Improving the Survivorship of Older Adults with Cancer Using Geriatric Assessment

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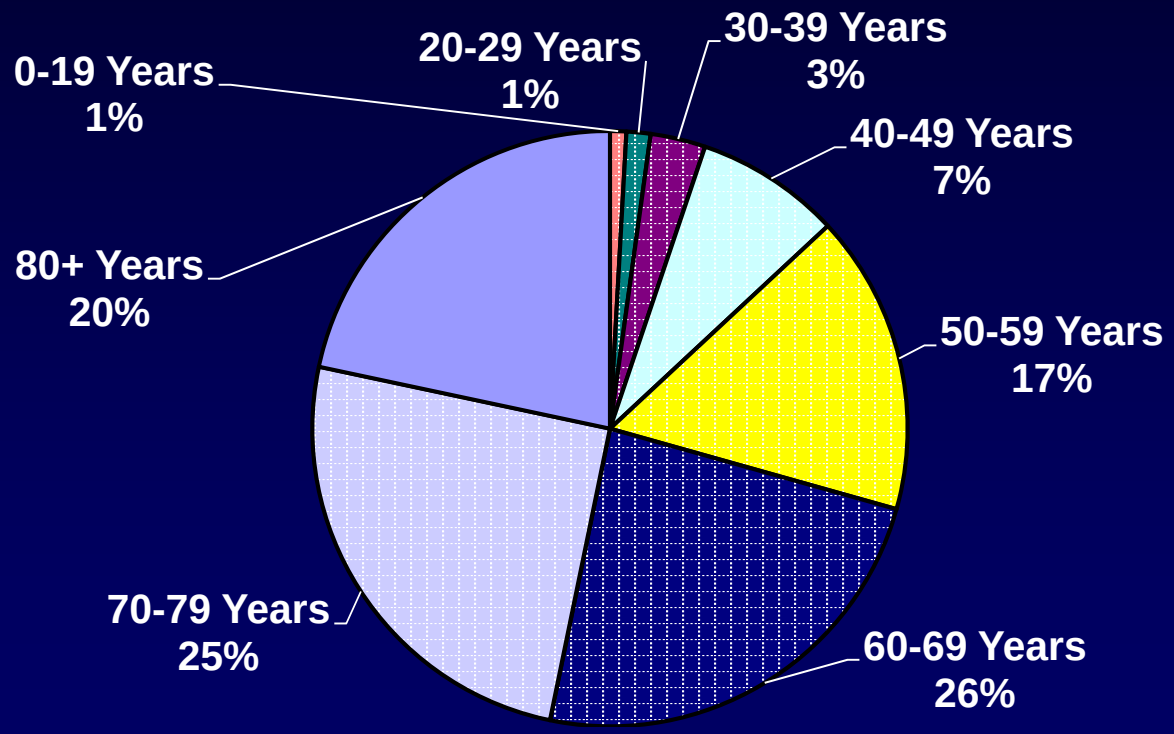
Outline

- Geriatric assessment in oncology
  - What is known
  - Gaps in knowledge
- Examples of why geriatric domains are important to consider for the older survivor of cancer
- Evaluating and improving outcomes of older survivors of cancer using GA

Estimated Number of Persons Alive in the U.S. Who Were Diagnosed With Cancer, by Years Since Diagnosis (as of Jan. 1, 2012)

(Invasive/1st Primary Cases Only, N = 13.7 M survivors)



Estimations and modeling provided by Angela Mariotto, PhD, based on: Mariotto AB, Yabroff KR, Shao Y, Feuer EJ, Brown ML. Projections of the cost of cancer care in the United States: 2010-2020. J Natl Cancer Inst. 2011 Jan 19;103(2):117-28. Epub 2011 Jan 12.

Important Considerations for Older Cancer Patients

Comorbidity

- Concurrent presence of 2 or more conditions (or 1 severe), usually chronic in nature

Disability

- Conditions that cause dependency in performing tasks allowing for self-care or living in the community

Geriatric syndromes

- Conditions that are prevalent in older people and signify a high risk for morbidity and mortality.
- Examples are depression, dementia, delirium, falls, osteoporosis and fractures, neglect and abuse, and failure to thrive

Incorporation of Geriatric Assessment (GA) into Oncology Clinical Care

- GA is an approach to the evaluation of the older patient
- Includes an evaluation of the following domains:
  - functional status
  - objective physical performance
  - comorbid medical conditions
  - cognition
  - nutritional status
  - psychological status
  - social support
  - geriatric syndromes

