

The Vitamin D Newsletter
More Vitamin D Studies of Interest
December 3, 2009.

This is a periodic newsletter from the Vitamin D Council, a non-profit trying to end the epidemic of vitamin D deficiency. If you want to unsubscribe, go to the end of this newsletter. If you are not subscribed, you can do so on the [Vitamin D Council's website](#).

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Five million dollar randomized controlled trial sponsored by Thrasher Research Fund and NIH

Scientists around the world presented their work at the recent Vitamin D conference in Brugge, Belgium. Many, but not all, of the scientists opined that we have to wait for randomized controlled trials (RCT) before recommending Vitamin D. In a future newsletter, I will review many of these presentations.

However, one was extraordinary. Professor Bruce Hollis presented findings from his and Carol Wagner's five million dollar [Thrasher Research Fund](#) and NIH sponsored randomized controlled trials of about 500 pregnant women. Bruce and Carol's discoveries are vital for every pregnant woman. Their studies had three arms: 400, 2,000, and 4,000 IU/day.

1. 4,000 IU/day during pregnancy was safe (not a single adverse event) but only resulted in a mean Vitamin D blood level of 27 ng/ml in the newborn infants, indicating to me that 4,000 IU per day during pregnancy is not enough.
2. During pregnancy, 25(OH)D (Vitamin D) levels had a direct influence on activated Vitamin D levels in the mother's blood, with a minimum Vitamin D level of 40 ng/ml needed for mothers to obtain maximum activated vitamin D levels. (As most pregnant women have Vitamin D levels less than 40 ng/ml, this implies most pregnant women suffer from chronic substrate starvation and cannot make as much activated Vitamin D as their placenta wants to make.)
3. Complications of pregnancy, such as preterm labor, preterm birth, and infection were lowest in women taking 4,000 IU/day, Women taking 2,000 IU per day had more infections than women taking 4,000 IU/day. Women taking 400 IU/day, as exists in prenatal vitamins, had double the pregnancy complications of the women taking 4,000 IU/day.

What does this huge randomized controlled trial mean?

We have long known that blood levels of activated Vitamin D usually rise during very early pregnancy, and some of it crosses the placenta to bathe the fetus, especially the developing fetal brain, in activated vitamin D, before the fetus can make its own. However, we have never known why some pregnant women have much higher

activated Vitamin D levels than other women. Now we know; many, in fact most, pregnant women just don't have enough substrate, the 25(OH)D building block, to make all the activated Vitamin D that their placenta wants to make.

Of course fetal tissues, at some time in their development, acquire the ability to make and regulate their own activated Vitamin D. However, mom's activated Vitamin D goes up very quickly after conception and supplies it to baby, during that critical window when fetal development is occurring but the baby has yet to acquire the metabolic machinery needed to make its own activated Vitamin D.

The other possibility, that this is too much activated Vitamin D for pregnancy, cannot stand careful scrutiny. First, the amount of activated vitamin D made during pregnancy does not rise after the mother's 25(OH)D reaches a mean of 40 ng/ml, so the metabolism is controlled. Second, levels above 40 ng/ml are natural, routinely obtained by mothers only a few short decades ago, such as President Barack Obama's mom probably did, before the sun scare. (President Obama was born in Hawaii in late August before the sun-scare to a mother with little melanin in her skin) Third, higher blood levels of Vitamin D during pregnancy reduce risk of infection and other pregnancy complications, the opposite may be expected if 25(OH)D levels above 40 ng/ml constituted harm.

It is heartening to see the Thrasher Research Fund and NIH support such a large randomized controlled trial. In fact the Thrasher Research Fund has already funded a three year follow up and the NIH request for a follow up grant is pending. Nevertheless, a large number of medical scientists keep saying, "We need even more science before recommending Vitamin D." What are they really saying?

First they said we need randomized controlled trials (RCT) before we do anything. Well here is a big one. Then they say, as they did in Brugge, "We don't believe this RCT, we need more money for more RCTs." If you think about it, they are saying pregnant women should remain Vitamin D deficient until scientists get all the money for all the RCTs they want, which may take another ten years. How many children will be forever damaged in that ten years?

Amazing study just presented at American Heart Association meeting

Dr. Tami Bair and Dr. Heidi May, of the Intermountain Medical Center in Utah, report yet another study showing that your risk of heart attack, stroke, congestive heart failure and death are dramatically increased by Vitamin D deficiency. In a presentation at the American heart Association meeting, they found that people with low levels (< 15 ng/ml) had a 45% increased risk for cardiovascular disease, 78% greater risk of stroke and double the risk for congestive heart failure, not to mention a 77% increased risk of death, compared to people with Vitamin D levels > 30 ng/ml. All that disease and death occurred in only 13 months of follow up for the 27,000 people in the study.

