

Geriatric Health Care Maintenance

Geriatric Health Care Maintenance

Family physicians have the unique opportunity to participate in the lives of elderly patients and their families.

Outline a process that can be integrated into clinical practice, which can help improve the evaluation and care of elderly patients.

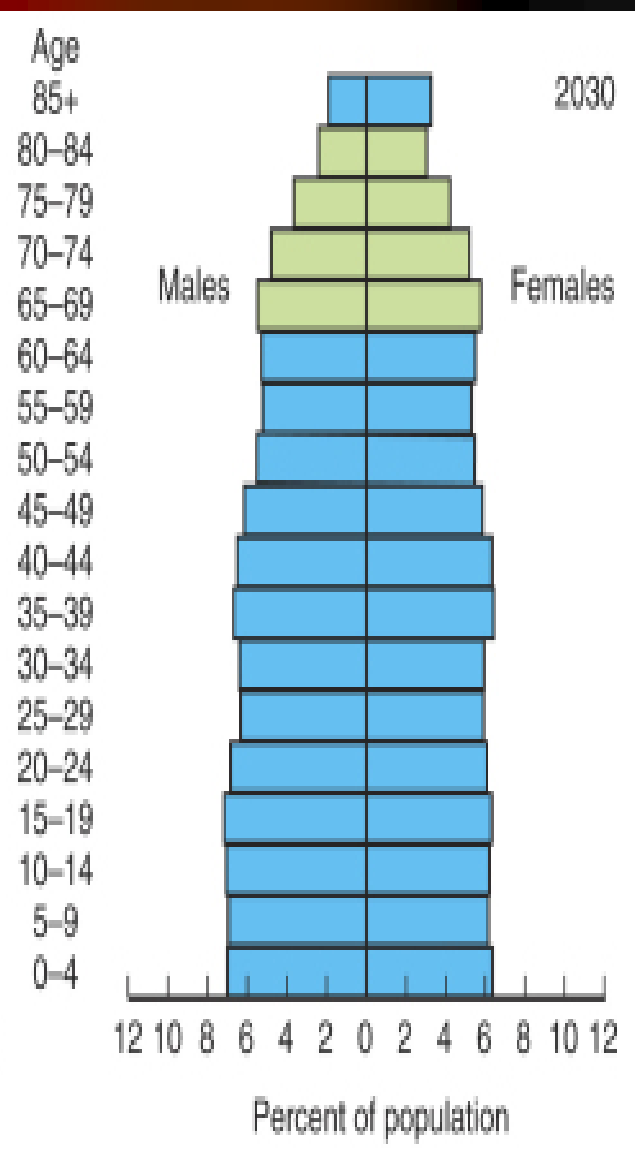
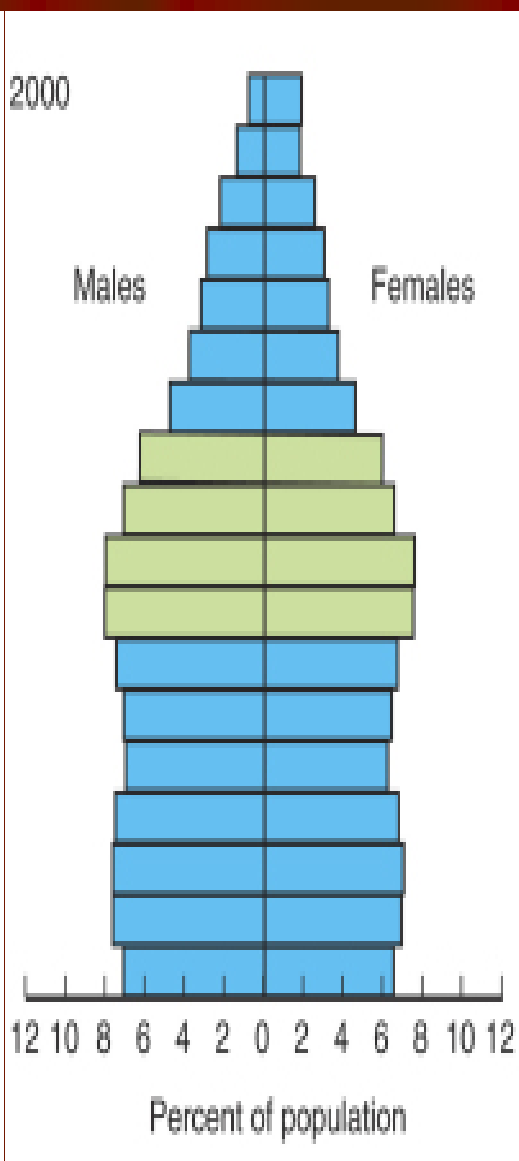
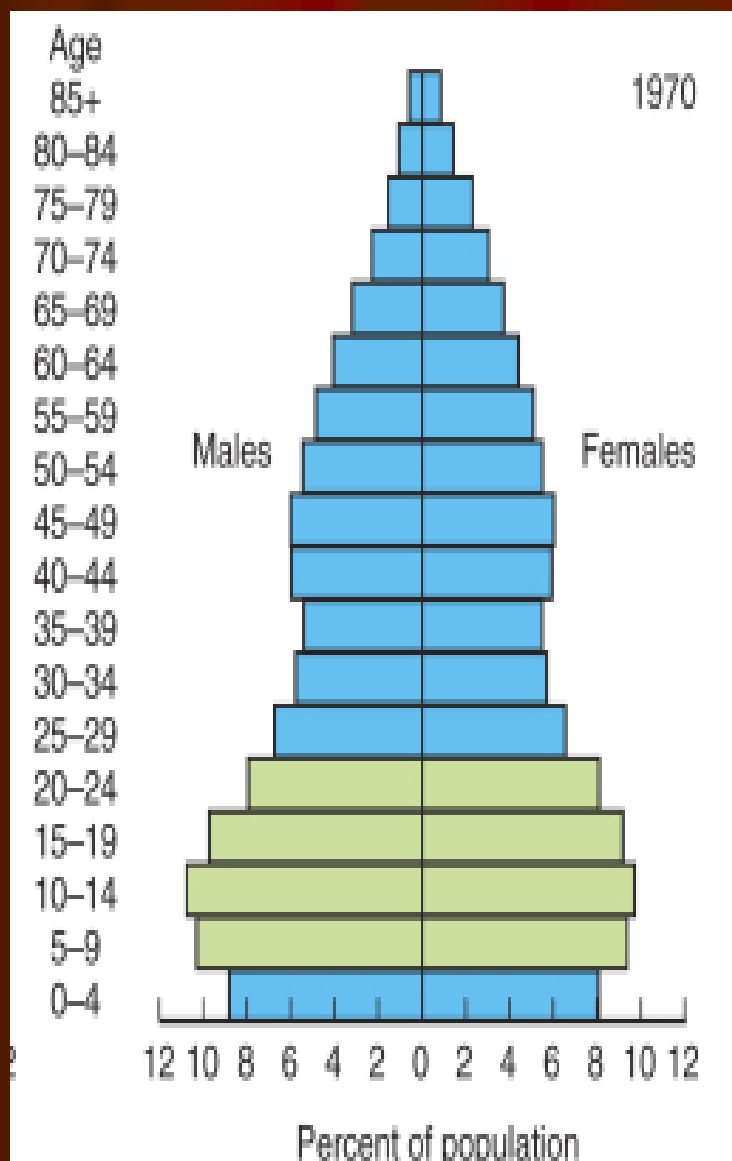
Geriatric Health Care Maintenance

