:	Pills (75 mg or 300 mg dose)
What it is used for:	

- To prevent heart attack, stroke, and dying of heart or blood vessel disease in women at risk who cannot take aspirin
- To prevent blood clots after a stent procedure to treat artery disease

You should not be treated with it if:

- You have conditions that increase your risk of bleeding complications, such as a stomach ulcer or bleeding disorder

Pregnancy/nursing:

The safety of this medication during pregnancy and nursing is not known.¹

Who should take clopidogrel to treat PAD?

For women with PAD, clopidogrel is a safe alternative to aspirin to prevent heart attack, stroke, and dying of heart or blood vessel disease.² If you are allergic to aspirin, or if aspirin is not effective at thinning your blood (a condition called *aspirin resistance*)

), you may be switched to clopidogrel.

Clopidogrel is also used to prevent blood clots after [stent placement](#) to treat PAD, coronary artery disease and [carotid artery disease](#), and occasionally in women with [heart valve disease](#).

Who should not take clopidogrel?

Women with certain conditions that put them at high risk for bleeding problems, such as stomach ulcers or a recent bleeding stroke, should not take clopidogrel.

How effective is clopidogrel in women with PAD?

Clopidogrel is just as safe and may be more effective than aspirin for preventing heart attack, stroke, and dying of heart or blood vessel disease in women with PAD.² The only study so far to compare aspirin and clopidogrel (which included 6,452 patients with PAD, 28% of them women) found that clopidogrel reduced the risk of heart attack, stroke, and dying of heart or blood vessel disease by 24% more than aspirin, without increasing the risk of bleeding problems.

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However, because it is effective, inexpensive, and widely available over the counter, aspirin remains the most commonly used treatment.

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What are the possible side effects?

The side effects of clopidogrel are similar to those of aspirin, including bleeding in the stomach in about 2% of patients.¹¹ Tell your doctor immediately if you experience unusual bruising or bleeding, such as nosebleeds, blood in the urine, or black or bloody stool.

Other side effects of clopidogrel may include diarrhea and skin rashes. Talk to your doctor if you experience them—changing your dose may be able to minimize these problems.

References

1. Hale TW. *Medications & Mother's Milk*. 13 ed. Amarillo, TX: Hale Publishing, L.P.; 2008.
2. Hirsch AT, Haskal ZJ, Hertzler NR, et al. ACC/AHA 2005 Practice Guidelines for the management of patients with peripheral arterial disease (lower extremity, renal, mesenteric, and abdominal aortic): a collaborative report from the American Association for Vascular Surgery/Society for Vascular Surgery, Society for Cardiovascular Angiography and Interventions, Society for Vascular Medicine and Biology, Society of Interventional Radiology, and the ACC/AHA Task Force on Practice Guidelines (Writing Committee to Develop Guidelines for the Management of Patients With Peripheral Arterial Disease): endorsed by the American Association of Cardiovascular and Pulmonary Rehabilitation; National Heart, Lung, and Blood Institute; Society for Vascular Nursing; TransAtlantic Inter-Society Consensus; and Vascular Disease Foundation. *Circulation*. Mar 21 2006;113(11):e463-654.
3. Sobel M, Verhaeghe R. Antithrombotic therapy for peripheral artery occlusive disease: American College of Chest Physicians Evidence-Based Clinical Practice Guidelines (8th Edition). *Chest*. Jun 2008;133(6 Suppl):815S-843S.
4. Dorffler-Melly J, Koopman MM, Prins MH, Buller HR. Antiplatelet and anticoagulant drugs for prevention of restenosis/reocclusion following peripheral endovascular treatment. *Cochrane Database Syst Rev*. 2005(1):CD002071.
5. Fowkes FG, Price JF, Stewart MC, et al. Aspirin for prevention of cardiovascular events in a general population screened for a low ankle brachial index: a randomized controlled trial. *JAMA*. Mar 3;303(9):841-848.
6. Collaborative meta-analysis of randomised trials of antiplatelet therapy for prevention of death, myocardial infarction, and stroke in high risk patients. *BMJ*. Jan 12 2002;324(7329):71-86.
7. Feringa HH, van Waning VH, Bax JJ, et al. Cardioprotective medication is associated with improved survival in patients with peripheral arterial disease. *J Am Coll Cardiol*. Mar 21 2006;47(6):1182-1187.
8. Belch J, MacCuish A, Campbell I, et al. The prevention of progression of arterial disease and diabetes (POPADAD) trial: factorial randomised placebo controlled trial of aspirin and antioxidants in patients with diabetes and asymptomatic peripheral arterial disease. *BMJ*. 2008;337:a1840.

9. Campbell CL, Smyth S, Montalescot G, Steinhubl SR. Aspirin dose for the prevention of cardiovascular disease: a systematic review. *JAMA*. May 9 2007;297(18):2018-2024.
10. Roderick PJ, Wilkes HC, Meade TW. The gastrointestinal toxicity of aspirin: an overview of randomised controlled trials. *Br J Clin Pharmacol*. Mar 1993;35(3):219-226.
11. A randomised, blinded, trial of clopidogrel versus aspirin in patients at risk of ischaemic events (CAPRIE). CAPRIE Steering Committee. *Lancet*. Nov 16 1996;348(9038):1329-1339.
12. Ridker PM, Cook NR, Lee IM, et al. A randomized trial of low-dose aspirin in the primary prevention of cardiovascular disease in women. *N Engl J Med*. Mar 31 2005;352(13):1293-1304.

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