PATIENT CARE THEORY 2

UNIT 9, PART 1: Gerontology

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Learning Outcomes

Upon successful completion of this unit, the student will demonstrate the ability to:

- Describe the common physiological changes that occur with aging.
- List and describe the altered clinical presentations that are seen with acute illness and injury in the elderly
- Explain the ways in which the paramedic can elicit critical information to arrive at a provisional diagnosis in the face of ambiguous clinical findings

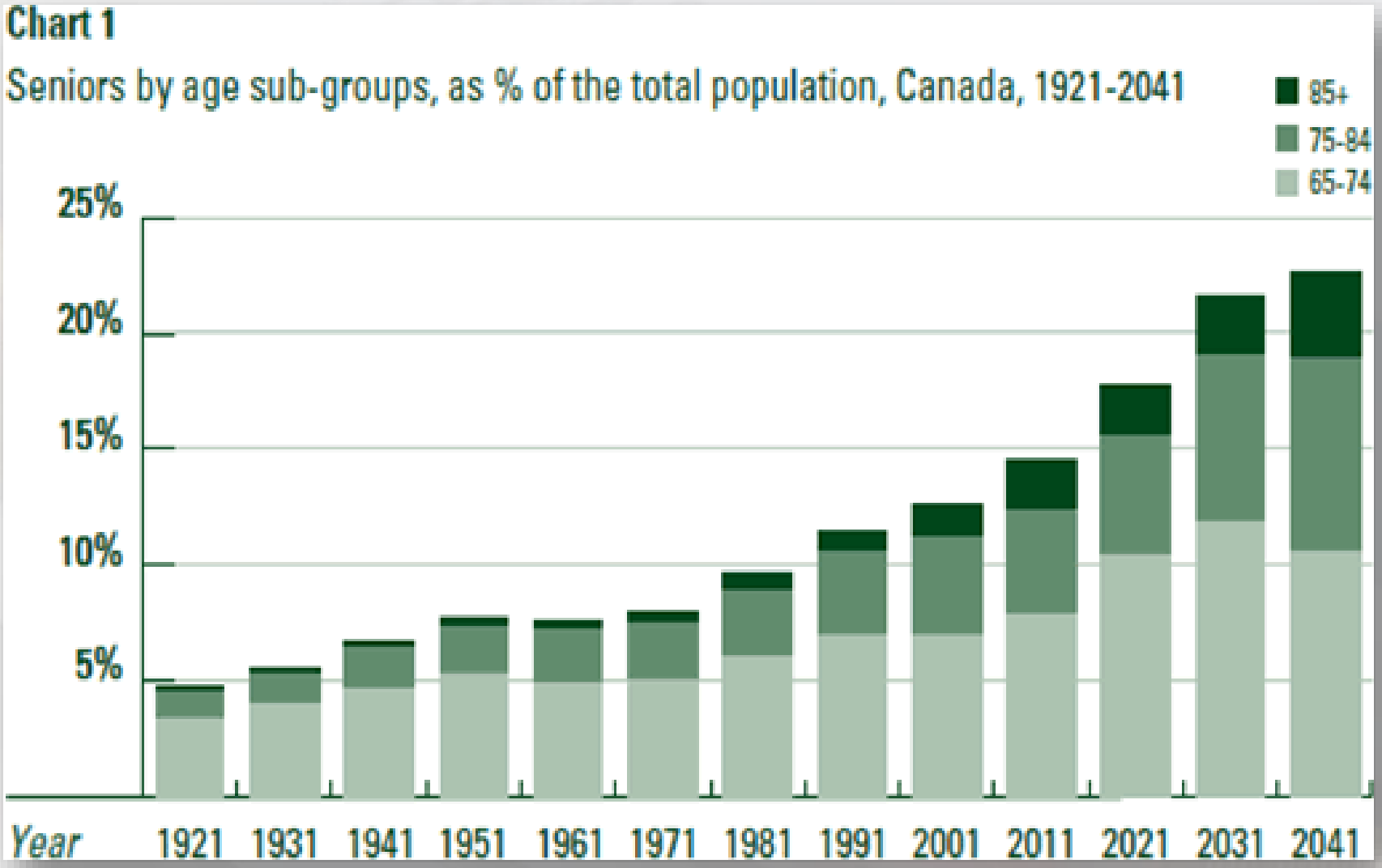
Introduction

- “baby boomers” (1946 and 1965) are increasing the demand on healthcare (youngest are turning 60 and oldest are turning 80 in 2025)
- population is expected to reach
  - 6.7 million in 2021 (1 in 8 Canadians are 65+)
  - 9.2 million in 2041 (nearly one in four Canadians)

