Creating a Geriatric Focused Model of Care in Trauma with Geriatric Education

Kai Bortz MSN, RN-BC, CMSRN, CNL
Learning Objectives

- Discuss the growing epidemic of geriatric trauma.
- Review falls in the elderly population.
- Provide information on common injuries seen in the geriatric trauma patient.
- Review nursing concepts of care in the geriatric trauma patient.
Disclosure Statement

- I have no conflict of interest relative to this educational activity.
• 5 Campuses
• 1 Children’s Hospital
• 140+ Physician Practices
• 17 Community Clinics
• 13 Health Centers
• 11 ExpressCARE Locations
• 80 Testing and Imaging Locations
• 13,100 Employees
• 1,340 Physicians
• 582 Advanced Practice Clinicians
• 3,700 Registered Nurses
• 60,585 Admissions
• 208,700 ED visits
• 1,161 Acute Care Beds
Aging Population

- Older Adult: \(\geq 65\)
- Approximately 12% of current population
- Expected to be 20% by 2030
- “Baby Boomer” generation- 1946-1964

Trends in Older Adult Population
  - Overall world population aging
  - Life expectancy increasing
  - \(\geq 85\) fastest growing group

Population 65+ by Age: 1900-2050

Source: U.S. Bureau of the Census
Pennsylvania Older Adult Population

- Pennsylvania 4th in percentage of population age 65 and over:
  - Florida 17.3%
  - West Virginia 16%
  - Maine 15.9%
  - Pennsylvania 15.4%
  - Iowa 14.9%
  - US 12.9%

- Pennsylvania 3rd in percentage of total population age 85 and over:
  - Florida 2.8%
  - North Dakota 2.7%
  - Hawaii, Iowa, Pennsylvania, South Dakota 2.5%
  - Rhode Island 2.4%
  - US 1.8%

U.S. Census Bureau, 2010
Lehigh Valley Population
Population Changes 2000-2030
LVHN Trauma Patient Volume 2013-2015*
Geriatric Trauma Data: LVHN
(excludes burns)

LVHN Trauma Registry 2015

*2015 is 6 mos.
Percentage of Trauma Patients $\geq 85$
January 2013-November 2015

# for month
Age $\geq 85$

[Graph showing the percentage of trauma patients aged 85 or older from January 2013 to November 2015. The graph includes a linear trend line.]
Percentage of Trauma Patients Age 65 and Older & 85 and Older
LVHN PTOS vs. All Hospital PTOS
Non-Burn

LVHN Trauma Registry 2015
LVHN 2015 Age >=65
(Excludes Burn)

- 1,785 patients
- Female 58%
- Male 42%
- Age: 80.7
- ISS: 9
- Blunt: 99.5%
- Penetrating: 0.5%
Geriatric Trauma
Mechanism of Injury

▪ Falls #1
  - Most common method of injury in the elderly
  - 90% simple falls, such as fall from standing
  - Far less mechanism to produce injuries
    - Weakness
    - Generalized deconditioning
    - Loss of visual acuity
    - Balance and gait instability
    - Slowed reaction times

▪ Motor Vehicle Collision
  - Vision changes
  - Slower reflexes
  - Cognitive deficits

▪ Suicide
  - 65 and older-highest suicide rate for all age groups
  - Nearly 20% of all suicides
  - Most common method involves firearms
  - Risk factors: White, male, depression, chronic pain or illness, and social isolation
  - Of those who committed suicide:
    - 70% PCP within 1 month
    - 1/3 PCP within 1 week
2014 LVHN Trauma Mechanism
Age >=65

- Fall
- MVA
- Other
- Pedestrian
- MCA
- Struck by

%
2014 LVHN Discharge Destination

% of Discharge Destinations by Age Group:

- **DC Home**
  - Age <65
  - Age >=65

- **DC Rehab**
  - Age <65
  - Age >=65

- **DC SNF**
  - Age <65
  - Age >=65
2014 LVHN Trauma Mortality

% Mortality

- age >=65
- age <65
LVHN Geriatric Patient
ISS Summary

ISS 1-8
ISS 9-12
ISS 13-15
ISS 16-24
ISS 25-40
ISS 41-49
ISS 50-74
ISS 75

2013
2014
2015

%
INJURY PATTERNS IN THE ELDERLY
Why is Geriatric Trauma Care Important?

