

# HOW THE BODY AGES

## GETTING OLDER

Many of the changes that come with age are obvious—wrinkles, gray hair, and the need to reach for those reading glasses to name a few—but what's going on beneath the surface to cause all that?

### The Mind

The brain is at its largest when we're in our early 20s and begins to decline after that. People may start to notice subtle deficiencies in their memories by the time they reach their 40s, and a third of the people will have experienced more significant memory loss by their 70s. Many say they begin to struggle for the right word or have a hard time remembering names, especially people they've recently met.

About 10 percent of people in their 70s or older have Alzheimer's disease. It is not known what causes Alzheimer's but autopsies show an accumulation of *amyloid plaque* in the brains of patients. Experts say memory loss and cognitive decline are not always inevitable. Recent research has shown that exercising the brain and body can help keep minds and memories sharp.

### Vision

Your eyes may start changing in your 30s. The older you get the less responsive your pupils will be to changes in light. By the time you're 60, your pupils will be one-third the size they were when you were in your 20s. The eyes' lenses become less flexible and can cloud up. They may also feel drier because they produce fewer tears. Your vision may become less sharp; most people over 55 need to wear glasses at least part of the time.

Peripheral vision also tends to decline with age. Glare can become more a problem and you may have a harder time seeing at night, a possible sign of a developing cataract. You may also see floaters drifting across your eyes. These sparks are usually harmless but if they greatly increase, they could be the sign of a detached retina, a serious problem.

### Hair

Hair loses both color and thickness as we age. Melanin, a pigment produced in the follicles, gives hair its color but by the time we hit our 30s our scalp's follicles aren't making as much of it and we often start to notice some gray strands. When the follicles start stop making melanin completely, hair turns white.

Almost everyone experiences some thinning of hair on the head with age. About two-thirds of men are significantly bald by age 60. While the hair on some women's heads noticeably thins, they may find it getting coarser on their faces.

## **Hearing**

Structures in the ear change as we age. Eardrums thicken and the tiny hairs that line the inside of our cochlea can become damaged. Cells in these hairs sense sound waves and transform them into signals that nerve cells transmit to the brain. Once damaged, these cells are lost forever since they do not regenerate and result in difficulty hearing higher frequencies, particularly when there is a lot of background noise. Significant hearing loss is experienced by a third of people 65 to 70 and by half of those over 75.

## **Skin and Nails**

With age comes wrinkled and sagging skin. The skin's outer layer, the epidermis, thins. Pigment containing cells called melanocytes decrease in number. The remaining ones increase in size giving skin a paler, thinner, and more translucent look. Dark areas known as age or liver spots may appear. The skin may also develop a leathery appearance as its connective tissue loses strength and elasticity. Older skin tends to get drier as sebaceous glands produce less and less oil. Warts and other growths are more common in aging skin. Fingernails and toenails grow more slowly and may become yellowed, dull, and brittle. Toenails may become hard and thick. Ingrown toenails and length-wise ridges are also more common as we age.

## **Heart**

The heart becomes larger with age due to thickening of the organ's walls that can hinder pumping. Heart valves also thicken and become stiffer affecting blood flow. Cells that act as the heart's pacemaker decline with age leading to a slower rate of pumping and sometimes to abnormal rhythms known as atrial fibrillation. Keeping your heart in good shape through exercise can help counter some of these negative effects.

## **Body Fat**

Between the ages of 25 and 70, body fat naturally doubles. This can be changed with regular exercise and a healthy diet but even then, fat may accumulate in new places including the chin, neck, abdomen, thighs, and buttocks. Fat also tends to shift from just beneath the skin to deeper spots near the organs.

## **Muscles**

Muscle fibers shrink as we age. Partly this is because the older we get the more slowly the body replaces muscle tissue. Sometimes the muscle is replaced by tough fibrous tissue which is often most noticeable in the hands giving them a thin and boney appearance. Your genes will determine how much muscle you lose with age and how quickly this happens. Around the age of 30 people generally begin losing muscle mass. By age 70, they often have at least 20 percent

less muscle mass than they did four decades earlier. Muscles also tend to become rigid and lose flexibility and tone with age, even with regular exercise. Although muscle strength declines with age, endurance may improve.

### **Sexuality**

For women menopause can bring sudden and dramatic changes. Breasts become less fatty, sag, and lose size and fullness. Pubic muscles lose tone. Women may experience a drop in their libido and intercourse may become uncomfortable as vaginal walls become thinner and drier as the result of hormonal levels. Menopause typically occurs between the ages of 45 and 55 but perimenopause can begin as early as 35. Men also undergo hormone changes as they age. Around 40 men's testosterone levels start to decline. Usually this is a gradual process that doesn't cause significant problems but about 20 percent of men over the age of 60 have lower than normal levels. Men produce fewer sperm as they age and may also experience a decrease in sex drive. They may find that they have problems developing and maintaining an erection. Some of the causes of erectile dysfunction can be traced to medications such as those used to treat high blood pressure.

### **Bones**

Throughout our lives bone is constantly being broken down and replaced. Because the replacement slows with aging starting at age 30 for most, bone mass or density is lost. This process happens more quickly in women during and after menopause. As aging vertebrae become less dense, the spinal column can become curved and compressed causing the person to become shorter. Bone spurs may also form on the vertebrae. Some bones such as the shoulders could develop a moth-eaten look on X-ray as they become more porous. All bones are more susceptible to fracture as they become increasingly brittle.

### **Joints**

As we age, our joints become stiffer and less flexible. Over the years, we have less fluid that lubricates the joints causing cartilage to erode. Knee and hip joints may degenerate. Joints in the fingers may lose cartilage. All these changes can lead to pain, inflammation, and stiffness. Most people over the age of 60 experience some problems with their joints whether it's minor stiffness or severe arthritis.