Mass General Brigham

Perioperative Management of the Older Adult Surgical Patient

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May, 2023

aapa2023

Objectives

- Discuss the 5 Ms of geriatric patient care
  - Multi-complexity
  - Mind
  - Mobility
  - Medications
  - Matter Most
- Assess and optimize the pre-operative older adult
- Provide best practice post-operative care for geriatric patients

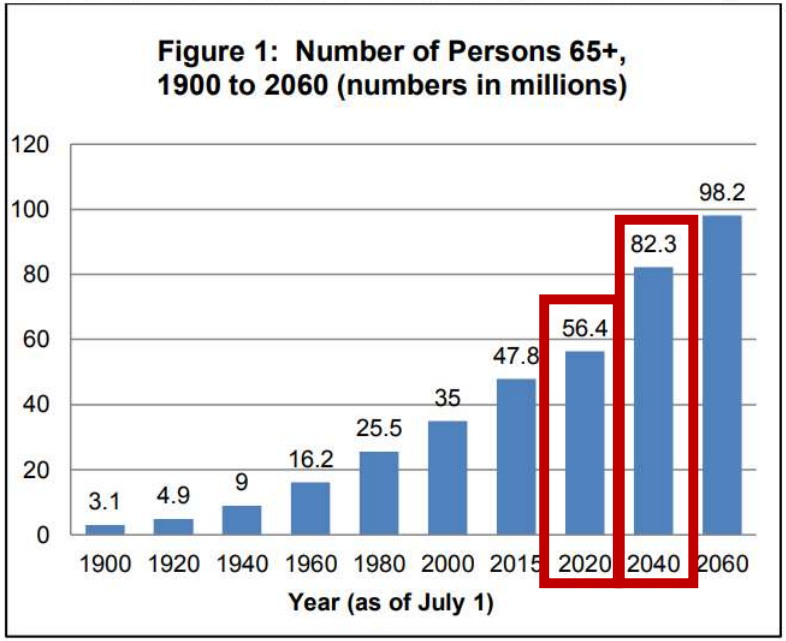
Disclosures

No Disclosures

5Ms of Geriatric Patient Care

Our Aging Population

Figure 1: Number of Persons 65+: 1900-2060 (numbers in millions)



Note: Increments in years are uneven.
Source: U.S. Census Bureau, Population Estimates and Projections.

Aging Stats

- Incidence of surgery in older adults is 8.8/100 person years
- Approximately 40% surgeries in U.S. are performed in patients 65+
- U.S. Department of Health and Human Services is projecting a 26,980 FTE geriatrician deficit in 2025

Healthcare organizations need a system approach to optimize care for older adults

References 1-3

JAMA Network™

From: **Population-Based Estimates of 1-Year Mortality After Major Surgery Among Community-Living Older US Adults**

JAMA Surg. 2022;157(12):e225155. doi:10.1001/jamasurg.2022.5155

Summary

- 5590 community-living Medicare beneficiaries (NHATS) greater age 65
- 1193 major surgeries Identified from 992 community-living participants

Overall Mortality

- 1-year mortality was 13.4% (1 in 7)
- 1 of 4 frail patients died
- 1 of 3 with dementia died

Reference 4

5Ms of Geriatric Patient Care

"The 5Ms is a communication framework to describe core competencies in geriatrics in a manner that those inside and outside the field will understand and remember" – Tinetti, *et al*

The Geriatrics 5Ms*

Multicomplexity	Geriatrics healthcare professionals[1] focus on these 4Ms...	When caring for older adults, all health professionals should consider...
Multicomplexity describes the whole person, typically an older adult, living with multiple chronic conditions, advanced illness, and/or with complicated biopsychosocial needs.	**M**ind	■ Mentation ■ Dementia ■ Delirium ■ Depression
	Mobility	■ Amount of mobility; function ■ Impaired gait and balance ■ Fall injury prevention
	Medications	■ Polypharmacy; deprescribing ■ Optimal prescribing ■ Adverse medication effects and medication burden
	What **M**atters Most	■ Each individual's own meaningful health outcome goals and care preferences

Reference 5-9

Multicomplexity

“Multicomplexity describes the whole person, typically an older adult, living with multiple chronic conditions, advanced illness, and/or with complicated biopsychosocial needs.” – HealthInAging.org

