Geriatric Oncology: When to Start Screening and the Value of CGA in Older Patients with Cancer

2016 Geriatrics Update

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Learning objectives UPDATE

- To review current cancer screening guidelines for older adults

- To discuss challenges with, and a practical approach for, stopping cancer screening in the very old

- To review tools to help estimate remaining life expectancy

- (Time-permitting) To briefly explore the value of comprehensive geriatric assessment in older adults with cancer

Outline

- Burden of cancer in older adults
- What's so special about growing old?
- Cancer screening guidelines
- When to stop screening
- Value of CGA
- Summary

Case

- You see an 82 year old woman who is generally healthy and independent in ADLs but has difficulty bathing. She has hypertension and osteoarthritis. She is on an ACEI, vitamin D, and PRN acetaminophen. She has been receiving regular cancer screening but joined your practice this past year.

1) She wants to know if she should continue with screening.

2) She is diagnosed with stage III colorectal cancer and the oncology team proposes surgery followed by adjuvant chemotherapy. She turns to you to find out if she is too old to get cancer treatment.

Outline

- Burden of cancer in older adults

Cancer and Aging
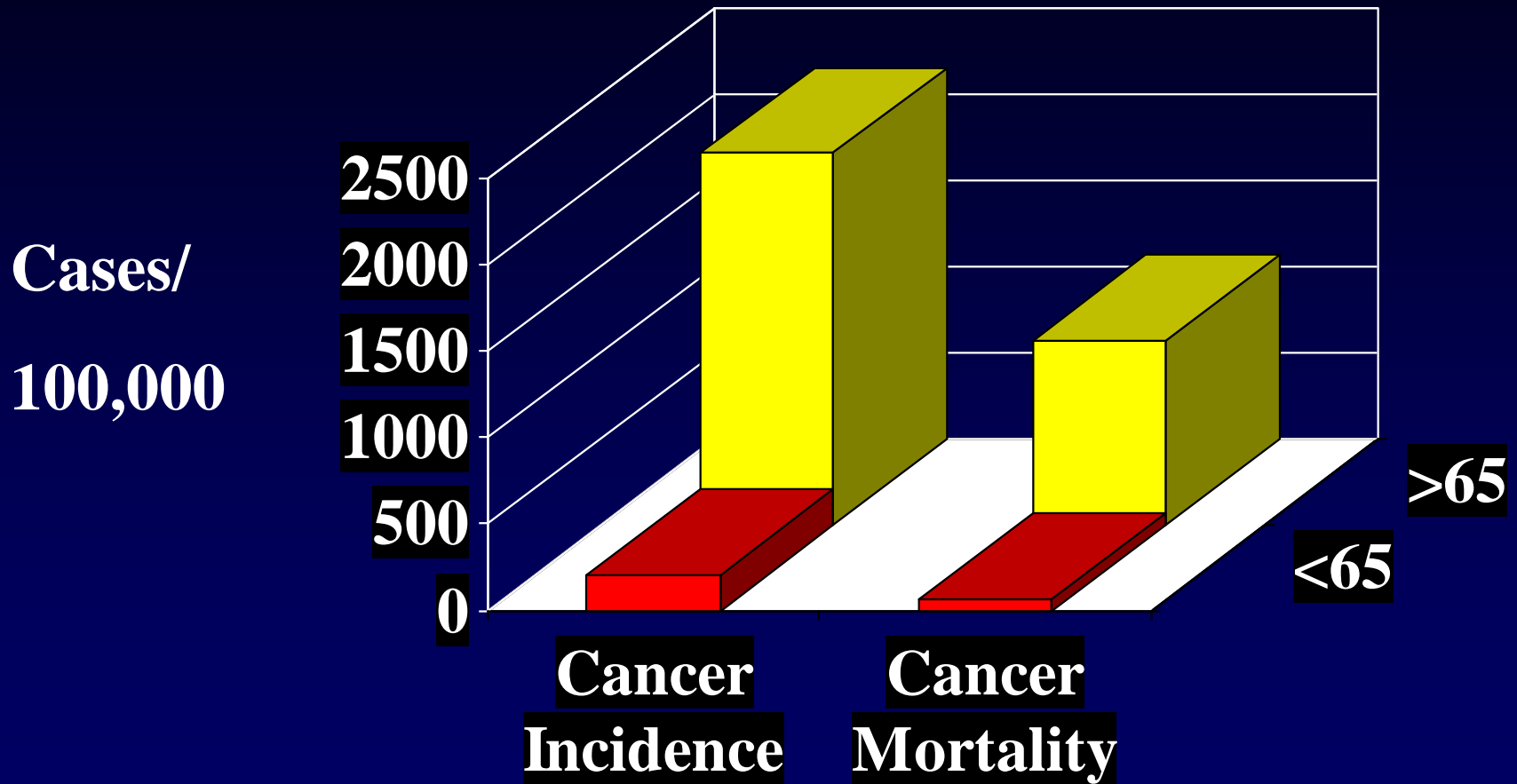
Yancik, Int'l Society of Geriatric Oncology 2001

