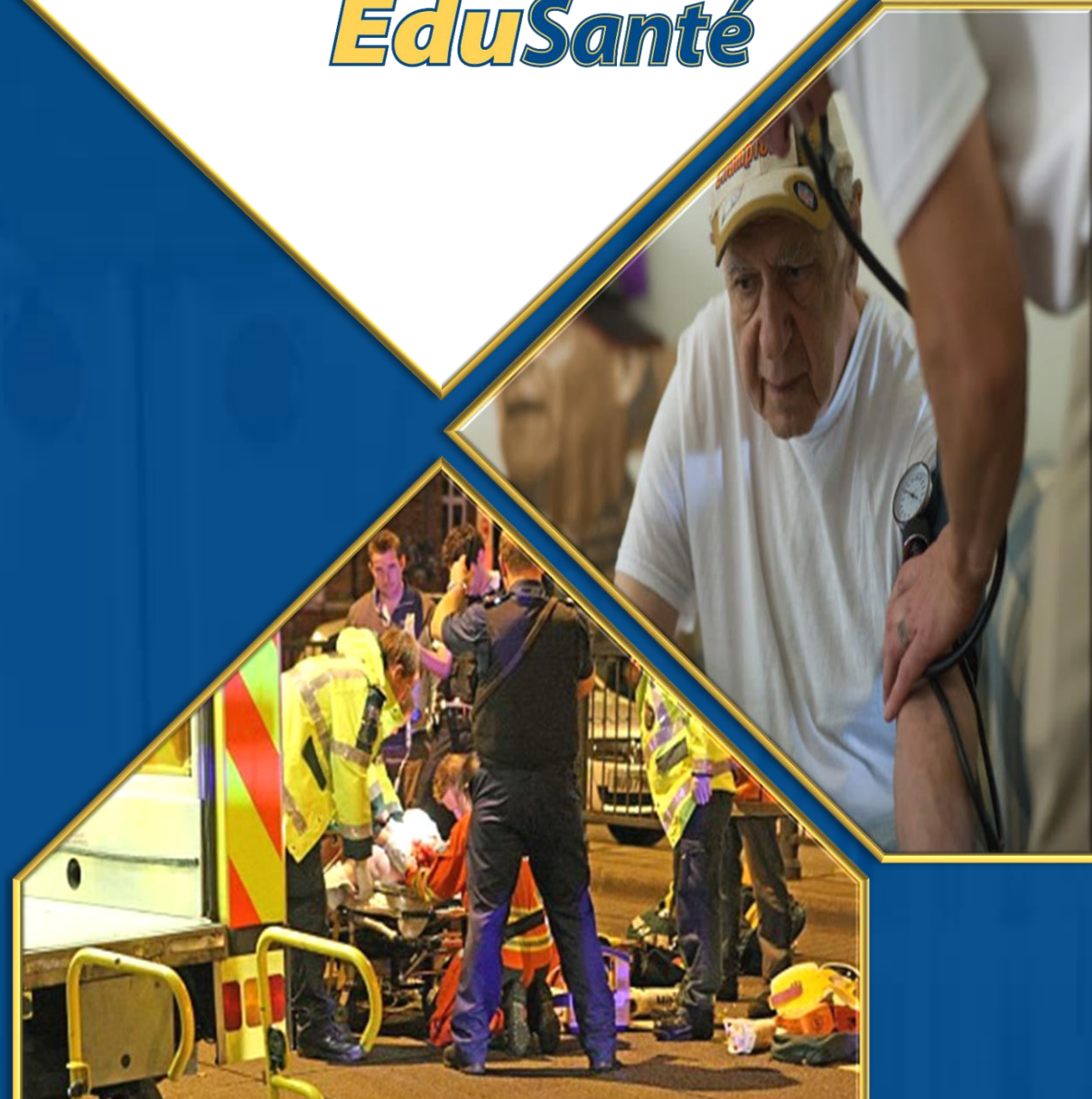


GERIATRIC ASSESSMENT

Primary Care Paramedicine

Module: 09
Section: 06



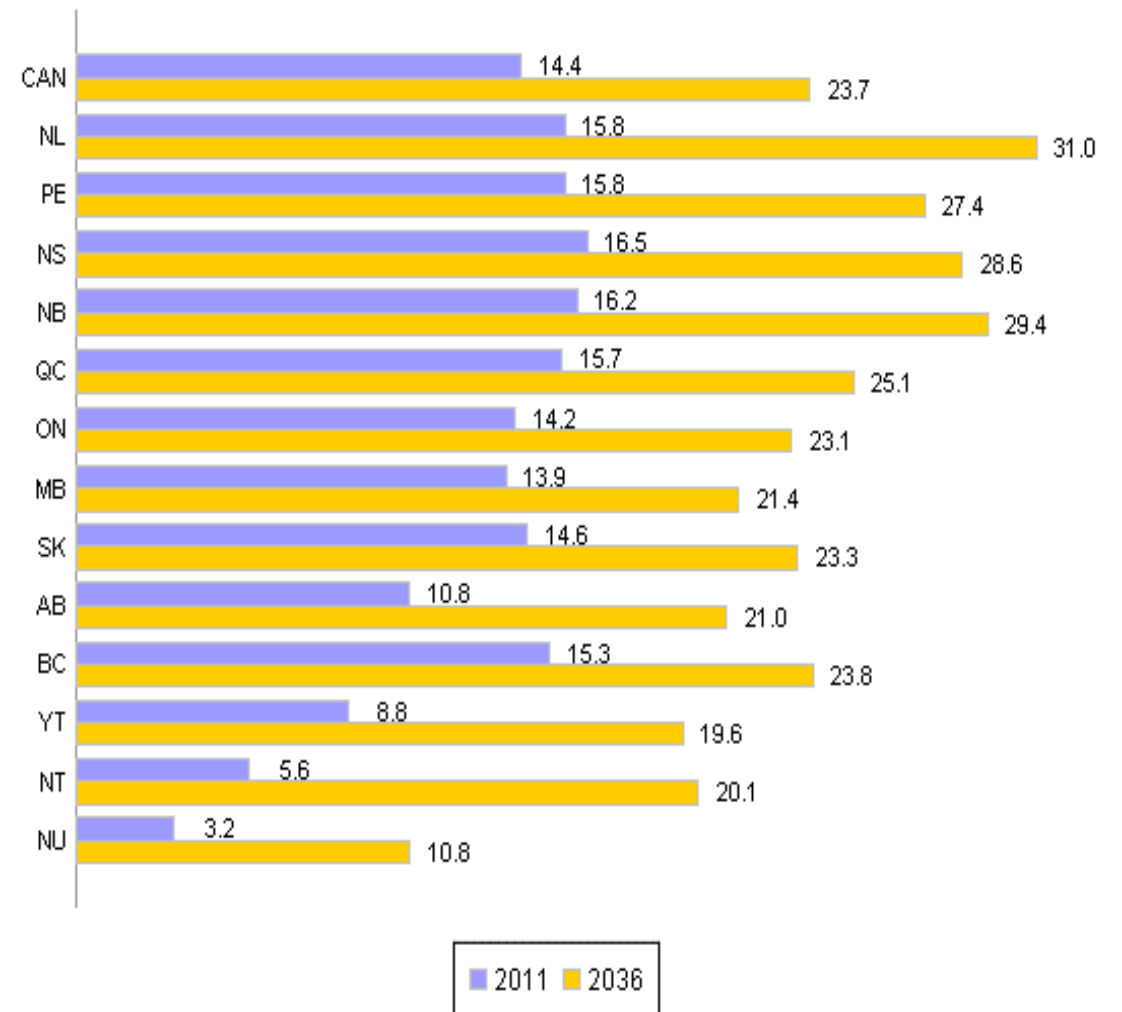
- The elderly are one of the fastest growing segments of the population
- Aging involves the gradual decline of body functions
- Age related changes occur at different rates
- People become less alike as they age
 - Psychologically and physiologically

- The study of the problems of all aspects of aging including:
 - Psychological
 - Social
 - Environmental
 - Physiological

- The mean survival rate of older persons is increasing.
- The birth rate is declining.
- There has been an absence of major wars or other catastrophes.
- Health care and living standards have improved significantly since WWII.

