## HUFFPOST

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## Building Blocks For A New Paradigm of Aging

05/15/2017 11:28 am ET



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Wouldn't it be nice to have more freedom around what it means to age? To loosen up the ideas of an 'inevitable downward spiral' of our bodies and minds?

One way we can begin to create a new paradigm. While paradigms may seem very solid they are only constructs created by us as we observe patterns and what seems to be. They can be helpful in some ways and limiting in other ways. To create a new paradigm means we need to be open to a new pattern of looking at things.

Let's begin with new language and new distinctions about the process of how we age and how this process if viewed. The past ten to twenty years shows an increase in gerontology departments conducting focused studies upon this phenomena we call aging. Part of the fruit coming to us today are concepts that can be used as building blocks as we ask new questions and discover new answers to longevity.

The following are a few foundational concepts to help us. **Normal aging**. This phrase is used to denote what seems to be the pattern for most human beings. It sets up a distinction from which a person either seems to be aging according to these parameters, or seems to be belying it in some way. Some of the measures are cellular aging, random damage, cross-linkage and homeostatic imbalance or allostatic load.

**Cellular aging** is pretty easy to understand. This label describes the way our cells in our body wear out. Part of what is found in cellular aging is that our bodies have a certain programming to degredate. Using this label to ask questions can lead us deeper into understanding, and perhaps changing, why our cells would have that programming at all.

**Random damage** is a label used to identify the cumulative effect of trauma that our bodies experience, every type of trauma. It includes but is not limited to physical, emotional, and psychological. This factor helps identify the damage that has taken place in the tissues and how it is contributing to aging.

Cross linkage is a bit more complex to understand as it focuses upon the infleucne the proteins and fibers within our fascia system is having upon the body. A good way to understand this is to picture an older person who is being bent over- they are being influenced by this system.

Researchers have been very interest in a factor called homeostatic imbalance or allostatic load. This is the way the body deals with incoming stress and how long it takes to recover from the influence. Sometimes when we observe people getting older they are just not as flexible, or perhaps they are crankier. This is an indicator of less resilience in the nervous system to deal with emergencies and recover from stressors in life. Having less flexibility in our nervous system is homeostatic imbalance.

While these are factors or concepts considered in normal aging, there is another category called pathological aging or accelerated aging. Three points of focus in gerontology departments in this arena are cellular mitochondria, inflammatory mechanisms and tele-mirror-telomeres axis. These are fancy words, you may be wondering what relevance they have to the lay person just trying to stay young for as long as possible. What is helpful in understanding them basically is that we can take simple measures to help decrease pathological aging if we have a basic understanding. I will get to this towards the end.

**First is cellular mitochondria**. Maybe you remember from your junior high school biology class that mitochondria are the powerhouse of the cell. They are like switch engines that convert the nutrients entering the cell into energy. It is thought that over time they become less efficient and even fail. When this happens we literally have less energy making care for our cells vital to longer life.

**Inflammatory mechanisms** (diseases of aging that are inflammatory by nature,) is the second. Inflammation traps toxins, causing them to accumulate and thus add insult to the body and brain creating patterns that are damaging as the body and brain try to function. It is like putting big obstacles into a path that could be clear if it were toxin free.

The third concept is incredibly interesting. Not only has it been one of great interest to scientists as of late, but some have won Nobel prizes in the pioneering research don't to identify this part of the human system. Picture in your mind a strand of DNA. Since it is a strand it had two ends, and these ends are called **telemirror-telomeres axis**. Over time the ends can unravel, kind of like a shoelace. Why does this matter? When they unravel they fail to transmit our genetic information.

Having these building blocks we can individually ask new questions. First we can use them to get a better picture of our own health, the stressors in our

lives and the effects of these stressors. From there we can make choices to eliminate what is stressful, or at least work with it in a new way. We can ask our doctors and practitioners what sorts of lifestyle options or therapies are available to aid us in shifting the pattern that may be resulting from any one of the above building blocks. And we can begin to see ourselves less as a victim of aging and more as a creator of longevity!

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