

Frailty Prevention in Inpatient Hematology Oncology Patients

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Objectives

1. Understand the definition of frailty
2. Understand the effects of frailty
3. Understand how oncology treatments can impact frailty in prolonged hospital stays among patients with blood cancers
4. Understand interventions performed during a prolonged hospital to prevent and address frailty



Definition - Frailty

Frailty Index

Based on the cumulative effect of:

- Medical comorbidities
- Functional impairments
- Psychosocial age-related deficits

The greater the number of deficits one has, the higher the likelihood of adverse health outcomes.

Fried Criteria

Frailty was defined as a clinical syndrome in which three or more of the following criteria were present:

- 1) Unintentional weight loss (10 lbs in past year)
- 2) Self-reported exhaustion
- 3) Weakness (grip strength)
- 4) Slow walking speed
- 5) Low physical activity

Effects of Frailty

Increased risk for

- Falls
- Poorer health
- Hospitalization
- Mortality

20-50% of older hospitalized patients admitted are frail

- Longer length of stay
- Higher level of care
- Higher readmission risk

Oncology Populations:

- Higher risk of functional limitations
- Poorer quality of life
- Higher risk of falls
- Higher risk of chemotherapy-related toxicities
- Poor treatment tolerance
- Increased risk of receiving less intense treatment

