Developing a healthy lifestyle is important for healthy aging. The choices we make today will affect our health, capacity to function, and ability to enjoy our lives as we age. While there are many aspects of a healthy lifestyle (not smoking cigarettes, having a healthy weight, limiting alcohol intake, partaking in a healthy diet and lifestyle, etc.), this article will focus on one of the most important of these: exercise.

Biological aging takes place regardless of what we do or don’t do, but we can minimize the biological effects of aging with regular exercise. Regular exercise can “increase active life expectancy by limiting the development and progression of chronic disease and disabling conditions.” There is also emerging evidence for significant psychological and cognitive benefits accruing from regular exercise participation by older adults. Ideally, exercise prescription should include aerobic exercise, muscle-strengthening exercises, and flexibility exercises. Being physically active during our younger years translates into a higher likelihood of being both physically and mentally healthy as we age into our 80s, 90s, and even into our 100s. Ultimately, this means, our quality of life and activities of daily living do not have to precipitously decline as we age.

Following are three important factors to consider when developing a healthy exercise lifestyle:

1. Performing aerobic, muscle-strengthening, and flexibility exercises.
2. Developing symmetry in muscle use and function—strength and flexibility.
3. Understanding your body type and what proportion of aerobic, muscle-strengthening, and flexibility exercises should be performed based on individual strengths and weaknesses in these areas.

Performing aerobic, muscle-strengthening, and flexibility exercises

Evidence supports that participation in regular physical activity (both aerobic and strength exercises) elicits a number of favorable responses that contribute to healthy aging. Ideally, the benefits associated with regular exercise and physical activity contribute to a healthier independent lifestyle, which greatly improves the functional capacity and quality of our lives. It is fairly evident that cardiovascular fitness is associated with decreases in cardiovascular disease risk. Along those lines, research demonstrates that regular physical activity can help reduce the cognitive decline associated with aging. More studies are supporting the notion that there is “a strong biological basis for the role of aerobic fitness in maintaining and enhancing central nervous system health and cognitive functioning in older adults.”

It is commonly understood that calcium and vitamin D supplementation along with weight-bearing exercise are important for postmenopausal women to prevent osteoporosis. Currently, the research supports that exercise as a means of preventing osteoporosis needs to be performed both frequently and sustained over the course of a lifetime. Studies show that being consistent with nutritional supplementation and exercise can “go far in preventing the development of this disorder.” While osteoporosis is considered predominantly a female condition, declines in muscle mass and osteoporosis are risks associated with aging males and females. Usually, both men and women experience skeletal muscle decreases after the age of 50 to 60. Although aerobic activity helps improve the endothelial blood vessel function as we age, in addition to preventing cardiovascular diseases, regular strength training prevents the loss of muscle mass as we age. Sustaining an exercise-friendly lifestyle that incorporates strength training leads to improved muscle function, which prevents osteoporosis and improves functional activities in men and women, even in subjects over 75 years old.

While strength and aerobics are important for health, the third part of this equation is flexibility. Some studies note that building strength can be accomplished in weeks to months, whereas build-
ing flexibility takes months to years of regular stretching. Stretching of muscles is not something that can be performed quickly. Adequate time is needed with stretching to develop the needed flexibility to help increase ranges of motion. Creating long-term flexibility in muscles can be quite challenging. For instance, one study found that “long-term stretching (three weeks) increased joint range of motion as a result of a change in stretch tolerance rather than in the passive properties.” This means that while the subjects could tolerate the stretching, the actual length of the muscle had not changed over the three-week trial period.

Clinically, it appears that to create changes in passive muscle length and long-term improvements in ranges of motion, stretching needs to be performed regularly. Along with regularity, stretches need to be sustained when performed, and improvements in flexibility need to be measured after months and years—not days and weeks. Essentially, patience and persistence is crucial when it comes to stretching, especially when compared with aerobic and strength training, which tend to yield relatively quicker responses.

Along with aerobic and strength exercises “flexibility training should be incorporated into one’s musculoskeletal program, as well as into the overall fitness program.” Just as strength training serves to preserve, protect, and develop abilities related to the successful completion of activities of daily living, flexibility training is beneficial because it develops and maintains one’s ranges of motion. While it’s important to perform aerobic, muscle-strengthening, and flexibility exercises for our long-term health, how we perform these activities is essential in order to gain the optimal effects.