- In most parts of the world, people are living longer, and this means that diseases that affect elderly people are becoming more common

Population 65 years and over, by region, 2011 and projected 2036
 (percent)



- Fundamental to geriatric practice is the fact that there is tremendous heterogeneity (multiple items having a large number of structural variations) among elderly people
- Clinicians recognize that chronological age is a poor descriptor of a patient's functional status
- This is the paradox of geriatrics-the study and practice of medicine in the elderly population, which is considered a group and yet is so diverse

- Elderly persons living alone
 - Represent one of the most impoverished and vulnerable parts of society.
 - Factors include living environments, poverty, loneliness, social support.
- A deterioration of independence is not inevitable
 - Not necessarily a function of aging
 - May well be a sign of an untreated illness

Geriatrics

GENERAL PATHOPHYSIOLOGY

- The body becomes less efficient with age.
- The elderly often suffer from more than one illness or disease at a time.
- The existence of multiple chronic diseases in the elderly often leads to the use of multiple medications.

- Multiple drug therapy in which there is a concurrent use of a number of drugs.
- Existence of multiple chronic disease in the elderly often leads to the use of multiple mediations.

- Limited income
- Memory loss
- Limited mobility
- Sensory impairment
- Fear of toxicity
- Child-proof containers
- Duration of drug therapy

- Good patient-physician communication
- Belief that a disease or illness is serious
- Drug calendars
- Compliance counseling
- Blister packaging
- Pill boxes
- Transportation services to the pharmacy
- Ability to read
- Clear simple directions

- Present an especially serious problem.
- Represent the leading cause of accidental death among the elderly.
- May be intrinsic or extrinsic.
- The elderly should be encouraged to make their homes safe.

- Poor nutrition
- Difficulty with elimination
- Atrophy of muscles
- Decreased bone density
- Decreased joint function
- Poor skin integrity
- Greater disposition for falls
- Loss of independence/confidence
- Depression
- Isolation and lack of a social network

- Normal physiological changes
 - Impaired vision
 - Impaired or loss of hearing
 - Altered sense of taste or smell
 - Lower sensitivity to touch
- Any of these conditions can affect your ability to communicate with the patient

