

"Grandpa, Grandpa, Are You Alright?"



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Why Do We Care?

- 14-20% of our population is > 65
– And rising every day!
- Between 35 and 47% of EMS calls involve patients 65 and older
- Most common EMS call in USA = 70 y.o. female with trouble breathing

Considerations for the Elder Patient

- Physiological changes
- Provider attitudes
- Assessment techniques
- Trauma and Medical Problems
- Psychological and Social issues

Physiological Changes



Physiological Changes of Aging: Respiratory



- Reduced pulmonary capacity
 - Decreased chest wall compliance
 - Weakened respiratory muscles
 - Increased alveolar diameter + Distal airway collapse on expiration
 - Increased residual volume
 - Decreased vital capacity

Physiological Changes of Aging: Respiratory

- Decreased PaO₂
 - age 30 = 90 torr
 - age 70 = 70 torr
- Diminished response to hypoxia & hypercapnia
- Loss of cilia
- Diminished cough reflex
- Vulnerability to infection

Physiological Changes of Aging: Cardiovascular

- 30% decrease in CO between age 30 and 80
- Atherosclerotic CAD
 - Increased PVR
- Diminished ability to increase rate
- Decreased ventricle compliance
- Prolonged duration of contraction
- Decreased response to catecholamine stimulation
- Presence of CHF



Cardiovascular: Electrical

- Dysrhythmias
 - Atrial fib common
 - Sick sinus
 - Bradys and Blocks



Physiological Changes of Aging: Renal

- Renal blood flow drops 50% between 30 and 80
 - decreased filtration rate
- Obstruction
- Infection
- Vascular occlusion
- Decreased renal & liver function leads to;
 - electrolyte abnormalities
 - toxic phenomena in response to meds

Physiological Changes of Aging: CNS

- 10% decrease in brain weight by age 70
- Decreased cerebral blood flow
- Decreased visual capacity
- Decreased auditory acuity
- Electrolyte imbalances
- Hypoglycemia
- Secondary effects of Respiratory, Cardiac, Renal or Hepatic disease
- Effect of Medications



Physiological Changes of Aging: Musculoskeletal

- Osteoporosis
- Kyphosis
- Decreased muscle mass
- Decreased height (2-3")



Other Physiological Changes

- Decreased ability to maintain thermoregulation
- Decreased immunological response
- Dietary changes
 - Decreased sense of taste
 - Decreased appetite
 - Difficulty handling silverware
 - Poor dentition
 - Difficulty swallowing

What's it like to be old?

A Little Experiment



Chez Stadium MENU

- Ham and Swiss on Rye
- Swiss and Ham on Rye
- Rye and Ham on Swiss
- Tuna Salad
- Chicken Salad
- Caviar Salad
- Soup du Jour
- Soup du Sever
- Frog a la Peche
- Peche a la Frog
- Grog a la Frog
- Roast Weasel Tips
- Fried Ferret Lips
- Spicy Garfield Wings
- Pot Roast au Rover
- General Tso's Kitten



Your Lunch Bill is \$4.68



What do Seniors Fear?

- | | |
|-----------------------------|---|
| 10- Loss of memory | 5- Finances of children |
| 9- Robbery, assault | 4- Finances, loss of health insurance, Medicare |
| 8- Stroke, loss of mobility | 3- Health of children |
| 7- Loss of Vision | 2- Health of a spouse |
| 6- Cancer | 1- Loss of ability to drive |

Assessing the Elder Patient



Assessing the Elder Patient

- Special characteristics
 - Likely to suffer from concurrent illness
 - Chronic problems make acute problems harder to assess
 - Altered response to pain
 - Social & emotional factors
 - Fear of losing control
 - Fear of hospitals
 - Financial concerns

Assessing the Elder Patient

- History taking
 - Identify yourself
 - Get the patient's name and use it
 - Talk at eye level
 - Speak slowly and distinctly
 - Listen!!!
 - Be patient

Assessing Level of Consciousness

What is normal for this patient?

