Memorial Sloan Kettering
Cancer Center

Geriatrician in the preoperative assessment clinic

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Memorial Sloan Kettering Cancer Center

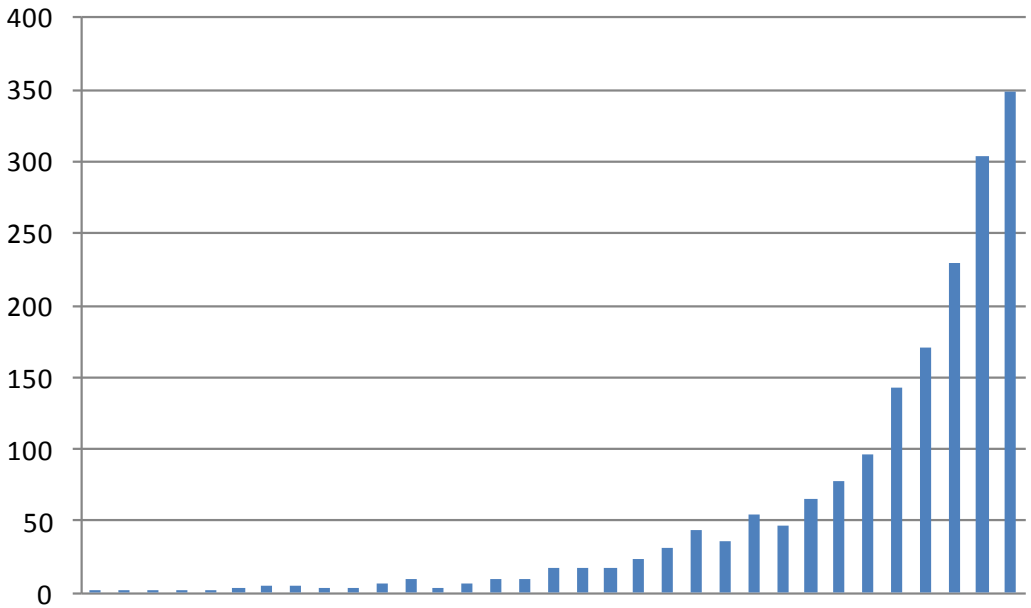
‘You cannot say that an event is more likely than another but you can state with confidence that a structure is more fragile than another should a certain event happen.’

Nassim Nicholas Taleb
Author: *The Black Swan*

What's Trending in Preoperative Risk Assessment for the Older Surgical Patient?

'Frailty and mortality'

Number of publications 1979 - 2016



Frailty

Frailty is a syndrome of advancing age characterized by immune dysregulation, chronic inflammation, sarcopenia, increased cellular senescence, and a loss of resilience.

Frailty

Main clinical features:

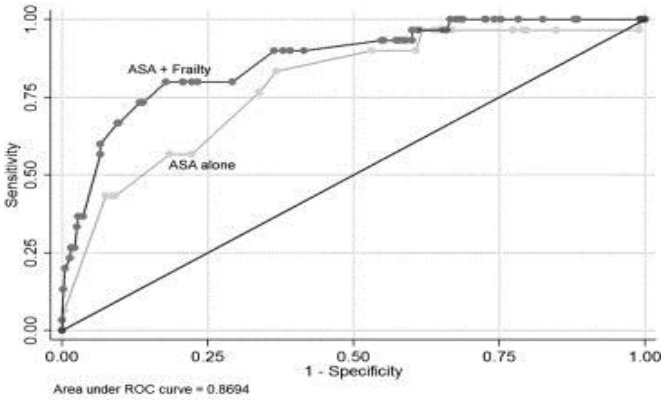
- ✓Decrease functional reserve
- ✓Impairment or dysregulation in multiple physiological systems
- ✓Reduced ability to regain physiological homeostasis after a stressful and destabilizing event

Frailty as a Predictor of Surgical Outcomes in Older Patients.

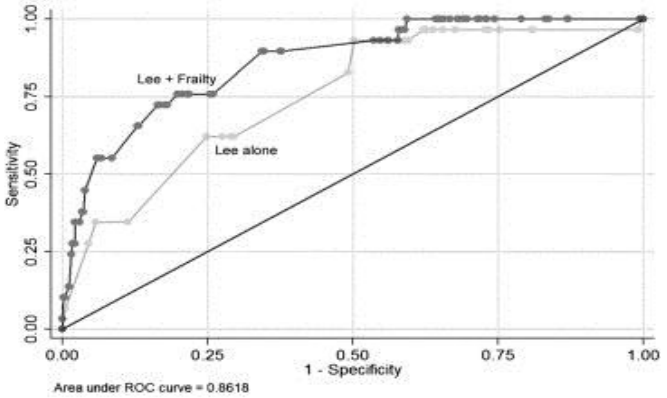
(A) American Society of Anesthesiologists (ASA)
(B) Lee risk index
(C) Eagle risk index.

Each panel shows the area under the receiver operator characteristics (ROC) curve to demonstrate the ability of the specific risk index to predict surgical complications.

Makary et al. Journal of the American College of Surgeons 2010; 210 (6): 901–908



A



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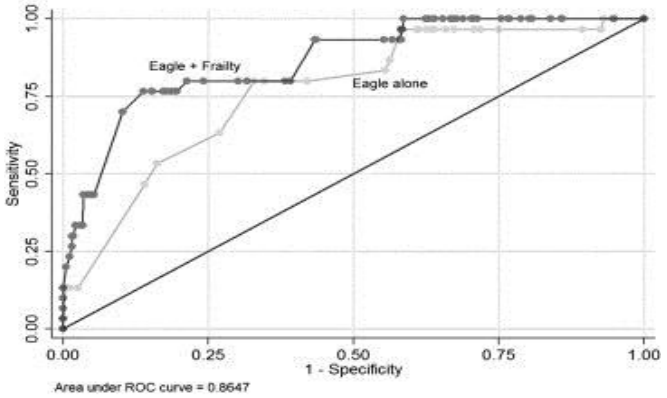


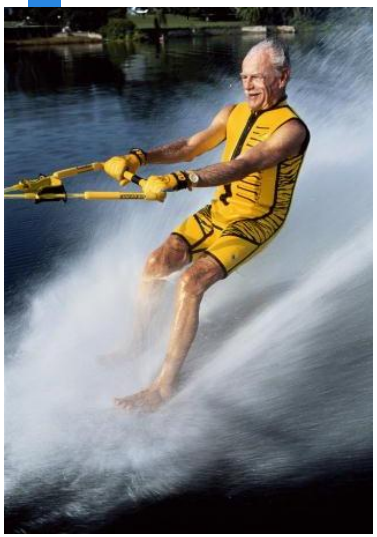
C

Case of Ms. A:
Decides to get a screening mammogram

- 82 year old clinic patient with HTN, diabetes with peripheral neuropathy and CKD able to walk a few city blocks, albeit slowly and using a cane.

