

The Basic Problem



From the moment of birth some of our cells die off each day and are replaced by new cells. For the first twenty-five or thirty years, the renewal process is quite efficient; the 300 billion new cells that are renewed each day are exact copies of the old cells. Beyond our thirtieth birthday, like a document copied from a copy, the cell renewal continues but the accuracy is less than perfect. The new cells are like the xeroxed cartoon on someone's fridge where the words are barely legible and the white areas are clouded with little black specks.

The rate varies at which cells are replaced in different organs. Although some cells in the body are replaced every 5 days, most last much longer. The entire body is replaced every 15 years.

By our thirtieth birthday we've had two complete body replacements and trillions of cell renewals. Sometime around our fortieth or fiftieth birthday, the wrinkles and the aches are hard to ignore. We look in the mirror one morning and say, "I've just got to take better care of myself!"

Is it possible to turn back the clock? Can we renew our DNA so that our cells are making exact copies again? Can we improve the process so that we make skin cells that look like twenty-year-old skin rather than fifty-year-old skin?

Well—yes and no.

We can do a much better job of reproducing cells. We can undo some of the damage and look younger. We won't look like we're twenty again but we can feel much better inside and out. We can look younger.

What's the Secret?

Aging optimally is based on four obvious principles:

- Nourish the body so that it has the right resources,
- Restore optimal cell functions to whatever extent is possible at the current age,
- Fortify the body against the ravages of the stresses and toxins in our modern environment, and
- Vitalize the body so that mentally and physically we are prepared to enjoy life.

Nourishing Ourselves Optimally

Eating a diet that is optimal is more than eating some of the four food groups at every meal. A study performed for the US Department of Agriculture found that none of the 21,500 people studied were obtaining the recommended daily allowances of ten basic nutrients from their diets¹. Experts say that the Mediterranean Diet and the now-popular South Beach Diet are healthier alternatives to the Standard American Diet (SAD). While there's no doubt that these diets are better, it's also true that not everyone has the time to prepare fresh meals or has access to fresh foods.



Many people turn to supplements to supply missing nutrients. This is an excellent alternative if quality ingredients with good bio-availability are used in the manufacturing process. Let's look at these two characteristics of supplements.

Choosing vitamins and minerals seems very straightforward at first. However vitamins have natural and synthetic forms that differ in their usefulness. Minerals that we need each day like magnesium and calcium are always provided in a

compound with other minerals. The choice of compound affects the absorption of the primary mineral.

A few examples might help.

Vitamin B6 is a very common vitamin that is included in every multi-vitamin. Some people even take extra doses of B6 for more energy and stronger muscles and bones. The form of B6 that is the most bio-available is pyridoxal-5-phosphate. Other forms of B6 such as Pyridoxine hydrochloride are more common but less effective.

Calcium carbonate is inexpensive and commonly used as a source of calcium in multi-vitamins but Calcium citrate is a better choice because it is 20% more bio-availableⁱⁱ. Bone density is an important issue for older people, especially women, who often break bones because of a loss of calcium.

Restoring Optimal Cell Functions

Each cell in our bodies has a cell membrane which takes in nutrients and excretes waste and other cell products like energy and hormones. Every process in our bodies is dependent on one or more of these cell functions. It is vitally important to provide our bodies with the raw materials to support these functions. What we think of as *chronic disease* is really *unhealthy aging*—the accumulation of malfunctions due to a lack of raw materials combined with the excess of toxins and stress as will be discussed in the next section.



Let's look at some of the cell functions one at a time.

Nutrition: It is obviously necessary to feed each cell the raw materials for the biochemical processes that it was designed to accomplish. Some ingredients in supplements are targeted to specific body systems like the glucosamine and chondroitin that support the bones, cartilage and ligaments. Cordyceps Sinensis, Alpha Lipoic Acid, Green Tea Extract, and various fruit extracts are all anti-oxidants which could be considered a type of nutrient—not for the cells but for the health of the blood stream itself. Without antioxidants, free radicals in the blood interfere with other biochemical

processes, including nutrition. Other examples include Chromium which is an important nutrient that helps the body maintain correct sugar levels in the blood, and Magnesium which is needed for over 300 biochemical reactions in the body.

Reproduction: Take a look at a baby's hand and your own. The reason your skin doesn't look like that of the baby is because your cells don't reproduce as accurately as they used to. Over time our DNA and RNA actually change through repeated cell divisions as slight irregularities occur. There is no supplement that will restore our genetic material to what it was when we were born, but nutrients like Folate and Aspartic Acid help to maintain the quality of the DNA and RNA as the cells reproduce from now on.

Excretion: Each cell in the body produces waste, energy and other chemistry like hormones that must pass through the cell wall into the blood stream and lymph. The layer of lipids (fats) that make up the cell walls is dependent on specific nutrients to maintain the efficiency of the passage of chemicals into and out of the cell. Science has discovered plant fractions that when combined are able to restore and maintain the efficiency of this process.



Communication: Communication in the body is a function of hormones which are mostly proteins that the cells in various organs create and put into the bloodstream so that other organs will respond accordingly. To improve hormone production and hormone reception in the body requires that each of the various organ systems be healthier. Therefore, all the nutrients support communications tangentially by improving the overall health of the body.