http://publications.gc.ca/collections/Collection/H39-608-2002E.pdf

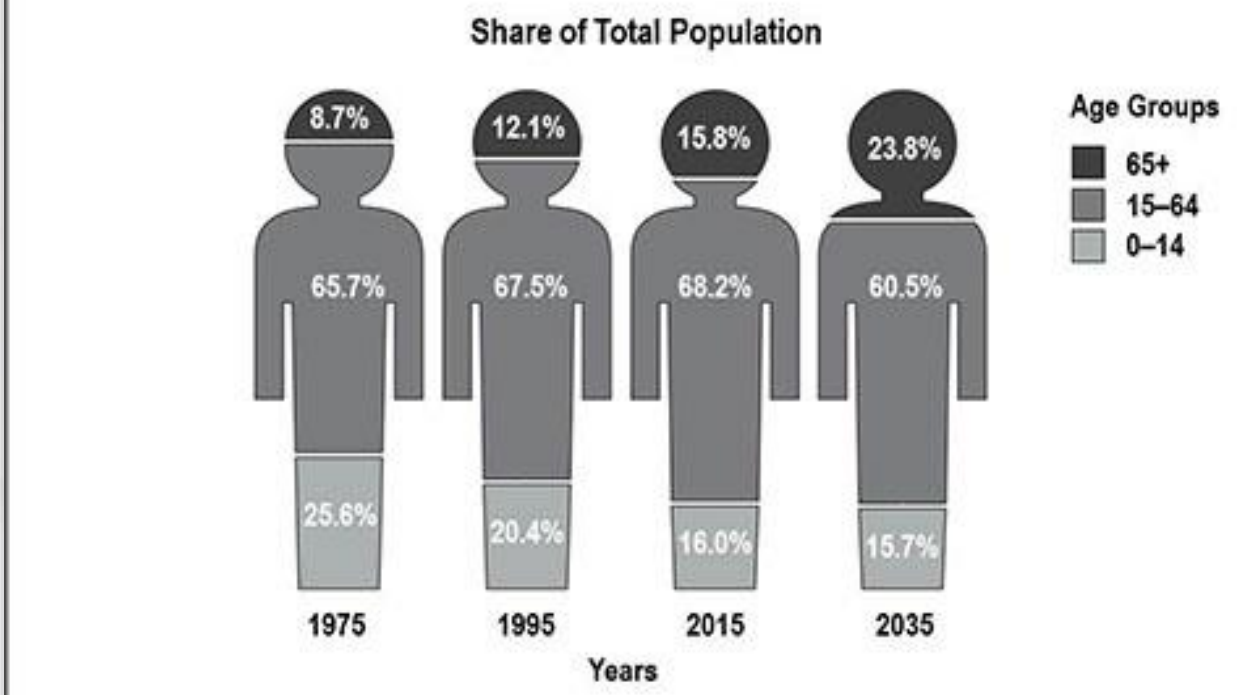
Chart 1

Seniors by age sub-groups, as % of the total population, Canada, 1921-2041



Age Distribution of Ontario's Population, 1975–2035

CHART 1.5

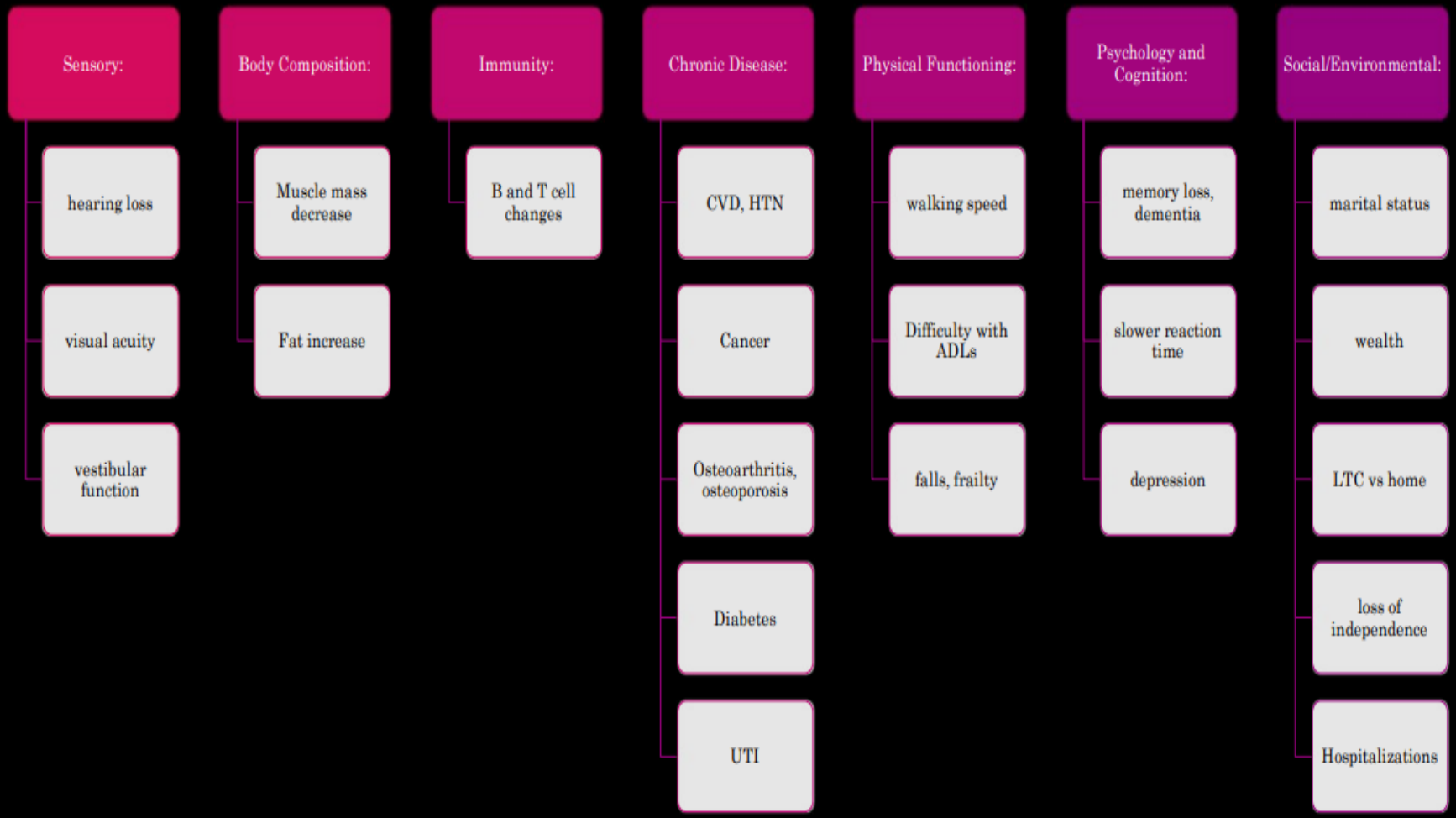


Sources: Statistics Canada estimates for 1975 and 1995, and Ontario Ministry of Finance projections (Spring 2013).

Assessment Problems in the Elderly

- Things change as we age
- Many people have multiple disease processes requiring complex care
  - This comes with multiple medications
  - vague symptoms are common; classic symptoms are frequently absent
  - patients frequently fail to relate symp

Geriatrics Review (Jaul & Baron, 2017)



Assessment Problems in the Elderly

- sensory alterations (hearing and seeing) alter interactions
- fear of medical care or hospitalization may delay care
- “cascade of problems” common