Burden of cancer in older adults

- Older adults are fastest growing age group in Western countries

- About 60% of all cancers occur in age 65+

- 71% of all cancer deaths in age 65+

- Odds of dying from cancer are 16-fold higher in people age 65+ compared to <65

Burden of cancer in older adults

- Older adults are fastest growing age group in Western countries

- About 60% of all cancers occur in age 65+

- 71% of all cancer deaths in age 65+

- Odds of dying from cancer are 16-fold higher in people age 65+ compared to <65

- *The single greatest risk factor for virtually all cancers of adults is aging*
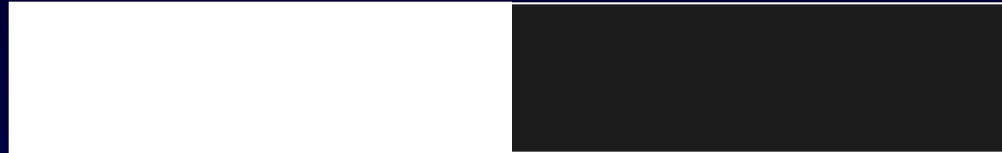
Outline

- Burden of cancer in older adults
- What's so special about growing old?

What is old?

65

Courtesy of Dr. A. Hurria, City of Hope

What is old?

65

65

Courtesy of Dr. A. Hurria, City of Hope

What's so special about growing old?

- Decreasing life expectancy
- Altered pharmacokinetics/dynamics as well as *homeostenosis*
- Increasing comorbidity (competing causes of mortality)
- Increasing cognitive and functional impairment
- Increasing frailty
- Limited oncology evidence base

"I'm getting old, Jim. Today, instead of jumping,
I had to stretch gently to a conclusion."

Outline

- Burden of cancer in older adults
- What's so special about growing old?
- Cancer screening guidelines

General considerations for cancer screening in older adults

- Screening asymptomatic individuals to detect early cancers which may be curable
- Use diagnostic tests with high sensitivity
- Natural history of disease can be changed by intervention
- Benefits outweigh risks

Benefits of screening

- Picks up early stage, curable disease
- Prolonged survival
- Better quality of life
- Self-empowerment
- *Often* economically attractive

Harms of screening

- Anxiety surrounding diagnosis/work-up
- Labelling phenomenon
- Procedural risks
- False positives/false negatives
- Identifying clinically insignificant lesions
- Economic considerations

What about older adults?

- Benefits diminish with age
  - Competing risks of mortality from comorbid conditions and advancing age

- Harms may increase
  - Procedural risks may increase with age for screening tests or subsequent treatments (e.g perforation rates with colonoscopy, peri-op mortality for major cancer surgery)

Cancer screening guidelines

Malignancy	ACS (2015)	CTFPHC	USPSTF (2009)
Breast	CBE & Mammogram yearly after age 40, every 2 y after 55 until <10 y life expectancy	CBE & Mammogram every 1-2 y age 50-69	Mammogram every 2 y age 50-74
Cervical	Pap every 2-3 y until age 70*	Pap every 3 y until age 69*	Pap every 3 y until age 69*