Cataracts Diminish Eyesight

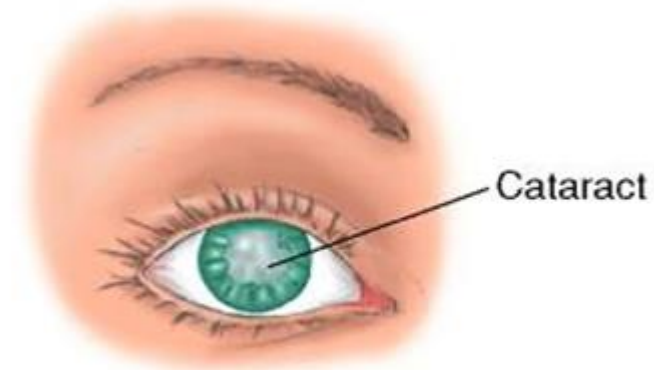
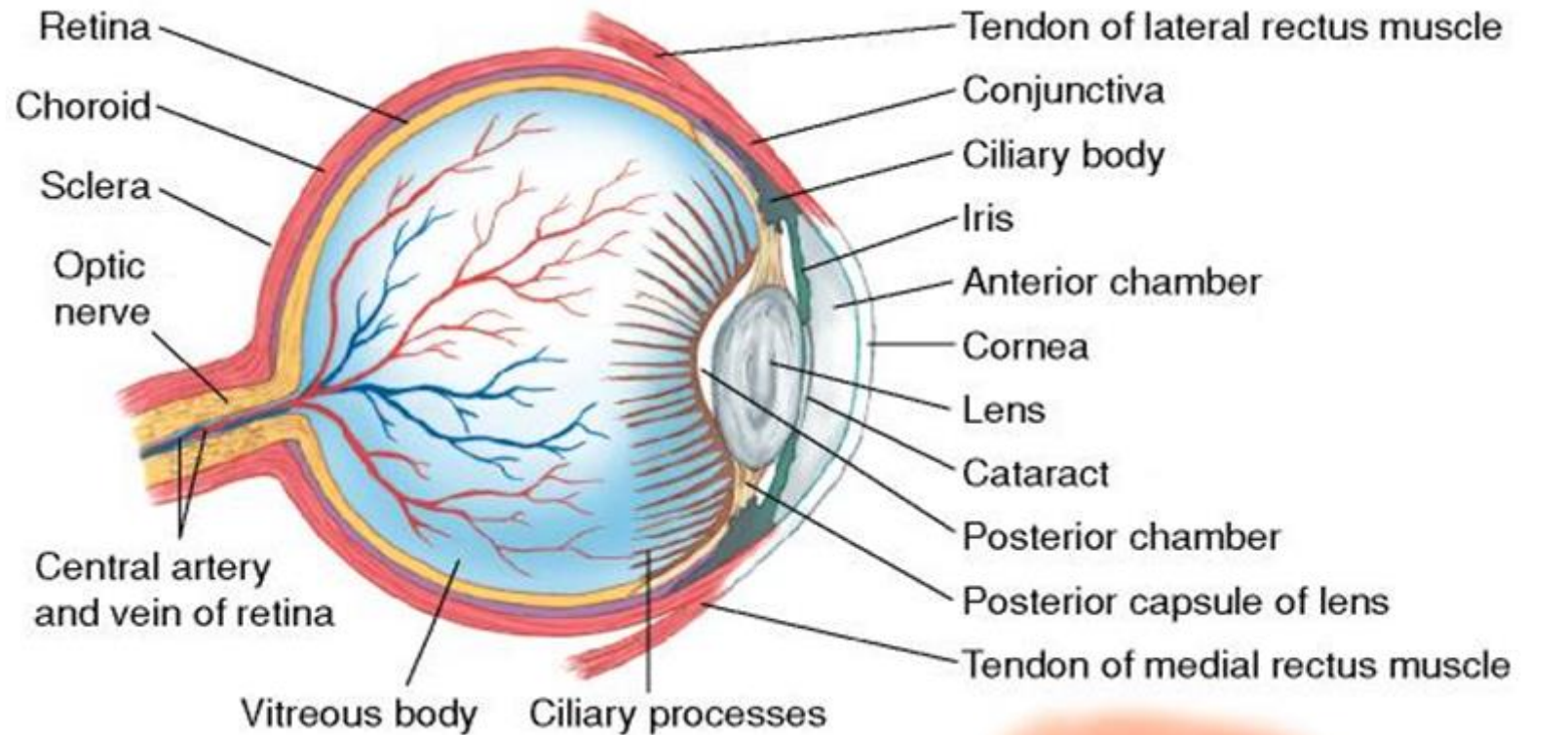


Table 43-2 AGE-RELATED SENSORY CHANGES AND IMPLICATIONS FOR COMMUNICATION

Sensory Change	Result	Communication Strategy
Clouding and thickening of lens in eye	Cataracts; poor vision, especially peripheral vision	Position yourself in front of patient where you can be seen; put hand on arm of blind patient to let patient know where you are; locate a patient's glasses, if necessary.
Shrinkage of structure in ear	Decreased hearing, especially ability to hear high frequency sounds; diminished sense of balance	Speak clearly; check hearing aids as necessary; write notes if necessary; allow the patient to put on the stethoscope, while you speak into it like a microphone.
Deterioration of teeth and gums	Patient needs dentures, but they may inflict pain on sensitive gums, so patient doesn't always wear them	If patient's speech is unintelligible, ask patient to put in dentures, if possible.
Lowered sensitivity to pain and altered sense of taste and smell	Patient underestimates the severity of the problem or is unable to provide a complete pertinent history	Probe for significant symptoms, asking questions aimed at functional impairment.

- Common problem in the elderly
- Seriously impairs ability to function independently
- Continence requires
 - Anatomically correct GI/GU tract
 - Competent sphincter mechanism
 - Adequate cognition and mobility

- Difficult can be a sign of a serious underlying condition
- Drugs that cause constipation
 - Opioids
 - Anticholinergics
 - Cation containing drugs
 - Neutrally active drugs
 - Diuretics

Table 43-3 POSSIBLE CAUSES OF ELIMINATION PROBLEMS

Difficulty in Urination	Difficulty with Bowel Movements
Enlargement of the prostate in men	Diverticular disease
Urinary tract infection	Constipation*
Acute or chronic renal failure	Colorectal cancer