The number of elders in the population continues to increase. Because of their sheer numbers, this generation has a profound effect on society and the medical care system

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In 2002, the overall life expectancy at birth was 77.3 years, and there continues to be a gradual increase in this life expectancy for male and female and for white and black members of the population.....was 80.3 yrs for white women, 75.6 yrs for black women, 75.1 yrs for white men, and 68.8 yrs for black men.

At age 65, life expectancy in the United States anticipates another 15 to 20 years.



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World's population is also aging. One of every 10 persons is 60 years or older, and by 2050, 1 of 3 will be at least 60 years old.

There are striking differences between regions. One of 5 Europeans, but only 1 of 20 Africans, is 60 years or older.

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The **growth** in the number and proportion of the older population impacts **the *old-age dependency ratio***, which is the number of working-age persons (15 to 64 years old) per older persons (65 years or older).

This ratio is used as an indicator of the *dependency burden* on potential workers. The United Nations estimates that the old-age dependency ratio will double in more developed regions and triple in less developed regions between 2000 and 2050.

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The aging population's impact is evidenced by the fact that adults age 65 or older account for **22% of office visits to family physicians**, and **20% of physicians' office income** is in the form of Medicare payments.

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In the year 2002, of the 215 million office visits to family physicians, 48 million were used to provide services to people 65 years or older

As the population continues to age, more of family physicians' clinic work will involve geriatric medical care.

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this population has a high prevalence of **disabilities**. Between 7% and 8% experience **severe cognitive impairment**, 20% have **chronic disabilities and vision problems**, and another 33% suffer from **mobility limitations and hearing impairments**

Along with the impact of disabilities and the accumulation of chronic diseases, the elderly patient is also experiencing the **effects of normal aging**.

