

# The Foundations of Health

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**These are extraordinary times** for healthcare. We are living on the edge of a medical revolution where genomics research offers unimaginable potential to revolutionize medical practice, pharmacological developments occur at ever increasing rates and surgical procedures continue to demonstrate consistent advancements in efficacy and safety. Even in light of these wondrous technologies, it is still more effective to maintain good health than to attempt to restore it. Preventing damage is always preferable to its repair, and the absence of illness is not synonymous with the presence of health.

Health can be visualized as a four-legged platform on which vitality and longevity rest. The four foundations of this platform are physical activity, optimal nutrition, stress management and sleep. While the human body is remarkable in its resiliency and adaptability, and can long function on less-than-perfect care, using it, feeding it, nurturing it and allowing it

time to rest, enhances and prolongs its functional life.

## **The First Foundation: Physical Activity**

If there is a fountain of youth, it is physical activity. Virtually every study investigating the relationship between physical activity and health finds significant positive effects, regardless of the population studied. The type, duration, intensity and frequency of physical activity all impact the physiological adaptations, necessitating a varied approach.

- An ideal exercise program always incorporates cardiorespiratory, or “aerobic”, exercise such as walking, swimming, biking, dance ... the list goes on and on. It is an unusual person who cannot find some activity that is at least tolerable, if not truly enjoyable.
- Resistance training, whether using strength machines, free weights like barbells and dumbbells, or floorwork, is appropriate for nearly everyone. It improves strength,

raises metabolic rate, increases bone mineral density, and prevents sarcopenia, the age-related decline in lean mass.

- Frequent stretching, even briefly, can ward off the loss of flexibility associated with aging, and enhance range-of-motion for games and sports.
- Finally, practicing activities that address balance and agility can improve gracefulness and prevent falls later in life. Dance, tai chi and sports, even recreational boating, improve balance. Riding a real bicycle or hiking adds the balance component missing from the health club analogs of the recumbent bike or step machine.

Whatever the activity, one crucial element to improving function is to gently challenge your abilities. Going through the motions of exercise brings about minimal, if any, adaptation, and too much can result in injury. Do not start your program with marathon running, power lifting or ice hockey, but do not expect significant results from an occasional evening stroll.

### **The Second Foundation: Optimal Nutrition**

You are what you eat. While this is not true in a literal sense, all of our tissues and fluids are synthesized from the elements provided by our foods and beverages. Food and eating have fascinated mankind throughout our history, and the science of nutrition provides the rationale for many of our associated beliefs. Our understanding of this complex subject continues to evolve, but nutrition experts agree on these key recommendations:

- Good nutrition is built around fruits and vegetables. They are

dense in vitamins, minerals, fiber and antioxidant phytochemicals relative to the calories provided.

The eight to ten servings recommended every day may seem like a daunting target, but a little awareness and modest effort can improve your consumption.

- Eating fish or other sources of omega-3 fatty acids several times a week, or taking a supplement, provides anti-inflammatory protection to the heart, blood vessels and other tissues.
- Animal fats should be limited, and trans-fats (“partially-hydrogenated” oils common in packaged baked goods and many other prepared foods) should be avoided. Heart health is enhanced by reducing the consumption of fats that are solid at room temperature.
- Given an option, select foods high in dietary fiber. Raw or steamed vegetables and whole grains contain dramatically higher levels of health-promoting fiber than their refined counterparts. Refining, by definition, is the process of removing hulls, husks and non-digestible fiber, substances essential in modest quantity to digestive health.
- Eat a wide variety of foods. One popular model encourages you to select foods across the color spectrum. The pigments in green leafy vegetables provide different health-promoting phytochemicals than those in dark blue blueberries or bright orange carrots and yams. Eliminating entire classes of foods increases the challenge of providing adequate quantities of essential nutrients. Nearly any food, in moderation, can have a place in a balanced diet.

### **The Third Foundation: Stress Management**

Manage stress. More accurately, manage yourself in stressful situations. Stress-management is a buzzword of the age, but who among us can effectively manage the things that bring stress to our lives? We can, however, learn to respond more effectively to those situations.

Health promotion experts speak of the “mind-body connection” and strong scientific evidence supports the ability of our attitudes and emotions to impact our physiology. A recent study investigating the effect of strength training on bone health in menopausal women found a significant inverse relationship between measures of depression and the bone’s response to the treatment.

Minimizing stressors, such as planning ahead to reduce deadlines, and managing the body’s response to them through visualization, deep breathing and other learned behaviors, are all effective tools. Building faith, confiding in others and creative expression are additional approaches. Individuals with profound stress responses or people chronically exposed to extraordinary stress may benefit from professional guidance.

### **The Fourth Foundation: Sleep**

Get enough quality sleep. Our culture has minimized the importance of this crucial health behavior. We associate short sleepers with having greater initiative, work ethic and other desirable characteristics. It is a badge-of-honor to be known as one who will sacrifice sleep to complete a pressing project, and “all-nighters” imply perseverance. In fact, one can function far longer without food than

without sleep. Sleep deprivation is associated with a variety of health disorders, and length of nightly sleep is a strong predictor of mortality.

Sleep hygiene and sleep ecology refer to the habits and environment related to sleep, and are easily modified. A cool, dark bedroom enhances sleep physiology. Minimizing caffeine, avoiding large late-night meals or alcohol consumption, receiving daytime sunlight exposure and adding exercise are all behavior changes that can improve quality and quantity of sleep.

If you experience habitual daytime sleepiness, routinely require daytime naps or doze on aircraft, you may be sleep deprived. Sleep apnea, repeated brief periods of not breathing sometimes associated with snoring, is quite common, dangerous, and requires the attention of a sleep specialist. We spend, or should spend, more time sleeping than eating or exercising. Don’t underestimate the importance of sleep.

Modern medicine offers the exciting promise of reducing disease, restoring function and preventing illness. It does not promise to enhance health. That task is in our hands, and the tools to accomplish it are neither complicated nor limited ... go play, eat well, seek balance, and get to bed on time.

Dr. Hewitt has been a professional exercise physiologist for more than 25 years. He has written thousands of individual exercise prescriptions and is a contributor to several clinical texts. Dr. Hewitt says that even a compact exercise program can bring about significant results.