- Abnormal Mammogram
- Diagnosis:
  - T1 N2 Breast Cancer
  - 1.5 cm with 4+ lymph nodes
  - Triple negative
- Lumpectomy & axillary lymph node dissection
- Adjuvant chemotherapy & radiation planned

Every older patient needs individualized evaluation to inform any cancer treatment

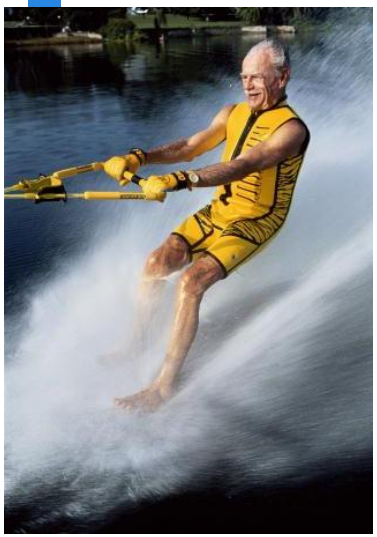


"Will the patient tolerate and benefit from treatment?"

FIT	VULNERABLE	FRAIL
Similar tolerance/benefit as middle-aged patients	Decreased treatment tolerance	Poor treatment tolerance

Balducci, the Oncologist 6/00

Every older patient needs individualized evaluation to inform any cancer treatment

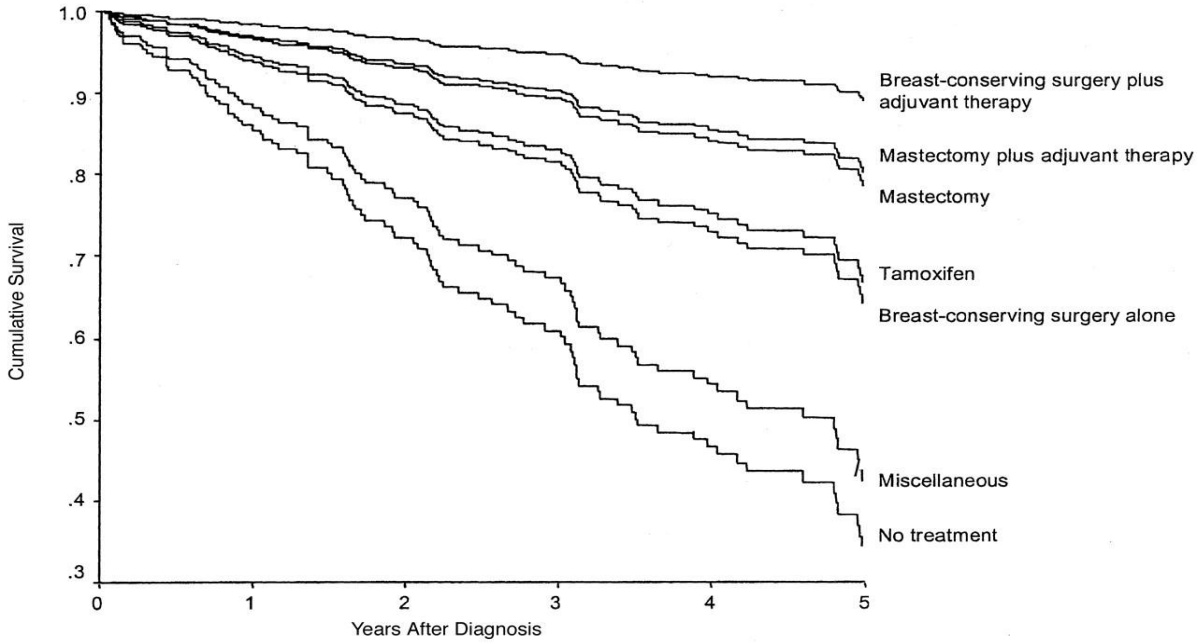


FIT	VULNERABLE	FRAIL
Similar tolerance/benefit as middle-aged patients	Decreased treatment tolerance	Poor treatment tolerance

Balducci, the Oncologist 6/00

Undertreatment strongly decreases prognosis of breast cancer in elderly women (age ≥ 80) *Bouchardy et al JCO 2003*

Survival patterns by treatment group accounting for prognostic factors: tumor characteristics, general health status, comorbidity, treatment.



- elderly women with breast cancer have late diagnosis
- Incomplete diagnostic assessment and lack a standardized therapeutic approach
- Nearly 50% of the patients had suboptimal treatments
- **Resulting in a large excess of preventable breast cancer mortality**

Overtreatment

- Surgical overtreatment in the vulnerable or frail patient can lead to unacceptable postoperative outcomes with high mortality or persistent disability.

Ugolini et al. World J. Gastroenterol. 2014 Apr 14; 20(14): 3762–3777

Personalized Assessment of the Older Person

- ✓ Chronologic age
- ✓ Life expectancy
- ✓ Functional reserve

APPROACH TO DECISION-MAKING IN THE OLDER ADULT

Is the patient at moderate or high risk of dying or suffering from cancer considering his or her overall life expectancy?

→ NO → Symptom management/ supportive care

↓ YES

Does this patient have decision-making capacity? Patients must have the ability to understand the relevant information about proposed diagnostic tests or treatments, appreciate their situation (including their underlying values and current medical situation), use reason to make a decision communicate their choice

→ NO →

Obtain information from patient's proxy
- Advance directives
- Living will
- Health care providers
- power of attorney
- Clinician's documentation
- Consider consult from ethics committee or social worker or consider Palliative Care

↓ YES

Assess the patient's goals and values regarding management of the cancer

Are the patient's goals and values consistent with wanting anticancer therapy?