Developing symmetry in muscle use and function—strength and flexibility

It is not uncommon for someone to say, “This is my stronger side,” or “This is my more flexible side.” Asymmetry of strength from one side to the other is commonly found since we all tend to have a dominant side—right or left. Sometimes body use or imbalance will also cause asymmetry in flexibility from one side to the other, or even greater flexibility in the flexor compartment of a limb (e.g., hamstring) versus the extensor (e.g., quadriceps). When attending exercise classes, it is common that a standard set of exercises is taught with the goal of spending the same time on all muscles and not favoring one side of the body. While this seems like a logical approach in general, we need to consider how this approach can lead to perpetuating our personal body asymmetries while exercising.

To optimize our exercise program, it starts with us becoming aware of our own bodies. This can be aided by answering the following questions:

1. Assess asymmetry of our strength by asking, “Is one side of my body stronger than the other?”
2. Assess asymmetry of our flexibility by asking, “Is one side of my body more flexible than the other?”
3. Assess asymmetry of the body from top to bottom by asking, “Are my arms stronger or more flexible than my legs?”
4. Assess asymmetry of the body from front to back by asking a question such as, “Are the biceps in my arm as strong or as flexible as the triceps in my arm?”

Developing an awareness of our own personal body can help us modify our strengthening and stretching exercise program to fit our body’s needs. We may need to strengthen our weaker side by performing more repetitions or stretch a tighter side by extending the time we stretch that side. This asymmetry of exercise activity will help build better overall symmetry in how our body functions. Along with classes or guidance that focuses on working the body equally, it is a good idea to also perform the extra asymmetrical strengthening or stretching as a means to build better symmetry and ultimately healthy aging.

Building healthy exercise programs can include not just aerobic, strength, and flexibility, but it also could include developing better balance as well as symmetrical dexterity practices. Balance training can easily be incorporated into an exercise program of strengthening and stretching. To help improve our symmetrical dexterity, we can utilize lifestyle modifications, such as brushing our teeth with the opposite hand, using the opposite hand to hold a utensil, etc. Becoming aware of our body’s preferences can help us develop personal exercise and lifestyle modifications that can enhance our body’s function as we age.

Understanding your body type and whether amounts of aerobic, muscle-strengthening, and flexibility exercises are evenly distributed or unequally weighted

How might the individuality of our body type affect our aerobic, strength, and flexibility exercises? Why would one’s body type dictate the type, amount, and proportion of exercise activities we should optimally perform?

While there can be many factors utilized for directing the development of an exercise program, two major issues that should be considered involve conditions related to obesity and generalized hypermobility syndrome (GHS). Understanding
your body type can help determine how to balance the optimal percentages of aerobic, strengthening, and flexibility exercises.

“Obesity is a multifactorial disease that results from a combination of both physiological, genetic, and environmental inputs” and “has become a major public health concern in the United States and the rest of the world.” Obesity is associated with adverse health consequences, including type 2 diabetes mellitus, cardiovascular disease, musculoskeletal disorders, obstructive sleep apnea, and many types of cancer. 

Even recent research found an adverse relationship between obesity and long-term brain function and cognition. The good news is that the “probability of developing adverse health outcomes can be decreased with maintained weight loss of 5% to 10% of current body weight.”

While we may be aware that weight loss is important for our health, it is not an easy task to lose weight since there can be many psychological factors making the process challenging. This is usually the case with dietary modification, so in some instances, it may be easier to initially focus on exercise when starting a weight-loss program since exercise may be a more important factor for weight loss than dietary control.