Assessing LOC

- Name, address
- Date or day may be difficult
- TIME of day
- What were you doing before this started?
- Where were you going?
- Information from caregivers
- Check glucose

Confusion is NOT normal until proven otherwise

Vital Signs

- Pulse may be irregular
- Medications may affect heart rate
- BP may normally be elevated
- Distal pulses & capillary refill may be difficult
- Temperature; what's normal?
- Check skin condition, turgor for signs of dehydration

Physical Exam

- Remember the patient may tire easily
- You may have to cope with multiple layers of clothing
- Explain yourself
- Patient may deny symptoms or discomfort
- Try to distinguish Acute from Chronic

Medications

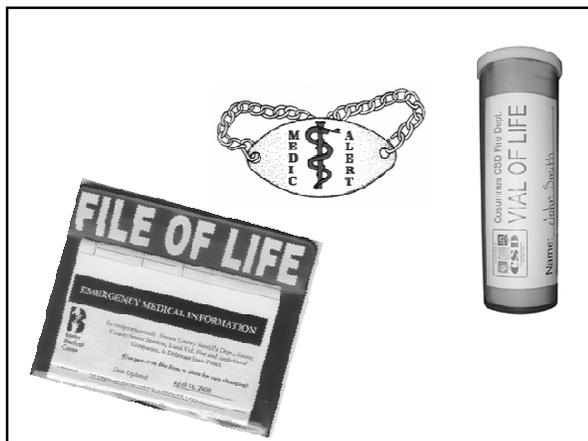
- What do you take? What do you take it for?
- Any recent changes?
 - New med
 - Different dose
 - Stopped med
- Taking as prescribed?
- OTC or borrowed meds?

Medications

- Anti-arrhythmics
- Blood thinners
- Anti-hypertensives
- Diabetic meds

Evaluate the Environment

- Temperature
- Food
- General conditions of environment





Trauma 

- 5th leading cause of death in elderly
 - Vehicular
 - Errors in perception, judgment, or delayed reaction
 - Falls
 - May be medication related
 - sedative hypnotics
 - antihypertensives
 - Hip fx common
 - “Fear of falling” leads to self-imposed immobility

Why did they fall (the chicken or the egg)?

Falls:
The SPLATT Assessment

- Symptoms
- Previous falls
- Location of fall
- Activity at time of fall
- Time of fall
- Trauma (physical, psychological)

Trauma in the Elder Patient

- Head Trauma
 - 66% of pts >65 unconscious on arrival at ED do not survive!
 - Cerebral atrophy causes veins to stretch
 - easily torn
 - Extra space can mask bleeds
- C-Spine Trauma
 - Stiffening, decreased flexibility, disk damage
 - Fractures more likely
 - Spinal cord more vulnerable

Trauma in the Elder Patient

- Chest Trauma
 - Structural changes lead to
 - Cardiac contusion
 - Direct damage to lungs
 - Cardiac injuries
 - rupture
 - valve injury
 - aortic dissection

Trauma in the Elder Patient

- Abdominal Injuries
 - Death rate 4.7 times higher than other age groups
 - Injuries less apparent
 - Surgery riskier

Trauma in the Elder Patient

- Musculoskeletal Injuries
 - Osteoporotic bones more vulnerable
 - Pelvic fx may be lethal
 - Pain perception often greatly decreased
 - Mortality rate increased by delayed complications
 - ARDS
 - sepsis
 - renal failure
 - P.E.

Trauma Care Priorities: Things to Remember

- Priorities essentially the same as for anyone else
- Adjusting heart rate may be difficult
- Older pts require higher arterial pressures
- Rapid IV infusion can precipitate volume overload
 - Decreased renal function increases risk of fluid overload/pulmonary edema

Trauma Care Priorities: Things to Remember

- COPD should be taken into consideration, HOWEVER
- *NEVER withhold oxygen from a patient who needs it!*
- Transport position may be altered to accommodate deformities

Some Tricks of the Trade

- Cover the head
- Pad the spineboard
- Don't forget:



Medical Emergencies



Medical Care: AMI

- Chest pain often absent
- Vague symptoms
 - dyspnea
 - abdominal/epigastric distress
 - fatigue
- The "Silent" MI (32%!)

Pulmonary Embolism

- A-fib, Immobility, DVT, COPD common causes
- May look like LV failure
- Local signs
 - calf discomfort
 - edema
 - increased warmth

Bacterial Pneumonia

- Normal symptoms often absent
- Respiratory failure due to decreased pulmonary reserve

Medical Care

- Cancer
 - One in eight deaths
- Acute Abdominal Pain
 - May not show usual signs
 - More likely to be septic or in shock before diagnosis made
 - Common causes include:
 - cholecystitis
 - diverticulitis
 - AAA
 - appendicitis
 - mesenteric artery occlusion or venous thrombosis

Pharmacological Problems

- Noncompliance
- Confusion
- Vision impairment
- Self-medication
- Memory problems
- Multiple prescriptions, multiple MD's
- OTC drugs
- Changes affecting metabolism
- Dispensing errors



Delirium, Dementia & Alzheimer's Disease

Dementia

- Chronic
- Memory loss
- Associated mental defects
- Causes include:
 - hypothyroid
 - Cushing syndrome
 - Thiamine or B12 deficiency
 - CNS disorders

Delirium

- Acute
- Organic brain syndrome
- Caused by infection, trauma, meds
- Attention deficit, rambling, incoherency
- Mild (lability) or severe (hyperactivity) or both
- Acute delirium 15% to 30% fatal!