ACS = American Cancer Society; CTFPHC = Canadian Task Force on Preventive Health Care; USPSTF = US Preventive Services Task Force; CBE = Clinical breast exam
* - if 3 prior Pap smears were normal

Cancer screening guidelines

Malignancy	ACS (2016)	CTFPHC	USPSTF (2008)
Colorectal	Age 50+ either FOBT yearly OR flex sig every 5 y OR colonoscopy every 10 y OR DCBE every 5 y	Age 50+ FOBT every 1-2 y +/- flex sig (interval not specified)	Age 50-75 FOBT yearly +/- flex sig every 5 y OR colonoscopy every 10 y
Prostate	DISCUSS annual PSA + DRE age 50+ if life expec. >10 y	Not routinely recommended	Not routinely recommended; not after age 75

FOBT = Faecal occult blood test; DCBE = Double contrast barium enema; PSA = Prostate-specific antigen; DRE = digital rectal exam

Cancer screening guidelines

Malignancy	ACS (2016)	CTFPHC (2016)	USPSTF (2013)
Lung	Low-dose CT annually age 55-74 among smokers 30 pack-years quit <15 y ago	Low-dose CT annually age 55-74 among smokers 30 pack-years quit <15 y ago	Low-dose CT age 55-80 among smokers

Moving beyond the guidelines

- Key principles in moving beyond existing evidence and/or guidelines:
  - Are the patients we see in geriatric practice fundamentally different from cohorts in the original studies?
  - Will these geriatric patients live long enough (and be well enough) to benefit from screening (and subsequent treatment)?

Outline

- Burden of cancer in older adults
- What's so special about growing old?
- Cancer screening guidelines
- When to stop screening?

Cancer screening – when to stop?

- Screening asymptomatic individuals to detect early cancers which may be curable

- Use diagnostic tests with high sensitivity

- Natural history of disease can be changed by intervention

- **<u>Benefits outweigh risks</u>**

Stopping screening – challenges

- Many guidelines do not include age limits to stop screening or recommend continuing if health remains good

- Primary evidence base very limited because of lack of inclusion of sufficient numbers of older adults

- If age limits exist, these are often not rational (i.e. do not take into account factors such as comorbidity and disability that impact remaining life expectancy)

Awareness & Research

- Public awareness campaigns by major agencies
- Research
  - Policy models
  - Observational studies
  - Exploring attitudes and barriers among patients and doctors

Barriers to discussing stopping screening

– Patients have highly favourable views of screening

– Screening equated with health and life

– Continued screening viewed as a routine/habit

– Limited discussion with PCP

– Poor health or burden on others often motivated

– Some would seek second opinion or question physician's recommendation to stop

– Distrust of experts or gov't panels

– Suspicious of financial motives of payers

Torke A et al. JAMA Int Med 2013; 173:526

Stopping screening – what's a primary care physician to do?

- Cancer-specific

- Be comfortable with general guidelines and a sense of timeframe for benefits (e.g. 10-15 life expectancy years for prostate cancer)

- Know your patient's motivations to be screened, and think of points to bring up
  - Goals of care
  - Burden/risks of screening tests
  - Unlikely to live long enough to see benefits

Stopping screening – what's a primary care physician to do?

- Anticipate objections

- Be armed with guidelines and data as well as estimates of remaining life expectancy

- Normalize the discussion

  – I do this with all my patients [circumstance]

