

An even sharper debate over vitamin D? Everyone knows it's necessary. Not everyone knows it's not really a vitamin. It has fanatical believers and implacable skeptics. Adit Ginde's clinical trial that aims to study its effects on respiratory illness promises to add fuel to the fire.



A search for data

Physician Aims to Sharpen Vitamin D Debate with New Study

An emergency medicine physician at University of Colorado Hospital hopes to shed light on the possible clinical benefits of a familiar but enigmatic substance sometimes known as the sunshine vitamin.

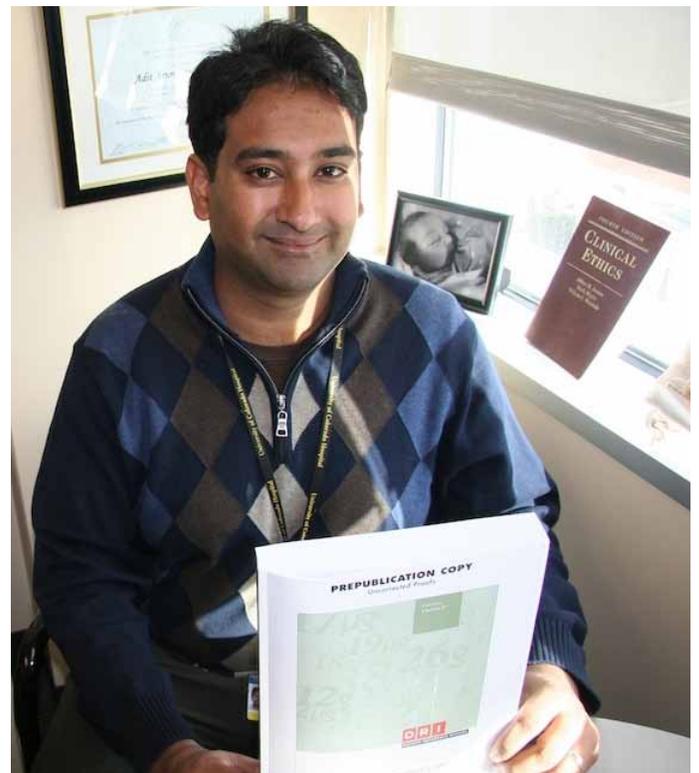
Adit Ginde, MD, MPH, has spent years studying and publishing original research articles about vitamin D, a molecule familiar to dutiful parents who urge their children to drink milk fortified with it. Most people are also aware that humans and other vertebrates can synthesize it simply by absorbing the sun's ultraviolet rays.

The beneficial qualities of vitamin D are also generally well-known, Ginde says, thanks to a "wealth of information" gathered through decades of research and clinical trials. It enables the body to absorb calcium and phosphorus, which are essential to building and maintaining healthy bones. Vitamin D deficiency, on the other hand, causes loss of bone mass (osteoporosis) in adults and abnormal skeletal formation (rickets) in children.

Deeper into D. Ginde is now one of many researchers looking deeply into vitamin D's potential to regulate cell activity and affect other disease processes, including infections, diabetes, cardiovascular disease, respiratory ailments and even cancer.

Ginde is leading a clinical trial, funded by the National Institute on Aging and the American Geriatrics Society, that explores what effect, if any, increased amounts of vitamin D might have in preventing respiratory infection in nursing home and assisted living facility residents.

The trial will also look at whether higher doses of vitamin D improve elderly patients' immune responses to vaccines.



Adit Ginde, with publication containing Institute of Medicine recommendations for vitamin D intake. Ginde hopes his study of nursing home residents will shed light on the potential health benefits of the vitamin that isn't really a vitamin.

The randomized trial, underway for a year and a half, has so far enrolled 50 participants, he said. One group of patients will receive a standard daily dose of 400 to 1,000 IUs (international units) of vitamin D, while a second will receive 3,000 to 4,000 IUs per day — about four times the amount recommended to prevent osteoporosis.

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“It’s a simple intervention with large potential benefits,” says Ginde, because nursing home residents are a group at particularly high risk for respiratory infections.”

If nothing else, he hopes the study will help build the body of evidence necessary to prove what additional health benefits – if any – vitamin D might provide. Pre-clinical and observational research indicates that low vitamin D levels are associated with increased infection risk, Ginde says, but an association, he cautions, is not a causal link.

“As science has progressed, there have been observations that people with low vitamin D levels do worse [than others],” he says. But there is “limited scientific evidence” to support the benefits of increasing doses of the vitamin beyond recommended levels, he adds. “We need clinical trials.”

Raging debate. Vitamin D might seem an unlikely source of raging debate, but in fact, it’s surprisingly misunderstood and controversial, Ginde says. For one thing, it’s not actually a vitamin, which is a vital nutrient people must obtain primarily through diet. Vitamin D, on the other hand, is a hormone – the body produces it on its own, like insulin.

“We make it normally in the skin. It doesn’t have to be ingested,” Ginde says. That means we don’t need to take supplements or gulp gallons of milk to get the vitamin D we need. We can merely take a short walk outside on a bright day or bask near a window in a sunny corner of a room.

Not so fast, say dermatologists and others who have for years admonished parents to slather sun block on their children before they apply it liberally to themselves. Getting enough Vitamin D may be important, they say, but not if it increases the risk of melanoma and other skin cancers.

“Dermatologists argue that we shouldn’t expose ourselves to a known carcinogen [ultraviolet rays], and should get our vitamin D exclusively from diet or supplements,” Ginde says.

Children and adults who stay indoors and wear sun block when they venture outside decrease their risk of skin cancers, he acknowledges. “But from an evolutionary perspective,” he points out, “we are meant to be outdoor people...As we look at additional evidence about the benefits of vitamin D, it could be considered a [risk] trade-off.”

Vitamin D has also drawn both fanatical believers and implacable skeptics, Ginde says. “There are those who believe in it so deeply that they are willing to accept a lower standard of evidence,” he notes.

“But there is also general skepticism about vitamins and supplements in general. The lay skeptic doubts that anything can be a panacea” capable of improving a disparate set of conditions, he said.

Enter the IOM. Even the Institute of Medicine (IOM) entered the debate, seeking to address the question of how much vitamin D is beneficial and how much is toxic. The IOM, Ginde says, spent three years looking at available safety and efficacy data, ultimately deciding that more than 4,000 IUs of vitamin D daily increases the risk of harm, namely kidney and tissue damage.

The IOM settled on a relatively conservative toxicity number, Ginde says, erring on the side of caution because it lacks solid scientific evidence that increasing vitamin D intake benefits people – unless they fall below minimum daily requirements (600 IUs for most; 800 IUs for people older than 70 years of age).



Getting enough vitamin D is as easy as taking a walk in the sun, but dermatologists and others worry that exposure to ultraviolet rays increases the risk of melanoma and other skin cancers.

Ginde says the IOM guidelines are a reasonable public health recommendation for the vast majority of the population, “based on the current state of evidence.” Individuals will make decisions about their vitamin D intake based on where they fall on the “risk-aversion scale,” he observed.

“The IOM is advising the population on what they should do as a whole, and has to be conservative. But individuals and their health care providers make independent decisions about the risks and benefits of their health choices all the time.”

For his part, Ginde says he's found a receptive audience for his vitamin D clinical trial from both nursing home and assisted-living facility residents and from providers.

"Family members have been overwhelmingly positive," he reports. "It's hard to do studies in nursing homes, but people want to contribute to science. They see it as an exciting intervention and it's not cumbersome."