Reference 5-9

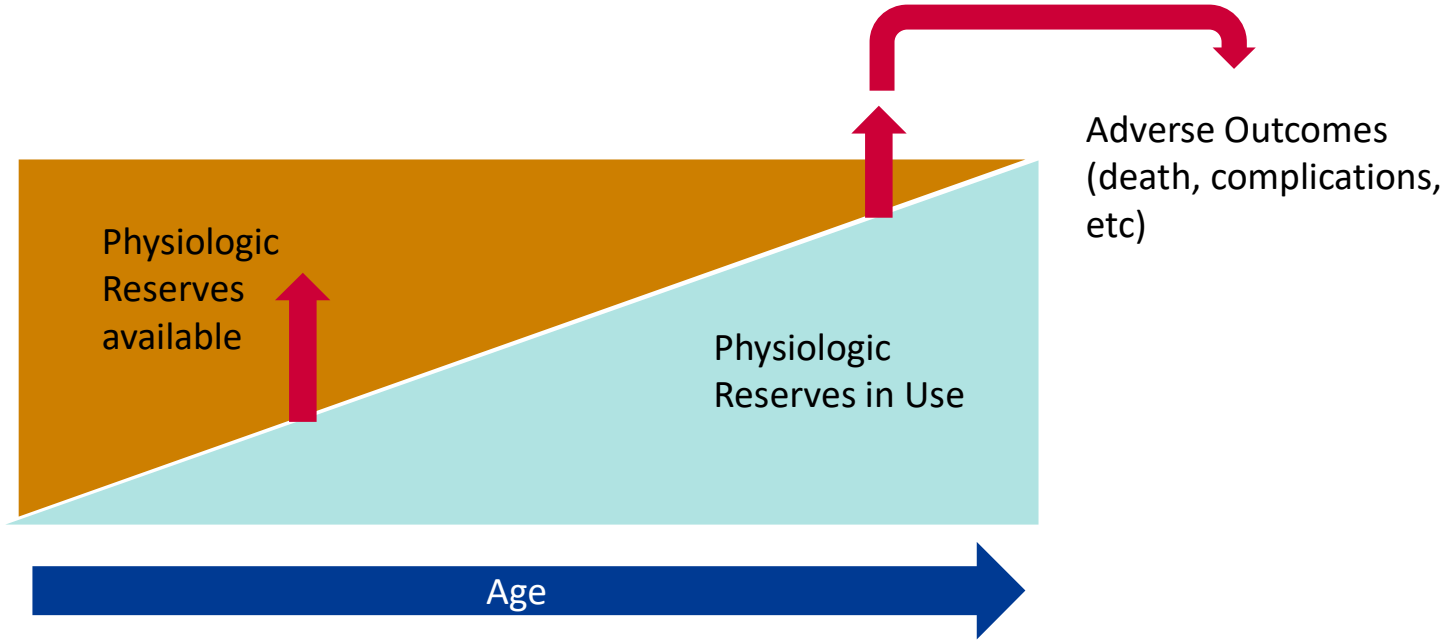
Aging vs. Frailty

Age alone is a poor predictor of surgical outcome

Ernestine Shepherd

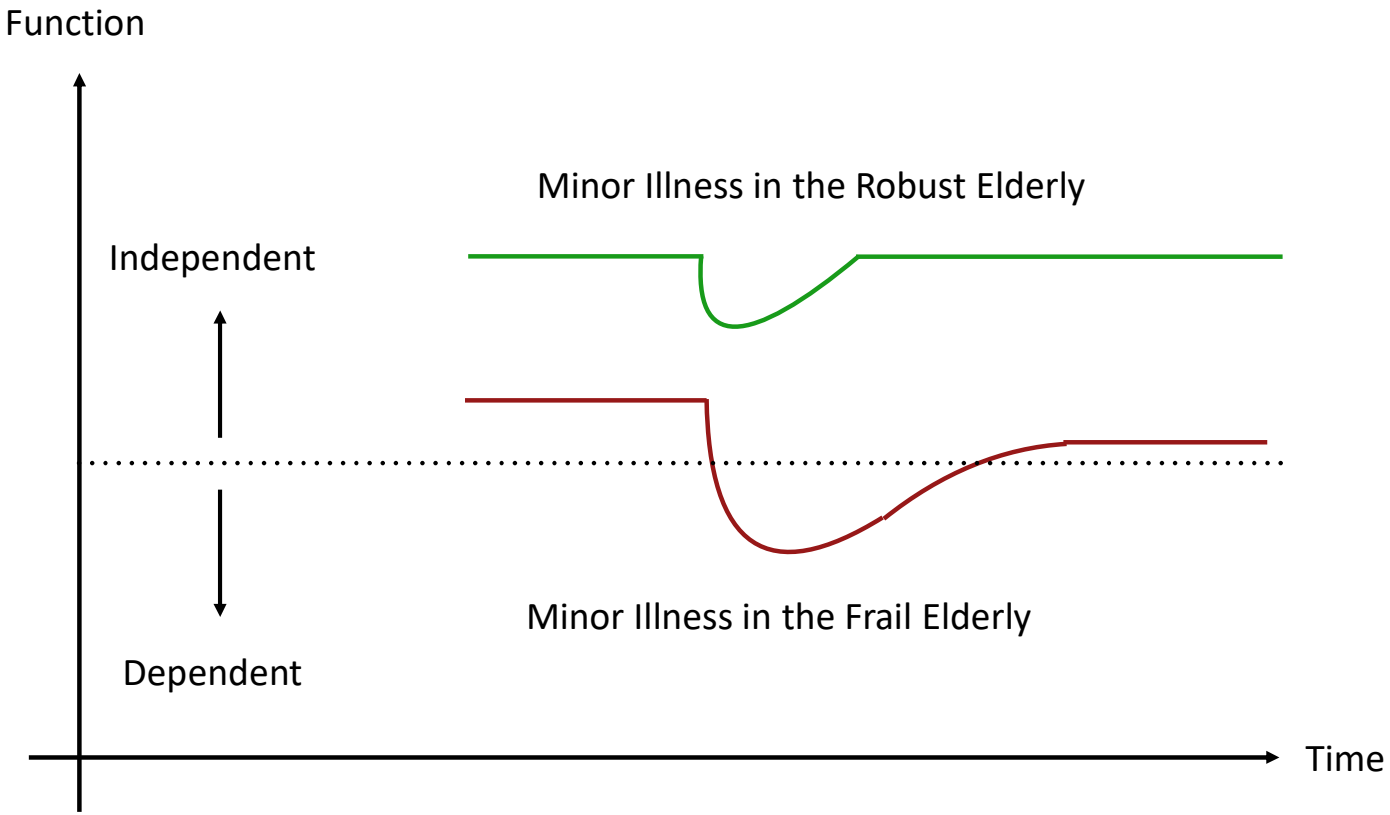
Homeostenosis

Reduction in reserve capacity ultimately requiring older adults to spend more energy to maintain the status quo

