

Physical and cognitive changes

[Science](#), [Anatomy](#)



What are some examples of the physical and cognitive changes people go through when they enter late adulthood? To avoid any confusion and to more clearly represent my personal opinions, perspectives and points of view, I think it necessary to divulge my age. I turned 55 on December 25, 2012. I must say that hitting 55 was a mental challenge for me. ARP considers the age of 55 to be Senior Citizen Status. Many restaurants give discounts to their patrons who are 55 years of age or older. Our text sites many theories on aging and I have read them all.

Since no one knows exactly why we age and die, there is no correct answer to the aging theory. I subscribe to the Damage Theories and specifically the Wear-and-Tear Theory. In quoting our text it suggests that Damage Theories relate to internal, microscopic damage to the organism and is responsible for death. We know that with use, machinery like cars and dishwashers break down. There is no definitive research linking death to wearing out, but it is one of the most common explanations people have about death. This view is called the wear-and-tear theory. Of course, the body is not a machine.

Weight/body build Total body weight increase until the mid-30s then begins to decline. - Weight loss in later years is not due too sliming of the torso but a loss of muscle mass and bone. Voice Due to changes in the larynx, respiratory system and muscle control of the vocal cords, - the pitch of our voice lowers two or three notes on a scale and - may begin to quaver due to loss of control over the vocal cords. - there is also a decrease in volume The effects of age in internal system Bones - bones in your body loss strength as you age, due to loss of calcium and other minerals, - resulting greater vulnerability to fracture. Smoking, using alcohol, diet, and having a

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sedentary life all contribute to greater one loss Micro fractures Joints There are age losses in virtually every structural component of the Joint! - the cartilage. Arthritis is a disease category that characteristically impacts the Joints, resulting in swelling, pain, and stiffness. Heat and cold compresses. Musculature - Between 40-70 muscle strength drops between 10-20% - between 70-80 the drop is 30-40% - Muscle mass is replaced with connective tissue that makes the muscle stiffer and heals slower after injury.

Reaction time The time between stimulus onset and our response decreases with age. - Reaching peak in our teens and early 20. Cardiovascular serious limitations of the heart's ability to pump blood through the circulatory system adequately for all the cells. - The reduction in the ability of the heart to pump is due to ?» changes that affect the structure and functioning of the heart muscle wall ?» the cardiac muscle becomes less responsive to the neural stimulation of the " pacemaker" cells that initiate contraction ?» the effects of aging and poorhealthhabits on the arteries of the heart reduce flow as well. ? Under normal conditions During aerobic exercises or other strenuous activity ? Poor health habits Regular exercises Cardiovascular disease is the leading cause of death in the United States. - Defined as any problem associated with the heart or blood circulation. - The likelihood of dying of some form of cardiovascular disease increases dramatically as we age. Included in cardiovascular disease are - hypertension (high blood pressure) Generally any systolic over 140 mm Hg and diastolic over 90 mm Hg. ? congestive heartfailurestroke (cerebral vascular disease) and peripheral vascular disease - of which the most common is atherosclerosis. Heart disease Arteriosclerosis - - referring to the narrowing of the arteries

Arteriosclerosis - Referring to a loss of elasticity and hardening - which restricts blood flow to the rest of the body including the heart itself. This process begins in childhood and is inevitable. The extent of the buildup and the ultimate impact on functioning is a product of our health behaviors. CAD - Coronary artery disease is the leading cause of death in later life. While men are more affected by CAD than women - women are still susceptible to the disease. Hormonal systems ? Most notable changes are in sex hormones (testosterone and estrogen and in the production of insulin) - the capacity of the pancreas to produce insulin reduces Diabetes mellitus - - Menopause - reduction in the production of estrogen and progesterone - Symptoms of menopause include hot flashes, vaginal and urinary tract changes, and some experience significant swings in mood or feelings of strong emotionality. ? Link to osteoporosis and CAD Immune system A reduction in the effectiveness of T cells, which destroy antigens (foreign substances like viruses that enter the body) as we age. Stress can also influence this - Whereas social support has been found to increase the effectiveness of the immune system. Neural systems We are born with nearly all the neurons we will have in our lifetime - and over time they die. - This loss does not mean there is an associated reduction in cognitive or other functions as we will see. Senile plaques. ? Neurofibrillary tangles - Neurofibrillary tangles Changes in neurotransmitters Supplies of all neurotransmitters decreases with age. Dopamine -controlling motor movement and other functions may become depleted due to the aging of the substantia nigra. Morphogenesis - associated with learning and memory. - However, the decline in neurotransmitters that occur with normal aging do not result in dramatic