- Trauma is the 5th leading cause of geriatric mortality
- Increased morbidity … NOT always due to the injury!
  - Hospital acquired complications
  - Exacerbation of co-morbidities
- Compared with younger patients with same injuries
  - Longer hospital stays
  - Longer inpatient rehab stays
  - Increased skilled nursing facility requirement
  - More complications
  - Increased mortality
  - Increased dependence for ADL’s

High Risk Population

- Physiological changes in all body systems
- Less reserve
- Complex Care
  - Susceptible to adverse outcomes from minor trauma
  - Frailty
  - Geriatric syndromes
- Elderly trauma in hospital complication rate higher
  - Cardiovascular events (MI, Afib, CHF, etc.)
  - Pneumonia
  - Sepsis
- Complications lead to poor outcomes and high cost healthcare

Physiologic and Functional Preexisting Differences in Older Adults

- **Vital Signs**
  - Altered response to trauma
  - Increased mortality if HR>90 bpm or SBP <110mmHg

- **Neurologic**
  - Baseline deficits (dementia, stroke, hearing loss)
  - Report less pain thereby limiting injury discovery

- **Cardiovascular**
  - HTN, medications, CHF

- **Pulmonary**
  - Decreased functional residual capacity
  - Decreased vital capacity

- **Renal**
  - Decreased glomerular filtration rate (GFR)
  - Decreased excretion and drug clearance
  - Increased risk of UTI
  - Decreased response to dehydration

- **Coagulation**
  - Blood thinners, platelet inhibitors

- **Skeletal**

Geriatric Considerations during Initial Assessment

- ABC – Same for all trauma
- Spine immobilization
- Mechanism of injury
- Age
- Home medications
  - Polypharmacy
  - Beta Blockers
  - Anticoagulants
- Comorbidities
- Baseline cognitive status
- Baseline functional status
Response to Shock

- **Cardiovascular Changes**
  - Decreased compensatory response
  - Decreased CO and reserve
  - Catecholamine insensitivity
  - Atherosclerosis
  - Myocyte fibrosis
  - Conduction Abnormalities

- **Medications**
  - Beta blockers blunt the stress response to shock and can mask underlying hypoperfusion
  - Under-identification of significant blood loss

- Decreased ability to survive cardiovascular stress
Musculoskeletal Trauma

- Decreased overall muscle mass, strength, and endurance
- Osteoporosis
- Hip Fractures
  - Outcomes improved with multidisciplinary team
  - Protocols that promote early operative intervention (<48hrs)
  - Early ambulation
  - Early physical therapy
- Pelvic Fractures
  - Pubic rami most common
  - Acetabulum
- Elderly less likely to have “severe” pelvic fractures, yet have far higher mortality
- Higher rates of hemorrhage despite lower fracture severity
Neurological Changes with Aging

- Brain weight decreases
  - 10% between age 30-70
- Decreased number of neurons
- Slower reflexes
- Decreased speed of nerve impulse travel
- Sensory and motor decline
- Dementia and cognitive impairment may delay treatment
- Patient presents with mild mechanism- may have a significant underlying SDH or Epidural
Head Injuries in the Elderly

- 2 major risk factors:
  - Dura becomes adherent to the skull with aging
  - Anticoagulant use
    - Approximately 11-20% on Coumadin at the time of injury
    - New anticoagulants
      - Direct thrombin inhibitors
      - Factor Xa inhibitors
- Low threshold for CT with any neuro changes
  - Occult injuries common
  - Minimal risk of radiation
- Mortality rates 2-5x’s younger with matched GCS & intracranial pathway
- Falls- most common cause of TBI in elderly
- Increased age is an independent predictor of worse outcome from TBI
Cervical Spine Fractures

- Odontoid Fractures most common
- Geriatric patients more upper C-spine fx
  - Non-geriatric more lower C-spine fx
  - Initially the most mobile segment of C4-C7 stiffens with age
- Increased risk of cervical spine injury
  - DJD, osteoporosis
  - Less muscle and ligament support
- Central Cord Syndrome
  - More common in the elderly
  - Hyperextension injury
  - High risk of depression
- Nonoperative vs Surgical Management
Rib Fractures

