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Lifestyles for a Healthy Lifespan - 2023

Longevity or Lifespan is how long one lives (from birth to death). **Life Expectancy** is how long the average person is projected to live at the time of birth. . **Healthspan** is living our lives with quality of life and without disease. In **1918** during the U.S. great influenza epidemic the average life expectancy was 36.6 years for men and 42.2 years for women. By **2014** the average life expectancy at birth in the U.S. had increased to 76.4 years for men and 81.2 years for women. However, over the three years of **2015-2017** there was a **decrease** in life expectancy for the first time in over a century. Why? According to a recent article in the Journal of the American Medical Association (*JAMA*), there was an *increase in mortality from specific causes among young and middle-aged adults* of all racial groups. The largest increases in deaths occurred in *people aged 25-34*. The three key causes of death in this age group were **drug overdoses, suicides, and alcohol-related diseases**. These causes are preventable and should be a wakeup call to parents, schools, churches, and governments to address this behavioral crisis as an emergency. On the positive side the rate of deaths due to **Heart Disease, Stroke, Diabetes, Cognitive Decline** (dementia, Alzheimer's Disease) and many **Cancers** have been on a **decline**.

Primary prevention and early detection of these diseases have been my focus for decades. The evidence continues to accumulate that the complications resulting from these diseases can be reduced and even prevented. Evaluating the status of ones' *actual* health involves a great deal more than just basic 'laboratory testing and an annual exam'. Ignorance is not bliss; it holds many future unwelcome health surprises. We all know of someone (often a family member) who was young (40's or 50's) and suddenly died from a heart attack or stroke and without a history of any *known* risks. The KEY word is 'known'. This is the basis of my *Longevity Program* - discovering and proactively treating the unknown risks of asymptomatic disease - and to better insure a healthy lifespan or **Healthspan**.

What is exciting about the prospect for both our **Longevity** and our **Healthspan** is how medical research is validating the fact that we do have significant influence over our current and future health. Scientific research continues to provide growing evidence as to how our brain responds to our behaviors - a process called *neurogenesis*. Medical research has revealed that the primary *underlying cause* of these *quality of life-threatening* diseases is **inflammation**. We are learning how **chronic stress** increases inflammation in our body and lowers our immune system defenses against infections and cancers (See: *The Role of Stress* below). Of major importance for menopausal women is the tragic myth that '*estrogen is harmful*' has been completely refuted. In 2022 overwhelming research data has increasingly demonstrated how and why estrogen plays such an important role in a woman's quality of life, disease prevention, her **Healthspan** and her longevity.

(Website: *General Health Articles - "Menopause and Estrogen Therapy 2019"* & Reference #5 below)

SO, what do we KNOW about improving our **Healthspan** or “*How do we live well as we age?*”

- ◆ We KNOW the quality of our lives is significantly influenced by how we chose to live.
- ◆ We KNOW that studies are replete with outcome data that demonstrates **the benefits** of:
 - What and how much we eat
 - How much we exercise
 - The number of regular hours we sleep
 - How we manage our stress with meditation
- ◆ We KNOW that our **cognitive abilities** are positively influenced by:
 - Developing and maintaining a positive attitude – letting go of the ‘negative’
 - Challenging our brains by learning *new* skills and setting goals for change
 - Achieving a sense of financial security
 - Socially engaging with others
- ◆ We KNOW these ALL have an amazing positive impact on the quality of our **Healthspan**.

FOUR LIFESTYLE CORNERSTONES

I. Nutrition

Three important points about nutrition and its role in our longevity and healthspan:

1. Our health is the result of a complex interplay between our gut and our brain. The optimal eating strategy for any individual depends on their unique mix of their genetics, biome of their gut, immune system, use of medications, supplements, environmental factors and personal lifestyles.
2. The connection between food we eat and inflammation in our body directly influences our risk for atherosclerosis, heart disease, diabetes, dementia, cancer and inflammatory disease
3. There is no single best diet or eating strategy for everyone. My opinion is that a combination of a Mediterranean diet combined with a consistent pattern of intermittent fasting is overall the most beneficial for our lifespan and our healthspan.