→ NO → Symptom management/ supportive care

→ YES → **Assessment of Risk Factors**

NCCN, Senior Adult Oncology, Version 2.2016

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Age ≥ 65: Heterogeneous Population

How to differentiate patients of the same age:

Complete Geriatric Assessment

Definition (Consensus Conference 1989)

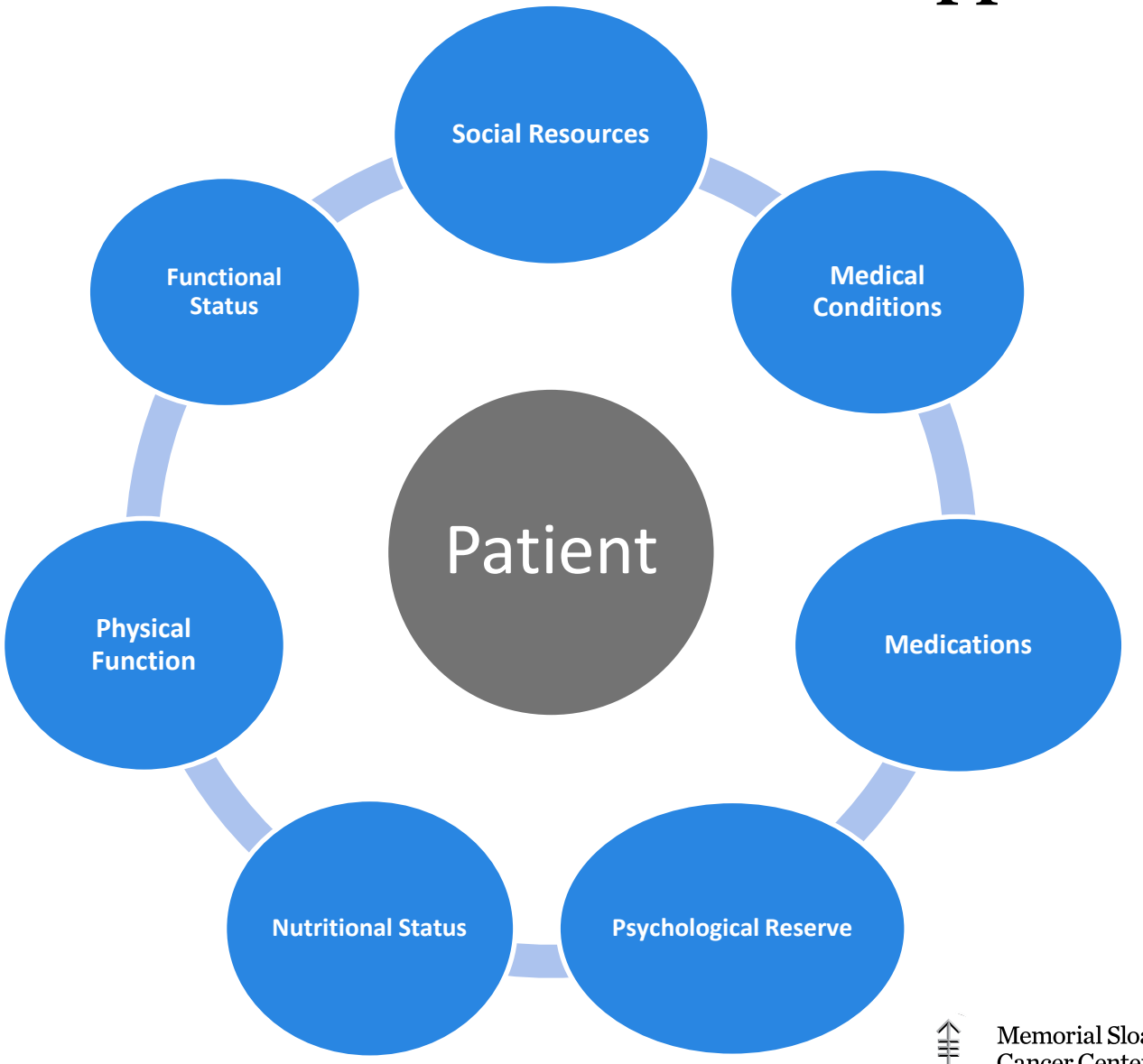
"A multidimensional, interdisciplinary patient evaluation that leads to the identification of patient problems and the development of a plan for resolving these problems"

How to apply to the care of surgical cancer patients?

Elements of the Comprehensive Geriatric Assessment

Domain	Assessment
Function	Basic and instrumental activities of daily living Evaluation of frailty Performance status Gait and balance, falls evaluation
Polypharmacy	Prescription and non-prescription medications Alternative medications Drug-drug interactions Adherence to medications Inappropriate prescribing (Beer's Criteria)
Comorbidities	Number and severity of co-morbid conditions
Cognition	Evaluation for dementia Evaluation for delirium Ability to make treatment-related decisions
Nutrition	BMI, unintentional weight loss, failure to thrive, nutritional assessment
Social support	Living conditions, adequate caregiving, access to transportation, financial counseling, neglect or abuse
Psychological state	Anxiety, depression
Other geriatric syndromes	Incontinence, insomnia, hearing loss, vision impairment

The Geriatrician's Focus: Holistic Approach



Importance of GA in predicting surgical outcomes

Reference	Age	Type of surgery	Risk Factors (GA)	Outcomes
Robinson et al 2009	68-80	Elective surgery (thoracic and abdominal) requiring ICU admission	Impaired cognition, recent falls, low albumin, low Hb, functional dependence and increased comorbidities	6-month mortality and post-discharge institutionalization
Korc-Grodzicki et al.	≥75	Cancer surgery requiring ≥ 1 day admission	Multimorbidity, functional dependency, falls history	Postoperative delirium, increased LOS and discharge to rehabilitation.
Dale et al. 2014	80% older than 60	Pancreaticoduodenectomy	Fried's exhaustion	Major complications, longer LOS, ICU admissions
Preop Assessment of Cancer in the Elderly (PACE) Audisio et al. 2008	≥ 70	Cancer surgery for solid tumors	Disability, fatigue, abnormal performance status	50% increased in risk of postop complications
Large et al. 2013	≥65	Radical cystectomy for bladder cancer	Cognitive impairment (lower MMSE) and older age	Increased risk of post cystectomy delirium and subsequent readmission and reoperation

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The case of Ms. A

Cancer History: Breast Cancer: T1 N2 Breast Cancer (1.5 cm with 4+ lymph nodes)Triple negative

PMH: DM with CKD and diabetic neuropathy; 2 falls and 12 lbs. weight loss in the last 6 months

SH: Smoker 30py, stopped ~ 20 years ago. Lives with her husband of 50 years who has dementia. Daughter lives 30 min away.

