# Is your Coumadin killing you? (The remarkable potential of vitamin K to stop arterial calcification)



I recently had the pleasure of attending a phenomenal lecture at the Integrative Healthcare Symposium (IHS) co-presented by Drs. Jeffrey Bland and Leon Schurgers. Dr. Bland is widely acknowledged as the “Godfather of Functional Medicine”; Dr. Schurgers is a Dutch researcher who specializes in the relationship between vitamin K and coronary artery

calcification (CAC).

Measurement of CAC is an accepted way of assessing risk for heart attack. Regardless of cholesterol, some people are highly prone—or resistant—to coronary artery disease. I use the "EBT heart scan" to more reliably predict which of my patients needs aggressive prevention versus those who can be reassured that they're at low risk.

For example, because my cholesterol is a little high (around 210), and I'm a 65 year old male with a family history of heart disease, I'm told I'm an ideal candidate for a statin. But a recent heart scan revealed I had zero plaque—a virtual guarantee of an additional 15 years of trouble-free mileage. I have a patient with a cholesterol of 345 who paradoxically has no plaque; another, with a cholesterol of 190 has a high-risk plaque score of over 800.

So clearly there are factors beyond cholesterol, HDL, and LDL that determine risk.

One of those factors might be vitamin K.

Dr. Schurgers grew up in the Netherlands, a country renowned for its high-quality aged cheeses. Among Western countries, Holland is relatively low in incidence of heart disease, despite high consumption of full-fat dairy. This has led Schurgers to speculate that something in aged dairy products might be protective.

The Japanese have long touted the benefits of natto—fermented soy beans—a decidedly acquired taste for Western palates. Natto is the richest dietary source of menaquinone (MK7), a form of vitamin K2.

For those who can't abide the pungent taste of natto, aged cheese is the second most potent source of MK7. It's also available in supplements, and for years has been a mainstay in my preventive protocols for cardiovascular disease and

osteoporosis.

Why does MK7 have beneficial effects in such seemingly diverse conditions as atherosclerosis and bone loss? The answer, a bit simplistically, is that it acts kind of like a crossing guard for calcium: it keeps calcium away from places it shouldn't be, and helps deposit it where it should be. The key to vitamin K's actions in this regard is something called Matrix Gla protein (MGP).

So where does Coumadin fit in to this picture? It's an anticoagulant, indicated after major surgery such as hip replacement, and for people with artificial heart valves, or for those with conditions such as deep vein blood clots. Coumadin used to be the go-to drug for stroke prevention in atrial fibrillation, but it's gradually being replaced by safer drugs.

Coumadin was serendipitously discovered as a medical application of the rodenticide warfarin—a poison that makes rats bleed to death. When used in a controlled fashion, it can thin blood appropriately, but the margin for error is razor-thin.

According to a review, "More than a third of patients do not respond to their initial dose of warfarin as expected and end up in the emergency room. In 2004 and 2005, according to a study published in *JAMA* the following year, warfarin was implicated in an annual average of 43,000 ER visits for adverse drug events (ADEs). That's second only to ADEs involving insulin, and it doesn't include warfarin-related ADEs in hospitals, nursing homes, clinics, offices, or homes."

Chances are, you probably know someone on Coumadin (alternatively called Jantoven, Marevan, or Waran). About 20 million Americans are on warfarin, and another 2 million start taking the drug each year.

Which makes it all the more concerning that *Coumadin blocks the beneficial activity of vitamin K on bones and heart!*

Research now confirms that Coumadin increases the risk of heart valve and blood vessel calcification. And studies indicate that long-term Coumadin users are more prone to osteoporosis.

And the very individuals most likely to receive lifetime prescriptions of Coumadin may be precisely those who are already at increased risk of arterial calcification and bone demineralization, by virtue of their advanced age and valvular disease!

To compound the problem, individuals who take Coumadin—which works by blocking vitamin K—are further admonished to reduce their dietary vitamin K consumption. For example, the authoritative Mayo Clinic website advises patients taking Coumadin to avoid eating or drinking large amounts of:

- Kale
- Spinach
- Brussels sprouts
- Parsley
- Collard greens
- Mustard greens
- Chard
- Green tea

This would inevitably further deplete their already-compromised vitamin K levels!

Counter-intuitively, it’s been found that, rather than endangering patients on Coumadin, vitamin K supplementation helps keep patients from experiencing catastrophic bleeding episodes. Patients with unstable control of coagulation have poorer intake of vitamin K than those with stable control. Savvy nutritionists recognize this, and encourage patients to consume vitamin K-rich foods, just not inconsistently; INR

times are checked frequently by blood tests, and anti-coagulant doses can be adjusted to accommodate modest vitamin K intake from supplements and/or diet.

Dr. Schurgers has found that MK7 supplementation slows the rate of progression of coronary calcium by half—from around 25% per year to just 12.5%. He estimates that the optimal dose of MK7 is as high as 360 mcg per day. He's undertaking a study to confirm that that dose of vitamin K can slow the progression of CAC.

Incidentally, it's been demonstrated that statins actually increase the rate of coronary calcification. This inconvenient truth has been dismissed with commentaries that propose this does not interfere with statin benefits; the additional calcium is said to help stabilize dangerous atheromatous plaque.

But Dr. Schurgers offers an explanation for this apparent statin paradox: just as statins are known to block synthesis of Coenzyme Q10, they also interfere with vitamin K metabolism. Therefore, supplementation with MK7 might be even more essential for heart patients on statins!

**BOTTOM LINE:** If you're at risk for heart disease, and especially if you're taking a statin, you should be taking generous doses of MK7—from180 to 360 mcg per day. If you're taking Coumadin, don't avoid vitamin K-rich foods, just consume moderate amounts on a regular basis and continue to monitor your INR via scheduled blood tests. Because it can be a little tricky, if you're desirous of harnessing the benefits of MK7 supplements while on Coumadin, work with a nutritionally-oriented health professional to gradually ramp up while carefully following blood tests, if necessary adjusting your dose of medication to accommodate the additional vitamin K. It no longer makes sense to subject yourself to vitamin K deficiency, which could end up killing you just as assuredly as a blood clot!

*Because of it's heart-protective benefits, I've included MK7 in my complete **Intelligent Medicine Heart Health Protocol** – a curated list of my top recommendations for bolstering your cardiovascular health. These are the same supplements I recommend to my patients and use myself. You can check out the protocol by clicking here.*