(Refer to my website *Article: Intermittent Fasting – Effects on Health, Aging & Disease*)

II. Exercise.

Whether it’s running or yoga, exercise is one of the best ways to manage and relieve stress. Exercise builds grey matter in the brain and also releases endorphins, which improves your mood. Exercise improves the ability of our heart to function optimally and with a normal blood pressure.

(Website Articles: *Exercise – How Much Is Enough? 2020* & *Five Best Exercises for your Health*)

III. Sleep

Sleep is a very important natural stress reliever. Make sure to find the right balance of sleep that allows you to feel well rested and alert. To promote better sleep, establish a bedtime routine that signals the brain that it’s time to rest. A recent discovery identified a *Glymphatic* system within our brain that clears our metabolic waste products and is optimized while sleeping, especially, if on sleeping on one’s side. How much is optimal: *8 hours!*

[Website Articles: *“Why Our Brains Require Sleep”* & *“10 Tips to Improve Your Sleep”*]

IV. Stress Management:

♥ Stress = “Life Out of Balance”

- Stress induces hormonal changes in the body to help adapt to both real and perceived emergencies. The *adrenal glands* produce *cortisol, adrenalin and norepinephrine* and are called *stress responsive steroid hormones*.
- How people respond to the *daily* stressors in their lives is predictive of their future health. It is well established that chronic stress *reduces* the body’s *immune response*, in part due to chronic higher levels of circulating *cortisol*.
- In **Acute Stress** situations, as in an emergency or survival mode [classic *fight-or-flight* reaction], an *optimal* amount of cortisol can be lifesaving. You become more aware, awake, focused and are generally more responsive. It also helps to shift blood flow away from areas of your body where it might not be as crucial, like the skin and digestive tract, and towards more essential areas at the moment, like the heart, blood vessels and muscles. This helps you better deal with the emergency or stressful situation.
- **Chronic Stress & Chronic Anxiety** occurs when you *dwell* on a problem. Under chronic stress the body *continuously* releases excessive stress hormones, especially cortisol, and *chronic elevated levels can lead to serious issues*. Too much cortisol can suppress your immune system, increase your blood pressure, blood sugar and ultimately, your risk for heart disease and diabetes. It can also decrease your libido, cause anxiety, depression, obesity, and lead to chronic inflammation in the body.
- Studies have shown after ten years of enduring chronic daily stressors there is a significantly higher incidence of chronic health conditions, including stroke, heart attack, acute and chronic inflammatory conditions, and even a cancers’ response to therapy.

♥ Learning to Manage Stress

- **First**, identify the common *causes* of stress in your life: e.g., Issues at work, relationships, financial or health. **Then**, try to identify the causes of your stress and group them into two lists: those you can try to alter or change *and* those you feel you have no control over.
- **External Stress Factors** are conditions you often **CAN** change:
 - *Identify the obstacles* that you need to overcome or the changes that need to occur to reduce or even eliminate the cause(s) of your stress.
 - *Give yourself permission to take care of yourself*. Accept the reality that you may not be able to meet all the expectations of others. Look in the mirror and say: **“It is OK to take care of me, too”**. *Discover YOUR sense of purpose*.
 - Share your decisions and plan for change with all the persons who will be affected by your actions. Ask for their understanding and even their assistance when needed.
 - Then: **Just Do It**. Start your journey.
- **Internal Stress Factors** - Explore how you typically respond to those conditions you **CANNOT** change. Then *visualize* gathering them ALL and putting them in a container that you put on a shelf. You are not denying their existence. You ARE choosing to no longer carry them with you. In other words, you are “letting go”.
- Actively embrace my **Four Lifestyle Cornerstones**. When practiced *daily* they become a way of living your life AND these behaviors will *reduce* your stress, *decrease* your risk of heart disease, *improve* your cognitive abilities and definitely *improve* your sense of well-being. Make a *commitment to yourself* to engage, practice and live them daily.

- **Managing Stress with Meditation & Mindful Awareness – A Pathway to Achieving a Sense of Balance in Your Life.**

I refer to *balance* within this context as an emotional and spiritual sense of well-being. Physical balance is best experienced when you are ‘rooted’ or ‘grounded’ (best practiced through Tai Chi). *Chronic Stress* is a struggle with what is, what was or what may be. It is a killer to our body’s immune system and to our brain. It raises circulating cortisol (the *stress hormone*) that suppresses the immune defenses that our body employs to fight infection, heal an injury, and even eliminate random mutant cancer cells. Studies have clearly shown chronic stress and chronic anxiety are directly related to an increased risk for heart attack, stroke, cancer, depressive behavior, actual depression and cognitive decline leading to dementia. Chronic stress is **NOT** your friend.