- Osteoporosis decreases rib durability
- Increased incidence of
  - Rib fractures
  - Sternal fractures
  - Pulmonary contusions
- Weakened respiratory muscles
  - Alveolar surface area loss
  - Decreased chest wall compliance
  - Decreased vital capacity, functional residual capacity
- Rib fractures and flail chest have a significantly higher morbidity and mortality in elderly
Rib Fractures

- Poor outcomes related to physiologic changes with aging
- Increased splinting leads to
  - Hypoventilation, atelectasis and pneumonia
- Increase in number of rib fractures...
  Increase in complication risk!

- Nursing interventions
  - Pain Control
  - Aggressive pulmonary toileting
  - Mobilization
  - Protocols
- Rib Plating
Facial Fractures in the Elderly

- Typically minimally displaced fractures
- Surgical vs. Non-surgical intervention
- LOS and mortality increased when compared to younger patients
- Nursing Care
  - Airway
  - Ice
  - Pain control
  - HOB elevated
  - Mobilize
Atypical Presentation of Illness

- Presentation is vague, altered or not presented at all
- Signs of 1 disease hidden by signs of another
- Common conditions
  - Infections
  - Falls
  - Urinary incontinence
  - MI
  - CHF

Cascade Iatrogenesis

- A series of adverse events or effects caused by a medical or nursing intervention that was initially used to solve a prior symptom
- Difficult to reverse
- Associated with poor prognosis after hospital discharge

Factors that Increase Risk of Iatrogenesis

- Polypharmacy
  - Adverse Drug Event most common cause
- Atypical presentation of illness
- Many comorbid chronic illnesses
- Impaired cognitive and functional capacity
- Reduced physiologic reserve
- Altered compensatory mechanisms

Frailty

- Combination of age-related changes and assorted medical problems
  - Exhaustion
  - Unintentional weight loss (>10lbs)
  - Muscle weakness
  - Walking slowly
  - Low physical activity level
- High Risk for iatrogenesis
- Trauma-Specific Frailty Index

Geriatric Syndromes

- Can result as an outcome of iatrogenesis and frailty
- Impact morbidity and mortality
  - Sleep Disorders
  - Problems with Eating or Feeding
  - Incontinence
  - Delirium
  - Falls
  - Skin Breakdown

Functional Status

- Functional Status
  - Ability to perform basic self-care activities
  - Strong predictor of poor outcomes
  - Indicator of Quality of Life
  - Baseline status

- Functional Assessment Tools

Functional Decline

- Prevention of Functional Decline
  - 34%-50% of hospitalized older adults
  - Many do not regain lost function

- Increased
  - LOS
  - Mortality
  - Institutionalization
  - Longer rehab and home health services
  - Healthcare resources

- Minimal research in trauma....
## Comorbid Conditions
### LVHN vs. TQIP 2013

<table>
<thead>
<tr>
<th>Comorbid Condition</th>
<th>TQIP – ALL (%)</th>
<th>LVHN (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHF</td>
<td>8.9</td>
<td>12</td>
</tr>
<tr>
<td>HX ANGINA</td>
<td>0.3</td>
<td>0.1</td>
</tr>
<tr>
<td>MI</td>
<td>3.2</td>
<td>4.7</td>
</tr>
<tr>
<td>STROKE</td>
<td>5.9</td>
<td>13.3</td>
</tr>
<tr>
<td>HTN</td>
<td>62.2</td>
<td>79.4</td>
</tr>
<tr>
<td>P VAS. D.</td>
<td>0.8</td>
<td>3.2</td>
</tr>
<tr>
<td>DISSM CA</td>
<td>1.7</td>
<td>1.5</td>
</tr>
<tr>
<td>ALCOHOLISM</td>
<td>4.2</td>
<td>3.1</td>
</tr>
<tr>
<td>SMOKER</td>
<td>6.3</td>
<td>7.3</td>
</tr>
<tr>
<td>DRUGS</td>
<td>0.4</td>
<td>0</td>
</tr>
<tr>
<td>BLEEDING DISORDER</td>
<td>16.3</td>
<td>31.2</td>
</tr>
<tr>
<td>DEMENTIA</td>
<td>8.8</td>
<td>21</td>
</tr>
<tr>
<td>PSYCH</td>
<td>6.3</td>
<td>28</td>
</tr>
<tr>
<td>DIABETES</td>
<td>23</td>
<td>26.3</td>
</tr>
<tr>
<td>RENAL</td>
<td>1.8</td>
<td>1.5</td>
</tr>
<tr>
<td>RESP</td>
<td>11.5</td>
<td>17.5</td>
</tr>
<tr>
<td>FUNC DEP</td>
<td>5.4</td>
<td>28</td>
</tr>
<tr>
<td>STEROIDS</td>
<td>1.1</td>
<td>4.5</td>
</tr>
</tbody>
</table>
IMPROVING GERIATRIC TRAUMA CARE
Geriatric Trauma Care at LVHN