Frailty and Planned Prolonged Hospital Stay

- Treatments

- Chemotherapy
- BMT
- CAR-T

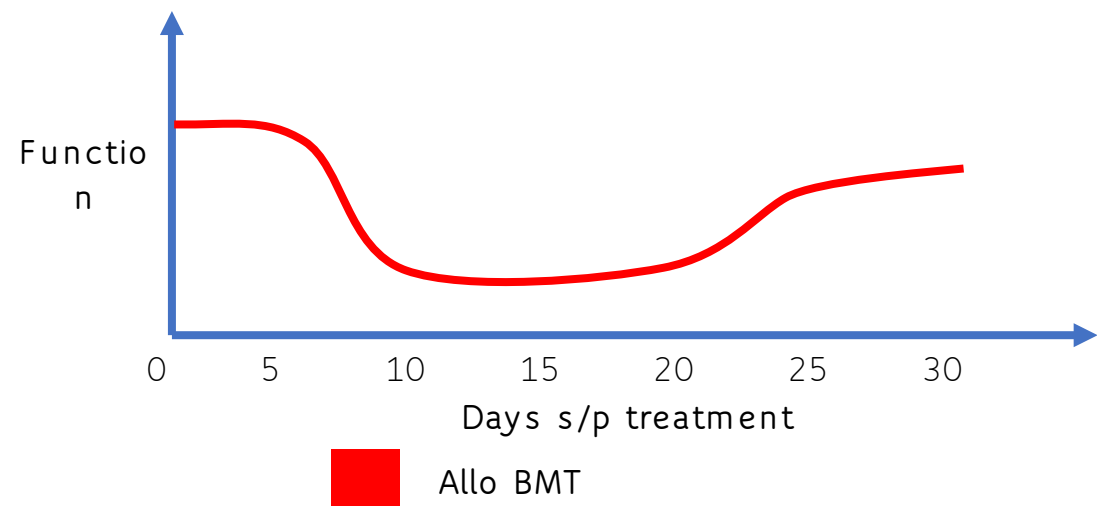
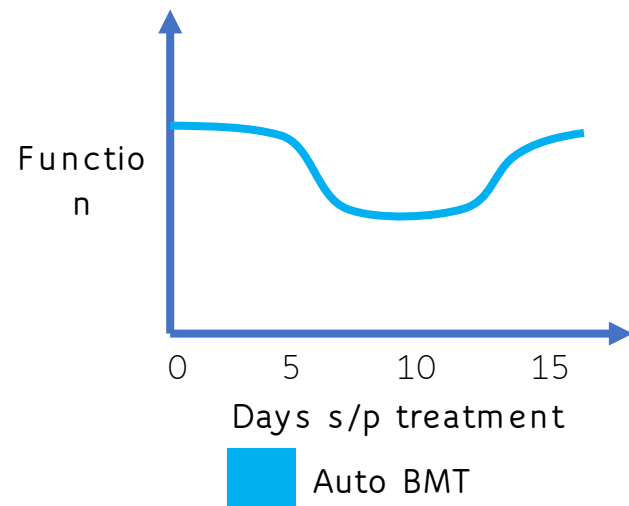
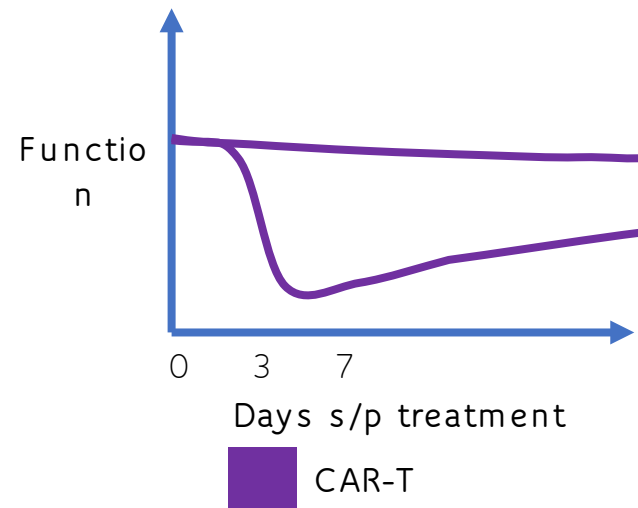
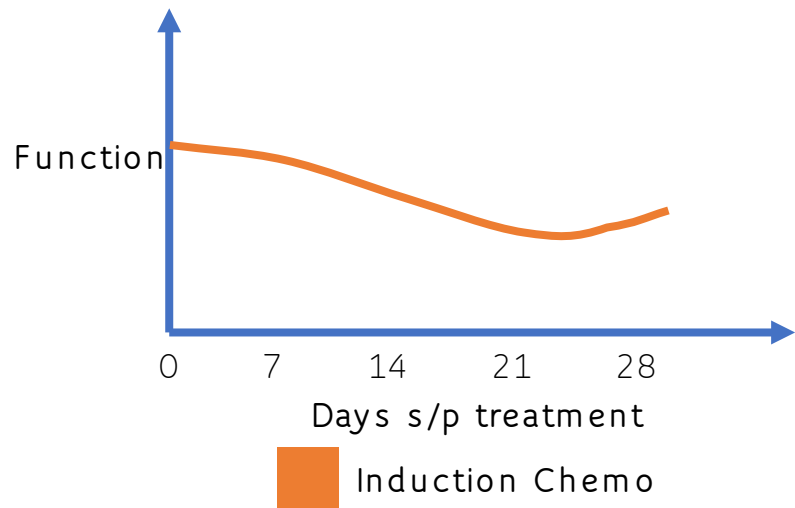
- Associated Medications

- Steroids

- Lowered activity levels, influenced by

- Unfamiliar hospital environment
- Fatigue
- Decreased oral intake
- Nausea
- Diarrhea
- Pain
- Dizziness/Lightheadness
- SOB

Function During Hospital Stay



Why Activity and Rehab Matter

Benefits

- Decreased fatigue
- Decreased pain
- Decreased weakness
- Decreased functional loss
- Decreased fall risk
- Faster recovery post treatment
- Shorter hospital stays
- Fewer re-admissions
- Possible improved eligibility for future treatments