Meditation when practiced on a daily is a powerful tool to reduce stress. When you meditate, you are focused on the moment, on your breathing and you learn to *feel* the tension in your body begin to relax. I believe that achieving balance by learning to manage stress successfully is the foundation upon which to build healthy behaviors. This is the tough one, because it requires **time, commitment, and practice**. I can personally testify that it works. For many, it starts with giving themselves permission to take personal time – *every day*.

I tell my patients: **“If you want to ensure a healthier life, NOT taking time for you is NOT an option.”**

(Website Articles: ***Meditation – What Exactly Is It*** and ***Thoughts on Balance***)

♥ **Organization**

- When your life is more organized, it offers a sense of control and gives you peace of mind.
- If you’re feeling edgy in your cluttered house or room, clean it up.
- If needed, make *to-do* lists, so as not to forget anything. Remember to READ your lists.

♥ **Importance of a Positive Attitude, Social Engagement and Enjoying Every Day**

Take time for the activities that bring you joy. Engage socially with family, friends, social organizations, church activities and philanthropy organizations. Being socially engaged and making a positive difference in someone’s life is a powerful stress reducer. **Discover the power of your smile.**

Our Immune System

Its Role in Inflammation in the Body: The Good & The Bad

♥ **Protective (“Good”):**

- Our body’s immune response to infection and/or physical injury includes the creation and release of specific *antibodies* to eliminate the infectious agent (e.g. dangerous bacteria or viruses) and to increase the blood levels of white blood cells, which fight infection and help heal the injured tissues. There is a normal increase in the blood circulation to the affected tissues. When the skin is involved, the result can be seen as redness or ‘inflamed’.
- Normally, this ‘Good’ inflammatory response is TEMPORARY.

♥ Destructive (“Bad”):

- ◆ **Auto Immune & Inflammatory Disorders:** Our immune system can also create antibodies that attack our body’s *normal* cells, causing inflammation in those tissues, which then becomes CHRONIC and destructive. EXAMPLES include:
- ◆ **Gut** (intestinal tract), including the esophagus, stomach, small intestine, and colon.
 - Normally, our immune cells ignore the trillions of *healthy bacteria* (biome) that live in the gut. But for some people their immune cells can begin to attack their healthy bacteria, creating a disruption in the normal digestion causing chronic inflammation referred to as *irritable bowel syndrome*. As we age our intestinal tract can become *intolerant* or *allergic* to certain foods, we ingest such as milk products, gluten, certain vegetables.
 - Immune cells can also attack the digestive tract itself, an *autoimmune condition* known as *inflammatory bowel disease (IBD)* – e.g. ulcerative colitis, proctitis, Crohn’s disease.
- ◆ **Our Joints**
 - *Rheumatoid Arthritis* is an autoimmune disorder that can occur at any age and appears to have a genetic component; but is also linked to smoking and a lack of vitamin D.
 - *Osteoarthritis* is a degenerative disease of the joints related to chronic overuse and age.
- ◆ **Our Arteries - Heart Disease, Stroke & Peripheral Vascular Disease**
 - Inflammation can occur within the lining of the wall of arteries, resulting in the formation of plaque, which is a composite of cholesterol and inflammatory cells. Once begun plaque tends to be progressive, often becoming unstable and susceptible to rupture causing a clot to form. This sudden event blocks the blood supply to the organ it supplies. E.g., heart or brain.
 - Role of **hs-CRP** and **interleukin-6 receptor (IL-6R)**: These inflammatory proteins play an important role in both the formation and the progression of arterial plaque.
 - Chronic inflammation associated with obesity and autoimmune disorders has a higher risk of arterial disease.
- ◆ **Our Risk of Cancer**
 - Chronic inflammation has been linked to cancers of the lung, esophagus, and colon.
- ◆ **Our Gums**
 - Periodontal disease is chronic inflammation of the gums caused by bacteria accumulation.
 - Periodontal disease doesn’t just affect oral health. It is linked to heart disease and dementia.
- ◆ **Obesity**
 - A major cause of inflammation in the body.
 - Losing weight is one of the most effective ways to fight inflammation. Often that is easier said than done. Elevated levels of inflammation-related proteins and chronic inflammation in the
 - intestines can slow metabolism. So, you tend to eat more and burn fewer calories.
 - Inflammation increases insulin resistance & raises the risk for diabetes.
 - *Waist circumference* is more important than your BMI (body mass index): Women < 35” & Men < 40” is associated with lower risk of Type 2 diabetes and heart disease.

