

Chapter 26
Geriatrics

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Overview

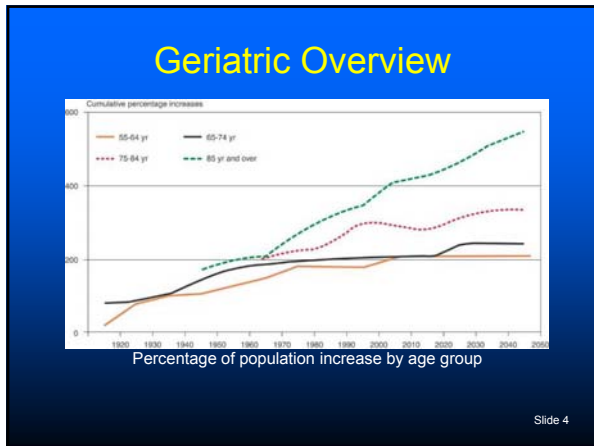
- Anatomy and Physiology
- Assessment of the Geriatric Patient
- Trauma
- Common Medical Emergencies
 - Special Considerations in the Elderly
- Medication Considerations
- Abuse and Neglect
- Expanding the Role of EMS

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Geriatric Overview

- Understanding unique problems of the elderly is important
 - The elderly are the fastest-growing segment of our population
 - A child born in 1900 could expect to live just 49 years
 - A child born in 1976 could expect to live almost 73 years and this continues to increase

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- ### Geriatric Overview
- Multiple reasons for this increasing age
 - Better health care
 - Decreased rates due to vaccinating against preventable illness
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- ### Geriatric Overview
- The leading cause of death in the geriatric population is cardiovascular disease, which encompasses heart attack and stroke. This is followed by cancer.
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Geriatric Overview

- The elderly are more difficult to transport, but not to diagnose and treat
 - Many reasons
 - Multiple medical problems
 - Difficulty in communication
 - Changes in anatomy and physiology with aging
 - A host of social factors

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Anatomy and Physiology

- Changes occur in all of our body systems as we age
- General decline in function that begins slowly and is often not noticed until a problem occurs in another system
- The decline in body systems starts at an early age, even the 30s

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Anatomy and Physiology

- Respiratory system
 - Decrease in vital capacity by 50%
 - Air moved in one breath is less than normal
 - Maximum breathing capacity decreases by 60%
 - Maximum oxygen uptake decreases 70%
 - Limits exercise and exertion
 - Prohibits rapid bursts of activity

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Anatomy and Physiology

- Cardiovascular system
 - Decrease in stroke volume
 - Decrease in contractility
 - Degeneration of the conduction system
 - Dysrhythmias more common
 - Variations in rate from minute to minute
 - Irregularities

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Anatomy and Physiology

- Cardiovascular system
 - Hypertrophy of the heart muscle
 - Creates more area for the coronary arteries to supply
 - Inability to vasoconstrict quickly
 - Dizziness on standing

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Anatomy and Physiology

- Renal system
 - Decrease in functional units of the renal system by 30%-40%
 - Renal blood flow decreases by 50%
 - Cannot produce very diluted or very concentrated urine
 - Limits ability to react to changes in fluids or electrolytes
 - Alters blood chemistry

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Anatomy and Physiology

- Nervous system
 - 45% reduction in brain cells in areas responsible for higher function
 - 6%-7% decrease in brain weight
 - Decreased cerebral blood flow
 - Decreased nerve conduction velocity

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Anatomy and Physiology

- Musculoskeletal system
 - Changes
 - Stature
 - Gait
 - Ability to ambulate

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Anatomy and Physiology

- Musculoskeletal system changes
 - Predisposes patients to falls
 - Decrease in height of 2-3 inches
 - Posture changes
 - Kyphosis

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Anatomy and Physiology

- Gastrointestinal system
 - ½ reduction in the volume of saliva
 - Decreased esophageal motility
 - Results in bowel disorders and constipation

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Assessment of the Geriatric Patient

- Complicated process
- Difficult to separate the effects of aging from the consequences of disease
- Often suffer from more than one disease at the same time

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Assessment of the Geriatric Patient

