A faint watermark of a paramedic student in uniform is visible in the background, with the words "PARAMEDIC STUDENT" repeated in a circular pattern.

# PATIENT CARE THEORY 2

## UNIT 9, PART 2: Gerontology - Care

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# **ASSESSMENT & MANAGEMENT OF ALTERED LOA**



# **STROKE**

# Strokes

- ❖ 85% of stroke victims are elderly
- ❖ affect a person's identity
- ❖ elderly have less physical and psychological reserve to cope with the illness
- ❖ risk factors include
  - hypertension
  - hx of TIA's
  - atherosclerosis
  - diabetes
  - high cholesterol

# Assessment & management of altered LOA

- ❖ ABCD
- ❖ evaluate blood sugar
- ❖ evaluate for meds/drugs/alcohol
  - e.g. query accidental narcotic overdose in Ca pt
- ❖ evaluate for trauma
  - e.g. look for late signs of basilar skull #
- ❖ evaluate for stroke
- ❖ other metabolic disturbances



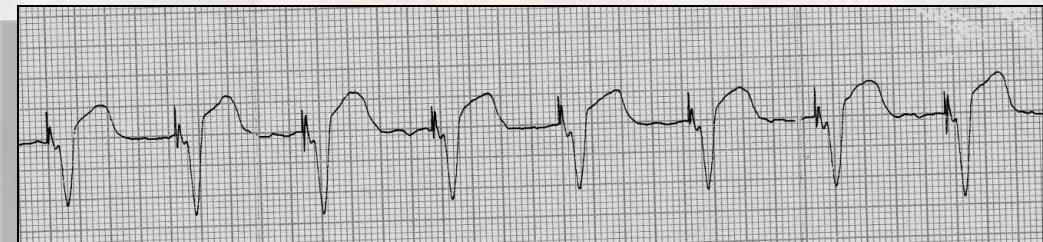
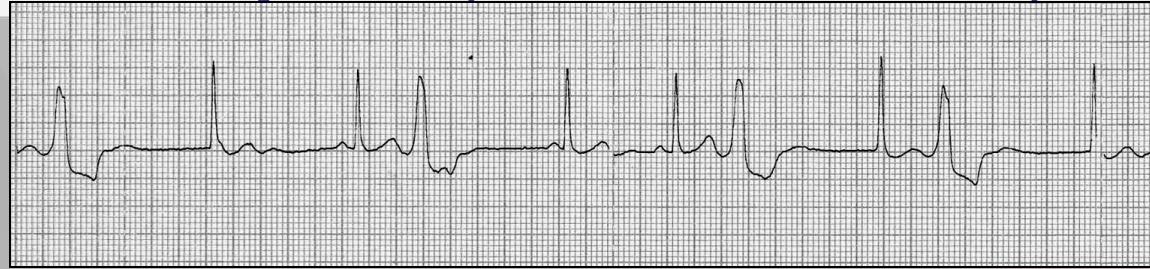
# **CARDIOVASCULAR**

# Cardiovascular Changes

- ❖ Loss of elasticity of large arteries
- ❖ Increased peripheral vascular resistance
- ❖ Systolic and diastolic hypertension
- ❖ Left ventricular hypertrophy as a compensatory mechanism
- ❖ Less ability to maintain CO with increased heart rate ( $CO=HR \times SV$ )
  - Often they're on medication (e.g. beta blocker) that diminish their ability to mount a sympathetic response to blood loss

# Cardiovascular Changes

- ❖ Less blood enters the left ventricle passively
- ❖ Higher dependence on atrial kick
- ❖ More likely to have dysrhythmias
  - e.g. becomes a challenge to distinguish between chronic vs acute ectopy
- ❖ May be dependant on cardiac pacemaker



# Cardiovascular Changes

- ❖ Diseases affecting the cardiovascular system
  - hypertension
  - diabetes
  - atherosclerosis
- ❖ Life style factors also have a major impact on the elderly patient's cardiovascular system
  - sedentary lifestyle
  - obesity
  - alcohol use
  - poor diet
  - smoking



# **RESPIRATORY**

# Respiratory System

Slow, subtle changes (begin as early as age 30)

- ❖ Decreased chest wall compliance
- ❖ Loss of lung elasticity
- ❖ Air trapping
- ❖ Reduced strength and endurance of respiratory muscles

# Respiratory System

- ❖ Functional reduction in vital lung capacity (up to 50% by age 65)
- ❖ Decrease in effective cough reflex and cilia activity
- ❖ These changes leave the elderly patient at higher risk for pneumonia and recurring lung infection

# Respiratory System

- ❖ Other factors affecting pulmonary function include
  - Kyphosis
  - Chronic exposure to pollutants
  - Long-term smoking
  - Disease processes