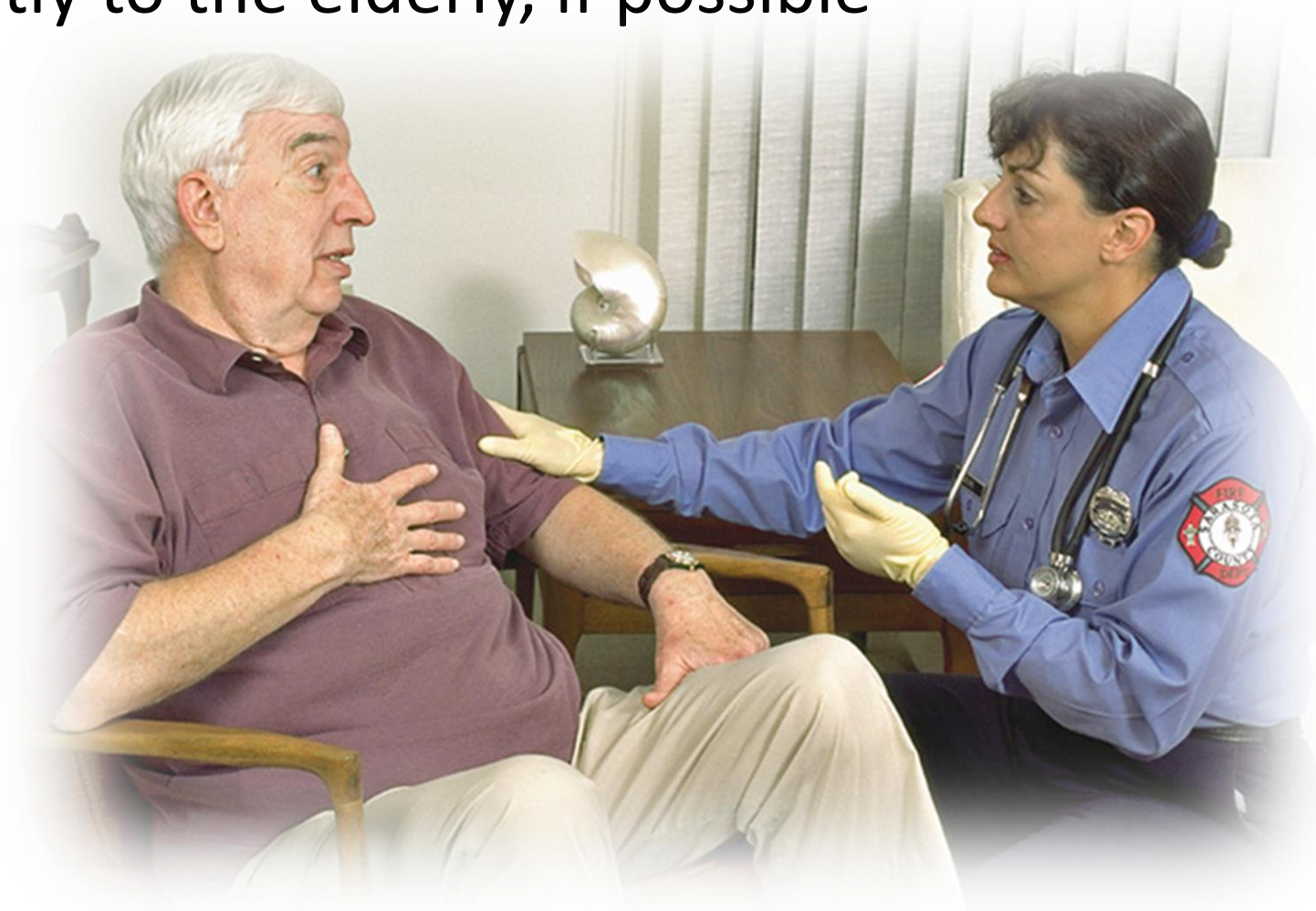
*Constipation may be related to dietary, medical, or surgical conditions. It could also be the result of a malignancy, intestinal obstruction, or hypothyroidism. Treat constipation as a serious medical problem.