- Chief complaint may appear trivial and mundane
- May be the underlying reason for the real problem
- Often fail to report important symptoms

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Assessment of the Geriatric Patient

- Chronic problems make it difficult to sort out the original problem
- Aging changes an individual's response to illness or injury

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Assessment of the Geriatric Patient

- Sensitive to changes in their routines
 - Rely on a social network for services
 - Sundowning
 - ICU psychosis



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Assessment of the Geriatric Patient

- Communication problems are common
 - All senses on a gradual decline
 - Complicated by diseases
 - Dementia

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Assessment of the Geriatric Patient

- History taking is a critical skill
 - Be aware of communication problems
 - Do not assume that a patient is deaf
 - Do not shout
 - Speak slowly and directly at the patient

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Assessment of the Geriatric Patient

- Scene size-up
 - Be alert for clues at the scene
 - Can they care for themselves?
 - Look for signs of drug or alcohol abuse
 - Look for signs of elder abuse

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Assessment of the Geriatric Patient

- Initial assessment
 - Peripheral pulses may be difficult to evaluate
- Focused exams
 - Patient may tire quickly from physical exam
 - Excessive clothing may hamper assessment
 - Explain what you are doing
 - Be alert for changes that are related to aging vs. changes that are related to a medical problem

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Trauma

- Serious problem in the elderly
- Common causes
 - Falls
 - Motor vehicle crashes
 - Violence


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Trauma

- Physiologic changes
 - Loss of elasticity of blood vessels
 - More subject to tearing
 - Concern for head bleeds
 - Cervical spine Injury
 - Common
 - Difficult to diagnose
 - Positioning and immobilization may need to be modified

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Trauma



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Trauma

- In general, trauma care is similar to all patient populations
- Keep in mind the changes associated with aging
- Be alert for medications that blunt the normal response

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Special Concerns

- Cardiovascular system
 - Myocardial infarction
 - Risk of dysrhythmia
 - CHF
 - Beta-blockers lower ability to respond to trauma situations

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Special Concerns–Trauma

- Respiratory system
- Decrease in chest cage movement
- Lower vital capacity
- Require higher PO₂ to maintain O₂ transfer to vital organs
- Less tolerance of hypoxia

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Special Concerns—Trauma

- Renal system
 - Decrease in ability to compensate
 - Increased risk for fluid overload

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Common Medical Emergencies

- Management is similar to other adult patients



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Common Medical Emergencies

- Cardiovascular conditions
 - Related to progression of atherosclerosis
- Syncope
- Rhythm disturbances
- Atypical presentations

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Common Medical Emergencies

- Acute neurological changes
 - Seizures related to CNS disease
 - Stroke
 - TIA
 - Dizziness
 - Dementia
 - Organic brain syndrome
 - Psychiatric disorders
 - Risk of suicide
 - Depression

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Common Medical Emergencies

- Environmental emergencies
 - Poor thermoregulation
 - More at risk than other adults

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Common Medical Emergencies

- Respiratory distress
 - Frequently have underlying pulmonary diseases
 - May present in an atypical manner
 - Pneumonia presents as not eating or generalized weakness

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Common Medical Emergencies

- Gastrointestinal bleeding
 - Upper more common
 - Blood loss can precipitate other issues

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Medication Considerations

- More than 25% of all prescription meds are taken by the elderly
- More than 30% of all hospital admissions are for drug-induced illnesses



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Medication Considerations

- Side effects
- Interactions
- Reactions
- Toxicity
 - Digitalis
 - Antiparkinson drugs
 - Diuretics
 - Anticoagulants

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Abuse and Neglect

- Neglect more common than abuse
- No socioeconomic boundaries
- Average age is 80
- Often have multiple chronic diseases
- Require extensive care

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Abuse and Neglect

- Unexplained trauma is the primary finding
- Be alert for clues at the scene

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Expanding the Role of EMS

- Evaluating ways to capitalize on our role and ability to enter patient homes
- Allows for access to information physicians and other providers don't know
- Promote health and prevent illness

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Expanding the Role of EMS

- Examples
 - Home survey
 - Immunization programs
 - Social service referrals

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Summary

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- Expanding the Role of EMS

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