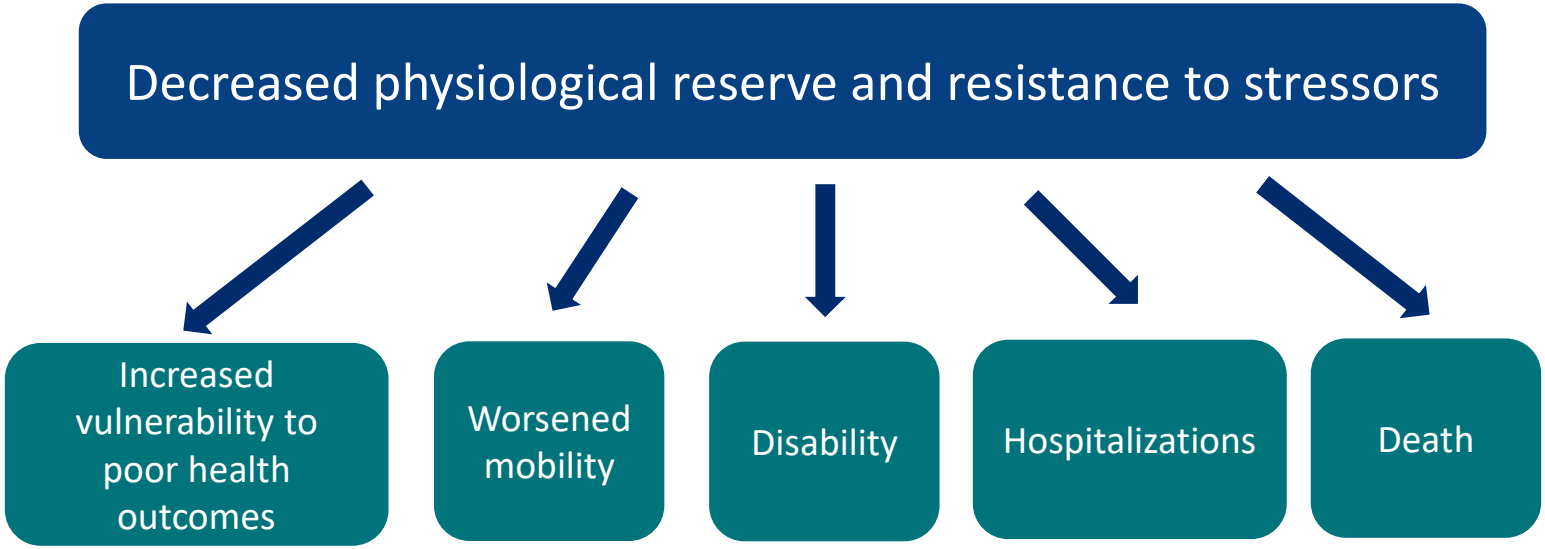


Reference 12

What does Homeostenosis Look Like?

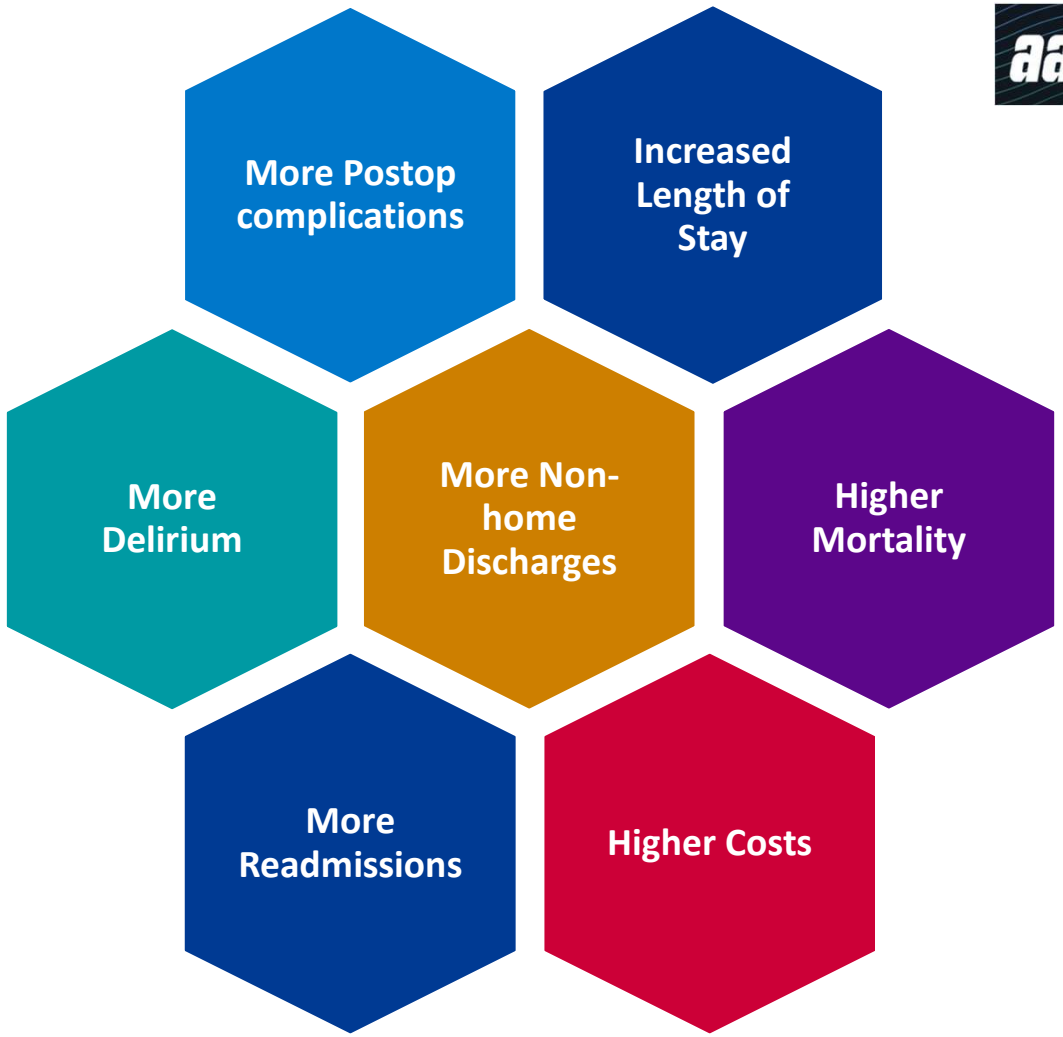


Frailty



Reference 11

Why Frailty Matters to Our Healthcare System



Reference 11, 13

Measuring Frailty

Screening
FRAIL scale

Fatigue

Resistance

Ambulation

Illness

Loss of weight

Diagnosis
Frailty Index

Comorbidity Count
Medication Count
ADL Level of Independence
iADL Level of Independence
Fatigue
Sensory Deficits
Balance
Falls
Constipation
Incontinence
Memory Impairment
Nutrition
Swallowing Function