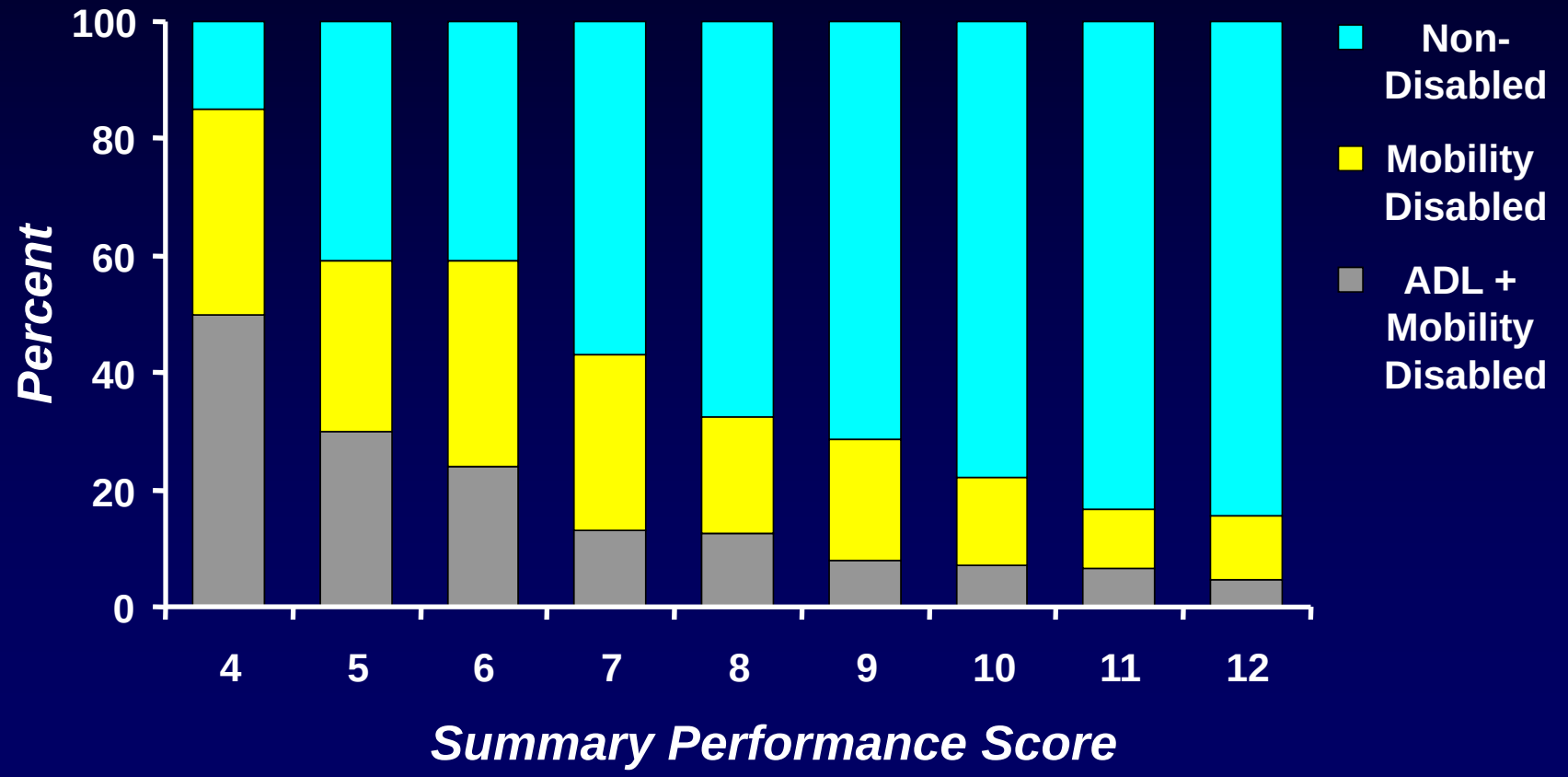
- Each domain is an independent predictor of morbidity and mortality in the older patient

Short Physical Performance Battery

- Developed at the NIA for the Established Population for the Epidemiologic Studies of the Elderly (EPESE)
- Timed standing balance (up to 10 seconds)
  - Side-by-side stand
  - Semi-tandem stand
  - Tandem stand
- Timed 4-meter walk
- Chair rise
  - Single
  - Timed multiple (5) chair rises
  - TOTAL TIME TO COMPLETE ~ 2 MINUTES
  - CAN BE GIVEN BY A TRAINED ASSISTANT IN THE HALL. REQUIRES ONLY ARMLESS CHAIR & STOP WATCH OR SECOND HAND SWEEP WATCH

Disability Status at 4 Year Follow-up by SPPB Baseline Summary Score Among Those Not Disabled at Baseline