changes in functioning or behavior. When a neuron dies other healthy neurons will generate new connections to compensate for the loss. This repair system is aided by cognitive stimulation, exercise, and health habits.

Pulmonary There are usually measurable declines in the efficiency of the pulmonary system - the musculature system that controls breathing (diaphragm, chest cage stiffness) degrades in addition there may be loss of lung tissue and elasticity of the lungs. Health habits Stamina -

Digestion/excretion The digestive system acts more slowly The social context of eating Healthy eating - Seniors who are depressed tend to eat irregularly and less than non-depressed structural changes to the kidneys that result in impaired efficiency adulthood. Incontinence effects 19% of women and 8% of men over 60 * Did you expect the age in which you currently are, would be different than it is? L, to this day have the mind of a 25 year old. I think, process, enjoy life and live through the eyes of someone much younger than myself but when it comes to the physical aspect of my actual age, I suffer greatly from chronic pain and feel as if I'm about 80 years of age chronologically. My muscular-skeletal system has degenerated at a much more significant rate than my socio-emotional mind has.

I fear that my mind may one day give way to age as a result of inundating it with constant pain. Eventually the brain will no longer endure and I will yet again experience the "Wear And Tear" theory and the brain will break down and I will suffer the consequences aforementioned and death will be inevitable. Where would you like to see yourself ten years from now in terms of your family life, career, and education? Ah, the imagination! The

imagination gives us the ability to see ourselves in any circumstance, any wild and wonderful scenario, either in the world or out of it.

It can take us on the "future trip" of all time, spinning our reality around until it is only vaguely recognizable. Look at how easily children create new realities to enjoy with their supple imaginations. Cardboard boxes can become snow forts, and a comfy chair can instantly become an ancient regal throne. The bathtub can become a formidable pirate's ship, all decked out for navigating the perils and adventures of the high seas. Children can imagine themselves anywhere, doing anything. And that is what I try to do. It is important to dream, to envisage a possible future.

As the poet, Longboats Hughes said, Dreams Hold fast to dreams For if dreams die Life is a broken-winged bird That cannot fly. For when dreams go Life is a barren field Frozen with snow. So, that is what we are going to do. I am going to encourage you to dream, to imagine. Stretch your imagination ten years forward. Imagine yourself really happy. See ourselves enjoying life, smiling. The rules that apply now, may not apply in the 10- years-from-now-world. Any sort of upheaval may or may not take place between now and then. So, I feel free to let my imagination run rampant about my future.

Now, spend some time examining what your happiness looks like. What are the components to it? What ingredients are in the background? What contributes to that happiness? Then, slowly come back to the present. Now, think about what it might take to get you from here to there. Ten years is a pretty long stretch into the future. Ten years ago, Google was in its infancy. Many things we didn't believe were possible then, are in fact possible today.

So even if what you are left with as the way to happiness seems silly, or improbable, give some time over to thinking what you can do to get there.

The future changes, transmogrifies (my new favorite word), and shimmers into all kinds of unexpected places. But, if you start putting steps in place now, as the world shifts, your steps can shift as well. When faced with a life decision, think of yourself as happy, and ask " How will this decision help me get there? " I am not suggesting that happiness of self is the be all and end all. But we can do more for others if we are happy in the now, as opposed to miserable, or unsatisfied or stressed beyond manageability.

I am also not suggesting that a dream will always come true, or even that it should. But I do think that dreamers are happier. And I think that wishing for one kind of happiness can end us up at another kind, maybe even a better one. When I think of my own happiness, I am thinner, more physically fit, more engaged in an active community of people, more financially secure and helping more people purposefully. My own list surprised me. And there are things I can do now that I know will help me get there.