Reference 13

FRAIL Scale

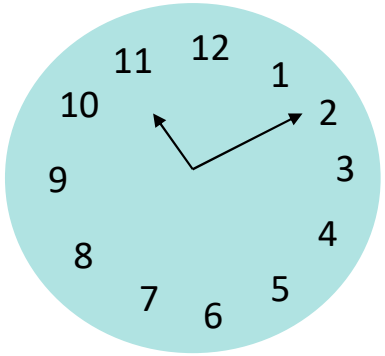
Fatigue	"Are you fatigued throughout the day?“ (yes=1pt)
Resistance	“Can you walk up a flight of stairs?” (no=1pt)
Ambulation	"Can you walk a block?“ (no=1pt)
Illness	Does the patient have 5 or more of the following illnesses: HTN, DM, cancer (other than a minor skin cancer), chronic lung disease, h/o MI, CHF, angina, asthma, arthritis, h/o stroke, CKD? (yes=1pt)
Loss of weight	"Have you lost weight unexpectedly in the past 6 months?" or if weights documented in EMR, have they lost more than 5% body weight (yes=1pt)

Mentation

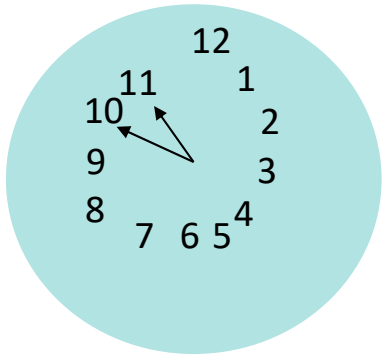
Assessing older adult cognitive status is and important part of their overall assessment

- MMSE – mini-mental status exam
- Mini-Cog©
- MOCA© - Montreal Cognitive Assessment
- Depression and General Anxiety Screenings

NORMAL



ABNORMAL



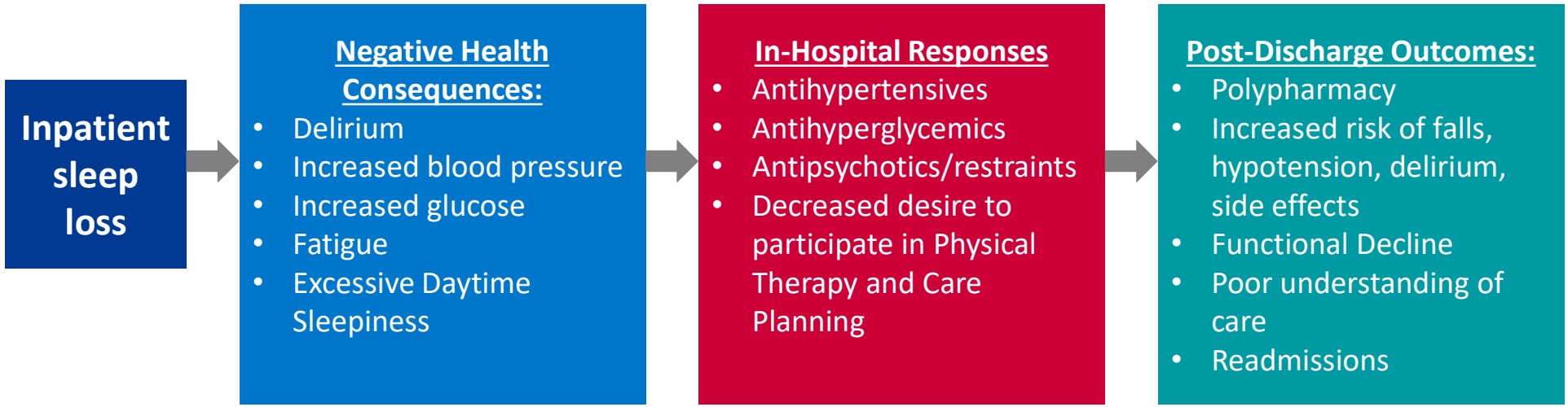
Non-pharmacologic Delirium Prevention

- Ensure personal sensory equipment (glasses, hearing aids and dentures) are always available
- Approach from the side of bed rather than foot, speak softly
- Sit at eye level & use plain language
- Reorient frequently
- Remove tubes, lines and drains as soon as safe to do so
- Encourage family to visit, place familiar objects in room
- Ensure at least one BM per day
- Explore religious/spiritual coping mechanisms for illness
- NO benzodiazepines unless alcohol withdrawal, chronic use, or seizure
- NO diphenhydramine for sleep

Approximately 30 to 40 percent of delirium episodes are preventable!

Reference 14, 21

Sleep



Sleep helps prevent delirium!

Safe sleep interventions for older adults in hospital:

- Eye masks, ear plugs, de-tethering
- Lights out at 8pm, “quiet hours” overnight, limited interruptions
- Safe sleep medications such as Melatonin, Suvorexant, or Ramelteon
- AVOID diphenhydramine or antipsychotics for insomnia

Reference 15

Assessing for Delirium

Example: Confusion Assessment Method (CAM)

1) Acute onset and fluctuation course
- Acute change in mental status from patient's baseline
- Abnormal behavior increase and decrease in severity

2) Inattention
- Days of the week backwards starting with Saturday

3) Disorganized thinking
- Place
- Year
- Day of the week

4) Altered level of consciousness
- Alert (normal)
- Vigilant (hyperalert)
- Lethargic (drowsy, easily aroused)
- Stupor (difficult to arouse)
- Coma (unarousable)

CAM is <u>POSITIVE</u> when:
#1 <u>AND</u> #2 are present
<u>AND</u>
#3 <u>OR</u> #4 are present.