Iowa EPESE

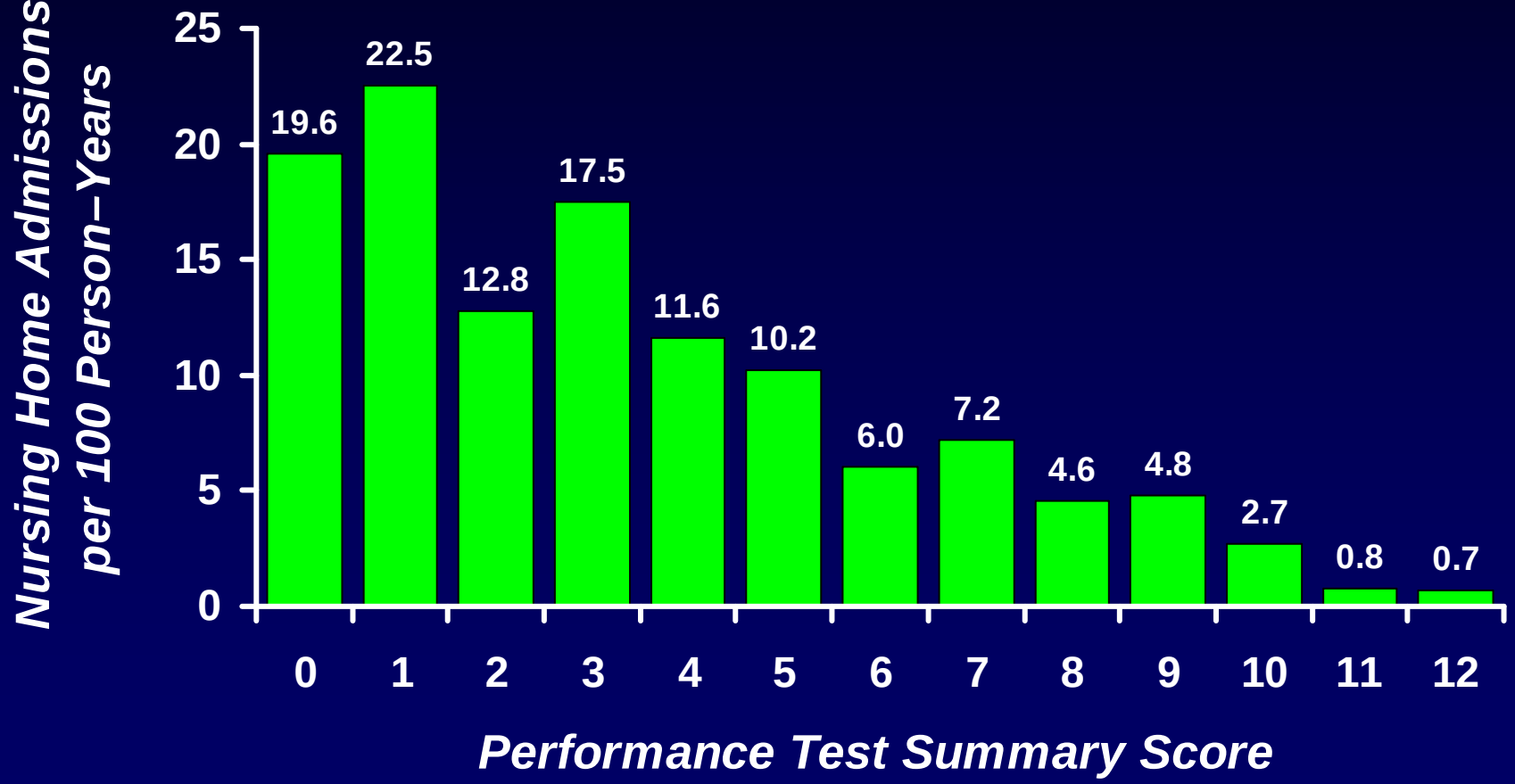


ADL = activity of daily living

Guralnik JM, et al. *N Engl J Med*. 1995;332:556-561.

Nursing Home Admission Rates by SPPB Summary Score

Age and Sex Adjusted



Guralnik JM, et al. *J Gerontol Med Sci.* 1994;49:M85-M94.

Relationship of Frailty to Health Outcomes

Fried et al. Journal of Gerontology; 59: 255-263

Having 3 or more:

