

AGEING PROCESS: AN UNAVOIDABLE TRUTH

Dr. Shatrunjay M. Kote, Asst. Prof., M. S. M's. College of Physical Education, Aurangabad

Ageing is a process that begins at conception and continues for as long as we live. At any given time throughout our lifespan, the body reflects:

- Its genetic component
- Its environmental experience

In other words, our bodies reflect our genetic capacity to adapt and repair, as well as the cumulative damage from disease processes. Ageing highlights our strengths and our weaknesses.

In our society we currently think of the “young old” as being around 65 to 74 years of age, the “middle old” 75 to 84 and the “old old” 85 years + . With advancing age, all of the body systems eventually demonstrate reduced efficiency, slowed building & replacement and actual loss of tissue. While an individual’s ageing experience is unique, there are generalizations which can be observed for each of the body systems.

The primary function of the skin is to protect the organism from the environment. It accomplishes this by providing a barrier that regulates temperature, retains fluid and absorbs shock and ultraviolet radiation, among other things. As we age, the dermis decreases in thickness by about 20%. As it thins it loses vascularity, cellularity and sensitivity. Its ability to exchange or retain internal heat is diminished. The skin becomes thin, fragile and slow to heal. Sweat and sebaceous glands are reduced both in number and effectiveness. Sensory neurons are decreased by 30% from the age of 10 years to 90 years old.

Subcutaneous fat deposition is altered in the elderly. The subcutaneous fat thins in the extremities. Deposition is focused on the abdomen and thighs.

Musculoskeletal

Muscle mass is a primary source of metabolic heat. When muscles contract, heat is generated, the heat generated by muscle contraction maintains body temperature in the range required for normal function of its various chemical processes.

As early as the third decade of life there is a general reduction in the size, elasticity and strength of all muscle tissue. The loss of muscle mass continues throughout the elder years. Muscle fibers continue to become smaller in diameter due to a decrease in reserves of ATP, glycogen, Myoglobin and the number of myofibrils. As a result, as the body ages, muscular activity becomes less efficient and requires more effort to accomplish a given task. The elderly are less efficient at creating the heat necessary to drive the important biochemical reactions necessary for life.

Respiratory Function

Lung function diminishes with age. The major contributing factors are the progressive loss of elastic recoil within lung tissue, the chest wall becomes stiff and there is a decrease in alveolar surface area. These changes diminish the efficiency of gas exchange and make it more difficult to exercise.

Cardiovascular

Despite cardiovascular disease, often combined with a slowdown in the autonomic nervous response, the cardiovascular function of a resting healthy elder is usually adequate to meet the body's needs. Cardiac output of healthy exercising elders can usually be maintained, allowing moderate continued physical activity throughout their lives.

Endocrine and metabolism

Old age is accompanied by a generalized reduction in hormone production and activity. This reduction affects most metabolic functions of the body. Water, mineral, electrolyte, carbohydrates, protein, lipid and vitamin disorders are all more common in the elderly. Nutrition and the ability to use food for energy is seriously affected in the elder population.

Diabetes is common in the elderly. There are many causes but a primary mechanism involves the inability of skeletal muscle to absorb glucose. Over time skeletal muscle becomes less responsive to insulin.

Recent research indicates that the elderly are at risk for nutritional deficiencies due to anorexia. Age related anorexia has been linked to a lower satiety threshold. Elders feel "full" sooner which may be due to change in hormones receptor or trigger mechanisms.

Neuro-sensory

Like other systems, the nervous system changes with age. There is loss of neurons in both the brain and spinal cord. There is loss of neuronal dendrites which reduces the amount of synaptic transmission. The sense of smell, taste, sight, touch and hearing are all diminished overtime. Depression can be the result of impaired synaptic activity. Research indicated that as many as 25% of nursing home residents are clinically depressed. Depression is one of the most common reversible causes of weight loss.

HEALTHY HABITS AND AGEING

Here is a list of good healthy habits supported by a great deal of research. Pick **JUST ONE** of them, the one you think would be easiest to incorporate permanently into your life. Three to six months later, select **JUST ONE MORE**, and commit to incorporating that one into your life as well. Add additional good healthy habits one at a time every three to six months, and in just a year or so, you will be significantly healthier without becoming a health nut.

- Have two kinds of fruit at breakfast juice, fruit on cereal, sliced fruit, or a fruit salad.
- Have a vegetable salad at lunch and dinner
- Have two fruit or vegetable snacks daily
- Take a multivitamin mineral formula daily
- Take a 30 minute walk daily. Work up to a brisk 60 minute walk.
- Lift weights while watching television or talking with family member. Canned foods make convenient weights.
- Quit smoking. Ask your doctor for help.
- Quit consumption of alcoholic beverages to one or two drinks a day. Ask your doctor for help.

- Get atleast seven hours of sleep a night. If you sleep poorly, exercise more during the day.
- Get a flu shot every autumn.
- Practice a deep relaxation program: meditation, biofeedback, massage, or self hypnosis. Ask your doctor for a referral to a practitioner who can teach you know.
- Spend more time with friends and family.
- Get a dog or cat
- Play with kids.
- Volunteer in a program that helps those less fortunate than you are.
- Seek out opportunities to laugh. Rent comedy videos. Attend comedy shows.
- Count your blessings daily when you wake up and before you go to sleep.

SAFETY TIPS:

Here are some things can do to make sure exercising safely:

- Start slowly, especially if you haven't been active for a long time. Little by little build up your activities and how hard you work at them.
- Don't hold your breath during strength exercises that could cause changes in your blood pressure. It may seem strange at first but you should breathe out as you lift something and breathe in as you relax.
- Use safety equipments e. g., the right shoes for walking or jogging, wears a helmet for bike riding.
- Unless your doctor has asked you to limit fluids, be sure to drink plenty when you are doing activities. Many older adults don't feels thirsty even if their body needs fluids.
- Always bend forward from the hips not the waist. If you keep your back straight, you are probably bending the right way. If your back "humps", that's probably wrong.
- Warm-up your muscles before you stretch. Try walking and light arm pumping first.
- Exercise should not hurt or make you feel really tired. You might feel some soreness a little discomfort or a bit weary, but you should not feel pain.