Other nutrients are beneficial for specific hormones. An example is Ginkgo biloba which improves blood flow and therefore helps with memory, dementia, and some eye problems. Ornithine Alpha Keto glutarate supports the production of several important hormones including human growth hormone and insulin. P5P and B6 are involved in the biochemistry that produces serotonin and dopamine which allow us to feel pleasure. P5P is further involved with

preventing cardiovascular disease through other hormones produced when P5P is available.

Energy production: Lack of energy, or even fatigue, is a common complaint as we get older. Many nutrients are available to counteract the fatigue that seems to come with age; Niacin, CoQ-10, Cordyceps Sinensis, Aspartic Acid, Ornithine Alpha Keto glutarate and Alpha Lipoic Acid all increase ATP (Adenosine triphosphate) production in the cells. ATP is an enzyme that is critical to energy production at the cellular level.

Fortifying the Body Against Stress and Toxins

While we may dream of eliminating stress in our lives, this isn't an option for most of us; nor is living in a toxin-free environment. Stress and toxins seem to be the defining characteristics of modern life.



Nutrition and supplements can't do the whole job in this area. Meditation, prayer, walking in nature and enjoying a healthy family life are helpful to prepare for the busy day ahead and unwind afterward. Each of us must find a way of connecting with our spiritual purpose so that the stresses of daily life remain in their proper perspective.

Stress and toxins produce biochemical effects in the body; this is where nutrition and supplements can help. When stress depletes the body of nutrients, those nutrients can, and must, be replaced. Instead of letting toxins destroy cells in the body or interfere with the body's natural chemistry, we can supplement with antioxidants and herbs that neutralize the toxic chemistry before it can do its damage.

Vitalizing the Body

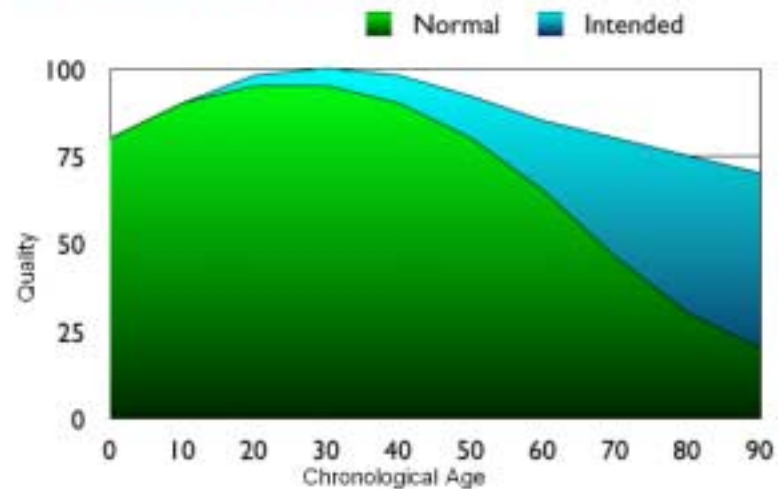
Our mental image of a vital person is often a young athlete with boundless energy. While energy is certainly part of vitality, there is more. The word comes from Vita, the Latin

word for Life. A vital person is full of life, mentally and physically.

If we seek vitality, we can't rely on a pill or an energy drink; we must have an active mental and physical life. However, as we age, if there isn't proper nutrition and supplementation, such a life can become progressively more difficult to obtain.

Nature intended for us to have a high quality of life into our 90s or 100s but our stressful lifestyles and toxic environments have reduced that quality. In the graphic below, the intended gradual and slight reduction in our 70s and 80s has been accelerated by stress, toxins and poor nutrition. This can be corrected.

Quality of Life



There are several supplements that can help return us to the vitality that nature intended for our later years. Two examples of such supplements are DHEA and DIM.

The aging body produces less DHEA (dehydroepiandrosterone) than a young body. Without sufficient DHEA the aging body is less vital as the years go by. DHEA contributes to over 150 biochemical functions that help to build up our resistance to the forces of aging. It can help us lose weight, gain muscle and improve liver function. It may even help with sexual function and memory issues.

DIM (di-indole-methane) is an important supplement, obtained from vegetables, that improves hormone levels of estrogen in women and testosterone in men. It acts by breaking down more complex hormones into bio-available versions. It can improve sexual function and is cancer-preventive.

Optimal Aging With Univera Products



Univera, a member of the ECONET family of companies, is a privately-owned corporation committed to producing pharmaceutical-grade natural products to improve the health and vitality of everyone. Univera is unique in that it produces the agricultural products that supply the raw materials on land that is certified to be free of pesticides and herbicides. A sister company, Unigen Pharmaceuticals, has two genomics laboratories where basic research is performed to discover botanically-derived therapeutic compounds that work at the human cell and gene level.

For information on Univera products, see www.univera.com. For information on Unigen Pharmaceuticals, see www.unigenusa.com.

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References

ⁱ Patterson B, et al, "Fruits and Vegetables in the American Diet: data from the NHANES-II Survey," *Am J Pub Health* 80(2) (1990): 1443-49.

ⁱⁱ Sakhae K, Bhuket T, Adams-Huet B, Rao DS, "Meta-analysis of calcium bioavailability: a comparison of calcium citrate with calcium carbonate," *Amer J Ther.* 1999 Nov;6(6):313-21.