A Novel Geriatric Trauma Co-Management Initiative

Ciandra D’souza, MD, MPH

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MEDICINE *of* THE HIGHEST ORDER

UR MEDICINE | STRONG MEMORIAL HOSPITAL

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Principles of Co-Management

-Shared responsibility, authority and accountability

-Surgeon manages surgery related treatments, hospitalist manages medical conditions.

-Decreased mortality, improved patient safety, improved pain scores, cost savings .

-surgical co managing hospitalists : decrease in medical complications, length of stay, 30 day readmission rates, cost of care and increased patient satisfaction

Pearls of Wisdom

-Bi directional agreements: equal stake and say in the agreement

-Conflict resolution plans

-Function in defined scope of practice

-Systematic review; adjustment of processes.

2 practice Models

1) Assign the hospitalist as primary attending

2) Sub-specialist(surgeon) as primary attending

Strengths of Geriatric-Hospitalists

-Emergency room flow

-Electronic medical record use

-Clinical processes

-Connection to social work and case management

-Patient and Family discussions

-Medication reconciliation

-Ability to educate

Key Programs

Higland Hospital

-Geriatric Fracture Center: Ortho-Geri

-Wilmot Cancer Center: Oncology-Geri

Strong

-Geriatric Fracture Center: Ortho-Geri

-Geriatric Trauma Co-Management

-Geriatric and Acute Care Surgery Co-Management

Background & Rationale

-Injury is the 5th leading cause of death in the elderly

-Trauma accounts for 12 billion dollars

-Falls account for 34 million dollars

-Studies show benefit with an Interdisciplinary team when caring for the geriatric population

-At Strong: July 2018-June 2019

65 and older admitted with trauma: 266

75 and older admitted with trauma :112

-Average Length of stay: 9.5 days

-30 day re-admission rate: 10%

-Delirium screen: 7%

-Push for Geriatric surgical verification program, Aging friendly health systems

July 1, 2020: Geriatric Trauma Co-Management Unit at Strong Memorial Hospital initiated.

Acute Care Surgery: All Admissions

	All Admissions 1/1/2020-6/30/2020		All Admissions 7/1/2020-9/30/2020	
	Total Patients	*264*	*Total Patients*	*168*
	n	%	n	%
Mortality	2	0.8%	2	1.2%
Readmissions	7	2.7%	7	4.2%
Unplanned Admission to ICU	11	4.2%	5	3.0%
Completed Delirium Screens	31	11.7%	115	68.5%
Positive Delirium Screens without Delirium Plan	31	11.7%	1	0.6%
Hospital Medicine Consults	21	8.0%	20	11.9%
Hospital Medicine Admissions	5	1.9%	5	3.0%
ACS Admissions --› Hospital Medicine Discharges	0	0.0%	5	3.0%

	All Admissions 1/1/2020-6/30/2020	All Admissions 7/1/2020-9/30/2020
	Hospital LOS (days)	
Average	3.1	3.5
Median	1	1
	ICU LOS (days)	
Average	4.4	6.2

Trauma Surgery: All Admissions Meeting Inclusion for Co-Management Consult

	Admissions 1/1/2020-6/30/2020		Admissions 7/1/2020-9/30/2020	
	Total Patients	*181*	*Total Patients*	*139*
	n	%	n	%
Mortality	12	6.6%	6	4.3%
Readmissions	5	2.8%	0	0.0%
Unplanned Admission to ICU	9	5.0%	3	2.2%
Positive Delirium	4	2.2%	4	2.9%
Hospital Medicine Consults	69	38.1%	58	41.7%
Hospital Medicine Admissions	41	22.7%	20	14.4%
Trauma Admissions --› Hospital Medicine Discharges	14	7.7%	14	10.1%

	Admissions 1/1/2020-6/30/2020	Admissions 7/1/2020-9/30/2020
	Hospital LOS (days)	
Average	8.8	8.2
Median	6	6
	ICU LOS (days)	
Average	6	4.2

Expected Consults

Patients admitted to Trauma

-Any Age at this point, 65 years and older initially

-ICU callouts requiring medicine involvement

-Complex medical co morbidities (any age):

*Heart failure

*CKD, ESRD on HD

*DM

*COPD

*Rib fractures

*Alcohol Abuse and concern for withdrawal

*Recurrent hospitalizations for chronic medical issues

*Dementia, End of Life care

Responsibilities

-Management of all co-morbidities.

-Preventing complications related to multi-morbidity and also new complications in an acute setting.

