Geriatric Emergencies
“The Essentials”

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NO FINANCIAL DISCLOSURES

Why do we do what we do?

- WHO
  - “The state of complete physical, mental and social well-being and not merely the absence of disease or infirmity
- Impact state of health
  - Improve quality of life
  - Promote independent function
  - Improve life expectance
    - » Decrease morbidity and mortality

- What is an emergency?
- What is a geriatric emergency?

- “ a sudden urgent, usually unexpected occurrence requiring immediate action”

- an acutely debilitating or life threatening condition in the elderly

- Response time and nature of response determines outcome

- It is better to be alive with a deficit than dead…

Why is this relevant?

- Medical Ethics
    - » Hippocratic Oath
  - Respect patients autonomy
  - Informed consent
  - Non-maleficence
  - Beneficence
  - Teach

Why is this relevant?

- AGING is Inevitable
  - Significant fraction of population is elderly
    - >300,000 in Brooklyn
  - Predisposition for “Physiological Hypo-function”, illness and injury or death?
- Evidenced Based Standard of Care
  - “Not opinion”
  - “Not feelings”
- Assessment/Intervention decreases morbidity/mortality
  - Improve life expectancy
  - Quality of life
    - ADLs/IADLs

Guides Assessment

- History
- Physical
- Serology
- Imaging
  - What is the indication?
    - Cost
    - Risk
    - Litigation

Questions…

- What is the next step in the management of this patient?
- What is the next step in the care…?
- How much time do I spend examining?
- What are the risks/benefits of this measure?
- When or how soon do I follow up?
- Who is going to “pay”…?

- How do patients present?
- What signs or symptoms are suggestive of an underlying problem?
- What signs/symptoms are suggestive of an underlying medical emergency?

Guides Management

- Goal
  - Reduce morbidity & mortality
    - Improve quality of life
      - Decreased pain & suffering
      - Reduce risk of an unfavorable outcome
        - » Illness, injury, deformity, death
      - Treat underlying cause
        - » Remove, Reverse, Restore
    - Improve life expectancy
  - Promote independent function

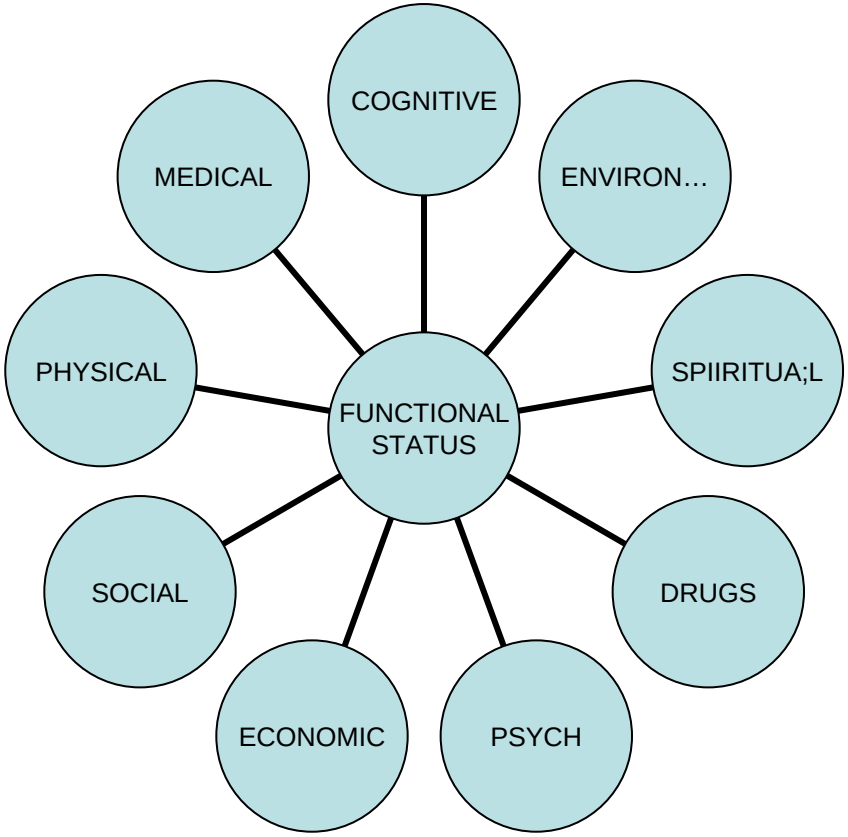
How does it differ from standard medical evaluation?

- Focus is on elderly individuals with complex problems
- Stabilize first then consider continuous plan of care
  - » Response time correlates with favorable outcome
  - A good geriatric assessment requires multidisciplinary team approach
  - Quality of life and functional status may be emphasized.