Why Activity and Rehab Matter

Strength In Numbers Project

- **Who:** HemOnc patients with longer IP stays (induction chemo, BMT)
- **What:** Group exercise class 2x/week, plus HEP
- **Looking at:** Pre vs post treatment functional strength, balance, self-perceived QOL
- **Results** (LOS ≥ 20 days, class $\geq 50\%$ participation)
 - Strength (5xSTS) maintained / improved: 72%
 - Balance (FGA) maintained / improved: 64%
 - QOL Survey Score maintained / improved: 53%

Mobility Pilot Project

- **Who:** 7CFAC patients
- **What:** 1 month initiative, RN / CNA encouraging and assisting patients to mobilize
- **Results**
 - Average walking distance / day: 5.5x increase
 - How often ambulation was logged: 5.7x increase
 - Average episodes of ambulation logged in a day: 7.6x increase

Baseline PT/OT Eval

Overlapping Objectives

- Obtain a baseline level of function prior to treatment
- Understand their background
- Assess level and risk of frailty
- Social support available
- Build rapport

Physical Therapy

- Strength
- Balance
- Activity tolerance
- Coordination
- Sensation
- Functional mobility (Walking, stairs, etc)

Occupational Therapy

- UE strength, sensation, coordination
- Cognitive and health literacy skills
- ADL/IADL performance
- Overall Quality of Life

Frailty Prevention – PT Specific

Recurring PT Sessions

- Compliance with activity
- Education
- Strengthening (focus on proximal)
- Balance
- Activity tolerance
- Motor planning / coordination
- Home exercise program update
- Discuss
 - Ensure functionally on track for DC
 - Social support is ready to help
 - DME needs

Intervention Examples

- High level patients
 - Gym workout circuit
 - Marrowthon Miler compliance
- CAR-T
 - Balance check
 - Motor planning / coordination tasks
 - Higher level cognitive processing tasks
- On high dose steroids
 - Proximal strengthening

Frailty Prevention – OT Specific

Recurring OT Sessions

- Emphasis on importance of **routines and occupational patterns** during count recovery
- Address performance deficits impacting ADL/IADL
 - Functional cognition
 - Balance, endurance, strength
 - UE HEP to address strength, and fine motor control
- Education on **modifying and adapting** ADL/IADL and exercise pending **energy levels, platelets, pain, bone involvement** and additional treatment side effects
- **Energy Conservation** based on **occupational demands** after discharge

Intervention Examples

- Training in the performance of **functional tasks** and adaptation of the activity and environment as needed
 - Cooking a meal
 - Tidying up hospital room
 - Shower (including set up/clean up)
 - Managing Medications
- Facilitating independent problem solving for anticipated challenges upon discharge

Frailty Prevention: Multidisciplinary

Ask for daily compliance of

- Self-monitoring for symptoms
- Out of bed when not sleeping
- Lights on / shades open during the day
- Mobilize as recommended by staff per JH-HLM chart (as long as it is safe to do so)

Johns Hopkins Mobility Goal Calculator		
JOHNS HOPKINS HIGHEST LEVEL OF MOBILITY SCORE (JH-HLM)		
24	8	WALK 250 FEET OR MORE
22-23	7	WALK 25 FEET OR MORE
18-21	6	WALK 10 STEPS OR MORE
16-17	5	STAND (1 OR MORE MINUTES)
10-15	4	MOVE TO CHAIR/COMMODE
8-9	3	SIT AT EDGE OF BED
6-7	2	BED ACTIVITIES/DEPENDENT TRANSFER
	1	LAY IN BED

Ask for daily compliance of

- Eat and drink 100% of needs
- Call in your own meals (& order snacks for between meals)
- Daily shower / CHG cares
- Oral cares
- Talk to staff if having problems with:
 - Symptoms that make you not want to move
 - Meeting intake needs
 - Mental wellness
 - Feeling unsafe (call before you fall)

Activity Promotion Using AMPAC and JH-HLM

- Multidisciplinary staff helping assist and/or motivate patient to participate (as needed)
- AMPAC Score determines JH-HLM level goal
- Daily Goal = increase patient's highest level of mobility by one level until they are at their baseline
- Each patient will have a sign in their room to document the current JH-HLM Score and the JH-HLM goal for the day
- Encourage patients to meet their goals and have them talk the language, too!

