

# Getting Old

SECRETS OF Longevity

## 20-30

Metabolic and biological functions peak, with men producing their maximum amount of the sex hormone testosterone between 17 and 26. But it's mostly downhill from here. The brain is already beginning a long, slow decline, shrinking in weight and volume by about 2% every decade. Muscle strength begins to fade, imperceptibly at first, at about 25

## 30-40

It's women's turn to peak sexually, but the first outward signs of aging appear as skin starts thinning and wrinkles emerge. Female fertility drops off at age 37. Men genetically predisposed to male-pattern baldness begin to lose their locks

## 40-50

Metabolism slows markedly and the battle against fat truly begins: waists thicken and thighs bulge. Without exercise, heart and lung capacity decline by up to 10%. Heart disease starts to become a possibility

## 50-60

For women, estrogen levels plummet and menopause sets in. One in five women will develop osteoporosis as their bones lose calcium. Men shrink, their skin sags and they become prone to suffer from enlarged prostates

## 60-100

Common health problems arise such as incontinence, sleeplessness and a weakened immune system. A decline in cognitive abilities—loss of coordination and dexterity, and increase in mental confusion—is also more pronounced. People get shorter as spines compress and disks deteriorate. The prevalence of Alzheimer's doubles every five years after 65. Facial skin loses elasticity, giving a hollow appearance along with "turkey neck." Eventually, incidence of diseases of the mind and body snowball. Almost half of all 90-year-olds suffer from some form of dementia

### THE SKELETAL SYSTEM

Over a lifetime, men lose about 15% of their total skeletal mass and women 30%. Many people become shorter due to changes in their bone mineral density and shrinkage of intervertebral disks. As muscles weaken, it becomes harder to support the spine and thorax, which can lead to slouching or stooping



### THE BODY IN DECLINE

■ **BRAIN** Gradually shrinks as brain cells become smaller. More than 30,000 neurons die each day. Their passing goes unnoticed because each person has perhaps billions of neurons, but accumulated loss might ultimately lead to memory problems and other dysfunctions

■ **FACE** Buildup of fat cells creates bags under the eyes and a double chin; lips lose fullness

■ **SKIN** Loses moisture and elasticity and becomes thinner, so wrinkles develop

■ **BONES** Become thinner and more porous—making them prone to fractures—as mineral content declines

■ **MUSCLES** Declining blood supply, dead nerve cells and waning testosterone result in decreased muscle mass and strength

■ **BREASTS** Tissue degenerates after menopause, causing breasts to sag and wrinkle

■ **ARTERIES** Buildup of calcium and fatty tissue raises blood pressure and decreases oxygen and nutrients reaching the body's cells

■ **HEART** Grows less efficient as its valves become thicker and less elastic

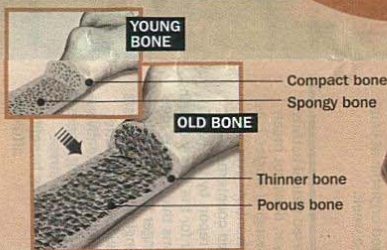
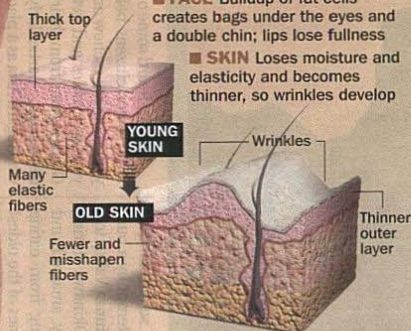
■ **LUNGS** Extra secretions and declining elasticity can cause breathlessness and heightened risk of bronchitis and pneumonia

■ **STOMACH** Less digestive juices are produced and elasticity diminishes, making it harder to absorb nutrients

■ **HEARING** Sounds might become duller or distorted; rapid speech and foreign accents become difficult to follow

■ **SIGHT** Corneas thicken and lenses distort, causing nearsightedness; colors fade and peripheral vision shrinks

■ **TOUCH** Sensitivity diminishes as skin thins and cells and nerve endings die



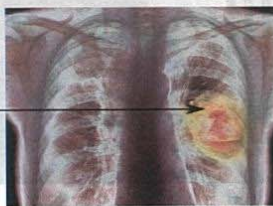
### NATURAL BORN KILLERS

Leading causes of death in the West

- 1 Heart disease
- 2 Stroke
- 3 Lung cancer

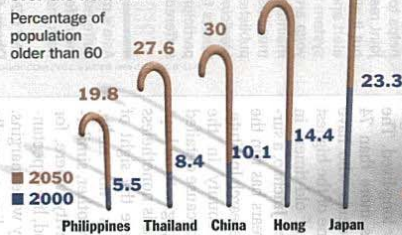
Leading causes of death in the East

- 1 Stroke
- 2 Heart disease
- 3 Chronic lung disease



### AGING POPULATIONS

The number of Asians older than 60 is set to explode over the next four decades:



TIME Graphic by Dennis Wong and Cecelia Wong; Text by Nick Papadopoulos  
Sources: Atlas of Human Anatomy for the Artist (Oxford University Press); Stephen Rogers Peck; HealthAnswers; Charles Sturt University; The Human Body (Dorling Kindersley); healthandage.com; therubins.com; The Observer Magazine; Darien Dermatology and Laser Center; Professor Alan Lopez, University of Queensland; World Health Organization; United Nations and the U.N. Population Division

PHOTOGRAPHS FOR TIME BY CARSTENSCHAELO

### LIFE EXPECTANCY\*

If you live in Japan, you're likely to live 49 years longer than if you're from Zambia

(\*Average life expectancy)