Nervous System Findings in the Elderly

- diminished pain mechanism
- diminished sense of equilibrium
- difficulty in organizing information
- decreased temperature regulating mechanism

Nervous System Findings in the Elderly

- impaired recall of recent events
- decreased perception of touch, temperature and vibration
- slowed voluntary and automatic reflexes
- postural hypotension

Nervous System Findings in the Elderly

- decreased ability to quickly process information and make decisions
- **brain atrophy** places tension on arachnoid blood vessels, increasing risk of a subdural hematoma
  - i.e. seemingly minor head trauma can become a threat to function of to life

Head injury didn't seem serious

Routine crash turns to fatality after man skips trip to hospital

SUSAN CLAIRMONT

He refused to go to the hospital.

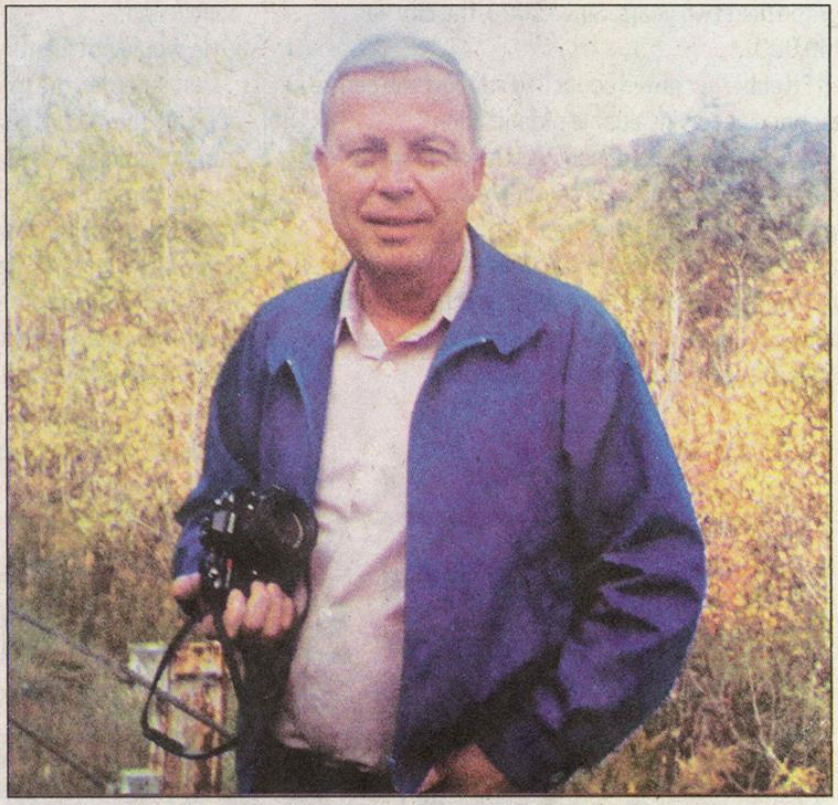
The bump on his head wasn't that bad. And the paramedics had dressed the small cut.