- 2004 Established first Geriatric Trauma Program
- Monthly Geriatric Trauma Conference
- Injury Prevention
- Community Outreach
Geriatric Consultation

- Proactive consultation model
- Comprehensive geriatric assessment
  - Prevention and management of geriatric syndromes
  - Function preservation
  - Discharge planning
- Improved outcomes
- Decreased hospital-acquired complications

Recognizing the Problem

- Complex care
- Lack of geriatric education for trauma nurses
- Nursing care not specific to geriatric trauma patients
- Geriatrician Recommendations not acted on
  - Lack of understanding of importance
  - No standard communication
  - Delay in care
- Recognized need for including Geriatric Resource Program in trauma care
  - Geriatric specific education
  - Look at nursing interventions to reduce complications
Overall, are we prepared?

- Geriatric Education limited
- <1% of RN’s are certified in gerontology nursing
- Evidence indicates
  - patient outcomes improve when older adults receive care from nurses with geriatric training
- Geriatricians

A Plan for Improved Geriatric Care Recognized

- Only 8.8% of Trauma Centers in the U.S. incorporate Geriatric Resource Programs
  - Mostly Level I Trauma Centers
- 17 of 26 Trauma Centers in PA are Geriatric Resource Program Sites (65%)
- Extent of incorporation of Geriatric Resource Programs unknown

NICHE at Lehigh Valley Health Network (LVHN)

- April 2010, LVHN designated as official NICHE hospital

- LVHN Network Wide:
  - >100 Geriatric Resource Nurses (GRN)
  - 24 Geriatric Patient Care Assistants (GPCA)

- Geriatric Certification
Nurses Improving Care for Healthsystem Elders (NICHE)

- Nurse Driven program designed to help hospitals improve the care of older adults

- **VISION**
  - All patients 65-and-over to be given sensitive and exemplary care

- **MISSION**
  - Provide principles and tools to stimulate a change in the culture of healthcare facilities to achieve patient-centered care for older adults

Nurses Improving Care for Healthsystem Elders (NICHE)

Core components
- Guiding principles
- Leadership
- Organizational structures
- Physical environment
- Patient and family centered approaches
- Aging sensitive practices
- Geriatric staff competence
- Interdisciplinary resources and processes
Geriatric Resource Nurse Model (GRN)

- Evidence-based geriatrics within clinical practice
- Prepares nurses as clinical resource leaders on geriatric issues
- Considered the foundation for improving geriatric care
- Patient Care Associate (GPCA)
Nurses Improving Care for Healthsystem Elders (NICHE)

- Benefits of NICHE designation:
  - Improved clinical outcomes
  - Positive fiscal results
  - Enhanced nursing competencies
  - Community recognition
  - Greater patient, family, and staff satisfaction
Incorporating Geriatric Education in Trauma

- NICHE Rollout to Trauma Units in November 2013
  - 19 Geriatric Resource Nurses in Trauma
    - 11 Transitional Trauma Unit
    - 8 Trauma-Neuro Intensive Care Unit
  - 2 Geriatric Patient Care Associates
  - Trauma Neuro Intensive Care Unit 1st ICU to participate in NICHE education at LVHN
What can NICHE do for Trauma?