  – Lots of patients stop getting screened at a certain point because…

- Emphasize shared decision-making and respect the patient's wishes

THANK YOU
FOR NOT
DYING
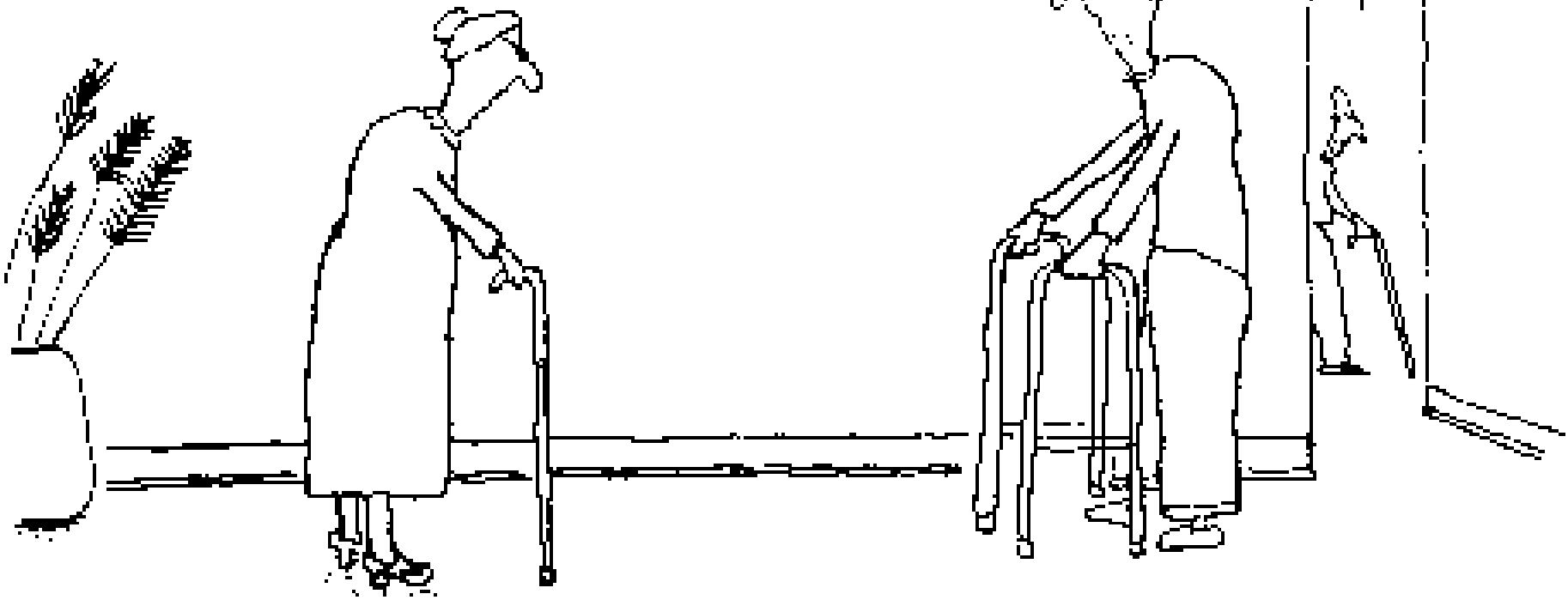
Outline

- Burden of cancer in older adults
- What's so special about growing old?
- Cancer screening
- When to stop screening?
- Remaining life expectancy

Predicting life expectancy - what's the problem?

• Whether done explicitly of implicitly, much of our clinical decision-making around treatment involves estimating remaining life expectancy (RLE)

• Often mentioned in clinical practice guidelines yet rarely mentioned HOW TO DO

• And clinicians are not trained or terribly good at predicting life expectancy (Walz J. BJUI 2007; 100:1254, Krahn MD. Urology 2002; 60:258)

How do we predict life expectancy?

- – Eyeball test

- – Age (Actuarial life tables)

- – Adding (mono)comorbidity (e.g. Framingham)

- – Validated prediction tools

- – ePrognosis

Projected life expectancy (years)

Age now	Life Expectancy	Age of Death
65	17.7	82.7
70	14.3	84.3
75	11.2	86.2
80	8.5	88.5
85	6.3	91.3
90	4.5	94.5
95	3.3	98.3
100	2.5	102.5

National Vital Statistics Report

Remaining life expectancy

- Key variables in determining remaining life expectancy:

  - Age

  - Comorbidity

  - Disability

How do we predict life expectancy?

- Validated prediction models
  - Systematic review by Yourman et al. in JAMA (JAMA 2012; 307:182) of validated prediction models in older adults
  - Across a variety of settings (home/clinic, ER, nursing home) 16 validated prediction models were identified
  - Only 1 had close to 10 year f/u (Schonberg M et al.)