Med List: lisinopril 10 mg daily, HCTZ 25 mg daily, metformin 500 mg BID, insulin glargine 10 units at bedtime, docusate 200 mg BID, Vit B12 daily, Vitamin D 1000 units daily, Benadryl 25 mg po prn for watery eyes, gabapentin 200 mg at bedtime, alprazolam 1 mg BID prn anxiety and insomnia, MVI one daily.

PE: BP157/77, HR 80 Shy woman in no distress. Poor eye contact. Decrease pin-prick sensation bilateral feet. Rest of the exam within normal limits.

The case of Ms. A

Evaluation:

1. Function
2. Medications
3. Comorbidities
4. Cognition
5. Nutrition
6. Social support
7. Psychological state

ADLs: 5/6: ambulated alone only within residence or one block distance

IADLs: 4/8: needed help to shop, prepare food, do major housework and laundry. She managed her and her husband's medications independently

TUG: 15 seconds, mostly independent, walked with cane.

Falls: had 2 falls within the last 6 months.

The case of Ms. A

Evaluation:

1. Function
2. Medications
3. Comorbidities
4. Cognition
5. Nutrition
6. Social support
7. Psychological state

- lisinopril 10 mg daily,
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- alprazolam 1 mg BID prn anxiety and insomnia,
- MVI one daily

The case of Ms. A

Evaluation:

1. Function
2. Polypharmacy
3. Comorbidities
4. Cognition
5. Nutrition
6. Social support
7. Psychological state

- Breast cancer
- DM
- CKD
- Diabetic neuropathy
- Unintentional weight loss
- Depression

The case of Ms. A

Evaluation:

1. Function
2. Polypharmacy
3. Comorbidities
4. Cognition
5. Nutrition
6. Social support
7. Psychological state

Abnormal Mini Cog

Abnormal CDT and 2/3 recall

The case of Ms. A

Evaluation:

1. Function
2. Polypharmacy
3. Comorbidities
4. Cognition
5. Nutrition
6. Social support
7. Psychological state

- 12 # weight loss. Decreased appetite. Having difficulties buying groceries and cooking for herself and her husband
- Patient is the main caregiver for demented husband and has poor social support. She wants to keep his and her independence for as long as possible.
- 1 daughter who is involved in the patient's care but lives 30 minutes away and works full time.
- She has been quite depressed with his situation and, with the new diagnosis, she is devastated and overwhelmed.

The case of Ms. A - Recommendations

Evaluation:

1. Function
2. Polypharmacy
3. Comorbidities
4. Cognition
5. Nutrition
6. Social support
7. Psychological state

Recommendations prior to surgery:

1. Adjustment and simplification of medication regimen
2. Nutritional consultation
3. SW referral to arrange care for her husband and help for her postoperatively
4. Treatment of depression
5. Physical therapy for unsteady gait.

FRAILTY SCREENING METHODS FOR PREDICTING OUTCOME OF CGA IN ELDERLY PATIENTS WITH CANCER: A SYSTEMATIC REVIEW

Method	Sensitivity %	Specificity %
VES-13	68	78
G8	87	61
TRST1+	92	47
GRI	57	86
FRIED	31	91
BARBER	59	79
aCGA	51	97

Hamaker, et al Lancet Oncol 2012

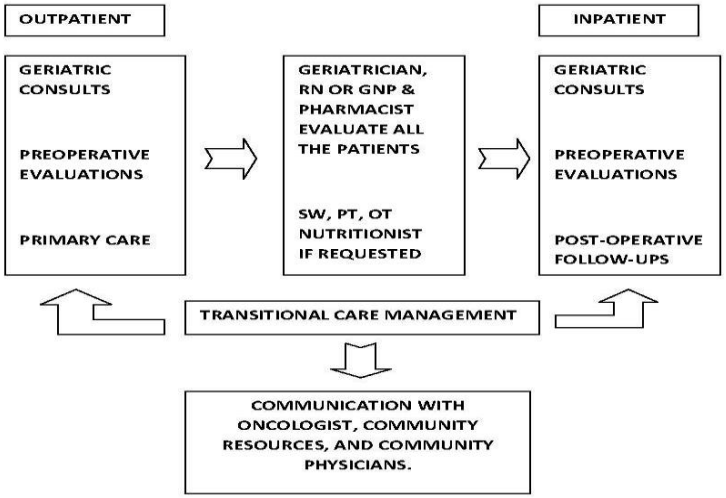
GA vs. Screening tools

- A task force convened by SIOG conducted a systematic review of 17 different screening tests to determine which was more prognostic of an impaired CGA in older cancer patients.

Screening tools in older cancer patients should not replace GA. However in a busy clinical practice, the use of a screening tool is recommended to identify patients in need of further evaluation by GA. No specific tool was recommended or discouraged.

Decoster L, et al Ann Oncol. 2015;26(2):288-300. Epub 2014/06/18. doi: 10.1093/annonc/mdu210. PubMed PMID: 24936581.