- How does this work for trauma?
- How do we incorporate NICHE concepts in trauma care?
- Physician Champions
  - Dr. Joseph Stirparo & Dr. Jayme Lieberman
- Geriatric Trauma Process Improvement
- Geriatric Trauma specific education
- Develop Geriatric Resources
Trauma NICHE Meetings Scheduled

- GRN’s from TTU & TNICU
- Focus on Geriatric Trauma care
- Data updates
- Education
- Process Improvement projects
- Unit Champions
- ED Nurse involvement
Geriatric Trauma: Key Concepts in Care

- Prevention of falls
- Pain
- Delirium
- Mobility
- Nutrition
- Sleep
Preventing Recurrent Falls

- Consider cause of fall

- Orthostatic Blood Pressures
  - All patients 65 and older admitted s/p fall
  - Medications
  - Dehydration

- Fall Precautions

- Patient and Family Education

- Environmental Adaptations
Pain Control

▪ Assessments
  • Appropriate pain scale
  • Non-verbal signs
▪ More likely to tolerate pain than report it
▪ Barriers:
  • Cognitive impairment
  • Fear of addiction
  • Side effects
  • Sensory impairment
  • Under-reporting
▪ Uncontrolled Pain
  • Delirium
  • Decreased mobility
  • Decreased participation in ADL’s
  • Respiratory compromise
▪ Elderly may not verbalize their injury as “pain”
  • Ache, hurt, discomfort
Pain Control

- Treat it.....
  - Start low, go slow!
  - 50%-75% of normal dose and titrate
- Variations in levels of pain
- Acute and Chronic Pain
- Appropriate medications
- Non-pharmacological pain interventions
- Cognitively impaired most vulnerable
- Bowel regimen
- Pain Medication Resource developed with recommended medications and doses
# Geriatric Pain Recommendations

<table>
<thead>
<tr>
<th>Medication</th>
<th>Dose</th>
<th>Route</th>
<th>Frequency</th>
<th>CAUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SEVERE PAIN</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Morphine</td>
<td>1-2 mg</td>
<td>IV</td>
<td>2 hours</td>
<td>RENAL</td>
</tr>
<tr>
<td>Fentanyl</td>
<td>12.5-25mcg</td>
<td>IV</td>
<td>1 hour</td>
<td>Rapid, fast relief</td>
</tr>
<tr>
<td>Hydromorphone</td>
<td>0.1-0.2 mg</td>
<td>IV</td>
<td>4 hours</td>
<td></td>
</tr>
<tr>
<td>PCA</td>
<td></td>
<td></td>
<td></td>
<td>NO BASAL RATE</td>
</tr>
<tr>
<td><strong>MILD-MODERATE PAIN</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tylenol</td>
<td>500mg</td>
<td>PO</td>
<td>QID</td>
<td>LIVER DYSFUNCTION</td>
</tr>
<tr>
<td>Ibuprofen</td>
<td>200mg</td>
<td>PO</td>
<td>TID</td>
<td>RENAL</td>
</tr>
<tr>
<td>Oxycodone</td>
<td>2.5-5mg</td>
<td>PO</td>
<td>4 hours</td>
<td></td>
</tr>
<tr>
<td>Tramadol</td>
<td>25 mg</td>
<td>PO</td>
<td>6 hours</td>
<td>&lt;200mg per day</td>
</tr>
<tr>
<td>Capsaicin cream, EMLA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lidocaine Patches</td>
<td>1 patch</td>
<td>topical</td>
<td>daily</td>
<td></td>
</tr>
<tr>
<td>Bengay</td>
<td></td>
<td>topical</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Robaxin NOT recommended (highly anticholinergic)**

**Do not give Oxycodone and Tramadol at the same time**

**Only use ONE IV opiate and ONE ORAL opiate- If not providing adequate pain control,**

DISCONTINUE and replace with an alternative

*Start bowel regimen with any narcotic use*

*Do NOT use Valium*
Delirium

- Frequently seen in Geriatric Trauma patients- “confusion”
- Increased:
  - LOS, functional and cognitive decline, re-admissions, mortality, facility placement, and falls
- 3 Types of Delirium
  - Hyperactive
  - Hypoactive
  - Mixed
- Predisposing Risk Factors
  - Age, cognitive impairment, history of delirium, dementia, stroke, visual/hearing impairment, lives alone or in a facility, alcohol abuse
- Precipitating Risk Factors
  - Environmental- Foley’s, restraints, medications, surgery, pain, immobilization, change in surroundings
Delirium Prevention