PATIENT GOAL

**Current
JH-HLM:** _____

**Goal
JH-HLM:** _____

Date: _____ **AM / PM**



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Inpatient Case Study

Meet Phyllis

- Background

- 70 y.o. female, breast cancer dx 2003 (CNS involvement), neuropathy, falls at home, AML dx 1/2022
- Admitted for allo BMT, currently day +3, EDD ~4 weeks from admit

- Chart review

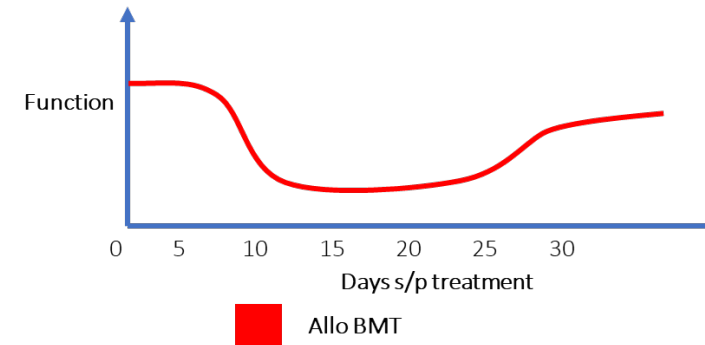
- Social history: Lives with adult grandson, 3 cats, enjoys baking
- AMPAC 22, staff observed patient mildly unsteady, walking away from IV pole, tensioning lines, setting off bed alarm once an hour

- Know the patient

- Happy, compliant with care, intermittently forgetful
- “I’ve been a little mentally foggy for awhile now”

- Current patient presentation

- Sitting EOB, multiple untaken pills in medicine cup in tray table, “I’m sorry I just keep forgetting to call,” in reference to setting off bed alarm



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Inpatient Case Study

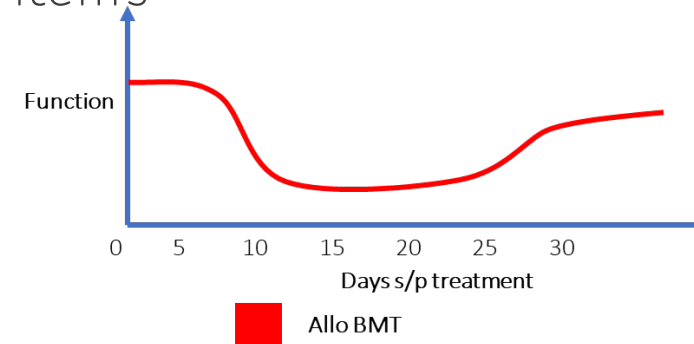
Meet Phyllis

Multidisciplinary Action Items

- Educate on
 - Encouraging mobility per JH/HLM tool (with assist)
 - Fall prevention in context of hospital-based ADLs
 - Addressing mild cognitive impairment
 - Hang up “Use call light before you stand up” signs

PT/OT Specific Action Items

- Sessions focused on
 - DME assessment
 - Balance progression
 - Activity tolerance progression
 - Environment modification for safety
 - Training within valued occupational roles
- HEP
 - Walking program (with assist)



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Frailty Prevention Summary

As a multidisciplinary team, we:

1. Know the patient
2. Set clear expectations for activity
3. Help patients stay compliant
4. Monitor for frailty risks / onset
5. Address frailty when we see it
6. Get the patients home safe
7. Maximize their functional performance in case next treatment is needed



Questions?