- ◆ **Diabetes**
 - A disease in which the body is unable to properly use and store carbohydrates (blood glucose or “sugar”). Diabetes occurs when either the *pancreas* does not produce adequate insulin or when the body cells do not respond well to insulin, which is called "**insulin resistance**."
 - There are two types of diabetes: Type 1 (*juvenile diabetes*) and Type 2 (*adult onset*).
 - **Type 1 Diabetes** - occurs when the cells of the pancreas are destroyed by the body's immune system and no longer produces insulin. The typical age a person learns they have Type 1 diabetes is under 20 years old and it can develop rather suddenly. While developing Type 1 diabetes is not preventable, it is important that it is diagnosed and treated as its earliest onset. People with Type 1 diabetes can live long and healthy lives with careful medical management and self-care.
 - **Type 2 Diabetes** – occurs when the pancreas does not secrete adequate insulin, or the body cells are *resistant* to insulin. Higher than normal insulin levels are required for glucose (sugar) metabolism. Type 2 diabetes develops over time. While there are genetic risk factors for developing Type 2 diabetes, there are many lifestyle behaviors that can be adapted to prevent, reduce the severity, and even reverse Type 2 diabetes.

- ◆ **Our Skin**
 - The effects of inflammation aren't just internal: They can also be reflected on your skin.
 - *Psoriasis*, for example, is an inflammatory condition that occurs when the immune system causes skin cells to grow too quickly.
 - Skin allergies result in both acute and chronic inflammation and can occur from both external irritants and with either acute or chronic stress.

- ◆ **Our Brain: Mood, Depression and Cognition**
 - Stress adversely affects learning and memory
 - Stress can lead to depressive behaviors.
 - Inflammation in the brain and inflammatory markers in our blood have been linked to symptoms of depression, such as low mood, fatigue, lack of appetite, and poor sleep.
 - Alzheimer's Disease is an inflammatory disease of the brain and is potentially preventable and definitely partially reversible. (Refer to Reference #6)

In Conclusion:

- ◆ ***Be Pro-Active in both prevention and early detection for any unknown disease condition***
- ◆ ***Remember: 'Every choice you make' & 'action you take or fail to take' - has consequences***
- ◆ ***Take ownership of your health and choose wisely***
- ◆ ***Understand and accept that change is a lot of WORK***
- ◆ ***Staying healthy is a lot of WORK***
- ◆ ***Your health is your best investment towards achieving a healthy quality of life***
- ◆ ***It is never too late to re-invent yourself and to acquire new habits (Lifestyles)***

A Few Reflections

My Six “C’s”

Achieving a Life of *Living Well* (**HealthSpan**) & *Living Long* (**LifeSpan**)

- ◆ **Care** for yourself – If *you* do not, no one else will; except maybe at your end of life
- ◆ **Change** – Be Open. Welcome the option of transformation. Review your *trade-offs* . Ask yourself:
“What compromises am I willing or not willing to make to bring about a healthier Lifespan?”
- ◆ **Commitment** to engaging in behaviors that will enhance your life
- ◆ **Connect** to others – social connections play a key role in both your *HealthSpan* and *LifeSpan*
- ◆ **Consistency** in your actions = Perseverance = Sustainability. Newly learned behaviors require practice, practice, and more practice to create new healthy neurogenic pathways (neurogenesis) in the brain. These neural pathways become the *new normal* in spontaneous behavior patterns of your changing Lifestyles. In other words: “How you live your life - every day - *Spontaneously*”
- ◆ **Control** - by learning to be rooted and centered in your daily life through *mindful meditation*.
Learn the benefits of the practice of Tai Chi – (See Website: Lifestyle Article – *EXERCISE*)

My Personal Goal

“A natural flow to my life as I move through my day with balance and a sense of well-being”

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