Alzheimer's Disease

- Progressive brain cell failure
- APOE-e2 gene (apolipoprotein) may be involved
- Nerve cells of Cerebral Cortex die
- Common problems:
 - Malnutrition
 - Immobility
 - Infections

What's Normal & What's Not

Normal Lapses

- Forgetting names or appointments now & then
- Sometimes forget why you came into a room or what you were going to say
- Sometimes grasping for the right word
- Misplacing keys/wallets
- Occasional trouble balancing a checkbook

Warning Signs

- Forgetting recently learned material
- Staying organized day to day, losing track of steps in making a call or playing a game
- Forgetting simple words more often
- Putting things in unusual places
- Paying bills twice or not at all



Depression

- Most common psychiatric disorder in elderly
 - 20% have significant depressive symptoms
- Often caused by
 - Multiple illnesses
 - environmental changes
 - bereavement
 - social rejection

An Exercise:

Make a List of the Following

- 5 favorite possessions
- 5 cherished freedoms
- 5 loved ones

Exercise

- Give up one item in each category
- Now give up another item in each category
- Now another
- And one more

Exercise

- You just aged enough to go into a nursing home. This is what you were allowed to keep.

Will you miss any of the other 12?

Depression

- Signs and Symptoms
 - Lack of energy
 - Loss of appetite
 - Loss of libido
 - Low self-esteem
- High risk of “passive suicide”
 - Often unrecognized!

“OPQRST” for Depression

- **O**rientation
- **P**rovokes/**P**alliates
- **Q**uality of Life
- **R**elationships/**R**eassurance/**R**ecent loss
- **S**uicidal ideation/**S**past attempts
- **T**ime/**T**reatment history

Treatment of Depression

- **F**ield:
 - Recognition
 - Referral
- **D**efinitive:
 - Psycho-social therapy
 - Selective serotonin reuptake inhibitors
 - Paxil, Zoloft, Prozac
 - Appear to be safer than benzodiazepines

Elder Abuse

- Physical
- Psychological
- Financial/material
- Neglect
- Sexual

Elder Abuse: Victim

- One or more physical impairments
- Physical or emotional dependence
- Financial dependence
- Hx of family violence
- Isolation



Elder Abuse: Abuser

- Adult Children 32%
- Other family members 21%
- Spouses 11%
- Living with victim
- ETOH or substance abuse
- Psychiatric illness
- Negative attitude toward elderly
- Anger with caretaker role
- Job or family crisis
- Physical illness
- Former abuse by victim or someone else



Elder Abuse: Your responsibility

- Mandated Reporter in most states
- Advise receiving nurse/physician of your suspicions
- Document your findings and actions

Other Social Issues

- No food/heat in the home
- No care-giver available at home
- Unsafe conditions in the home
- Frequent flyer
- “Too sick to be home, too well to be in the hospital”

Resources

- Hospital Social Services
- Elder Services
- VNA
- Hospice
- Community Senior Services
- Churches
- Others?

Web Resources

- Elder abuse:
 - crha-health.ab.ca/hlthconn/items/elder-ab.html
- Health & Safety tips:
 - Jhbmc.jhu.edu/geriat/patinfo/healthtips.html
- Home Safety:
 - Oursenioryears.com/homesafety.html
- National Institute on Aging:
 - Nih.gov/nia
- National Resource Center on Aging & Injury:
 - Olderadultinjury.org
- National Center for Injury Prevention & Control
 - Cdc.gov/ncipc

CONCLUSION

- Seniors account for a large percentage of our calls
- Knowledge of the physiological changes of aging can improve our ability to accurately assess and treat seniors
- Assessment generally follows the same pattern for all patients, however certain signs and patterns are unique to seniors

CONCLUSION

- Medical and Trauma assessments can be customized to ensure accuracy when caring for seniors
- Psychological and social issues must be considered in providing comprehensive treatment for seniors.
- Resources other than EMS can often be identified to deal with long-term health issues involving seniors

***On behalf of
seniors
everywhere,
thanks for
caring.***