Setting for Assessment

- Ambulatory
- Acute Care Setting
  - Emergency Room
  - Hospital
- Home
  - Skilled Nursing Facility
  - Assisted Living
    - » ***Time Constraints***

Factors impacting functional status



Physical Exam

- Observation/Inspection

- Vitals
  - ABCs
  - Extremes of Vitals

Geriatric emergencies

- CVA or stroke
- Pulmonary Edema/CHF
- Pulmonary Embolism
- Gastro-intestianl Bleeding
- Rhabdomyolysis
- Cord compression
- Hypercalcemia
- Temporal Arteritis
- Hip Fracture
- Depression
- Tooth Abscess
- Septic joint
- The eyes
- Pneumothorax
- Acute Renal Failure
- Acute Abdomen

How do we treat?

- Treat underlying cause…
- Primary Prevention…

- ROS
- Common things occur commonly
  - Previous episode is predictor of recurrent event
- Did I Ask?
  - D.I.D.I.A
  - Drugs, Infection, Dehydration, Impaction
- V.I.T.A.M.I.N.S

Pulse can tell the story

- Tachycardia
  - Medications
  - Infections
  - Dehydration
  - Anemia
  - Hyperthyroidism
  - Myocardia infarction
  - Pulmonary Embolism
- Bradycardia
  - Infection
  - Hypoglycemia
  - Sick-sinus syndrome
  - Hypothermia
  - Hypothyroidism
  - ICP
  - Infection
  - IWMI

PULMONARY EMBOLISM

More than ½ million estimated PE yearly

Untreated, 30% die

With early detection and Rx, mortality still high [10%]

More than 90% from DVT

RISK FACTORS

Virchow's Triad: endothelial damage,venous stasis, immobilization

Acquired risks: surgery, trauma, malignancy, previous PTE, advanced age, CHF, high estrogen state, spinal cord injury

Hypercoagulable state: protein C def., ATIII deficiency, lupus anticoagulants, homocystinuria

Hematologic: persistent thrombocythosis, PNH

Other: IBD, nephrotic syndrome

KEY FEATURES IN HISTORY & PHYSICAL

- Dyspnea-sensitive but not specific
- Pleuritic chest pain; about 50% sensitive and specific
- Cough: 60-80%specific
- Leg swelling: 70-90%specific
- Hemoptysis: 90-95% specific
- Angina-like chest pain: 90+% specific

Clinical Signs

- Tachycardia
- Tachypnea
- Accentuated P2: 87%specific
- Cyanosis: 85-98%specific
- DVT: 89-92%specific
- Fever: >38.5
- Homan’s sign, wheezing, pleuritic rub, RV lift

Diagnostic tools

- EKG: tachycardia, non specific ST-T changes most common finding.

  S1,Q3,T3 rare
- Chest xray: normal, infiltrate, pl effusion
- ABG
- V/Q scan mismatch: low,intermediate, high probability
- High resolution CT chest
- Pulmonary angiogram
- Venous doppler/Phlebogram

Management

- Oxygen
- Anticoagulation with unfractionated heparin or LMWH followed by warfarin
- Treat underlying/predisposing factors

PULMONARY EDEMA/CHF

MAJOR RISK FACTORS

Hypertension

Hyperlipidemia

Smoking

Family history of atherosclerotic diseases

Other: chemotherapy, RT,illicit drugs,thyroid

PULMONARY EDEMA/CHF

- KEY ELEMENTS IN HISTORY
- Dyspnea
- Degree of exertion to cause dyspnea
- Orthopnea/PND
- Other: nausea, abdominal pain, age at onset
- Fatigue
- Mental Status Changes

Differential Diagnosis

- Pulmonary Embolism
- Asthma/COPD Exacerbation
- Viral and Other Atypical Pneumonias
- Pulmonary Fibrosis
- Sarcoidosis

Diagnostic Studies

- Labs: cardiac enzymes, BNP, BUN/Cr, electrolytes,CBC, ABG
- Chest x-ray
- EKG
- 2D-Echo

Management

- Diuretics to reduce volume load
- Vasodilators: ACEI, hydralazine +nitrates

  Increase SV by decreasing vasc resistance

  Decrease preload by venodilation

  Inotropic Drugs: digoxin, Dobutamine

. Anti-arrythmics

. Oxygen

. Treat underlying disease

Breathing Clues…

- Cheyne-Stokes breathing: CHF, CNS disease, pneumonia, medications, obesity
- Biot’s breathing: sign of increased intracranial pressure
- Apneustic breathing: Severely ill patients.This pattern is suggestive of pontine lesion

REFERENCE

- GERIATRIC REVIEW SYLABUS
- Dr. Mohamed Nurhussein

THANK YOU