

Calcium and vitamin D make you a survivor

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A combination of calcium and vitamin D reduces mortality. This is good news for those who fear the side effects of calcium.

The combination of calcium and vitamin D has long been suspected of being the culprit behind a series of diseases such as cardiovascular diseases, stroke and kidney stone.

On the other hand, calcium and vitamin D reinforces our bones, making them stronger and healthier.

So what are we supposed to believe?

The combination looks beneficial

New Danish research offers good news for those who worry about taking vitamin D supplements in combination with calcium.

Leif Mosekilde, a professor of medicinal endocrinology at Aarhus University and one of the authors of the new study, concludes that the probability of dying within the next three years is reduced by around 9 percents in people who combine vitamin D supplements with calcium.

”Our study is very thorough and comprehensive, so for the first time, we’re now able to say that there’s a direct causal relationship between vitamin D and calcium on the one hand and lower mortality on the other,” he says.

“As previous studies have shown, there may still be side effects associated with calcium supplements, especially for those who already have a high calcium intake. But all in all, the combination of vitamin D and calcium means that the total mortality decreases.”

Strong studies of calcium and vitamin D

There are four reasons to believe this conclusion:

1. The study summarises the worldwide results from existing studies of vitamin D and calcium.
2. Nearly all of these studies have used the placebo method.
3. All participants in the studies were randomly divided between either treatment with vitamin D and calcium or a placebo.
4. It takes into account other factors such as gender, age, previous fractures and hormone treatment – all factors that may affect mortality for reasons other than calcium and vitamin D.

A tough vitamin to crack

Vitamin D has in recent years been one of the most talked-about vitamins because it appears to be good

against all sorts of ailments – from cancer to weak bones and mental illnesses.

But according to Mosekilde, it's still too early to say whether it's calcium, vitamin D or the combination of the two that is the cause of the decreased mortality.

“The study included patients who were given vitamin D only, but here we observed no changes to either lower or higher mortality,” he says.

“Having said that, the group of patients receiving vitamin D only was smaller than the group receiving the calcium and vitamin D supplements. So the lack of variation could just as well be put down to statistical uncertainty.”

Not easy to reach firm conclusions

Another researcher who has found that vitamin D and calcium reduce mortality is Christian Gluud, the head of the Copenhagen Trial Unit (CTU) at the Copenhagen University Hospital.

“A great strength in this study is the fact that they can take into account individual factors such as gender,” he says. But he also points out that the statistical uncertainties are problematic for those looking for firm conclusions about the controversial vitamin:

“In a similar study from 2010 we found that vitamin D – with and without calcium – reduces mortality by around 4 percent,” he says.

“It's hard to say why there's a difference between the studies. We based our analysis on more clinical trials than in the new study, but I'm not sure if that explains the difference.”

Despite the difference between the two studies, it's at least fairly clear that the combination of calcium and vitamin D reduces mortality. Whether the conclusion says more about vitamin D, calcium or the combination of the two, remains a subject of debate.

To add to the confusion, [in another recent study](#) [9], researcher Darshana Durup claims that people with high levels of vitamin D in their blood are more likely to die than those with normal levels.

How is that supposed to add up?

Interpret with caution

According to Mosekilde, to learn more about how vitamin D in isolation affects mortality, it is necessary to conduct further studies which, like the new one, take all four factors mentioned above into account.

“The debate about vitamin D is very confusing because some studies link the vitamin to an increased mortality, while others reach the opposite conclusion,” he says.

“But almost all of these studies – including Durup's recent study – are association studies which point to a statistical correlation – they cannot establish a cause that explains this correlation.”

To put it another way: if, over a certain period, you observe a correlation between the number of TVs and the number of births, the cause is unlikely to be that an increasing number of TVs reduces birth rates, or that a decrease in birth rates increases the number of TV sets.

Rather, it's an entirely different factor – perhaps the economic crisis – that affects both the number of TVs and birth rates.

“As long as we don’t know the reason why one study shows a correlation between vitamin D and higher or lower mortality rates, we need to interpret the studies with great caution,” says Mosekilde.

Studies with different approaches

Glud agrees that there is a big difference between Durup’s and Mosekilde’s studies:

“Durup’s study is about how vitamin D concentration in the bloodstream correlates statistically with mortality, while Mosekilde’s study is a meta-analysis that summarises intervention studies in which vitamin D is administered actively and the effect on each individual patient is closely monitored,” says Glud.

“Those are two completely different ways of looking at the world.”

[Read this article in Danish at videnskab.dk](#) [10]

 [Vitamin D has in recent years become known as a super vitamin. But scientists are struggling to come up with a clear picture ? for or against ?eating as many of them as you like, or whether it?s good for everyone to mix vitamin D with calcium. \(Photo: Colourbox\)](#) [11]

 [New research shows that vitamin D and calcium are good for our bones ? and, on a more general level, the combination of the two reduces mortality. \(Photo: Colourbox\)](#) [12]

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[Too much vitamin D can kill you](#) [9] [UV light turns mushrooms into vitamin D bombs](#) [14] [Confirmed: vitamin pills can cause death](#) [15] [Vitamin D prolongs life](#) [16]

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[Mosekilde, Leif et al: Vitamin D with Calcium Reduces Mortality: Patient Level Pooled Analysis of 70,528 Patients from Eight Major Vitamin D Trials; doi: 10.1210/jc.2011-3328](#) [19] [Durup, Darshana et al: A Reverse J-Shaped Association of All-Cause Mortality with Serum 25-Hydroxyvitamin D in General Practice, the CopD Study;doi: 10.1210/jc.2012-1176](#) [20] [Glud, Christian et al: Vitamin D supplementation for prevention of mortality in adults;DOI: 10.1002/14651858.CD007470.pub2](#) [21]

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Dann Vinther

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