Geriatrician in the preoperative assessment clinic

Beatriz Korc-Grodzicki, MD, PhD
Service Chief, Geriatrics Service
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‘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.

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

*Balducci, the Oncologist 6/00*
Every older patient needs individualized evaluation to inform any cancer treatment.

FIT
- Similar tolerance/benefit as middle-aged patients

VULNERABLE
- Decreased treatment tolerance

FRAIL
- Poor treatment tolerance

*Balducci, the Oncologist 6/00*

- 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.

Personalized Assessment of the Older Person

- Chronologic age
- Life expectancy
- Functional reserve
Is the patient at moderate or high risk of dying or suffering from cancer considering his or her overall life expectancy?

If NO, Symptom management/supportive care.

If 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.

If 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.

If YES, Assess the patient’s goals and values regarding management of the cancer.

If NO, Symptom management/supportive care.

If YES, Are the patient’s goals and values consistent with wanting anticancer therapy?

If NO, Symptom management/supportive care.

If YES, Assessment of Risk Factors.

NCCN, Senior Adult Oncology, Version 2.2016
Age $\geq 65$: 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

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

- Social Resources
- Medical Conditions
- Medications
- Psychological Reserve
- Nutritional Status
- Physical Function
## Importance of GA in predicting surgical outcomes

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

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

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

3. Comorbidities

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

5. Nutrition

6. Social support

7. Psychological state
   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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- gabapentin 200 mg at bedtime,
- alprazolam 1 mg BID prn anxiety and insomnia,
- MVI one daily
The case of Ms. A

Evaluation:
1. Function
2. Polypharmacy
3. Comorbidities
   - Breast cancer
   - DM
   - CKD
   - Diabetic neuropathy
   - Unintentional weight loss
   - Depression
4. Cognition
5. Nutrition
6. Social support
7. Psychological state
The case of Ms. A

Evaluation:

1. Function
   - Abnormal Mini Cog
2. Polypharmacy
   - Abnormal CDT and 2/3 recall
3. Comorbidities
4. Cognition
5. Nutrition
6. Social support
7. Psychological state
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**

<table>
<thead>
<tr>
<th>Method</th>
<th>Sensitivity %</th>
<th>Specificity %</th>
</tr>
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<tbody>
<tr>
<td>VES-13</td>
<td>68</td>
<td>78</td>
</tr>
<tr>
<td>G8</td>
<td>87</td>
<td>61</td>
</tr>
<tr>
<td>TRST1+</td>
<td>92</td>
<td>47</td>
</tr>
<tr>
<td>GRI</td>
<td>57</td>
<td>86</td>
</tr>
<tr>
<td>FRIED</td>
<td>31</td>
<td>91</td>
</tr>
<tr>
<td>BARBER</td>
<td>59</td>
<td>79</td>
</tr>
<tr>
<td>aCGA</td>
<td>51</td>
<td>97</td>
</tr>
</tbody>
</table>

*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.

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

OUTPATIENT
GERIATRIC CONSULTS
PREOPERATIVE EVALUATIONS
PRIMARY CARE

TRANITIONAL CARE MANAGEMENT

COMMUNICATION WITH ONCOLOGIST, COMMUNITY RESOURCES, AND COMMUNITY PHYSICIANS.

GERIATRICIAN, RN OR GNP & PHARMACIST EVALUATE ALL THE PATIENTS
SW, PT, OT, NUTRITIONIST IF REQUESTED

INPATIENT
GERIATRIC CONSULTS
PREOPERATIVE EVALUATIONS
POST-OPERATIVE FOLLOW-UPS
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

eRFA Domains and Instruments

- Polypharmacy
- Nutrition status
- Sensory Deficit
- Emotional status
- GDS- 4 item
- DT
- Social Support
- Social Activity Interference
- Functional Status
- Cognition
- Mini-Cog

- KPS
- ADL
- IADL
- TUG
- Falls history
- Use of assistive devices
Using eRFA at MSK

eRFA

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 "ADL" 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?

- **Patient**, 43.20%
- **Patient with some help**, 39.10%
- **Caregiver**, 17.60%
MSK Geriatric Population

- **Walking outside the home**: 37%
- **Walking inside the home**: 31%
- **Bathing**: 16%
- **Dressing**: 15%
- **Grooming**: 14%
- **Feeding**: 11%

**ADLs (Limited a little or a lot)**

- **Transportation**: 34%
- **Housekeeping**: 34%
- **Shopping meals**: 30%
- **Preparing laundry**: 21%
- **Doing medications**: 21%
- **Preparing finances**: 14%
- **Handling telephone**: 12%
- **Telephone use**: 6%

**iADLs (Need some help or unable to do)**
MSK Geriatric Population

- Have home health aide: 22%
- Had at least one fall in the past year: 32%
- Walk with a cane: 27%
- Walk with a walker: 16%
- Use a wheelchair: 8%

- Had more than one fall: 40%
- Had last falls at home: 50%
Key Factors Contributing to Decision Making

- Cancer Stage
- Comorbidities
- Functional Status
- Cognition
- Social Support
- Culture
- Spirituality
- Age
- Cancer Therapeutics
- Organ Function
- Psychological Status
- Polypharmacy
- Finances
- Literacy

Individual’s Treatment Decision
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.
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.

In Summary

- 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”

STUMP

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

Beatriz Korc-Grodzicki, MD, PhD
Service Chief, Geriatrics Service
March 3rd, 2017
korcgrob@mskcc.org

Questions?