-Management of common geriatric syndromes: delirium, poly-pharmacy, insomnia, weight loss etc.

-Evaluation and workup for traumatic falls

-Best possible medication reconciliation

-Poly-pharmacy, de-prescribing

-Advance care directives : HCP/MOLST

-Baseline functional/cognitive status

-Attend Interdisciplinary rounds

-Aid in disposition planning

-Consult utilization

-No pre-optimization required since these are urgent interventions; unless surgery is delayed and optimization is required

-Separate consult note: includes data points for frailty, ACP documentation and delirium risk.

Integration of the 4 M's

Goal	Process	Implementation Plan	Outcomes
Medications	Pharm tech to collect BPML De-prescribe medications Avoid toxic meds (deliriogenic)	Hire pharmacy tech (Paid by Co-management initiative)	# patients with BPML # meds de-prescribed # toxic meds avoided or withdrawal avoided
Mind	Sleep protocols Increase CAM screening	Institute CAM awareness and education, reinforce education	% of patients with CAM screening % who develop incident delirium LIVEBAR initiation
Mobility	Early PT/OT consults		% of falls
What Matters	Obtain MOLST/ADs	Collaborate with Social work	% patients with MOLST/ADs

Mini Projects

-Rib Fracture Pain Protocol

-LIVEBAR: delirium assessment and interventions in CAM positive patients

Guidelines for the Management of Acute Pain in Adult Patients with Thoracic Trauma

Adult patients admitted with thoracic trauma (rib/sternal fractures and/or chest tube insertion)

STEP 1: Establish realistic and patient specific pain expectations
Goal: provide early and targeted analgesia to make pain tolerable → to facilitate patient's ability to move, cough, and participate in therapies
Action: Educate patient on **PAIN EXPECTATIONS**, routinely assess PIC score, monitor respiratory

STEP 2: Implement non-pharmacologic pain interventions
Provide patient with ice therapy where able and a cough pillow
Consider kinesiotaping

STEP 3: Maximize non-opioid analgesia
Schedule acetaminophen and NSAIDs if appropriate
Continue home analgesic medications as indicated
Apply lidocaine 5% topical patch

ASSESS:
- PIC less than or equal to 6 or decreasing?
- Anticipated pain challenges (i.e. chronic pain, opioid use disorder)?
- Three or more rib fractures and/or flail

YES to at least 1 (Step 4 AND 5 NO (Proceed to Step 5)

STEP 4: Consider Acute Pain Service (APS) consult
Assess for regional analgesia
Consider gabapentinoids if indicated
Consider ketamine for

STEP 5: Initiate opioids
Add enteral opioids PRN
Consider intermittent breakthrough IV opioids PRN

ASSESS:
Inadequate analgesia?
- PIC ≤ 6 or decreasing
- Score of 1 on any PIC component
- Increasing oxygen requirements

Not present, pain is tolerable

Pain/respiratory status worsening

- Continue current regimen
- Reassess pain and PIC score every 4 - 8 hours
- Monitor for respiratory depression

YES to at least 1

STEP 6: Escalate opioids*
Increase IV opioids or transition to PCA if feasible
See Step 4, consider APS consult if not previously engaged
*Discuss rib plating indications with Trauma Attending

Home Analgesic Medications
- Continue pre-injury analgesia medications if appropriate
- Dose adjust renally eliminated medications
- Avoid combination products
- Consider APS consult for patients on long-acting opioids

Geriatric Considerations
- Consider PCU/ICU if at least 3 rib fractures, PIC score less than 6, and/or O_2 requirement
- Lower doses typically sufficient such as oxycodone 2.5 mg PO or hydromorphone 0.25 mg IV
- Minimize sedating medications

Patients with Opioid Use Disorder
- Continue home MAT (buprenorphine/methadone)
- Separate home dose into smaller doses q6-8 hours
- Add full-agonist opioids as needed at 1.5 - 2X typical dose

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LIVEBAR

Lines
- Remove lines and tethers as able
- Foley, telemetry, IVFs, restraints

Intake
- Adequate nutrition important
- Swallow evaluation?
- Nutrition consult?
- Staff assistance with feeding / tray setup
- Consider calorie count

Vitals
- Significant change in vitals may suggest infection / decompensation that needs intervention

Evidence
- Evidence of a specific cause such as symptoms of PNA from aspiration, skin breakdown/infection, surreptitious ingestions and major medication changes

Behavioral
- Non-adherence to care from behaviors can propagate further delirium
- Inactive, drowsy
- Hallucinations, paranoia, restless

Ambulation
- Get patient out of bed!
- Physical therapy evaluation

Retention
- Need adequate bowel and bladder function
- Review bowel medications
- Setup toileting schedule
- Consider bladder scan or PVR

y & Hospital
Data FY 20 & FY21

Dashboard – All Patients > 74 y.o.