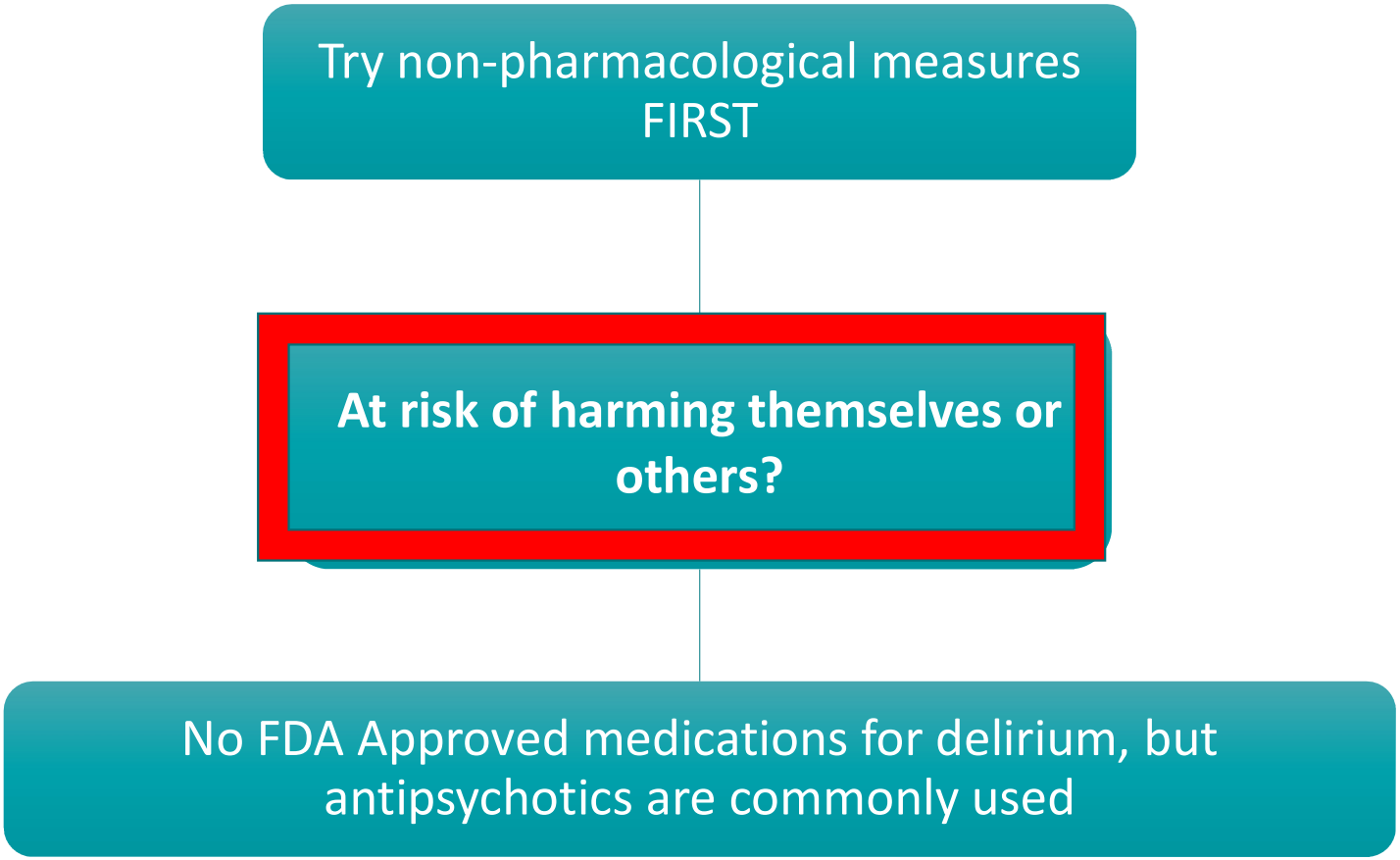
Reference 14

Not Agitated (RASS 0 or less)

- ❑ Look for etiology, such as constipation, urinary retention, infection, etc
- ❑ Minimize overnight interruptions to preserve sleep wake cycle.
- ❑ Consider canceling midnight and 4 am vital signs.
- ❑ Out of bed TID and stimulate during the daytime.
- ❑ D/c all lines and catheters ASAP, esp Foley
- ❑ D/c any urinary anticholinergics
- ❑ Encourage family/familiar items to be at bedside
- ❑ Reorient frequently
- ❑ Provide glasses, dentures, hearing aids

You should not medicate or restrain a patient with hypoactive delirium!

Agitated/Hyperactive Delirium



Agent	Starting dose	Peak (hrs)	Half life (hrs)	Notes
Haloperidol PO, IM, IV	0.25 – 0.5 mg IV Max: 3 mg/d	PO: 2-6 IV: 30-45 min	21 – 24	Longest track record; available in multiple formulations, less sedating; high EPS risk
Risperidone PO, IM	0.25 – 0.5 mg Max: 2 mg/d	PO: ~3	20	Least sedating/ may have fewer EPS than Haldol
Olanzapine PO, IM, ODT	2.5 – 5 Max: 20 mg/d	4-5	21 – 54	More sedating than Haldol IM, IV, PO, ODT Looooooong half life
Quetiapine PO	12.5 – 25 mg Max: 50 mg/d	2-4	6	Most sedating; less data compared to Haldol Short half life OHT
Lorazepam PO, IM, IV	0.25 – 0.5 mg Max: 2 mg/d	PO: IV: 20-30 min	12-14	Second line agent; risk of paradoxical excitation; consider in pts where antipsychotics are CI

(adapted from) Delirium in hospitalized older adults. Marcantonio. NEJM, 2017

Reference 16

Mobility

Early ambulation

- By HD1 or by POD1 for surgical patient
  - Don’t wait for PT assessment to ambulate!

Frequent ambulation

- Ambulate at least 3x daily
- Out of bed at least 5x daily

Targeted PT consults

Medications

Avoid commonly used, high risk medications:

- **Benzodiazepines** (lorazepam, diazepam) – only if alcohol withdrawal, seizure, or home medication
- **Antihistamines** (Diphenhydramine)
- **Anticholinergics** (Scopolamine, oxybutynin)
- **Misc** (Famotidine, metoclopramide)

Refer to American Geriatrics Society **Beer's List©** if you are unsure if a medication is appropriate

Always start low, go slow

- Geriatric Pain regimen:
  - Tylenol 650mg 4x daily
  - **Oxycodone 2.5-5mg PO q4h** or **hydromorphone 0.2-0.4mg IV q4h prn**

Reference 17

What Matters

Knowing what matters to your patient can help guide the care you provide.

- Overall health goals (i.e. being able to play with their grandkids more)
- Hospital health goals (i.e. removing a bothersome foley)

All older adults need to have a **Medical Proxy** and an accurate **code status** on file **on admission**

Case: Ms. H.