Model of Shared Care at MSKCC
for patients before or during active cancer treatment

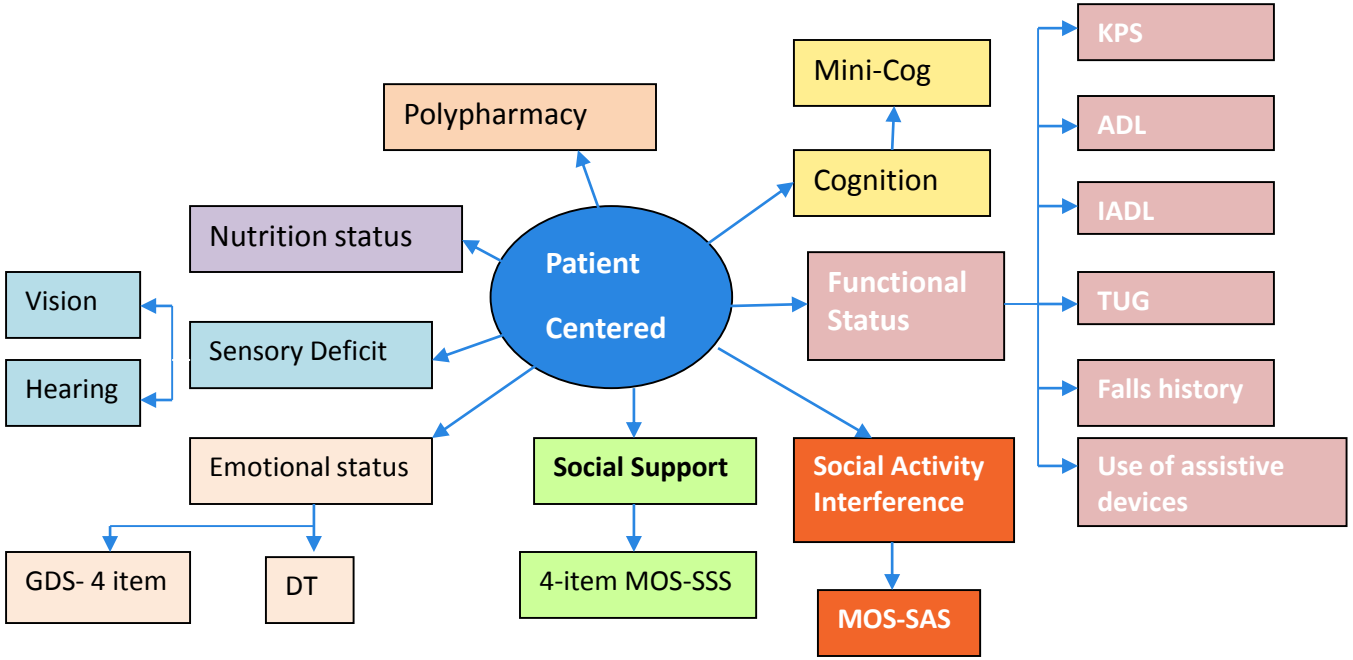


electronic Rapid Fitness Assessment (eRFA)

- Electronic Geriatric Screening
- Developed by MSKCC Geriatrics Service and Webcore
- Validated questionnaires for each geriatric assessment domain
- Completed by patients/caregivers prior to initial consult either:
  - ✓At home (if they have email access)
  - ✓In the clinic waiting area using a tablet
  - ✓In the exam room

Shahrokni et al. J Natl Compr Canc Netw. 2017 Feb;15(2):172-179

eRFA Domains and Instruments



Using eRFA at MSK

Webcore database
For future analysis

Final report
For healthcare providers

eRFA Final Report

Questionnaire completed by: Patient, with other assistance.

MiniCog test results: Clock drawing: **No results entered**; Recalled words: **No results entered**.

Get up and Go test results: <10 seconds.

SOCIO-DEMOGRAPHIC

Marital status: Married.

Highest level of education: College graduate.

Living situation: Living with family or partner.

Smoker status: Never

Tobacco products used other than cigarettes: None.

Alcohol use: 1 drink per day.

PERFORMANCE / FUNCTIONAL STATUS

Functional status: Able to carry on normal activity, minor symptoms.

KPS: 90.

Home care services: No.

Activities limited by health:

Not limited: Bathing; Dressing; Grooming; Feeding; Walking inside the home; Walking outside the home.

Limited a little: Bladder and bowel control.

Total "ADL" Score: 13.

Able to:

Without help: Use the telephone; Go shopping; Prepare meals; Do house work; Handle own medications; Handle money; Visit your doctor.

With some help: Do Laundry.

Total "iADL" Score: 15.

Fall(s) in the past year: No.

Devices: Cane.

Vision: Good.

Reading glasses: Yes; **Improvement with glasses:** A great deal.

Distance vision glasses: Yes; **Improvement with glasses:** A great deal.

Hearing: Poor.

Hearing aids: No.

SOCIAL SUPPORT

How often do you have someone:

To help with chores when sick: Most of the time.

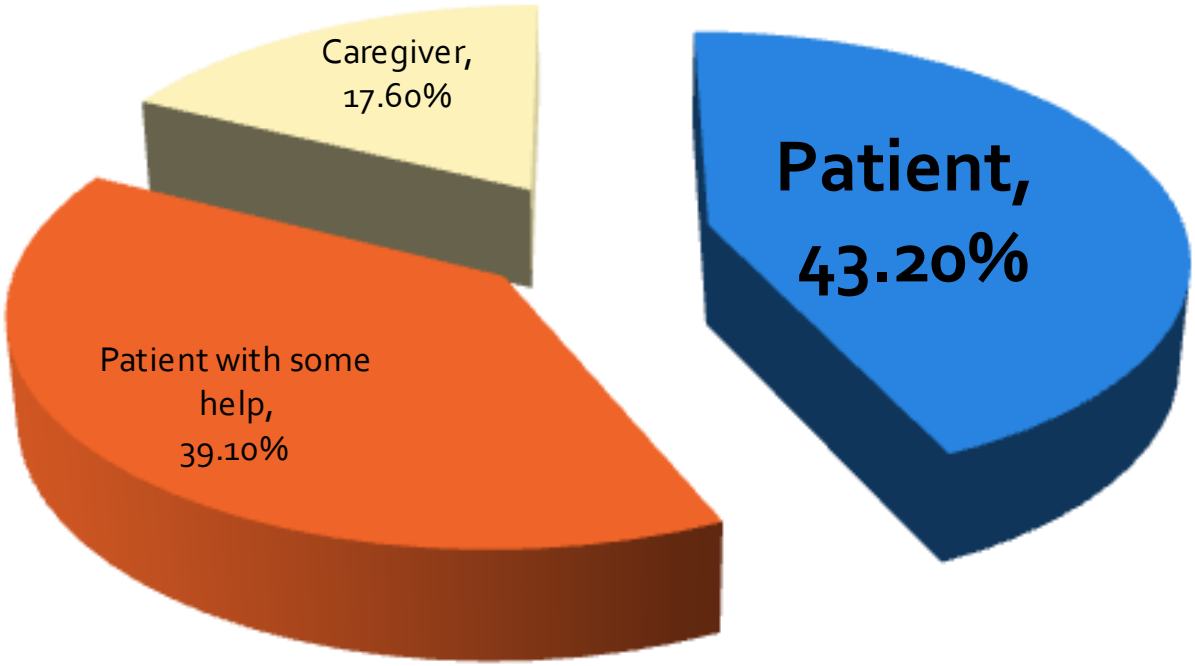
To turn to with personal problem: Some of the time.