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Aging is associated with structural and physiologic age-related changes as presented in Table..... **Physiologic deterioration with age is inevitable, but external factors and diseases have a great influence on the extent to which this deterioration occurs.**

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Structural and Functional Age-Related Changes

1-Cellular level: Various morphologic changes in the nucleus and cytoplasmic organelles; decreased cell number generally throughout tissues; **decreased cell functions**, including oxidative phosphorylation, DNA and RNA synthesis, protein synthesis, and adrenergic responsiveness; **changes in response to stress** and functional effectiveness of enzyme systems

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Structural and Functional Age-Related Changes

2-Connective tissue: Collagen-increased in strength, stability, and number of cross-links resulting in greater stiffness; decreased tissue elasticity in skin, major blood vessels, heart, lungs, and ligaments

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Structural and Functional Age-Related Changes

3-Body composition: Weight generally declines after age 50 in men while remaining relatively constant in women; decrease in lean body weight caused primarily by shrinkage of muscle mass reflected in decreased creatinine production (25% in men and 15% in women); organ size declines (e.g., muscles, liver, brain, kidneys) with some exceptions (e.g., prostate, lungs, heart, perhaps the gastrointestinal tract)

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Structural and Functional Age-Related Changes

4-Cardiovascular system: Cardiac output falls 1% per year after age 30; impaired heart rate increases to stress; stroke volume decreases of 0.7% per year in the resting state; heart rate declines; progressive elastocalcinosis of the media of elastic arteries and elastic lamina of muscular arteries, resulting in decreased distensibility and increased systolic blood pressure; decreased blood flow to various organs (less to kidney than heart or brain)

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Structural and Functional Age-Related Changes

5-Excretory system: Total **nephron count** decreases by 30% to 40% between ages 25 and 85; kidney weight decreases 30%; renal plasma flow 53% between ages 20 and 90; filtration fraction increases; a parallel reduction in renal tubular cell mass causes a 43% decrease in maximum tubular resorption for glucose; **serum creatinine does not reflect creatinine clearance** because of decreased production from smaller muscle mass....

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Structural and Functional Age-Related Changes

6-Respiratory system: decreased strength of expiratory muscles equals decreased compliance of chest wall; increased residual volume, all timed ventilatory functions decrease; increased risk of pulmonary infection because of decreased projective force of cough and mucociliary clearance rate, increased frequency of aspiration, and gram-negative colonization rate of oropharynx

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Structural and Functional Age-Related Changes

7-Gastrointestinal system : Liver: Weight decreased by 20% by age 50; albumin is decreased, and globulin is increased with no change in total protein; Stomach: Decreased secretion of acid to 20% of volume in youth; Pancreas: No change in organ weight but possibly decreased functional tissue

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Structural and Functional Age-Related Changes

8-Endocrine system : Parathyroid: Reports are equivocal regarding parathyroid hormone levels; Pancreas: Decreased number and function of insulin-secreting cells; Adrenals: Glucocorticoid levels retain normal diurnal rhythms with decreased secretion and excretion rates

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Structural and Functional Age-Related Changes

9-Hematopoietic and immune systems: Red cell line is normal, including a normal hematocrit; platelet levels are normal; fibrinogen levels are increased..... number of B cells is normal, but response to antigen challenge of vaccination is reduced, possibly because of decreased T-cell function; reduced ability of T cells to proliferate in response to challenge

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Structural and Functional Age-Related Changes

10-Neurologic system: Variable degree of neuronal dropout, depending on location and individual differences; cerebral blood flow declines with age; 7% decline in brain weight by age 80; 20% decrease in blood flow to the central nervous system by age 70

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Structural and Functional Age-Related Changes

11-Special senses:

Sight: Decreased visual acuity; increased frequency of chronic glaucoma because of decreased reabsorption of intraocular fluid; increased lens size and abnormalities of shape lead to astigmatism and myopia; increased incidence of cataracts (which may be a pathologic condition)

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Structural and Functional Age-Related Changes

11-Special senses:

Hearing: Tympanic membrane flexibility declines; increased mean pure tone threshold with age for all frequencies, especially for 4000 cps in men after 60 years old; more important is the loss in speech reception and discrimination thresholds

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Structural and Functional Age-Related Changes

11-Special senses:

Taste: Decrease in number and functional status of taste buds; saliva flow is decreased by two thirds, with consequent dry mouth and decreased taste sense; taste also affected by state of oral hygiene and use of dental prostheses

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Structural and Functional Age-Related Changes

11-Special senses:

Smell: Decreased to same extent as taste (one study with only 22% normal)

Touch: Decreased touch acuity; pain sensors appear to be intact

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Structural and Functional Age-Related Changes

12-Musculoskeletal system:

Stature: Height progressively decreases

Bones: Bone loss is universal beginning after age 40, accelerated in females after menopause

Joints: Dehydration of intervertebral disks and joint cartilage with wear-and-tear atrophy

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Structural and Functional Age-Related Changes

12-Musculoskeletal system:

Muscles: Decreased number of cells; increased fat content in muscle bundles

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GOALS:

- 1) To improve quality of life.
- 2) To delay or prevent common conditions of aging
- 3) To maintain function

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Integrated Evaluation

Because of time and reimbursement limitations, it is difficult to provide the full range of evaluative and treatment services to the elderly patient with multiple chronic medical and functional problems.

We need to cover a broad range of issues that may be related to the medical concern of the patient and family.