- Baseline assessment
- Routine Screening (CAM/CAM-ICU)
- 30-40% of cases are preventable
  - Avoid inappropriate drugs
  - Avoid use of restraints
  - Reorientation and behavioral interventions
  - Clear instructions
  - Minimize sensory impairments
  - Environmental
  - Nonpharmacological sleep protocols
  - Geriatric consultation
Delirium Treatment

- Prevention is key!
- Treat as a medical emergency!
- Treat underlying cause!
- Patient and Family Education
- Delirium Protocols
Immobility

- Loss of muscle mass and strength
- Orthostasis
- Falls
- SNF placement
- As early as day 2 of hospitalization functional decline can start
- Mobility inadequate overall in hospitals
- Older adults spend >80% of their day in bed during hospitalization
Mobility

- Spine clearance
- Determine baseline functional status
- Encourage participation in ADL’s
- Early mobilization
  - Within first 48 hours
- PT/OT consult
- Assistive devices
- Progressive mobilization
- Ambulate!
Mobility Project

- Patients age 65 and older
- Nurse Driven Mobility Protocol
- Levels of mobility to determine activity level
- Education for all TTU staff
  - Importance of mobility during hospitalization
  - Progressive mobility
  - Functional status/functional decline
  - Function-Focused-Care
  - Documentation of mobility
  - Documentation of Functional status-Prior/Current
  - GPCA’s will champion the project
Malnutrition in the Geriatric Population

- Diminished senses of taste and smell
- Changes in dental status and decreased ability to chew or swallow certain foods
- Reduced visual and auditory senses
- Medication use that may have an adverse effect on appetite
- Confusion from delirium or dementia
- Depression
- Eating alone

Nutrition

- Malnutrition can contribute to functional decline
- Trauma Patients at high risk of malnutrition
  - Head injuries
  - Hypermetabolism
  - Malnutrition pre-injury
  - NPO
  - Collars
  - Facial injuries
  - Dysphagia
  - Immobility
  - Pain

Nutritional Support

- Supplements with meds
- Nutrition Consultation
  - Supplements
  - Calorie Counts
  - Weights
- Encourage OOB for meals
- Socialization
- Ensure hydration
- Speech Therapy
Sleep

- Important to overall physical and psychological well-being
- Sleep often disrupted during hospitalization
- Impacts healing and health recovery

Adverse Outcomes
- Delirium
- Decreased glucose tolerance
- Changes in thermoregulation
- Increased levels of inflammatory cytokines
- Increased anxiety
- Impaired cognitive performance

Sleep Hygiene Protocol

- Noise Reduction
- Dim lights
- Aromatherapy
- Massage
- Snack
- Toileting
- Protected sleep time
  - Neuro checks
  - Vital Signs
  - Labs
# Geriatric Sleep/Agitation/Delirium Recommendations

<table>
<thead>
<tr>
<th>Medication</th>
<th>Dose</th>
<th>Route</th>
<th>Frequency</th>
<th>Use</th>
<th>Nursing Considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haldol</td>
<td>0.5-1mg</td>
<td>IV</td>
<td>q3 hrs</td>
<td>Delirium</td>
<td>DOCUMENT RESPONSE in1-2hrs</td>
</tr>
<tr>
<td>Home Benzodiazepine Use</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Determine how much patient takes at home</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Cut dose in half if taken routinely</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ativan</td>
<td>0.25mg</td>
<td>PO</td>
<td></td>
<td></td>
<td>DOCUMENT RESPONSE</td>
</tr>
</tbody>
</table>

## SLEEP AIDS

<table>
<thead>
<tr>
<th>Medication</th>
<th>Dose</th>
<th>Route</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melatonin</td>
<td>3-5mg</td>
<td>PO</td>
<td>Bedtime</td>
</tr>
<tr>
<td>Trazodone</td>
<td>25mg</td>
<td>PO</td>
<td>Bedtime</td>
</tr>
<tr>
<td>Mirtazepine</td>
<td>7.5mg</td>
<td>PO</td>
<td>Bedtime</td>
</tr>
</tbody>
</table>