To do something enjoyable with: All the time.

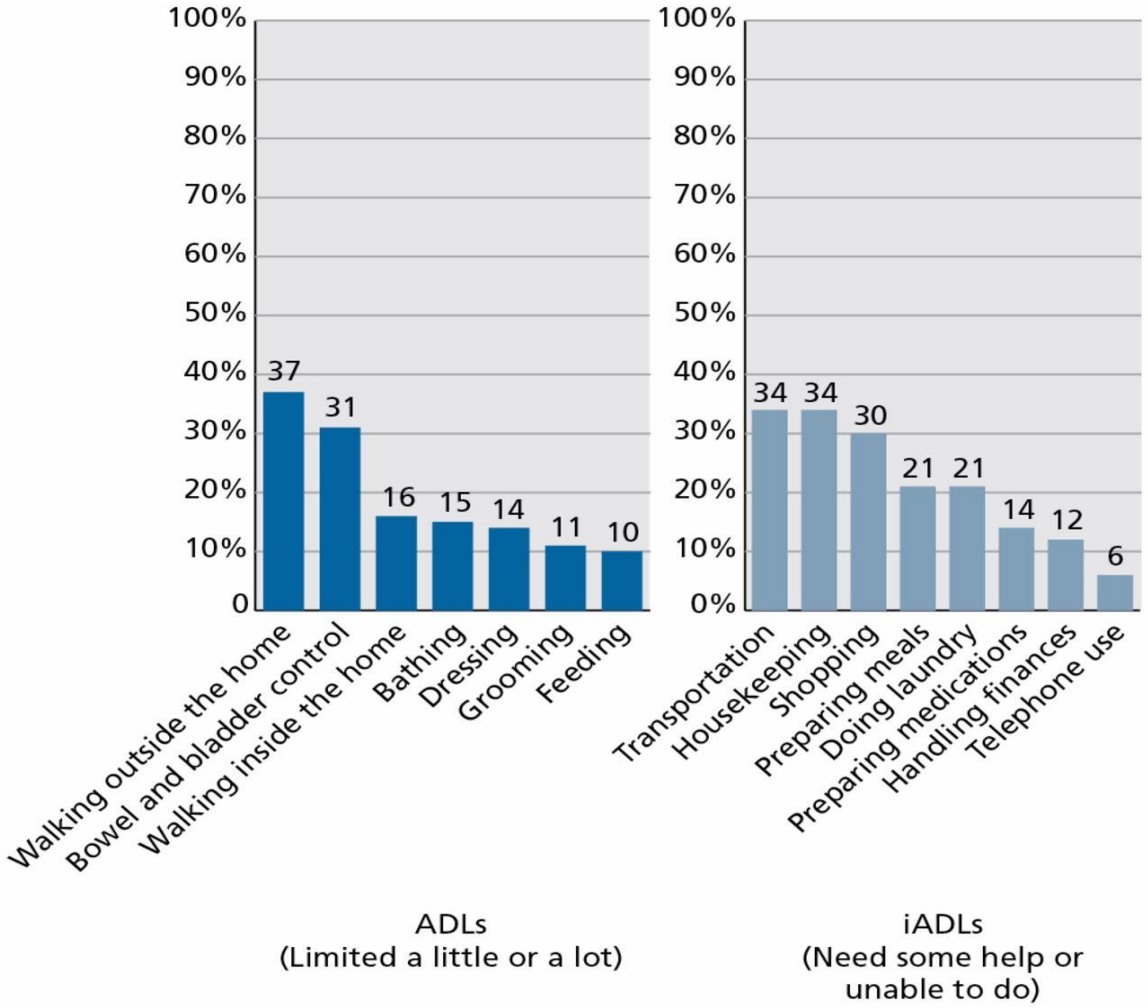
To love and make you feel wanted: All the time.

Total "Social Support" Score: 17.

Who completes the eRFA?