Weight Loss

Exhaustion

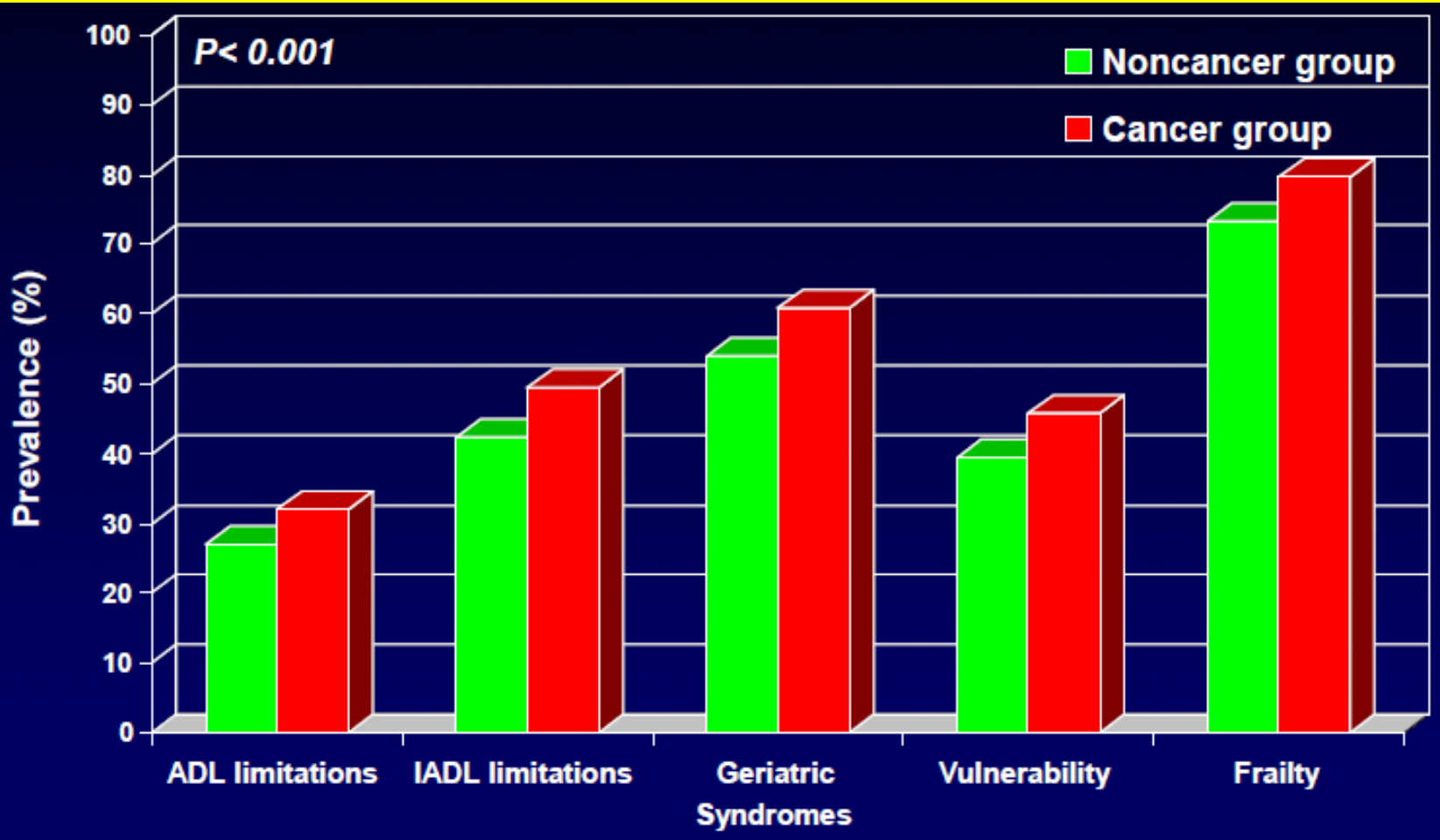
Low Physical Activity

Slow Walk Time

Poor Grip Strength

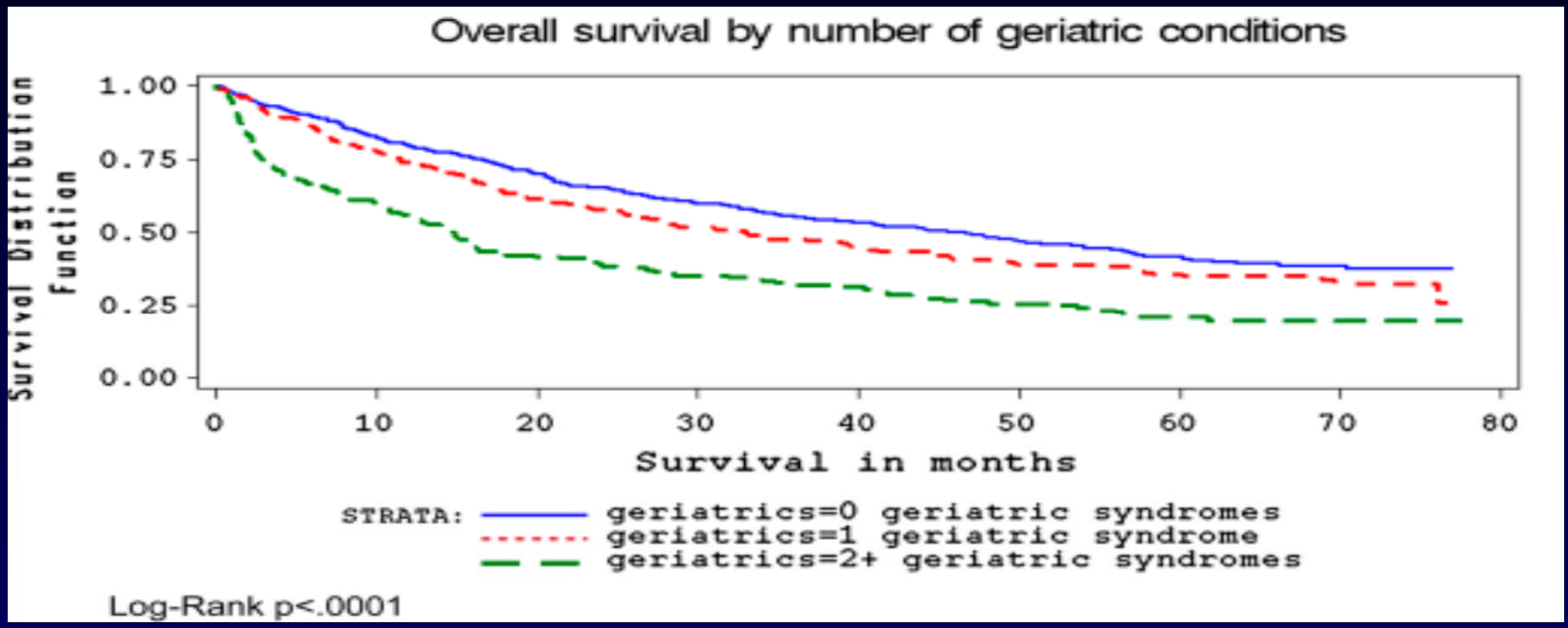
Outcome	Hazard Ratios over 3 years
Worsening mobility disability	1.50
Worsening ADL disability	1.98
Incident fall	1.29
First hospitalization	1.29
Death	2.24