*Benadryl is NEVER recommended as a sleep aid in geriatric patients*

*Non-pharmacological Interventions 1st*

*Avoid Ambien*

*Home PRN Benzo use can vary from 3x's/day to 3x's/week- must ask patient*

*Determine cause of Delirium*
Diversional Activities

- A form of recreation which helps individuals by turning their attention away from their illness to another interest
- Occupies the individual’s mind and fosters their return to health
- Helps a person to regulate emotions, thoughts, and behaviors by self-soothing
  - Pain
  - Anxiety
  - Frustration
  - Confused
  - Hungry
  - Tired
Diversional Activities

- Music
- Puzzles
- Games
- Fabric - different textures
- Stress balls
- Massagers
- Coloring Pages
Pet Therapy
Geriatric Focused Collaborative Rounds

- Coordination of Care
- Geriatric Resource Nurse
- Trauma Team
- Geriatrician
- Case Management
- Registered Dietician
- Physical Therapy/Occupational Therapy
Geriatric Considerations in Collaborative Rounds

- Early mobilization
- Orthostasis
- Medication Changes
- Pain Control
- Nutrition
- Delirium prevention and recognition
- Family
- Disposition
Process Improvement Projects

- Geriatric Focused Collaborative Rounds
- Initiation of Geriatric Recommendations
  - Orthostatic Blood Pressures
- Geriatric Pain Control
  - Cognitive Impairment
  - ATC dosing
- Reducing Inappropriate Medication Use
  - Pain/Agitation/Sleep Recommendations
- Delirium recognition and treatment
- Nutrition
Continuing Staff Engagement

▪ Project Champions

▪ Continuing Education specific to geriatric trauma

▪ Geriatric Trauma Hours- 2 hours year/2015
  • Geriatric Trauma Conference
  • Fleming Lecture Series
  • NICHE Webinars
Geriatric Trauma Protocol Development

- Geriatric Consultation
  - Injury doesn’t matter??

- Delirium Protocol

- Pain Protocol
  - Acute pain management

- Rib Fractures
  - Patient Placement
  - Respiratory Therapy
Outcomes Following NICHE

- Percentage of hospital falls in patients age 65 and older decreased
  - FY14 61.5%, FY15 26.7%
- Pressure ulcers - minimal change
- HCAHPS survey improved
  - Transitions of care
  - Pain Management
- Change in Culture!!
LVHN Geriatric Trauma LOS 2011-2015
Analyzing the Data

- Increasing number of functionally dependent patients
  - 2011- 25.3%
  - 2012- 28.7%
  - 2013- 38.6%
  - 2014- 43.7%
  - 2015- 51.1%

- Increased percentage of patients >84

- Average Injury Severity Score
  - 2013- 9
  - 2014- 10
  - 2015- 9

- Comorbidity Average
  - 2013- 4.20
  - 2014- 4.34
  - 2015- 4.41
Focus Groups on Geriatric Trauma

- AAST Geriatric Trauma Coalition
  - Multidisciplinary group
  - Improve geriatric trauma care
    - Injury Prevention
    - Transport and Triage
    - Initial assessment and Hospital Management
      - Establish guidelines/protocols
    - Transitions of Care
      - Community Resources

- Society of Trauma Nurses
  - Geriatric Special Interest Group
  - Fall Prevention, Protocols, Geriatric Trauma Program

- EAST
Plans for the Future

- NICHE Education for all TTU Nurses
- Continue incorporation of NICHE concepts in trauma care
  - Prevent complications post trauma
  - Decrease Geriatric Syndromes
- Develop Geriatric Trauma Protocols/Guidelines
- Research
- More Trauma Centers must consider integrating Geriatric Resource Programs
  - Optimize care of the Geriatric Trauma Population
    - Geriatric Education
    - Specialized care
- Monitor Outcomes
References

Questions?

Contact Information:

Kai Bortz MSN, RN-BC, CMSRN, CNL
Kai_L.Bortz@lvh.com