Iatrogenesis

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Iatrogenesis

**Definition** – from the Greek word, *iatros*, meaning *healer*; iatrogenesis means *brought forth by a healer*

Iatrogenic harm is an unintended adverse patient outcome due to any therapeutic, diagnostic, & prophylactic intervention not considered natural course of disease

36-58% of older adults suffer iatrogenic illness during hospitalization
Cascade Iatrogenesis

- Initial medical intervention triggers a series of complicating events
- Cascade of decline
- May be irreversible
- Risk factors
  - Older
  - More functional impairment
  - Higher acuity on admission
Hospital Admission for Surgical Repair of Hernia

- Delirium post op medicated for agitation
- Aspirates due to over sedation
- Pneumonia prolonged bedrest
- Functional decline fall & fx hip
- ↑ LOS
- ↑ morbidity & mortality
- ↑ NH placement
- ↑ morbidity & mortality
National and Federal Guidelines

- “To Err is Human: Building a Safer Health System” Institute of Medicine, 1999
  - Medical errors cause up to 98,000 deaths
  - Costs $29 billion
- Agency for Health Care Research and Quality: Patient Safety Network  
  [http://www.ahrq.org](http://www.ahrq.org)
- Joint Commission’s National Patient Safety Goals  
  [http://jointcommission.org/PatientSafety](http://jointcommission.org/PatientSafety)
- John A. Hartford Foundation, Centers for Geriatric Nursing Excellence  
- US Department of Veterans Affairs National Center for Patient Safety  
  [http://www.patientsafety.gov](http://www.patientsafety.gov)
- Infection Control Centers for Disease Control and Prevention (CDC)  
Risk Factors for Iatrogenesis

- Normal age related changes
- High prevalence of chronic disease and comorbidity
- Atypical presentation of disease
- Provider beliefs and attitudes
- Inadequate geriatric training of healthcare providers
Risk Factors

Normal age related changes

- Diminished reserve & ability to respond to stress
- Exaggerated effects of medications
- ↑risk of infection
- Blunted thirst mechanism
- Decline in cardiac reserve
Risk Factors

High prevalence of chronic disease and comorbidity

- Exposure to more medications and procedures
- Increased risk to develop adverse response and complications related to medications & treatment
- Increased risk of geriatric syndromes
Risk Factors

Atypical presentation of disease

- Misinterpretation
- Missed diagnosis
- Treatment delays
Risk Factors

Provider Beliefs and Attitudes

Ageism: the prejudice, stereotyping, and scapegoating of people based on age

Aging myth - *To be old is to be sick.*

Present system of hospital care

- perpetuates dependency & iatrogenesis
- erodes self esteem, identity, individuality
Risk Factors

Inadequate geriatric training of healthcare providers

- No national geriatric certification requirements
- No national scopes and standards for care
- No Magnet or JCAHO requirements for staff competence in care of older adults
Nurse Preparation in Geriatrics

2.2 million practicing RNs

- <1% of RNs are ANCC certified in gerontological nursing
- Only 34% of BSN programs have a required course in geriatrics (2003)
- < 4,200 GNP’s/ GCNS’s nationally
Common Iatrogenic Illnesses

1. Adverse drug events (ADEs)
2. Adverse effects of diagnostic & therapeutic procedures
3. Nosocomial complications
   - Hospital acquired infections (HAIs)
   - Geriatric syndromes
Adverse Drug Events (ADEs)

- 35% of all older adults experience ADEs,
  - ½ are preventable
- Risk increases with increasing meds
- Hospital patients
  - Most common type of iatrogenesis
  - 1/3 related to errors and therefore preventable
- Causes
  - drug-drug interactions
  - inadequate monitoring
  - inappropriate dosing
A.E. of Diagnostic, Medical, and Surgical Procedures

- High number of medical procedures & therapies
- High risk diagnostic tests & procedures
  - Invasive
  - Contrast mediums
  - Radiation
- High risk medical procedures
  - Thoracentesis
  - Cardiac catheterization
- Surgical and perioperative complications
Adverse Effects of Diagnostic, Medical, and Surgical Procedures