# Respiratory System

- ❖ You respond to a 78 y/o male who is “unwell”.
- ❖ daughter tells you “he hasn’t been himself for the past week”
- ❖ He stays at home – he normally walks to the corner store every day and to the local recreation centre twice a week
- ❖ Assessment:
  - Appears tired; no recent cough or fever, pt denies SOB
  - Chest: good = A/E and clear to bases
  - HR 94, RR 20, BP 156/70, SpO<sub>2</sub> 91%, pupils 3x3+, GCS 15, Temp (tympanic) 36.4
  - Diagnosis?
  - \_\_\_\_\_



# **INTEGUMENTARY**

# Skin

- ❖ Increased dryness
- ❖ Roughness
- ❖ Wrinkling
- ❖ Reduced cell replacement and repair
  - Leads to longer healing times
- ❖ Reduced subcutaneous fat amount
  - Lesser ability to limit heat loss
  - Reduced protection of body from trauma

# Skin

- ❖ Increased incidence of decubitus ulcers in the bedridden elderly patient
- ❖ Pressure sores can develop within 30 minutes of being placed on a backboard in an elderly patient
- ❖ Pressure sores can also develop in the nare or corner of the mouth when an endotracheal tube is in place
- ❖ Higher incidence of malignant and benign tumors

# Pressure sore



This image displays a well-defined, superficial decubitus ulcer.

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# **GASTROINTESTINAL**

# Gastrointestinal System

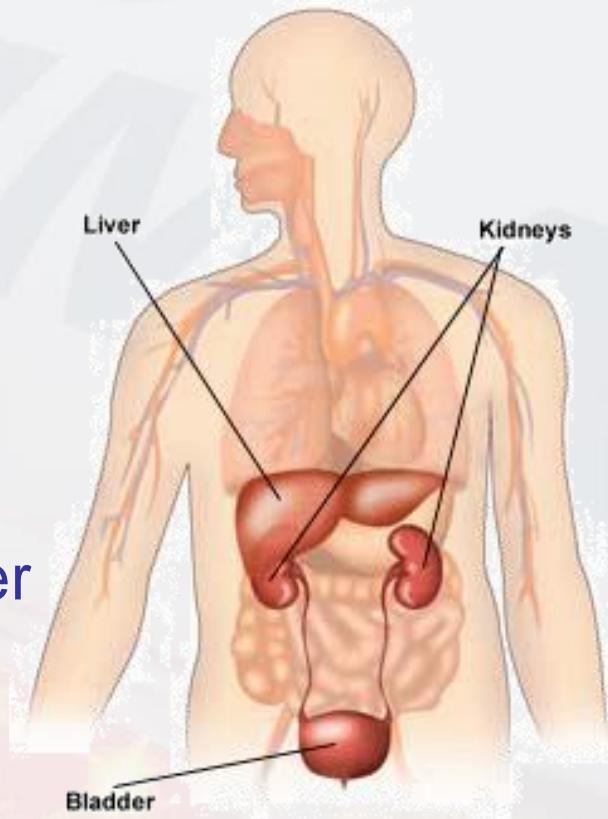
- ❖ Reduced taste sensation
- ❖ Loss of teeth leading to impaired chewing and possible foreign body obstruction
- ❖ Higher incidence of gastroesophageal reflux disease
- ❖ Higher risk of peptic ulcer disease
- ❖ Increased risk of mesenteric infarct in patients with a history of atrial fibrillation → bowel obstruction
- ❖ Fecal impaction / diarrhea
- ❖ Higher incidence of narcotic constipation

# **HEPATIC - ENDOCRINE**

# Hepatic and Endocrine

## Hepatic Changes

- ❖ Decrease in hepatic blood flow
- ❖ Decrease in hepatic weight and function
- ❖ Can decrease ability to eliminate some drugs
- ❖ Some medications can cause liver damage



# Hepatic and Endocrine

## **Endocrine Changes**

- ❖ Metabolic Changes
- ❖ Hyperglycemia more common
- ❖ Poor nutrition and low calorie intake
- ❖ development of diabetes

# **TEMPRATURE REGULATION**

# Temperature Regulation

- ❖ Susceptible to variations in environmental temperatures
- ❖ Diaphoresis occurs at higher core temperatures
- ❖ ANS response is diminished causing a decrease in shivering
- ❖ Medications and pathologies can also limit the response to extremes in temperature

# **RENAL - GENITOURINARY**

# Renal and Genitourinary

- ❖ Reduction in the number of functioning nephrons
- ❖ Reduced renal blood flow by up to 45%
- ❖ Possible increase in waste products in the blood
- ❖ Water conservation is affected which predisposes elderly to dehydration
- ❖ Glomerular filtration rate is decreased by 50% by age 90 which effects the ability to excrete medications

# Renal and Genitourinary

- ❖ Micturition syncope (increased vagal tone) – especially in men
- ❖ Incomplete emptying of the bladder (in men, prostate enlargement restricts bladder emptying)
  - Trips to the bathroom at night can lead to falls
- ❖ Increased risk of urinary tract infection
- ❖ Many of these factors as well as other factors contribute to incontinence

