AGING

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Americans are continuing to live longer and desire to maintain an active lifestyle. Different types of health problems, called geriatric syndromes, accompany getting older. Technically, a person is considered a senior if past middle age, but a common divider is at age 61. Some people feel that the term “elderly” is used to describe someone who is feeble and unable to care for himself. Older individuals who are vibrant or active may not want to be categorized as elderly. Research has shown that 50% of U.S. adults over the age of 65 suffer from at least one common age-related condition. This fact has given rise to a health division known as gerontology. Of these older adults, half had one or more geriatric health conditions such as loss of mental sharpness, falls, dizziness, vison or hearing problems. Some of these conditions were as prevalent as common chronic diseases like heart disease and diabetes. These common geriatric conditions were strongly associated with disability and difficulty in performing normal activities of daily living, such as bathing, dressing, eating, and going to the bathroom, even after adjusting for other chronic diseases. This fact has led to a medical specialty of Geriatric Healthcare Professionals that focuses on health care of elderly people. It aims to promote health by preventing and treating diseases and disabilities in older adults. There is no set age at which patients may be under the care of a geriatrician or geriatric physician, a physician who specializes in the care of elderly people.

The assumption that seniors learn and process information differently thus react differently from younger people has changed. Seniors that have remained active both physically and mentally are often as “sharp” as those that are half of their age. Even though seniors are more likely to be on medications that can impact their activities of daily life they can still be strong. Not long ago, it was believed that aging decays a client’s balance, hearing, vision and touch, and proprioception causing declines in exercise performance. That paints the idea of a dismal picture that is no longer true in most cases.

Mental acuity may change with aging, but not necessarily in a negative way. Lifestyle, cognitive issues such as dementia, Alzheimer’s and Parkinson’s Disease are signs of processing spoken word – whether it’s in person or on media. Signs to be aware of are Implicit memory that is nonconscious and cannot be easily verbalized. The deficit here is in motor skills such as getting dressed, recalling ambulation and even walk and talk at the same time. Explicit memory is conscious and can be verbalized such as recalling what you had for lunch or dinner last night. It is wrong to assume that these occur in all people as they age. The other area of concern is the Working memory, or the things we can pay attention to at the same time. While many seniors may experience these challenges, knowing your clients assists in identification of their ability to process multiple streams of information and to learn new exercises. Fifteen years ago it was believed that older exercisers (seniors) could not store as much information in their working memory, so they would have greater difficulty executing compound movement and rapidly changing from one movement or exercise to another. This assumption is now challenged for working with seniors.

The primary aim of Physical therapy is to help seniors retain their independence, whether they are managing a long-term illness or just want to improve their general health and mobility. The goal of physical therapy is to help restore and improve functionality, reduce pain and increase mobility for better strength and balance. Specialists in aquatics know that fall risk is greatly lessened in the pool. This primary fact opens the discussion on how aquatic therapy, rehab, and exercise enhances all facets of training to improve independence, quality of life, and everyday function. Falls are the major reason seniors require physical therapy. As people age, they tend to lose flexibility, strength and often their balance, so maintaining the desired level of fitness becomes increasingly challenging. Loss of these functions could lead to a fall that can result in severe injury – common example is hip fracture. Many seniors have developed Osteoporosis, a progressive bone disease characterized by a decrease in bone mass and density and can lead to an increased risk for fractures. It is often the cause of many falls. Sarcopenia is also a part of this condition as people naturally lose muscle mass as they age, especially if they are physically inactive. Physical therapy and a regular exercise program help control the effects of this condition. Strength training and exercise provided in physical therapy can help alleviate the symptoms of arthritis and other mobility challenges. People with arthritis can benefit from physical therapy because it provides exercises to help preserve the strength and use of the joints. Osteoarthritis in the knee, hip and even the shoulder have seen an explosion in the number of joint replacements each year. Pre- and post-therapy is required. Physical therapy also teaches therapeutic methods to relieve discomfort through both physical techniques and activity modifications

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The rapid growth of the ageing population (age 50+) presents unprecedented opportunity for those who understand how to help these clients effectively. Whether you conduct private therapy sessions, small-group trainings or group fitness classes, the techniques must be adjusted to the abilities of the clients. One prominent theory by gerontologists describes aging as an inability to cope with stress and sees impairment as due to weakness of the immune system. While this theory has support, other gerontologists look at a more composite theory of aging; looking at factors contained in the environment. One large question is whether aging is controlled by the brain or from within each cell. From this thought, the theory of an “aging clock” in either the cell or brain has been studied. Regardless of the theory you support, functional fitness is essential as it trains the muscles to work together and prepare them for daily tasks by simulating common movements. It pertains to the level of fitness needed to complete our daily activities without undue stress or fatigue. Functional fitness focuses on designing programs for seniors that will maximize their efficiency and performance leading to a more satisfied life.

There is general agreement that nutrition and exercise are the two most important physical factors influencing longevity that a person can change. The two work together with exercise helping to bring nutritional components to the body’s tissues. Physical activity improves the functioning of the heart, allowing it to supply blood to the brain more effectively while improving circulation. Exercise reduces the heartbeat and blood pressure, burns off fat, helps remove toxic substances from the body, increases

endurance, and reduces the body's susceptibility to many diseases. Improvement can also be seen in the function of organ systems, posture, and mental health. Dr. Alexander Leaf of the Harvard Medical School concludes that, "exercise is the closest thing to an anti-aging pill."

For some in the "older adult" range from age 55 to over 90, there is a large variation from one individual to the next. In this population, common age- related changes include: impairments in somatic-sensory and mechanical receptor responsiveness and vestibular mediated visual and sensory integration deficits causing dizziness and unsteadiness; slower nerve conduction velocity; decreased response amplitude; increased reaction time, muscle response latency, postural sway velocity and anterior-posterior sway. These factors may negatively impact safety, body position awareness and responses to perturbation, increased stride width, reduced gait speed, stride-to-stride variability, gait path deviation. Age-related changes in physical fitness include loss of 20-40 % maximal strength by age 65 in sedentary adults; decreased ankle dorsi-flexion power, hip strength and knee extensor strength are associated with falls in older adults.

In working with seniors, it may be necessary to limit compound movements. An example would be to start with a single-joint movement, then progress to multiple plane movements or PNF. When necessary, break larger movements into smaller segments. Consider the words used to describe the movement and consider speaking more slowly to ensure the client understands what is wanted. This also goes to giving feedback – positive to corrective.

These facts only tell a small piece of the picture. Chronological age considers the numbers. Biological age looks at genetics and lifestyle. Psychological age considers one view of self while societal age looks at how others view us. The concept of functional age which looks at a person's ability to maintain the activities related to daily living may be the most accurate way to look at aging since the quality of life at a given age is more important than the quantity of years. Ask a senior what they fear most and it is the loss of independence and becoming a physical or financial burden to their families. A wellness minded lifestyle can help to preserve independence and self-management.

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