He just wanted to get home.

So Jim Page signed a waiver to say he was refusing paramedics' advice to go to hospital for a more thorough exam. Then he and his wife Mary Ellen got into a police cruiser and were escorted home from the scene of their car crash.

A few minutes after they got in the door, Jim began talking nonsense. Then he collapsed on the bathroom floor and Mary Ellen called for another ambulance.

Five days later, Jim died in hos-



THE HAMILTON SPECTATOR

Jim Page didn't want to go to hospital, and paramedics couldn't force him.

complain. But a real bump came up after."

The ambulance was at the scene nearly an hour. Some of that time was spent trying to convince Jim to go to hospital to be checked out.

EMS documents show Jim was "conscious and oriented. Didn't appear to be in distress," according to EMS manager of operations Steve Dewar.

Documents also show paramedics explained to Jim the risks involved with refusing to go to hospital. That he could have a head injury and, if left untreated, it could be dangerous.

When he still refused, paramedics made sure he wasn't going to be alone at home and that he understood if he exhibited any stroke-like symptoms or had a worsening headache, he was to call 911.

Then they had him sign a form saying he was refusing treatment and he understood the risks involved.

"We don't have the ability to insist that someone goes to hospi-

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MENTAL STATUS

Delirium – What is it?

- acute confusional state
- ***develops in hours or days***
- disorganized thinking
- disorientation
- may be hyperactive or hypoactive (or mixed)
- is often reversible but
  - **REQUIRES PROMPT RECOGNITION AND CARE**

Delirium - Etiology

- The vulnerable patient is more likely to develop delirium with a minor trigger than someone who is not.
- Fine balance between pre-disposing factors and triggers:

Predisposing factors	Triggering Agents
• Advanced age • Neurocognitive deficit (dementia) • Frailty • Multimorbidity • Sensory disorders • Anemia • Malnutrition • Substance abuse • Depression • Social Isolation	• Surgical interventions • Anticholinergic drugs (Parkinson's, incontinence, N/V, COPD) • Psychoactive drugs • ICU/re-surgery patients • Acute blood loss • Acute infections/ sepsis • Electrolyte imbalances • Sleep deprivation • Immobilization (trauma or mechanical restraints • Withdrawal)drugs/alcohol • Foreign Environment

(Iglseder et al., 2022)

Delirium - etiology

CNS Disorders -

- Hypoxia
- tumor
- head trauma
- stroke
- post-ictal states
- infection

Cardiopulmonary disorders

- shock
- myocardial infarction
- congestive heart failure
- cardiac arrhythmias
- respiratory failure

Delirium - etiology

Metabolic Disorders -

- liver failure
- anemia
- hypoglycemia, hyperglycemia
- acid-base imbalance
- fluid, electrolyte imbalance

Other

- medication abuse or misuse
- sepsis
- sensory deprivation
- infectious disorder of any cause
- alcohol
- psychiatric disorders

MEDICATIONS AND THE ELDERLY

Medications and the Elderly

- distribution of drugs altered
- metabolism is decreased
  - Deteriorating liver function
- excretion is decreased
  - Deteriorating kidney function
- sensitivity altered (15% elderly have drug reactions vs 6% of younger population)

Drug Misuse/Abuse

- sharing medications
- hoarding medications
- self-medication
- improper drug storage (damage by moisture, heat, light and transfer of meds)

Drug Misuse/Abuse

- misunderstanding of med purpose and dosage
- adverse drug reactions
- scheduling difficulties
- cost
- duplicate meds
- memory deficits
- physical limitations

Drug Effect - Prehospital Tip

- Maintain a high index of suspicion -
- any new symptoms could be due to drug therapy

QUESTIONS?

References

Hshieh, T. T., Fong, T. G., Marcantonio, E. R., & Inouye, S. K. (2008). Cholinergic deficiency hypothesis in delirium: a synthesis of current evidence. *The journals of gerontology. Series A, Biological sciences and medical sciences*, *63*(7), 764–772. https://doi.org/10.1093/gerona/63.7.764