- Living situation
- Level of activity
- Network of social support
- Level of independence
- Medication history
- Sleep patterns
- Voiding history

- Breathing or respiratory problems
- Abdominal pain
- Nausea and vomiting
- Poor dental care
- Medical problems
- Medications
- Alcohol or drug abuse
- Psychological disorders
- Poverty
- Problems with shopping or cooking

- Always introduce yourself
- Speak slowly, distinctly and respectfully
- Speak to patient first
- Speak face to face, at eye level
- Locate hearing aid or glasses
- Turn on room lights
- Show concern and empathy

- Talk directly to the elderly, if possible

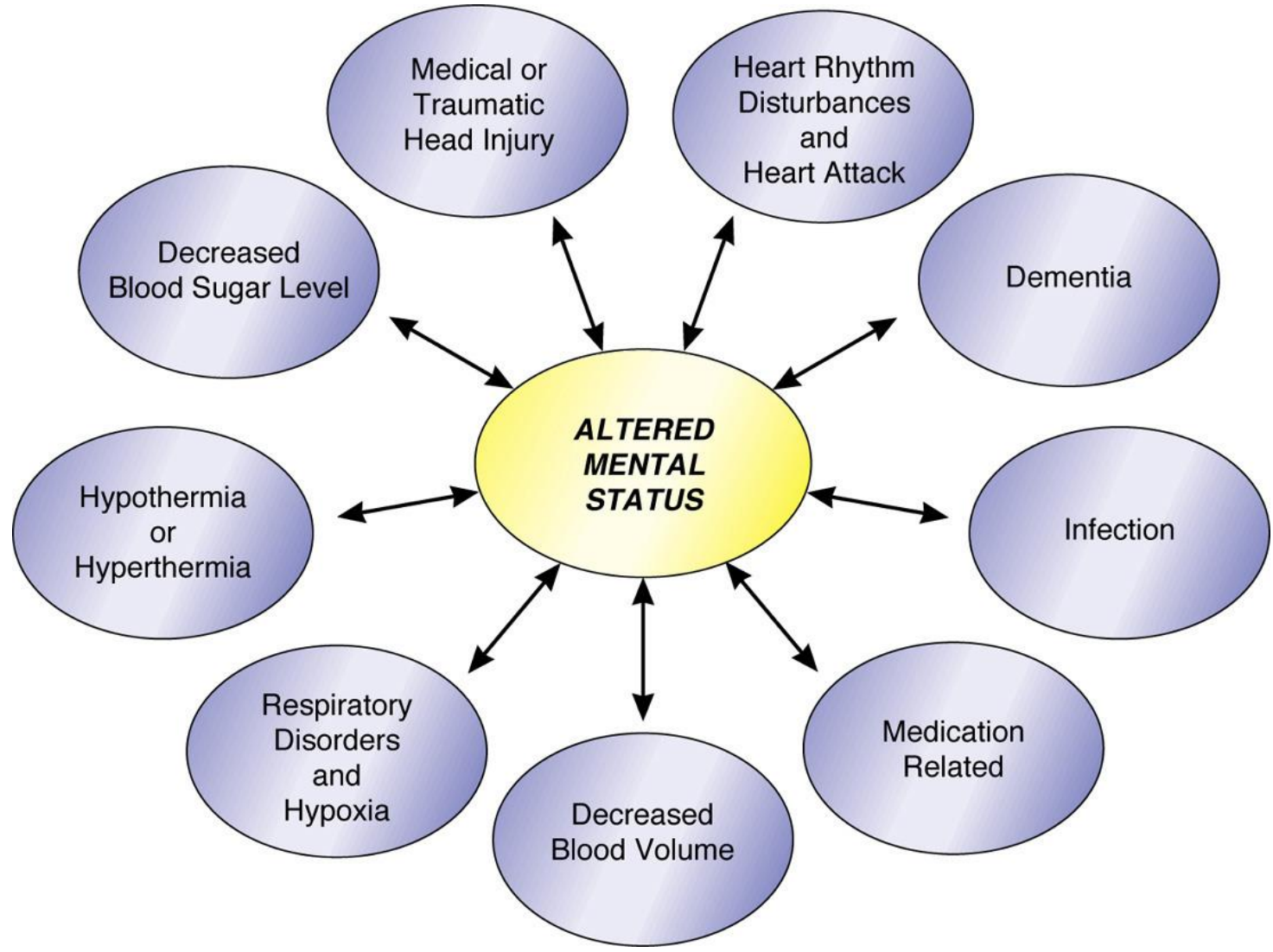


- The paramedic must move closer to the patient and talk clearly and slightly louder to a patient who is hearing impaired
- This doesn't mean every patient is hearing impaired



- Try speaking into a stethoscope with the hearing-impaired if they do not have their hearing aid





- Encourage patients to express their feelings.
- Do not trivialize their fears.
- Avoid questions that are judgmental.
- Confirm what the patient says.
- Recall all that you have learned about communicating with the elderly.
- Assure patients that you understand that they are adults.