Mitochondria are the part of our body’s cells associated with energy production and utilization and are vital for maintaining metabolic homeostasis. Current research “strongly suggests that the lower mitochondrial capacity associated with obesity, type 2 diabetes, and aging is not an irreversible lesion.” However, weight loss does not appear to affect mitochondrial function, “even when the weight loss is extreme. In contrast, increasing physical activity improves mitochondrial content and perhaps the function of individual mitochondrial.” Advancing age and increased adipose tissue contribute to the development of sarcopenic obesity, where there is an increase in fat cells found within muscle tissue. Weight loss solely related to dietary control does not tend to have an effect on sarcopenic obesity, whereas exercise does. It is crucial to understand that when performing the necessary moderate-intensity aerobic exercise program to facilitate weight loss, the process will take approximately six to twelve months to induce a modest reduction in weight and waist circumference.

Generalized joint hypermobility (GJH) is a hereditary connective tissue disorder characterized by lax joints and the presence of musculoskeletal symptoms. The syndrome has been under-recognized and has only recently been taken more seriously. Research suggests that GJH may be found as a normal variant in 20% of the population, with a greater prevalence in women than men. Those with GJH have a tendency to prefer flexibility exercises (e.g., yoga), whereas those without GJH commonly prefer strengthening exercises (e.g., weight lifting). An easy way to determine if you have GJH is if you give a positive answer to any two questions in the following five-part questionnaire:

1. Can you now (or could you ever) place your hands flat on the floor without bending your knees?
2. Can you now (or could you ever) bend your thumb to touch your forearm?
3. As a child, did you amuse your friends by contorting your body into strange shapes or could you do the splits?
4. As a child or teenager, did your kneecap or shoulder dislocate on more than one occasion?
5. Do you consider yourself “double-jointed”?

Flexibility training involves important considerations, such as which joints are best to focus on when stretching. The type of joint and its function gives clues to this answer. Ball-and-socket joints, such as the hip and shoulder, generally need to maintain good flexibility for walking, balance, and upper-body use. Hinge joints, such as the knee and elbow, usually are not a region we need to focus on for flexibility. Saddle joints, such as the ankle and wrist, are a bit complex because the ankle joint is an important weight-bearing joint, whereas the wrist is not. Most commonly, we want to maintain adequate ankle forward bending (dorsiflexion) as a means to keep our Achilles tendon flexible for walking. Ideally, we need to focus on maintaining good hip ranges of motion, good shoulder ranges of motion (particularly at the front of the shoulder), and good ankle dorsiflexion.

The spinal column is also an important region of the body to maintain flexibility, but it is crucial to maintain a high degree of exercise awareness and caution in the process. With all spinal movements that involve flexion and extension and right and left lateral flexion or rotation, the first concept with stretching should be to focus upon the feeling of our body lengthening. Before we stretch the spine, it is important that we initiate any motion by first attempting to lengthen our spine and then move as if we are using the whole spine—from head to tailbone—and not focusing solely on one segment or portion.

When considering a stretching program, it is important to focus on the joints to determine where to focus our attention and how to maintain a manner of stretching that will optimize the body and spinal column’s health. While joints are one region of focus for stretching, when most people think of stretching they tend to associate it with muscles. There are many muscles of the body that need attention when developing a flexibility-based exercise program, and each body has its own unique patterns and symmetry issues. When stretching muscles, it is important to feel the stretch in the muscle and not within the joint. For instance, when stretching the hamstring, we don’t want to overstretched the knee and hyperextend, or when we attempt to stretch the hip joint, we don’t want to inadvertently overstretched the weight-bearing sacroiliac joint.

Developing a general strengthening and stability exercise program is especially important for postmenopausal women and anyone with GHS, but also of value for healthy functioning in the general population. One important caution is lifting weights in a manner that overloads our sacroiliac joint, vertebral discs, and even the vertebral bodies. When beginning a strengthening program, it is usually best to start with low weight and then in-
Exercise is important, tailoring the exercise to address any asymmetry in a manner that will not cause repetitive trauma to your body. Whatever type of training you find best for your body, it is always a good idea to vary your activities so that you are stimulating your myofascial, skeletal, and neurological systems in a manner that will not cause repetitive trauma to your body over time.

Conclusion:
Exercise is an important part of a healthy lifestyle, which can be used for disease prevention and sustaining a good quality of life and the ability to perform activities of daily living later in life. While exercise is important, tailoring the exercise to address any asymmetries, weaknesses, and personal physiological limitations is key.

Reference: