Beyond the Multivitamin

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While I was driving my daughter to school the other morning, as I always do when I'm in town, she said, "Dad, when you get older, do you have to take more vitamins?" Knowing that by *vitamins* she meant *all supplements*, I replied in my normal "format." I anticipated the obligatory "why" and challenged myself to answer her question in a way a 9-year old would understand without sacrificing the science.

I answered, "Yes, Francesca, as people get past a certain age, their bodies don't do things as well as they once did. This is because now-a-days we can live long enough for many of our body parts to actually wear out. You've seen what I mean--in me, your grandparents and others around you--but you probably never thought about how getting older is making us move differently or, in very old age, say things that don't make sense.

"It used to be that people didn't live very long, maybe 30 to 40 years. That's not long enough to experience age-related problems like the brain not thinking properly, sore knees & backs, or sicknesses like cancers & heart attacks brought on by lifelong habits of eating the wrong foods or simply not knowing what were the "right foods". Now people can live over 100 years because life is easier. We don't have to hunt for our food, nor does our 'food' hunt us (I did have to explain that part – *just a little more*) and we got smarter. Getting smarter allowed us to discover new medicines that treat or cure diseases that used to kill us. Most importantly, by getting smarter we were able to figure out what foods (and what stuff in foods) to eat in order to help keep things working longer.

"As you know, the things we eat are what make up *all* our body parts. So the problem is that maybe throughout our lives we haven't had enough of certain things, like calcium for our bones, or because of aging our bodies simply lose the ability to make 'things' our brains or knees need to function properly. Therefore, we end up using pills to put those 'things' into our aging bodies in an attempt to keep our bodies working the way they did in our younger days."

"Why can't you use food?" she asked.

I replied, "To get all that we need to really make a difference, we would have to eat far too much of all kinds of foods, including things that don't taste good. So what we do is take all the stuff we need out of the food, put it in a pill, and throw the rest away so we don't have to get fat or fatter getting the nutrients we need--remember the older most adults get the less they usually move, making it very easy to get fat.

"Do the pills work, Dad?"

"Most of the smart scientists who discovered what we may need to stay healthy longer believe so. Now remember, at your age, you simply have to eat healthy, drink your milk and/or Apex shakes, and take your daily multiple vitamins. You don't have to worry about the rest for a long time because young bodies do things very well – sort of like new cars. Old bodies are like old cars: we require more attention & 'parts' (support for our diets) in order to keep everything working. The goal is to start taking these extra 'natural parts' before it's too late and we break down. Breaking down might force us to need an operation or have to take drugs/medicine, which hurts other parts of the body while it's trying to fix something else. Those kinds of medicine are the pills you never want to have to take. That's the end of today's science lesson, Francesca. I'll see you after work."

What we should take, and when

Since old age starts around 15 years of age for some parts of the human body, it's very hard to determine when we need to take things that may prevent our bodies from early breakdowns or, as we like to say, "Extend our youthful years." But since the main decline in hormonal production and enzyme activity (which controls how most of our body parts continue to function) takes place in our 30s and memory declines sharply at middle age, it's safe to say that somewhere around 45 years of age we need to start preventative supplementation. This is a means of delivering the "parts" that the body can no longer produce or receive in appropriate amounts from incoming nutrients. And we want to start this practice at an age when the body is still working well enough to make use of the supplemental compounds.

When: the first 30-40 or so years

Adding our multiple vitamin and mineral supplement (and supplemental calcium & vitamin D, as needed) to our "best we can do diets" takes care of our childhood and early adult needs. This ensures we have what we need to build a healthy body, including maximizing brain development. By incorporating this practice throughout our early years, our bodies then have the potential to last longer because they have all the needed "parts" throughout life to construct a solid structure. With these "parts" in place, our bodies will now take longer to "wear out" or "tear down."

Then we enter the next phase of the lifecycle. This is when we first stop growing and, after a few more years, the body slowly begins to change the way it works, performing less efficiently than it once did—whether it be reflexes, running speed, back pain or memory.

The good news is that we can continue to get smarter for a very long time and this helps off-set the normal decline in body functions. You have heard athletes say that experience can often make up for their age-related, declining skills, allowing some of them to remain competitive up to age 40. Additionally, most top thinkers in the world are certainly in the latter half of their lives, but

their accumulated knowledge continues to be processed and added to by an active mind. Meanwhile, the rest of the body *including some parts of the brain* is losing many youthful, functional aspects. All this definitely supports the idea of doing everything we can to keep the brain and the rest of the body as healthy and youthful as possible for as long as possible.

The remaining years

The goal at this later stage in life is to give the body what it no longer naturally receives or produces in sufficient amounts in order to keep the young adult structure from deteriorating too soon. For instance, our myriad enzyme systems are responsible for most every action that takes place in our bodies, and aging is, in large part, simply a natural decline in the activity of these systems. It's well known that, to a certain extent, we can restore declining enzyme activities by supplying more of the nutrients (e.g. co-enzymes such as vitamins or other related compounds) that make the enzyme systems work. This is because the age-related reduction in activity is generally caused by the enzymes losing their ability to bind with their coenzymes, thus lowering the rates of reactions that keep everything working properly. Therefore, feeding high doses of these coenzymes can overcome the age-related deficiencies of the enzymes with this decreased binding affinity and often significantly restore enzyme function.

Other conditions resulting from aging are the structural changes that take place in many of our cells. Therefore, we attempt to maintain the structural integrity (thus normal functioning) by increasing, as we age, the levels of the nutrients involved in a particular cell's makeup. Examples: we target brain cells (e.g. neurons) with compounds important to its structural components such as phosphatidylserine (PS), acetyl-L-carnitine (ALC) & alpha lipoic acid; joint cells with glucosamine and chondroitin sulfates; bones with calcium and vitamin D; and the vascular system/heart with specific fatty acids primarily from fish oils.

Most of these natural compounds are unattainable from the diet in effective, practical doses. And many were unneeded in our youth because our younger, more efficient body could adequately manufacture them from the normal stream of incoming nutrients during a time when our body's enzyme activities were much higher.

As we age, we not only lose the ability to make some of these important compounds but the body also decreases its ability to absorb the nutrients from foods (e.g. Vitamin B12, minerals, etc.). We stop getting regular sunshine, dramatically decreasing vitamin D production; taste or food preference changes take place (e.g. we discontinue dairy products or other important foods); and, during the last stages in life, our appetites often diminish.

Summary: Before it's too late

The point here is to take advantage of our youthful structure and leverage its abilities into our advancing years. By doing so, we may significantly slow the inevitable decline in body and brain functioning and, to a point, we may end our days in a very "soft landing": cognitively functional and relatively productive, meaning at the very least, we would require little to no help participating in life.

We attempt to accomplish this goal by building off what we started in our youth. We add the things our older body can still use but may no longer manufacture or can't receive. We start adding them at a point in time BEFORE it's too late, while the body *can* still use them. In other words, add these natural substances while we still have our internal "machinery" working so the nutrients can be used rather than waiting until the machinery is worn out, rendering the additional compounds virtually useless. Sticking with the car analogy I used during the discussion with my daughter, don't wait till the "engine is broken" before adding oil. Do it while it's still working.

The what: your best protocol based on where we are scientifically

We will forever chase the "fountain of youth," and hopefully we'll never find it – we shouldn't live forever but we should and can live long & well.

Establishing proper recommendations for nutrition protocols related to managing the aging process (in order to avoid many of today's age-related diseases) requires filtering all available scientific data through the Apex conservative lens. And through that lens, a *recommendation is prudent when, at a bare minimum, the scientific evidence becomes strong enough to support the existence of a significant potential upside to the implementation of a specified nutrition regiment, and this regular practice would absolutely have no potential downside*. In other words, there should be nothing to lose and everything to gain, even if recommendations change as science progresses.

If it's time for you to start adding to your multiple vitamin & mineral and calcium & vitamin D dietary support, the attached Longevity Program shows great promise. This protocol may help our bodies support proper cellular activities that may offer our best chance of maintaining brain vitality and allowing a long, productive lifespan with a comfortable ending. Here's a link to the Nutrition Store if you'd like to see the nutrition info on these products: www.myapex.com/general_health

Here's to your improving health--
Neal

P.S. If you have trouble using the link above for the Longevity Program, paste this URL into your browser window: http://my.apexfitness.com/uploads/July_07_Longevity_Program.pdf