Hospital Medicine & ACS Service

number of patients, by admission date	2019		2020				2021	
	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Total ACS Admissions	29	28	23	13	24	25	17	21
Total ACS Admissions w/ HM Involved	2	10	2	1	9	6	17	21
% Admissions with HM Involved	7%	36%	9%	8%	38%	24%	100%	100%
hospital medicine patients								
Median Length of Hospital Stay	15.5	17.5	9	7	9	9	4	3
Mortality	0	0	0	0	0	0	1	2
Mortality Rate	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.9%	9.5%
30 Day Readmissions	0	1	1	0	0	0	0	0
Readmission Rate	0.0%	10.0%	50.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Return to ICU	0	1	0	0	0	0	1	0
Return to ICU Rate	0.0%	10.0%	0.0%	0.0%	0.0%	0.0%	5.9%	0.0%
non-hospital med patients								
Median Length of Hospital Stay	5	2.5	1	2	3	3	n/a	n/a
Mortality	2	2	2	1	1	1	n/a	n/a
Mortality Rate	7%	11%	10%	8%	7%	5%	n/a	n/a
30 Day Readmissions	1	0	0	0	0	2	n/a	n/a
Readmission Rate	3.7%	0.0%	0.0%	0.0%	0.0%	10.5%	n/a	n/a
Return to ICU	0	0	0	0	0	1	n/a	n/a
Return to ICU Rate	0.0%	0.0%	0.0%	0.0%	0.0%	5.3%	n/a	n/a

FY21

Dashboard – All Patients > 74 y.o.

Hospital Medicine & Trauma Service

number of patients, by admission date	2019		2020				2021	
	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Total Trauma Admissions	44	58	48	44	55	49	47	32
Total Trauma Admissions w/ HM Involved	22	34	25	20	35	30	40	20
% Admissions with HM Involved	50%	59%	52%	45%	64%	61%	85%	63%
hospital medicine patients								
Median Length of Hospital Stay	11.5	7.5	7	6.5	7	9	7	9
Mortality	1	3	2	1	3	2	0	2
Mortality Rate	4.5%	8.8%	8.0%	5.0%	8.6%	6.7%	0.0%	10.0%
30 Day Readmissions	0	1	1	1	0	2	3	1
Readmission Rate	0.0%	2.9%	4.0%	5.0%	0.0%	6.7%	7.5%	5.0%
Return to ICU	1	0	1	2	0	2	3	1
Return to ICU Rate	4.5%	0.0%	4.0%	10.0%	0.0%	6.7%	7.5%	5.0%
Delirium	0	0	0	3	3	6	3	2
Delirium Rate	0.0%	0.0%	0.0%	15.0%	8.6%	20.0%	7.5%	10.0%
non-hospital med patients								
Median Length of Hospital Stay	5	6	7	7	5	5	4	7
Mortality	7	4	6	1	6	4	3	1
Mortality Rate	31.8%	16.7%	26.1%	4.2%	30.0%	21.1%	42.9%	8.3%
30 Day Readmissions	0	0	0	1	0	0	0	0
Readmission Rate	0.0%	0.0%	0.0%	4.2%	0.0%	0.0%	0.0%	0.0%
Return to ICU	0	0	2	1	0	0	0	0
Return to ICU Rate	0.0%	0.0%	8.7%	4.2%	0.0%	0.0%	0.0%	0.0%
Delirium	0	0	1	0	0	0	1	1
Delirium Rate	0.0%	0.0%	4.3%	0.0%	0.0%	0.0%	14.3%	8.3%

Case Example

-86 female admitted after fall
-Multiple rib fractures on left side , subdural hematoma
-PMH: Afib on anti-coagulation, recent diagnosis of esophageal cancer not on treatment yet, CKD3, HTN
-Home meds: Metoprolol, Eliquis, Losartan, HZTZ, ambien, vitamin d, lasix.
-Admitted to ICU x 2 days
-Medical floor: VS 98/60, 61, 12, 98% 2LNC, pain 7/10
General question: continued dizziness, poor oral intake

Role of Co-Management