- Relatively risk free medical and nursing procedures can be dangerous for older adults
- Iatrogenic “hypos”
  - IV fluids → hypokalemia
  - Antihypertensives → hypotension
  - Transient decreased oral intake → hypoglycemia
- Other examples
  - Acute renal failure
  - Unnecessary, prolonged bedrest

Err on the side of caution with older adults.
Nosocomial Complications

Hospital acquired infections (HAIs)

- Leading cause of morbidity & mortality
- 2 million U.S. patients annually
- 5-10% of all patients
- 90,000 deaths annually
- $4.5 billion in costs
Hospital Acquired Infections (HAIs)

Risk factors
- Older
- Higher acuity
- Immune compromised
- Invasive procedures
- Intravascular devices

Consequences
- Increased LOS
- Adverse complications
- Increased mortality
- Increased costs
Most Common HAIs

- Urinary tract infections (UTIs)
  - Most common HAI
  - Account for 30-40% of all HAIs
  - Related to use and duration of indwelling urinary catheters; 80% of all UTIs

- Bloodstream infections
  - 8th leading cause of death
  - Related to invasive device use; > 50% of the time
  - 3-7% of ICU patients with CVC develop catheter associated bloodstream infection (CABSI)
Most Common HAIs

- **Pneumonia (largely preventable)**
  - 2nd most common HAI; 20-46% mortality rate
  - Risk during continuous mechanical ventilation
  - Pulmonary aspiration of secretions from oropharyngeal or GI tract is most common cause

- **Surgical site infections**
  - Most common HAI in surgical patients
  - 6-25% of patients
  - 60% more likely to be admitted to ICU
Most Common HAI

Other types of HAI

- Skin (MRSA)
- GI tract (clostridium difficile)
- Oropharyngeal cavity (candida infections)
Nosocomial Complications

Geriatric Syndromes

Multifactorial in origin with many etiological factors; detectable risk factors that may be identified & reduced with early intervention

- Delirium
- Depression
- Functional decline
- Falls and injuries
- Malnutrition
- Sleep
- Incontinence
- Pressure ulcers
Old Models of Care

- For incontinence, use diapers or insert a foley
- For confusion or agitation, use physical and/or chemical restraints
- For trouble eating, insert NG tube
- For sleep problems, give sedatives
- For medication, use routine adult dosage
- For fall risk, use restraints/full side rails
- Allow prolonged periods of NPO status
- Allow bedrest without regard to loss of function
Prevention of Iatrogenesis

- **Goals**
- **Evidence Based Practice**
- **New Models of Care**
  - Proactive
  - Holistic
  - Skilled
  - Collaborative
  - Culturally competent
  - Patient advocate
  - Educator
Goals of Geriatric Care

- Reduced morbidity & mortality
- Reduced LOS due to iatrogenesis
- Fewer readmissions to hospital and ED
- Longer time between discharge and readmission
- Increased patient and family satisfaction
- Adequate preparation for discharge
Evidence Based Practice (EBP)

- Framework for clinical practice
- Integrates best available scientific evidence with expertise of clinician and patient preferences and values to make healthcare decisions
- Clinical practice guidelines – official recommendations or suggested approaches to diagnose and manage health conditions
- Standardization - provides assurance that geriatric content and practice recommendations are based on best evidence
New Models of Geriatric Nursing

- **Proactive** – consider older adults with complex illness as an “at risk” population and conduct accurate and quick assessments to identify and prevent clinical syndromes.

- **Holistic** – address whole patient including self care, spirituality, aging with chronicity, and safe integration of complementary and alternative therapies.

- **Skilled** – recognition of subtle changes, atypical presentations, and age related changes in physiology; use of standardized measurement tools to assess for common geriatric syndromes and frailty.
New Models of Care

- **Interdisciplinary collaboration** — shared planning, decision making, responsibility, and accountability for complexity of care

- **Cultural competence** — effective skills and service delivery in caring for older adults from diverse ethnic backgrounds

- **Patient advocate** — ensure understanding of risks and benefits; ensure informed consent

- **Educator** — teaching patients and families/caregivers and other members of the health care team
Improving Geriatric Nurse Care

- Evidence based
- Focused on common geriatric care syndromes
- Accessible & usable by bedside nurses
- Adapted to meet individual hospital needs

NICHE: Nurses Improving Care to Health Systems Elders