Case: Ms. H is an 87F admitted after a sigmoid resection. She has developed an ileus which is prolonging her expected time in the hospital. Today, she is unwilling to mobilize and "just wants to rest." You share the importance of walking to prevent complications such as pneumonia and DVTs with the patient and her family, but in conversation you find out that she hasn't slept in three days and getting rest is what matters most to her today. She is asking for diphenhydramine (Benadryl) tonight.

How can align your care with the 4Ms?

Case: Ms. H

You respond: “I understand getting rest is most important to you today, so let’s focus on that. We can work on your sleep overnight – let me get you some ear plugs and a face mask and I will discontinue overnight vitals and your telemetry/pulse oximetry. Diphenhydramine is not a safe medication for sleep – it can increase your risk of falls and cause confusion, but I can order a safer alternative, melatonin, for you. My patients also tend to sleep better overnight when they are up and active during the day – it might help you feel tired at night. Maybe we can start by getting up to the chair for a bit. I can come back and check to see if you’re up for a walk later this morning. What do you think about that plan?”

MATTERS MOST

MENTATION

MEDICATIONS

MOBIILTY

Preoperative Management of Older Adults

- Launched in 2019
- Identifies 32 quality standards for best perioperative care of the older adults age 75+
- Intended for patients being admitted (not day surgery)
- Both organizational and patient care standards
- Only a handful of verified sites in the US thus far

Reference 18

Preoperative Standards

5 Patient Care: Expectations and Protocols

Goals and Decision Making

5.1 Treatment and Overall Health Goals

5.2 Code Status and Advance Directives

5.3 Medical Proxy

5.4 Life-Sustaining Treatment Discussion for Patients with Planned ICU Admission

5.5 Reaffirm Surgical Decision Making

Preoperative Work-Up

5.6 Geriatric Vulnerability Screens

5.7 Management Plan for Patients with Positive Geriatric Vulnerability Screens

5.8 Interdisciplinary Input or Conference for Elective, High-Risk Patients

5.9 Surgeon-PCP Communication for Elective, High-Risk Patients

Reference 18

Goals and Decision Making

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MATTERS MOST

5.1 - Treatment and overall health goals

- Must document a direct patient quote outlining their goals for surgery in the surgical clinic note
- Can be the surgeon or APP

Example: **“I am hoping to have knee surgery to play with my grandkids more.”**

Reference 18

Advance Directives, Code Status, and Medical Proxy

MATTERS MOST

5.2 – Advance Directives and Code Status

- Ensure all patients have been asked for copies of the advance directives and have been asked about their code status and documentation is in health record
  - Surgery is great opportunity to address code status
  - Pay attention to reversal/limitation for DNR/DNI patients

5.3 – Medical Proxy

- Ensure all patients have a medical proxy on file
- Older adults have an increased risk of delirium/medical proxy activation and need for legal guardianship
- Medical Proxy is often required documentation for transfer to rehab facilities

Reference 18

Planned ICU Admissions

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MATTERS MOST

5.4 –Life-sustaining treatment discussions for planned ICU admissions

- Planned, elective ICU admissions is often associated with higher risk operations
- In addition to CPR/Intubation, should discuss:
  - Hemodialysis
  - feeding tube
  - blood transfusions
- Feeding tubes are exceedingly common in older adults given increased risk of aspiration
- Knowing preferences preoperatively can limit stress for family and medical staff

Reference 18

Reaffirming Medical Decision-Making

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MATTERS MOST

5.5 – Reaffirm Medical Decision-Making

- Older adults should be allowed the opportunity to reaffirm their decision to proceed with surgery after preoperative assessment

Reference 18

Geriatric Vulnerability Screens

MATTERS MOST	MENTATION
MEDICATIONS	MOBIILTY

5.6 – Geriatric Vulnerability Screens

Older adults should be screened for all the following vulnerabilities and the results should be documented in the health record:

- Age ≥ 85
- Impaired Cognition
- Delirium Risk
- Impaired Functional Status
- Impaired Mobility
- Malnutrition
- Difficulty Swallowing
- Need for Palliative Care Assessment