References

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2. Curt, G. A., Breitbart, W., Cella, D., Groopman, J. E., Horning, S. J., Itri, L. M., Johnson, D. H., Miaskowski, C., Scherr, S. L., Portenoy, R. K., & Vogelzang, N. J. (2000). Impact of Cancer-Related Fatigue on the Lives of Patients: New Findings From the Fatigue Coalition. *The Oncologist*, 5(5), 353-360. <https://doi.org/10.1634/theoncologist.5-5-353>
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4. Fried, Linda P., et al. "Frailty in older adults: evidence for a phenotype." *The Journals of Gerontology Series A: Biological Sciences and Medical Sciences* 56.3 (2001): M146-M157.
5. Lee, H., Lee, E., & Jang, I. Y. (2020). Frailty and Comprehensive Geriatric Assessment. *Journal of Korean medical science*, 35(3), e16. <https://doi.org/10.3346/jkms.2020.35.e16>
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Inpatient Case Study

Meet Bob

- Background

- 60 y.o. Male, PMH Multiple Myeloma, dx 2021, lumbar spine involvement with chronic low back pain, chronic low platelets
- Admitted for auto BMT. Day +7, EDD: ~14 total days

- Chart review

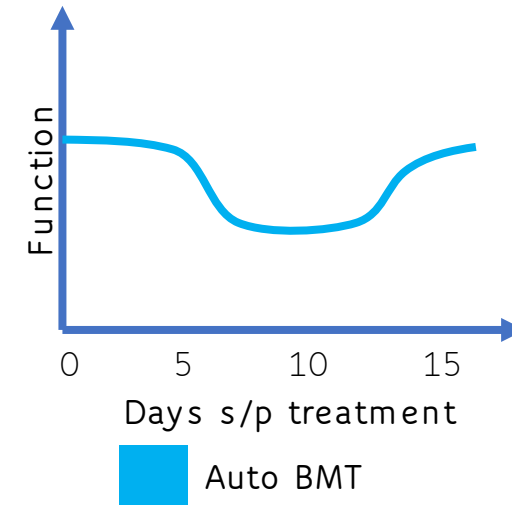
- Social Support: Spouse available 24/7, but cannot assist (recent knee surgery). No other social support.
- Last PT/OT/RN notes: Patient independent, AMPAC 24, HEP includes walking 4x/day and exercises

- Know the patient

- History of avid walker up to 3 miles/day
- Highly values situational control, “doing things my way”

- Current patient presentation

- Currently receiving high dose steroids, nauseous, uncontrolled pain, mildly orthostatic, mildly dizzy when upright “I’m fine,”, only doing bathroom trips over last 3 days then lays back down in flat bed



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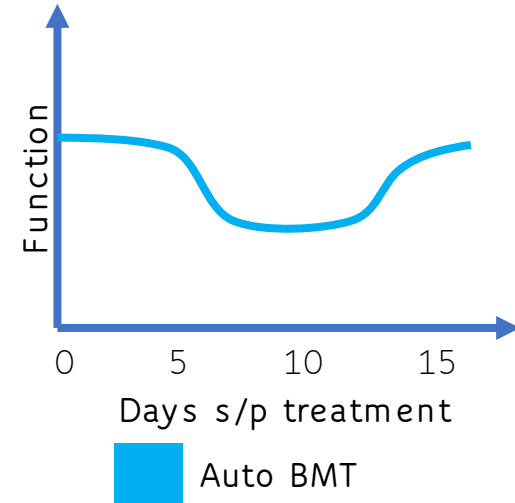
Meet Bob

Multidisciplinary Action Items

- Educate on
 - Encourage (& assist prn) mobility per JH-HLM
 - Asking for help vs risking a fall
 - Functional impacts and symptoms
 - High dose steroids
 - Platelet count and increased bleed risk
 - Frequent trips to bathroom

PT/OT Specific Action Items

- Sessions focused on
 - Modifying task and environment to maximize safety and independence
 - Energy conservation/pacing
 - Training within functional tasks
- HEP
 - Walking program
 - Proximal strengthening



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