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Nattokinase may help prevent clot formation and reduce blood pressure. It has not been tested as a cancer treatment in humans.

Nattokinase is an enzyme produced from nattō, a traditional Japanese food made from soybeans fermented with the bacterium, *Bacillus subtilis*. Lab studies suggest it can break down fibrin in the blood that forms clots or affect some factors that characterize Alzheimer's disease. Human studies are limited, and suggest nattokinase may reduce high blood pressure. Although nattokinase has been promoted as an alternative anticancer treatment, clinical studies have not been conducted.

Nattokinase may increase the risk of bleeding in patients when used with blood-thinning drugs.

## What are the potential uses and benefits?

- To prevent blood clots  
Preliminary studies suggest that nattokinase may prevent deep vein thrombosis.
- To reduce high blood pressure  
Preliminary studies suggest nattokinase may lower blood pressure.
- Alzheimer's disease  
Although animal models suggest nattokinase may degrade amyloid plaques, human studies have not been conducted.
- Cancer treatment  
Although nattokinase is promoted as an alternative cancer treatment, clinical data of its effectiveness are lacking.

## What are the side effects?

- May increase the risk of bleeding when used with blood-thinning drugs

## Case reports

- Shortness of breath, mild chest pain, and blood clot: Causing a patient to undergo a repeat valve replacement after self-substituting nattokinase for warfarin for a long period of time.
- Internal bleeding that led to death: In an elderly woman who took over-the-counter nattokinase for irregular rapid heartbeat, and was not taking other blood thinners.
- Allergic reactions: Some severe, in patients who were allergic to nattō (fermented soybeans).
- Arm amputation: Due to tissue death resulting from injection of an oral enzyme supplement containing serrapeptase and nattokinase in an attempt to self-treat curvature of the penis.

## What else do I need to know?

### Patient Warnings:

Theoretically, nattokinase can cause an existing clot to dislodge, resulting in a stroke or embolus at a distant location. Patients with a history of deep vein thrombosis should avoid of use nattokinase.

### Do Not Take if:

- You have coagulation disorders or are currently using an anticoagulant drug.
- You take aspirin daily: Nattokinase may increase its effects and lead to excessive bleeding.

If you have questions or concerns, contact your healthcare provider. A member of your care team will answer Monday through Friday from 9 a.m. to 5 p.m. Outside those hours, you can leave a message or talk with another MSK provider. There is always a doctor or nurse on call. If you're not sure how to reach your healthcare provider, call 212-639-2000.

For more resources, visit [www.mskcc.org/pe](http://www.mskcc.org/pe) to search our virtual library.

Nattokinase - Last updated on April 14, 2022

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