Screening tools for each item are left up to the institution

5.7 – Management Plans for Patients with Positive Vulnerability Screens

- For any positive screen above, must have a management plan documented

Reference 18

Interdisciplinary Input

aapa2023 MATTERS MOST

5.8 – Interdisciplinary Input or Conference for High-Risk Patients

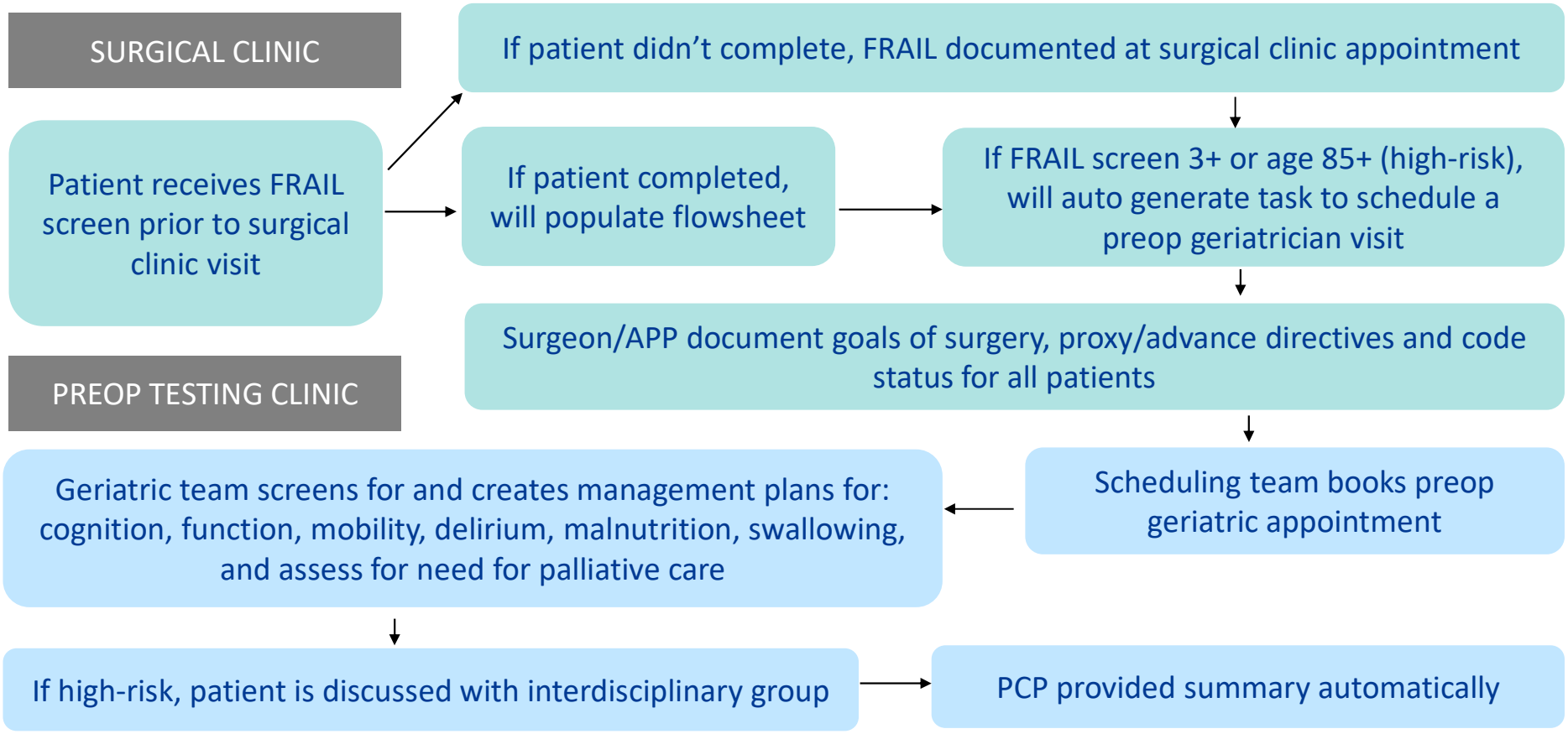
- If patients are deemed high-risk by geriatric vulnerability screens, patients should be discussed with the following:
  - Surgery
  - Anesthesia
  - Nursing
  - Case management, care transitions or social work
  - Health care provider with geriatric expertise
- Must document conversation in health record

5.9 – Surgeon-PCP Communication for Elective, High-Risk Patients

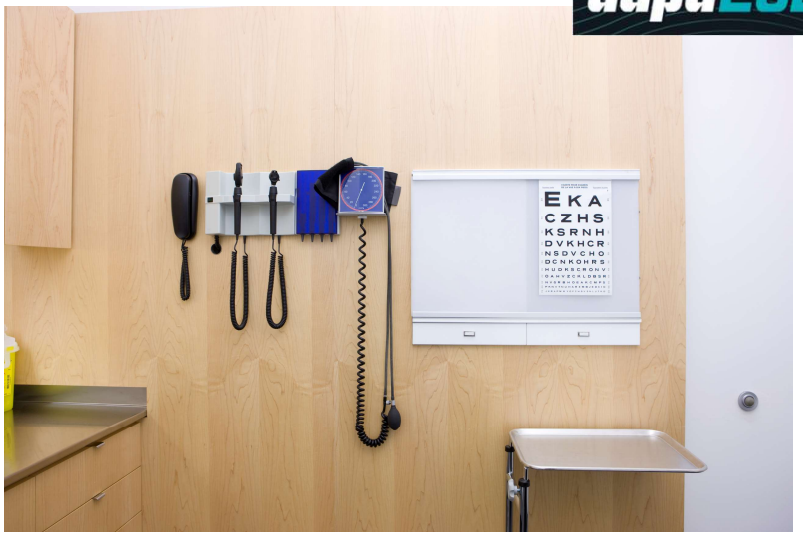
- Surgeon/Surgeon's representative to communicate goals of care and decision-making discussion to patient's PCP

Reference 18

Example of Preoperative Workflow



Geriatric Screening Tools



All Patients

- Age 85+
- FRAIL screen (function, mobility, nutrition)
- History of memory issues
- History of swallowing impairment

High-Risk Patients

- Comprehensive Geriatric Assessment with Frailty Index
- Mini-Cog (Cognition)
- Confusion Assessment Method (Delirium Risk)
- Activities of Daily Living & Independent Activities of Daily Living (Function)
- Gait speed, Chair-Stand, SARC-F for sarcopenia (Mobility)
- Swallowing
- MNA (Malnutrition)
- Palliative Care needs in select patients

Reference 18

Postoperative Management of Older Adults

Postoperative Standards

Postoperative Management

5.10 Return of Personal Sensory Equipment

5.11 Inpatient Medication Management

5.12 Opioid-Sparing, Multimodality Pain Management

5.13 Standardized Postoperative Care

5.14 Interdisciplinary Care for High-Risk Patients

5.15 Revisiting Goals of Care for ICU Patients

5.16 Assessment of Geriatric Vulnerabilities at Discharge

Transitions of Care

5.17 Discharge Documentation and Hand-Off Communication

5.18 Communication with Post-Acute Care Facilities

Geriatric Surgery Verification
QUALITY IMPROVEMENT PROGRAM
A QUALITY PROGRAM of the AMERICAN COLLEGE OF SURGEONS

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Reference 18

Return of Personal Sensory Equipment

MATTERS MOST

MENTATION

MOBIILTY

5.10 – Return of Personal Sensory Equipment

Must have a policy to store and return personal sensory equipment

Reference 18

Postoperative Care

MENTATION

MEDICATIONS

MOBIILTY

5.11 – Inpatient Medication Management

- Standardized order sets/bundles
- Process to identify and remove inappropriate medications

5.12 – Multimodal Opioid Sparing Pain Management

- Prioritize opioid-sparing meds
- Dose appropriately for older adults
- Avoid inappropriate analgesics
- Prophylactic bowel regimen
- Non-medication-based strategies

5.12 – Standardized Postoperative Care

- Must address delirium, mobility and function, nutrition and hydration

Reference 18

Postoperative Care

5.14 – Interdisciplinary care for high-risk patients

- Surgery
- Nursing
- Care transitions/Social work/case management
- Physical therapy/occupational therapy
- Health provider with geriatric expertise

