



Is vitamin D overrated?



When it comes to acceptance of novel scientific theories, J.B.S. Haldane once wrote that acknowledgment goes through four stages:

1. This is worthless nonsense.
2. This is an interesting, but perverse, point of view.
3. This is true, but quite unimportant.
4. I always said so!

Vitamin D has certainly followed this trajectory during my professional career in nutrition.

In an article entitled "Paths to Acceptance: The advancement of scientific knowledge is an uphill struggle against 'accepted wisdom'", medical historian Howard Wolinsky writes: *"The history of science is replete with theories that only became accepted by the scientific community after a long and protracted uphill battle."*

On the other hand, the annals of medicine are littered with discarded, discredited theories.

So where are we with vitamin D? Is it a once-ignored nutrient that has finally assumed its rightful place in our therapeutic armamentarium? Or a temporary fad that

has had its day?

The latter view has been espoused by none other than Alan Gaby MD, pioneer nutritionist, and author of the authoritative reference text, *Nutritional Medicine (Second Edition)*. I consider him one of my respected mentors, and he's been a frequent guest on *Intelligent Medicine*.

These days, the view that enthusiasm over vitamin D is overblown bucks the tide; most progressive nutritionists have uncritically embraced vitamin D. But Gaby is an iconoclast. He amply demonstrated that in the 70s when he dared to boldly advocate treating diseases with vitamins and minerals.

It can't be disputed that Gaby is a scrupulous scientist, and his contrarian views are worth considering. In a recent article in the *Townsend Letter*, he made these points about vitamin D:

- Vitamin D tests don't accurately reflect vitamin D status, i.e., whether or not we need vitamin D supplementation, so we needn't test frequently and obsessively.
- Megadosing vitamin D is unnatural.
- While many studies show that low vitamin D is associated with a wide variety of ailments, correlation is not causation. It may be that inflammation saps the body's vitamin D reserves; obesity lowers vitamin D by sequestering D in fat cells and keeping it out of the blood circulation; other illnesses cause vitamin D malabsorption. It's another thing to say that vitamin D *fixes* these diseases.
- Some recent studies have demonstrated *no* value of vitamin D supplementation for prevention of heart disease, cancer or even osteoporosis.
- There may be hazards to overzealous vitamin D supplementation, namely calcium deposition in arteries or kidney stones.

As with all clinical "vogues"—like indiscriminate use of statins or osteoporosis medications—caution over high-dose universal vitamin D administration may be warranted.

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But—with due respect to Dr. Gaby—before we throw the baby out with the bathwater, let's remember these facts about vitamin D:

- A recent (2017) randomized controlled trial showed that vitamin D supplementation reduced "vascular stiffness"—or hardening of the arteries, a hallmark of hypertension and cardiovascular disease.
- Research shows that doses of vitamin D as high as 14,000 IU per day reduced the symptoms of multiple sclerosis and were tolerated without adverse effects.
- Vitamin D supplementation was associated with reduced intestinal inflammation in patients with active ulcerative colitis.
- Vitamin D has been shown to help treatment of lethal drug-resistant tuberculosis.
- Men undergoing active surveillance for low-risk prostate cancer were found to derive benefit from taking 4,000 IU of vitamin D3 per day; subsequent prostate biopsies showed less active disease.

These are but a tiny smattering of the hundreds of papers that show a disease-fighting effect of vitamin D supplementation.

Why the disparity in study results, with some recent studies coming up short in substantiating the benefits of D supplementation? It may be that vitamin D is hard to investigate, with a wide disparity in dosages, baseline D levels, and genetic variations that make vitamin D more or less bio-available or efficacious. Studies of large populations may obscure improvements occurring in small subgroups. Some populations may be too healthy, others too ill, to show definitive responses to D, especially in short-term trials.

These difficulties are summarized in a review article entitled “Why randomized controlled trials of calcium and vitamin D sometimes fail”:

“This analysis has shown both that many of the existing RCTs of calcium and vitamin D contain substantial, and sometimes fatal, design flaws—flaws that preclude their adequately addressing the research questions they set out to answer. Systematic reviews that nevertheless include such flawed studies will inevitably be misleading and should not, we maintain, be used as a basis for developing nutritional policy.”

As to vitamin D safety, the assertion that vitamin D supplementation leads to kidney stones may be a shibboleth. A large review concludes:

“Although there is a large consensus that high calcitriol levels increase urine calcium and kidney stone formation, whether serum 25-hydroxyvitamin D circulating levels or widespread vitamin D prescription could influence kidney stone formation is still debated.”

Another study reports that, *“Vitamin D intake in typical amounts was not statistically associated with risk of kidney stone formation, though higher risk with higher doses than those studied here cannot be excluded.”*

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On the contrary, there’s evidence that low vitamin D may be a cause of kidney stones.

And when it comes to the assertion that vitamin D might promote blood vessel calcification, the scant evidence for that proposition mostly comes from studies where D was co-administered with large amounts of calcium or in the absence of vitamin K2, which might mitigate calcium buildup. In fact, many studies show an association of vitamin D *deficiency* with coronary artery disease.

So, as with all supposed verities that claim to be “settled science,” we must retain a skeptical and nuanced view of vitamin D’s role in health. But notwithstanding the concerns of D-doubters, I come down firmly on the side of D supplementation for general prevention, as well as for treatment of a wide gamut of conditions. No doubt there’s an urgent need for more research to clarify how much and for whom. Stay tuned!