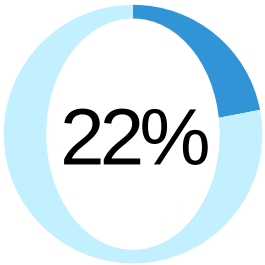


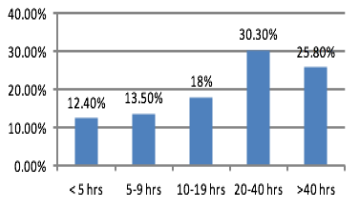
MSK Geriatric Population



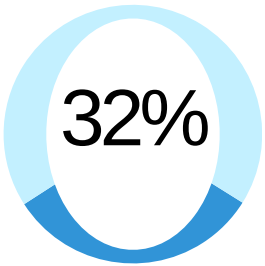
MSK Geriatric Population

Have home health aide



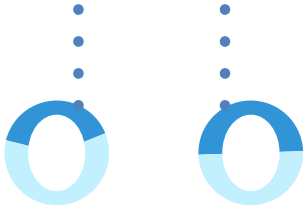


Had at least one fall in the past year



40%

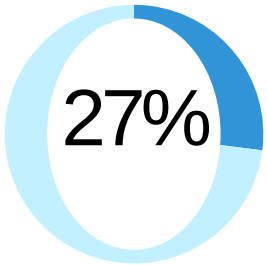
Had more than one fall



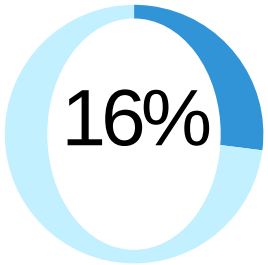
50%

Had last falls at home

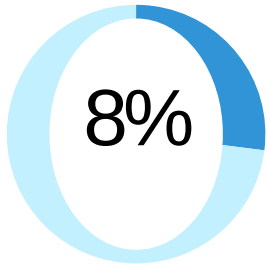
Walk with a cane



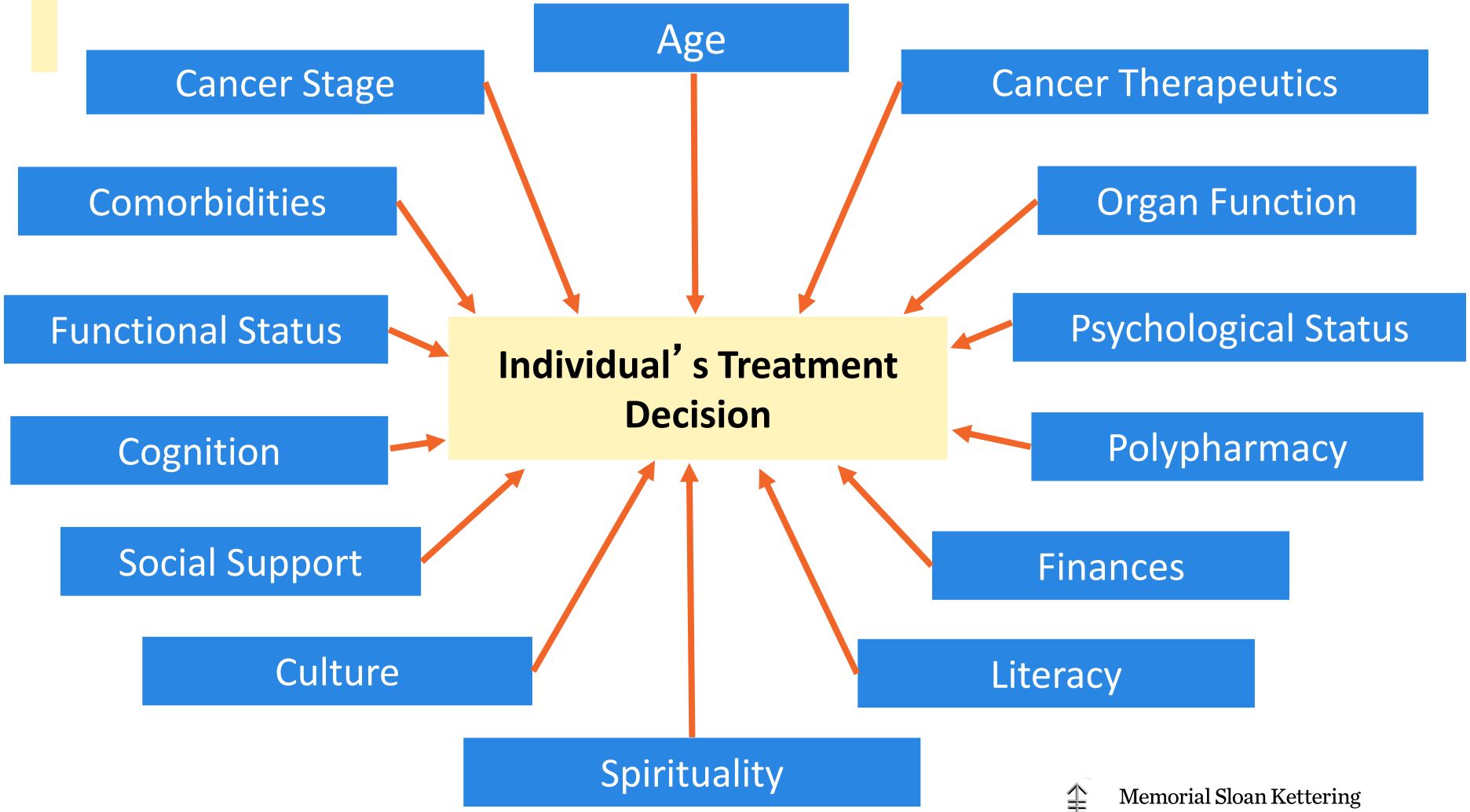
Walk with a walker



Use a wheelchair



Key Factors Contributing to Decision Making



Memorial Sloan Kettering Cancer Center

Prehabilitation

- Management and optimization of preoperative conditions such as DM or CV disease
- Smoking cessation
- Muscle strength
- Nutritional improvement
- Emotional and psychological support