A High Prevalence in Older Patients with a History of Cancer



Mohile et al. JNCI; September 2009

Impact of Geriatric Syndromes on Survival in Patients with Colon Cancer



Geriatric Syndromes and Mortality

-One syndrome HR=1.18 (0.99-1.41)

-Two syndromes HR=2.34 (1.74-3.15)

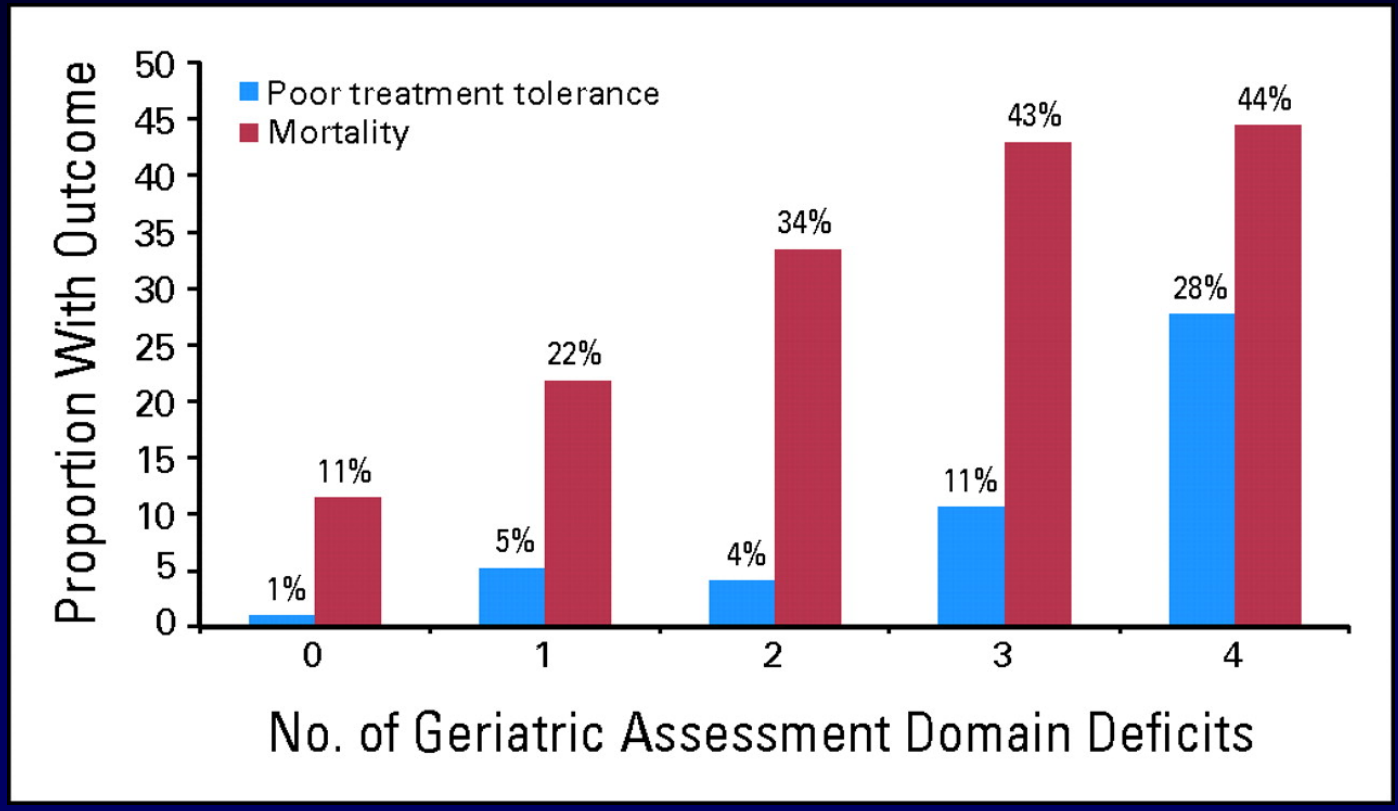
Koroukian et al. J Gerontology Med Science, 2009

Considerations

- Can we identify those older patients who are at high risk of acute toxicity?