5.15 – Revisiting Goals of care for ICU Patients

- Every three days

5.16 – Reassessing Geriatric Vulnerabilities at Discharge

- Using the same screening tools if possible

Reference 18

Transitions of Care

5.17 – Discharge Documentation and Hand-off Communication

- Ensuring PCP, facility/health profession, and patient/family member receive discharge paperwork
- Plan for screening deficits
- Information about common geriatric syndromes
- Handoff procedures

5.18 - Communication with Post-Acute Care Facilities

- Referring preference for high-quality facilities
- Two-way communication with post-acute staff

Reference 18

SSTEP
Superior Surgical Treatment for sEniors Pathway

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Non-Elective Patients

PGY-3 Surgery Resident screens patients 75+ for frailty in ED

FRAIL 3+ and/or Dementia = Geriatric Surgery Consult

Geri Add-On Order Set for all Pts 70+

Geriatric Order Set
- Nutrition labs
- Orthostatic Vitals
- Bowel regimen
- Pain regimen
- Aspiration Prec.

Nursing care
- Early mobilization
- CAM q8h
- Bristol Stool Scale
- OOB all meals
- Swallow screen

Consults
- Geriatrics (high risk)
- Physical Therapy
- Nutrition
- SW if lives alone
- Family meeting if LOS>5 days

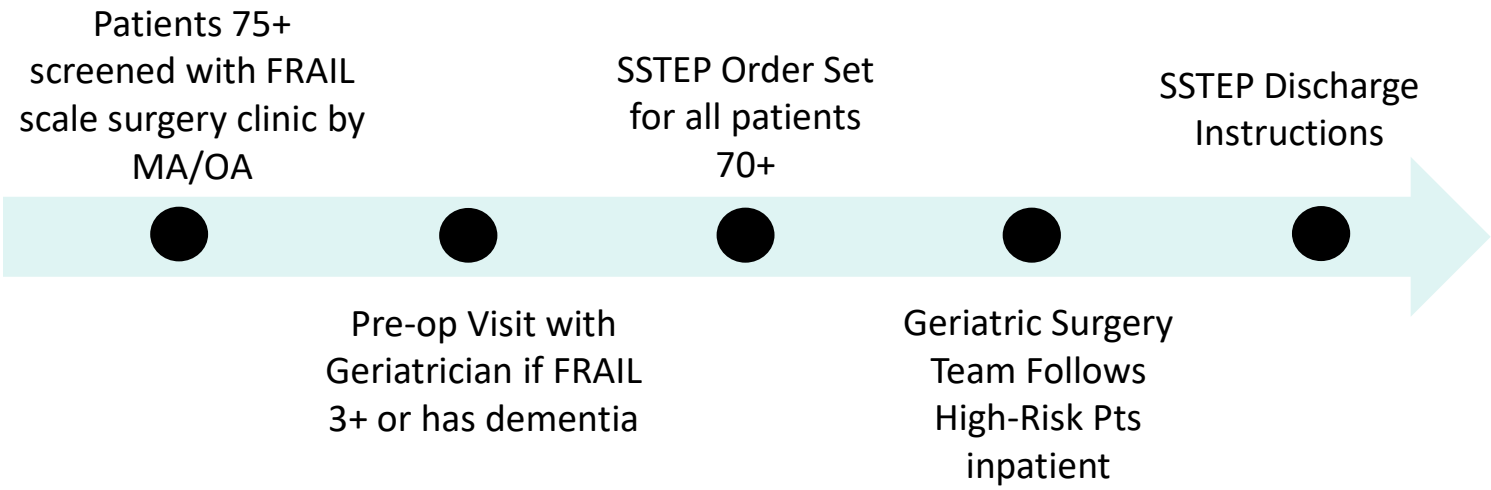
Discharge Education
- Fall Prevention Education
- .SSTEPDISCHARGE
- PCP notified

Reference 19-20

SSTEP

Superior Surgical Treatment for sEniors Pathway

Elective Patients



Reference 19-20

SSTEP Improves Outcomes and is Sustainable

Improved Outcomes

Frailty Identification and Care Pathway: An Interdisciplinary Approach to Care for Older Trauma Patients

Elizabeth A Bryant [1], Samir Tulebaev [2], Manuel Castillo-Angeles [1], Esther Moberg [1], Steven S Senglaub [1], Lynne O'Mara [1], Meghan McDonald [1], Ali Salim [1], Zara Cooper [3]

Decreased Delirium

Fewer Readmissions

Compliance Sustainability

Frailty Interdisciplinary Pathway: Compliance and Sustainability in a Level I Trauma Center

Lynne O'Mara [1], Katherine Palm, Manuel Castillo-Angeles, Elizabeth Bryant, Esther Moberg, Katherine Armstrong, Nikita Patel, Samir Tulebaev, Meghan McDonald, Diane Tsitos, Zara Cooper

Frailty screening compliance was >92%

68.2% compliance to all 19 pathway elements

Reference 19-20

Geriatric Champion Program

Inaugural BWH Geriatric Champion Program 2022

- More than 8000 surgical pts/yr age 65+ at our institution (45%)
- National geriatric population greatly exceeds geriatrician capacity, often leaving non-geriatric trained providers as primary clinicians
- Clinical staff have limited geriatric training, PAs are frequently at the forefront of care older adult surgical patients
- It was imperative to consider new and sustainable programming to improve PA geriatric knowledge and champion efforts to advance the care for older adult surgical patients

Tideswell at UCSF

Geriatric Champion Program

Aim 1

Geriatric Education (6 months)

Measures

1. *Pre/post knowledge test*
2. *Pre/Post level of comfort assessing and managing geriatric syndromes*

Aim 2

Quality Improvement Training (6 months)

Measures

1. *Completion of 2 PDSA cycles*
2. *SMART goal results*

Aim 3

We are here

Sustainability

1. *Invitation to join Interdisciplinary Geriatric Care Committee*
2. *Poster/publication assistance*
3. *Ongoing geriatric QI in home departments*

GCP Aligned with multiple Hospital-level initiatives:

- ACS Geriatric Surgery Verification (GSV)
- IHI Age-Friendly Health Systems
- GEDA
- MA Dementia Act
- NICHE

Contact Information

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