[New York Times: Vitamin D Shows Heart Benefits in Study](#)

So how many Americans died this last year from Vitamin D deficiency? Ten thousand? A hundred thousand? More? How many will die next year? Someone is responsible. Medical scientists who want more money before recommending that Vitamin D deficiency be treated have to assume responsibility. I am all for more studies but we have to act now, like we did with cigarettes. Remember, no human randomized controlled trials exist showing cigarettes are dangerous, so we have much more and better science than we did when we warned about smoking. If we fail to act on the dangers of Vitamin D deficiency, someone will end up with blood on their hands.

The Great Disappearing Act

We are currently witnessing one of the great mysteries of the natural world. The [H1N1 outbreak is rapidly disappearing](#), despite a wealth of potential victims without antibodies to the virus, and yes, in spite of plummeting Vitamin D levels. In several weeks, the CDC will announce that perhaps one-third of Americans were infected in the last nine months and now have Swine flu antibodies, leaving the majority of the population still susceptible.

But this H1N1 virus is rapidly refusing the invitation to infect the two-third of Americans who are mostly immunological virgins and will soon recede until the next widespread outbreak, which may come this spring or next fall and winter. When H1N1 returns again, I predict it will cause more illness and death than it did this fall despite the fact it will attack a population with more H1N1 specific antibodies. Measles, another virus thought to transmit via respiratory secretions, would never forego the opportunity to infect so many virgins.

Influenzologists have no idea why this Disappearing Act happens. Dr. Edgar Hope-Simpson believed the reason lay in the mode of transmission; the current outbreak is ending despite a wealth of potential victims because the people transmitting the flu are suddenly no longer contagious. I recommend Hope-Simpson's book:

[*The Transmission of Epidemic Influenza \(The Language of Science\)*](#).

I also believe that only a small population was transmitting, not all those infected. If these good transmitters – and not all the sick – usually spread the virus, and their transmission period is limited, the epidemic would end shortly after the good transmitters lose their infectivity. Why they lose their infectivity is yet another mystery, but a mystery that fits the epidemiology of influenza.

[Cannell JJ, Zaslloff M, Garland CF, Scragg R, Giovannucci E. On the epidemiology of influenza. Virol J. 2008 Feb 25;5:29. Review.](#)

Another incredible Disappearing Act, one that usually follows the introduction of a pandemic virus, is the rapid and usually complete replacement of seasonal flu with the pandemic one. It is as if the pandemic virus murders the seasonal flu. We will have to

wait to see if that happens worldwide with this pandemic, but in the USA it has already happened. Last week the CDC reported that more than [99% of all influenza viruses identified in the USA were Swine flu](#). Only 1 of 1,874 influenza A viruses identified last week was seasonal flu. Where did the seasonal flu virus go?

Thanks to those who volunteered!

If your email address begins with A through E, you may have gotten my email asking for volunteers to help give feedback on our new website. We were overwhelmed with the response, ten times more than we needed. Thank you.

The reason for the request is that the Vitamin D Council has contracted with [Minervation Ltd](#) for \$40,000 to build a new website over the next several years. We can only afford \$1,000 per month so it take three and a half years to pay them, however; the first version of the new site is scheduled to go up in the late fall of 2010.

We decided to make our site more accessible, so if you only want to know about Vitamin D and pregnancy, you will be able to pull up the information quickly. Our new website will also update Vitamin D articles in the press and scientific studies from the National Library of Medicine automatically every day.

We also want to clearly separate fact from opinion, so readers can easily see what the science is and what our opinion is. Finally, as you know, the Vitamin D Council unfortunately has to market products, like the in-home Vitamin D blood test, to stay in business. The new website will prominently display all of our potential conflicts so readers will know them up front.

If you want our new website up and running sooner than 12 months, consider making a dedicated donation, either by using the snail mail address below or via PayPal on our [website](#). We are now going on our seventh year of operation and plan on 20 more years, in spite of the fact that all 15 of our requests for grants were recently turned down.

Did you know that when you Google "Vitamin D," you will get more than 12 million hits? Our current website is usually ranked either number 1 or 2 of those 12 million, beating out the NIH, Mayo Clinic and Wikipedia on most days? This is almost entirely due to our webmaster Dana Clark. However, we believe we can dramatically improve our website, with your help.

John Cannell, MD

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