- What is the long-term impact of therapy on underlying health?
  - Survivorship issues in those with more limited life expectancy due to age and/or health

Treatment Tolerance and Mortality in Breast Cancer Patients by GA Deficits



Clough-Gorr, K. M. et al. J Clin Oncol; 28:380-386 2010

GA Variables Predict Chemotherapy Toxicity in Older Adults

Risk factors for Gr. 3-5 Toxicity	OR (95% CI)	Score
Age ≥73 yrs	**1.8 (1.2-2.7)**	2
GI/GU cancer	**2.2 (1.4-3.3)**	3
Standard dose	**2.1 (1.3-3.5)**	3
Poly-chemotherapy	**1.8 (1.1-2.7)**	2
Hemoglobin (male: <11, female: <10)	**2.2 (1.1-4.3)**	3
Creatinine Clearance (Jelliffe –ideal wt) <34	**2.5 (1.2-5.6)**	3
1 or more falls in last 6 months	**2.3 (1.3-3.9)**	3
Hearing impairment (fair or worse)	**1.6 (1.0-2.6)**	2
Limited in walking 1 block (MOS)	**1.8 (1.1-3.1)**	2
Assistance required in medication intake	1.4 (0.6-3.1)	1
Decreased social activity (MOS)	1.3 (0.9-2.0)	1

Hurria and CARG, JCO 2011

Possible score range: 0-25

Considerations

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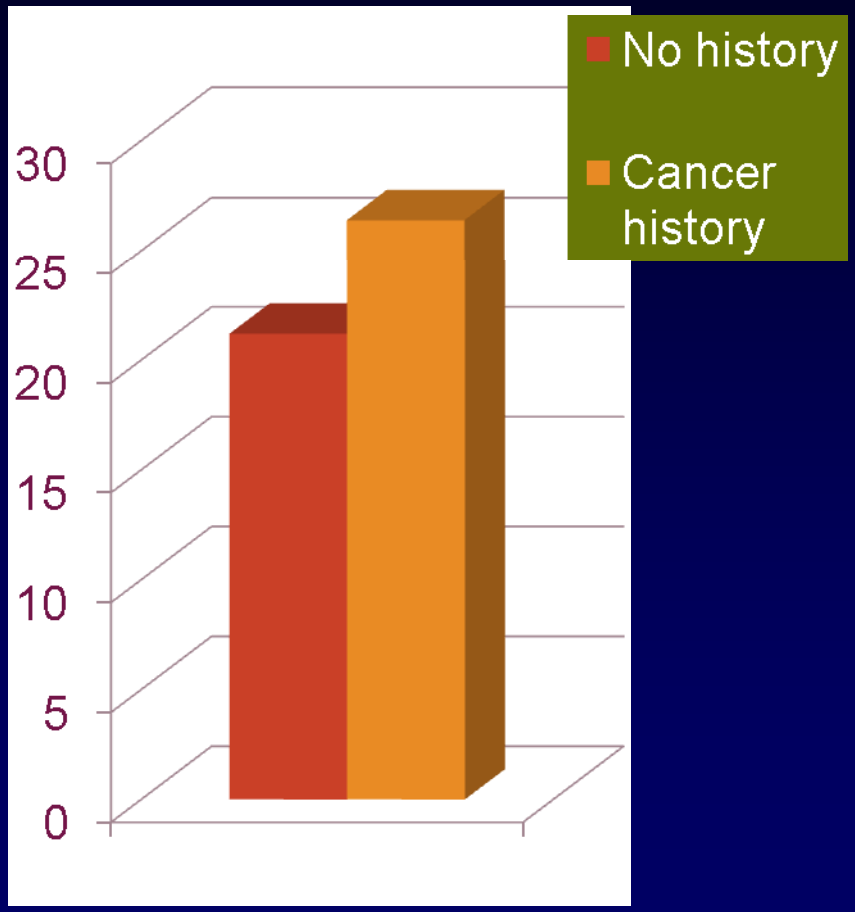
Falls

- 30% of older patients fall each year
  - Increases to 50% after age 80
- 10% have injury
- Prevention
  - Exercise (balance, strength, endurance)
  - Environmental
  - Address vision issues
  - Reduce psychoactive meds