# **MUSCULOSKELETAL**

# Musculoskeletal System

- ❖ Loss of height by as much as 2 to 3 inches
- ❖ osteoporosis
- ❖ kyphosis (increase in curvature of the thoracic spine)
- ❖ decreased muscle mass particularly in sedentary people
- ❖ increased susceptibility to falls
- ❖ more serious fractures from simple falls



# **ASSESSMENT & MANAGEMENT**

# Assessment & management of altered LOA

- ❖ **A:** Assess airway carefully
  - Dysphagia is common post stroke → A/W obstruction, aspiration
- ❖ **B:** Assess breathing carefully
- ❖ lung disease/infection is common
  - SpO<sub>2</sub> done prior to O<sub>2</sub> therapy
  - Pneumonia is common +/- fever or cough
  - May be the terminal event – be alert for sepsis
- ❖ **C:** CVS disease is common
  - AMI can present without chest pain
- ❖ **D:** neuro status requires attention to detail

# Assessment & management of altered LOA

## ❖ Medication

- buffet of medication
- Meds taken at appropriate intervals or doses?
- conflicts between meds – i.e. drug interactions
- Decreased hepatic / renal function → toxic levels

## ❖ Learn the drug classifications

## ❖ Know common prescription medication

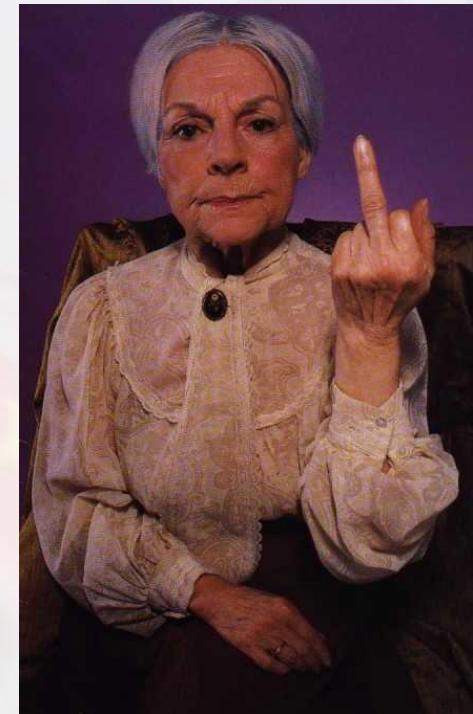
- Identify medical history

# Assessment & management of altered LOA

- ❖ Pay attention to vague or seemingly benign symptoms
- ❖ Watch for delirium, sepsis and other serious issues
- ❖ identify and manage life threats
- ❖ R/O shock and hypoxia
- ❖ Monitor SpO<sub>2</sub>
- ❖ Oxygen prn
- ❖ monitor ECG
- ❖ Obtain a 12 Lead ECG prn
  - MIs may occur with vague or misleading symptoms
- ❖ evaluate acute vs chronic changes

# Hostility in the Elderly

- ❖ Refusal of care is not uncommon
- ❖ This requires greater diligence in providing sound and persuasive medical advice
- ❖ You may need assistance from a BHP



# Don't Underestimate the elderly

## Nine oldsters booted out of nursing home — for trying to have an orgy!

LONDON — A group of nine elderly women, including three British pensioners, were kicked out of an old folks' home — after they tried to have an orgy in their dormitory room.

The elderly ladies, who ranged in age from 60 to 80, reportedly organized the raucous party yesterday afternoon. At least one woman is reported to have participated in the sex orgies because she had been unable to make enough money working there.

"They wouldn't get it in their heads to believe the old ladies they are one of the reasons why a lot of sex goes on," said one spokesman.

"The old women probably do nothing or very little, but suddenly find themselves in charge. We cannot believe that sort of conduct."

By MICHAEL HOGGINS  
*Times Staff Writer*

The nursing home made a statement which it says the women "very well in the mind that no adults are allowed to visit."

But according to British police, the old ladies were seen last night and early this morning in various parts of the dormitory building and in the common areas, dancing and laughing merrily.

"Older people are not

as young ladies, but we are surprised that a London agency,"

one source at another nursing home said, "are so much more liberal than ours."

One senior citizen, who was hospitalized yesterday morning, said he was shocked to learn that his wife had been kicked out of the home.

"When she opened the door, she was shocked to find the old ladies gathered together in some sort of sexual gathering," he said.

"They began going at it —

"I was holding some of the girls outside to get them in," the older man said.

"But they were all naked

# References

1. Straus, SE: *Introduction to evidence-based geriatric medicine: Can We Provide Evidence-Based Care for the Elderly?* EBM 1997;26:164 and ACP Journal Club 1997;127:A-19. Accesses March 4/07: <http://www.cebm.utoronto.ca/syllabi/gm/intro.htm#1>



# **QUESTIONS?**