Geriatrics

SYSTEM PATHOPHYSIOLOGY IN THE ELDERLY

CHANGES IN THE BODY SYSTEMS OF THE ELDERLY

Neurological System

- Brain changes with age.
- Clinical depression common.
- Altered mental status common.

Cardiovascular System

- Hypertension common.
- Changes in heart rate and rhythm.

Gastrointestinal System

- Constipation common.
- Deterioration of structures in mouth common.
- General decline in efficiency of liver.
- Impaired swallowing.
- Malnutrition as result of deterioration of small intestine.

Musculoskeletal System

- Osteoporosis common.
- Osteoarthritis common.



Respiratory System

- Cough power is diminished.
- Increased tendency for infection.
- Less air and less exchange of gases due to general decline.

Renal System

- Drug toxicity problems common.
- General decline in efficiency.

Skin

- Perspires less.
- Tears more easily.
- Heals slowly.

Immune System

- Fever often absent.
- Lessened ability to fight disease.

Table 43-4 COMMON AGE-RELATED SYSTEMIC CHANGES

Body System	Changes with Age	Clinical Importance
Respiratory	Loss of strength and coordination in respiratory muscles Cough and gag reflex reduced	Increased likelihood of respiratory failure
Cardiovascular	Loss of elasticity and hardening of arteries Changes in heart rate, rhythm, efficiency	Hypertension common Greater likelihood of strokes, heart attacks Great likelihood of bleeding from minor trauma
Neurological	Brain tissue shrinks Loss of memory Clinical depression common Altered mental status common Impaired balance	Delay in appearance of symptoms with head injury Difficulty in patient assessment Increased likelihood of falls
Endocrine	Lowered estrogen production (women) Decline in insulin sensitivity Increase in insulin resistance	Increased likelihood of fractures (bone loss) and heart disease Diabetes mellitus common with greater possibility of hyperglycemia
Gastrointestinal	Diminished digestive functions	Constipation common Greater likelihood of malnutrition
Thermoregulatory	Reduced sweating Decreased shivering	Environmental emergencies more common
Integumentary (Skin)	Thins and becomes more fragile	More subject to tears and sores Bruising more common Heals more slowly
Musculoskeletal	Loss of bone strength (osteoporosis) Loss of joint flexibility and strength (osteoarthritis)	Greater likelihood of fractures Slower healing Increased likelihood of falls
Renal	Loss of kidney size and function	Increased problems with drug toxicity
Genitourinary	Loss of bladder function	Increased urination/incontinence Increased urinary tract infection
Immune	Diminished immune response	More susceptible to infections Impaired immune response to vaccines
Hematological	Decrease in blood volume and/or RBCs	Slower recuperation from illness/injury Greater risk of trauma-related complications

- Decreased chest wall compliance
- Loss of lung elasticity
- Increased air trapping due to collapse of smaller airways
- Reduced strength and endurance of the respiratory muscles

- Conduction system of the heart degenerates
 - Dysrhythmias and varying degrees of heart block
- Muscle degeneration
 - Decreased contractility and cardiac output

- Do not assume that an elderly person possesses less cognitive skill
- Slight changes that might be expected include:
 - Difficulty with recent memory
 - Psychomotor slowing
 - Forgetfulness
 - Decreased reaction times

- Many endocrine emergencies encountered in the field present as altered mental status
 - Especially with insulin-related disorders.

- Complications in the GI system can be life threatening
- Use shock protocols as necessary
- Not all fluid loss occurs outside the body

- The elderly are at a higher risk of
 - Secondary infection
 - Skin tumours
 - Drug induced eruptions
 - Fungal or viral infections

- Many extremity injuries should be splinted as found because of changes in the bone and joint structure in the elderly

- Prehospital treatment is directed toward
 - Adequate oxygenation
 - Fluid status
 - Monitoring output
 - Pain control

- The function of T cells declines
- Less able to notify the immune system of invasion by antigens.
- Aging impairs the immune response to vaccines