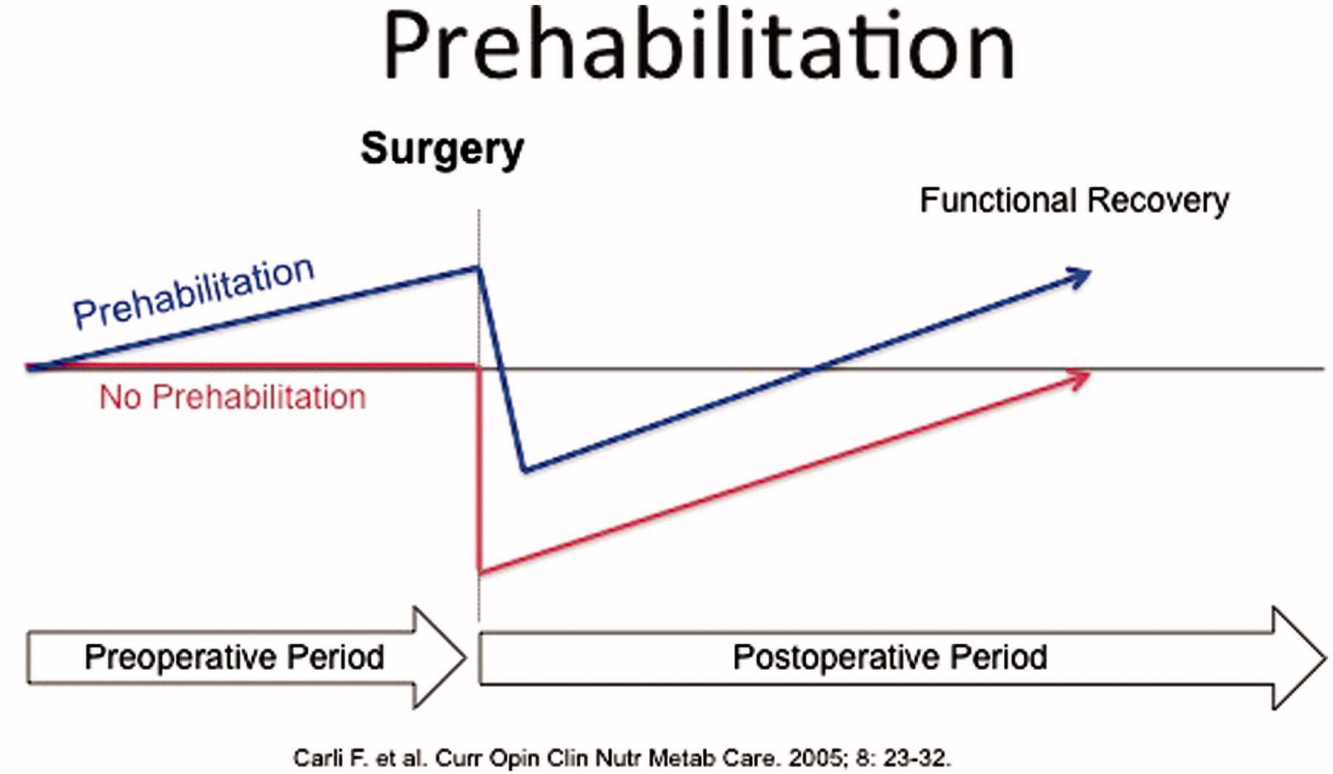
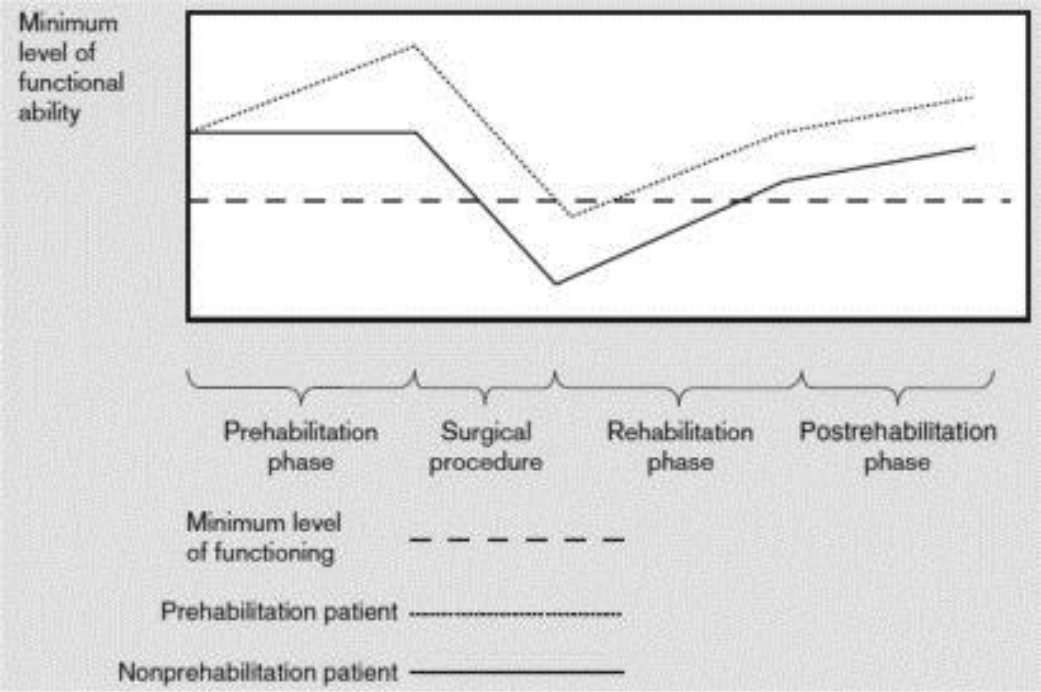


Figure 1. Trajectory of the perioperative period and impact of increasing functional reserve in the preoperative period (prehabilitation) on accelerating the postoperative functional recovery.

Published in: Francesco Carli; Chelsia Gillis; Celena Scheede-Bergdahl; *Acta Oncologica* Ahead of Print
DOI: 10.1080/0284186X.2016.1266081

Prehabilitation to Enhance Perioperative Care



Trajectory of functional capacity throughout the surgical process.

Francesco Carli, Celena Scheede-Bergdahl

Anesthesiology Clinics, Volume 33, Issue 1, 2015, 17–33

http://dx.doi.org/10.1016/j.anclin.2014.11.002

Prehabilitation

Tri-modal prehabilitation program (mean age 67, mean duration 33d)

- ✓ 30 min walking and breathing exercises 3 times a week
- ✓ Nutritional supplement of up to 1.2 g/Kg of body weight
- ✓ Anxiety reduction techniques

✓After 4 and 8 weeks **control** patients did not reach the pre-surgical level of physical ability

✓**Prehabilitated patients** regained the ability to walk farther than their preoperative baseline.

Li, et al Surg Endos 2013 27:1072

In Summery

- Chronological age in itself is not a reason not to treat
- Frailty is a predictor of surgical outcomes in the older cancer patient
- Every older patient needs individualized evaluation to inform any cancer treatment
- The ideal evaluation is holistic and multidisciplinary
- Electronic versions were shown to be very helpful and well received
- Increasing the functional reserve in the preoperative period (prehabilitation) may accelerate the postoperative functional recovery.
- Any evaluation is better than no evaluation at all

"Just as there should be no oncology practice that does not make reference to the TNM staging system, there should be no onco-geriatric practice that does not include frailty assessment"

Audisio et al. Ann Surg Oncol 18:4-5, 2011

STUMP

Oldest ever to win the Best in Show
10 years , 2 months and 10 days
133rd Westminster Kennel Club Dog Show

Memorial Sloan Kettering Cancer Center

Geriatrician in the preoperative assessment clinic

Questions?

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