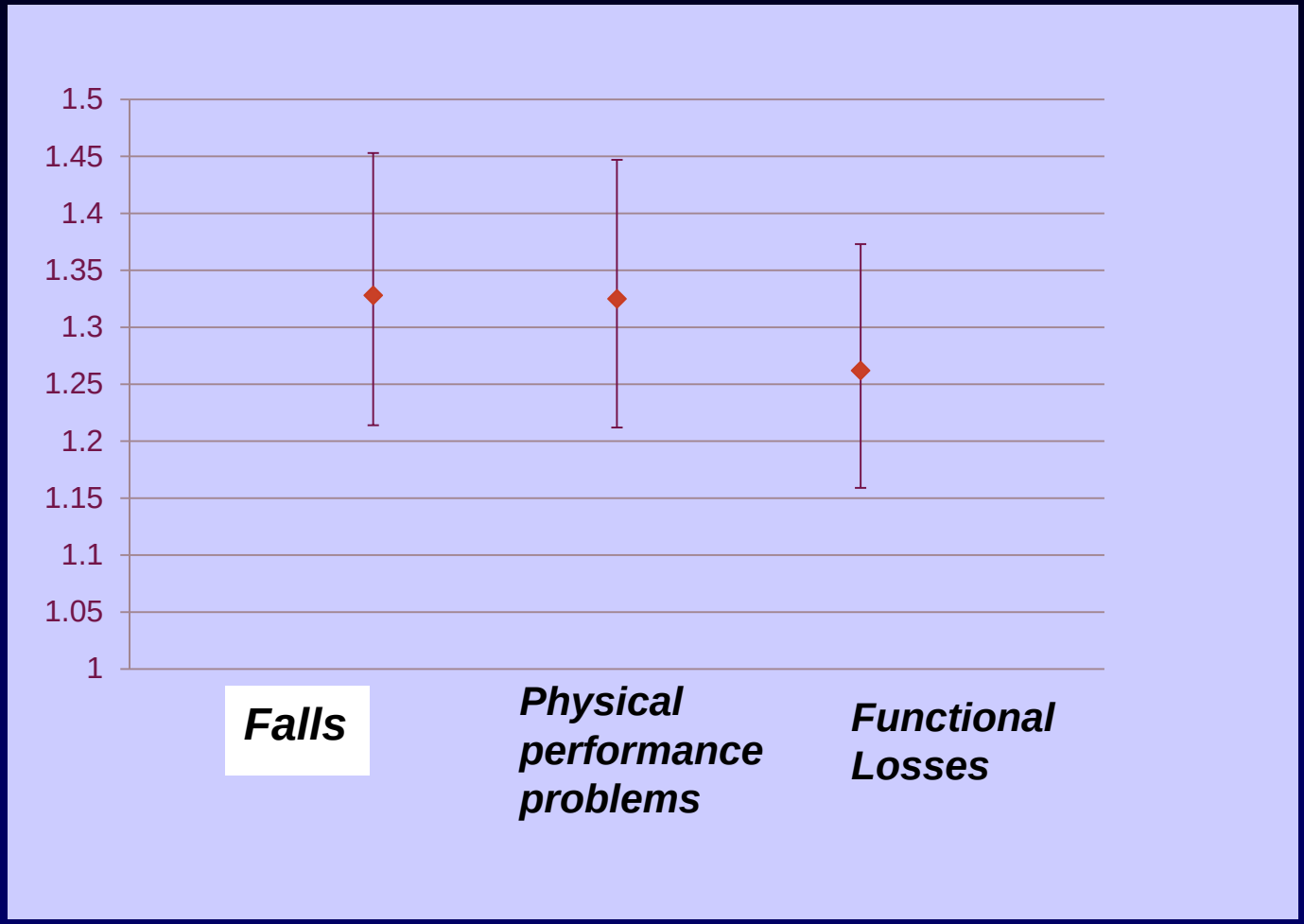
Mohile et al. JCO, 2011, p<.001

Falls in patients with CIPN

Tofthagen et al. Support Care Cancer, 2011

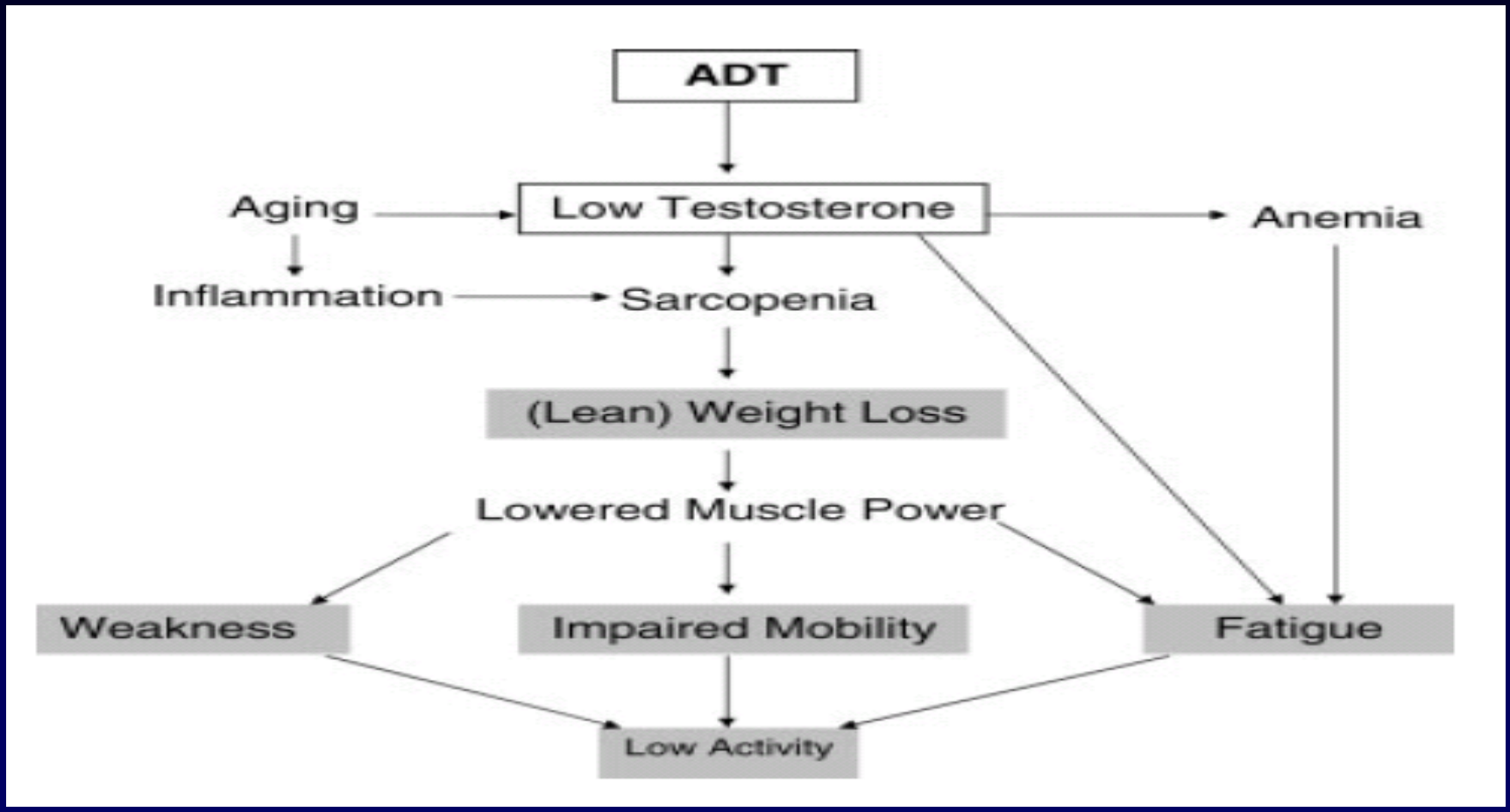
- 20% of patient with CIPN fall (21/109)
- Fallers:
  - received higher doses of chemotherapy
  - were more likely to receive taxane-chemotherapy
  - have more neuropathic symptoms
  - report more interference of CIPN with function
  - have a higher interference with walking and driving

Association of motor neuropathy toxicity with falls, physical performance problems, and functional losses



Gewantder. Supportive Care Cancer, 2013

ADT and Frailty



Bylow et al. Cancer, 2007

Geriatric Oncology Priorities

- We know that GA can help:
  - Identify patients at most risk for toxicity
- Now, we need to try to improve outcomes
  - Incorporate GA into clinical trials for older adults
  - Educate providers
  - Develop recommendations from GA to help older patients with cancer

Using GA to Guide Interventions

Domain	Assessment	Selected Examples of GA-driven interventions
Physical Performance	Fall history Standardized assessment such as Short Physical Performance Battery Assess for neuropathy	-Physical therapy consult for balance/strength training and assist device evaluation -Home safety evaluation and modification -LifeAlert system -Consider chemotherapy with low risk of neuropathy -Osteoporosis risk review

Priorities for the Older Survivor of Cancer with CIPN?

- Utilize standardized outcomes for mobility, balance, and function
- Measure the impact of balance and mobility training
- Evaluate and intervene on fall risk
  - Assist device
  - Home safety evaluation and modification
- Assess health care utilization
- Include in survivorship care plans

Adapted from Hile, Phys Therapy, 2010

SOCARE Clinic

Participants:

- Geriatric Oncologist
- Clinic Coordinator
- RN (oncology and geriatrics training)
- PT
- OT (additional cognitive training)
- Social Work
- Fellows/residents/med students
- Pharmacist
- Palliative Care
- Nutritionist

Conclusions

- The numbers of elderly patients with cancer are growing
- An assessment of an older cancer patient's life expectancy, reserve, comorbidity, and function may help predict risk of toxicity or poor outcome
- A geriatric assessment can help identify which older patients will benefit from geriatric interventions to improve survivorship