How do we predict life expectancy?

- Schonberg M et al. J Am Geriatr Soc; 2011; 59:1444
  - 2 cohorts (development n=22,057 and validation n=24,139 community-dwelling adults age 65+ in US NHI surveys)
  - Follow-up to 9 years
  - Mortality 21% and 19%
  - 9-variable model C-statistic 0.75, mortality ranging from 7-11% (0-1 points) up to 89-92% (18+ points)

How do we predict life expectancy?

- Schonberg M et al. variables:
  - Age
  - Sex
  - BMI
  - Self-rated health (single question)
  - Comorbidity (COPD, cancer, diabetes)
  - Help with household chores (1 question)
  - Difficulty walking a quarter-mile (1 question)
  - Smoking
  - Hospitalizations in past 12 months

How do we predict life expectancy?

- Lee Index (Cruz M et al. JAMA 2013; 309:874)
- Published 10-year validation of a previously validated model predicting 4-year mortality in 8,009 patients age 50+
- 12-item model, 10-year follow-up, C-statistic 0.83)
- Mortality prediction ranged from 2.3% to 93%

How do we predict life expectancy?

- ePrognosis

eprognosis.ucsf.edu

- Incorporates both Schonberg and Lee indices in convenient on-line format, both authors are collaborators in designing the website
- ** App available **

ePrognosis - Estimating Prognosis for Elders - Windows Internet Explorer

http://eprognosis.ucsf.edu/

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Estimating Prognosis for Elders

Home   Bubbleview   Calculators   About   How We Sort   How to Use   FAQ   Links   GeriPal

Home

1. Where is the patient

   Clinic (living at home) ▾

2. What time frame best fits the clinical issue?

   4 - 10 years ▾

3. Is your patient 65 or older?

   -- select -- ▾

refresh page

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Home   Bubbleview   Calculators   About   How We Sort   How to Use   FAQ   Links   GeriPal

Lee Schonberg Index

- Population: Community dwelling adults aged 50 and older
- Outcome: All cause 4 and 10 year mortality
- Scroll to the bottom for more detailed information

Are you a healthcare professional?   ○ No   ○ Yes

Risk Calculator

1. How old is your patient?   Select ▾

2. What is the sex of your patient?   ○ Female   ○ Male

3. What is your patient's BMI?   Select ▾

4. Which best describes your patient's health in general?   Select ▾

5. Does your patient have chronic lung disease, such as emphysema or chronic bronchitis?   ○ Yes   ○ No

6. Has your patient ever had cancer (excluding minor skin cancers)?   ○ Yes   ○ No

7. Does your patient have congestive heart failure?   ○ Yes   ○ No

ePrognosis - Combined Lee Schonberg Index - Windows Internet Explorer

http://eprognosis.ucsf.edu/leeschonberg-result.php

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Results Based on Score:

Your total Schonberg index score is **13**

Your total Lee index score is **8**

Five Year Mortality for Schonberg Index

Points	Risk of FIVE YEAR mortality
0 - 1	2%
2 - 3	4%
4 - 5	6%
6 - 7	9%
8 - 9	13%
10 - 11	23%
12 - 13	35%
14 - 15	43%
16 - 17	59%
≥18	69%

ePrognosis - Combined Lee Schonberg Index - Windows Internet Explorer

http://eprognosis.ucsf.edu/leeschonberg-result.php

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Ten Year Mortality for Lee Index

Points	Risk of TEN YEAR mortality
0 - 1	<5%
2 - 3	7 - 10%
4 - 5	15 - 23%
6 - 7	34 - 43%
8 - 9	52 - 58%
10 - 11	70 - 82%
12 - 13	83 - 91%
≥14	93%

Now that you have seen this information, what is your best guess of ten year mortality risk?

-- select --

Did you find this information useful?

-- select --

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- Remaining life expectancy
- Value of CGA

Comprehensive geriatric assessment

"A multidisciplinary diagnostic process intended to determine a frail elderly person's medical, psychosocial, and functional capabilities and limitations in order to develop an overall plan for treatment and long-term follow-up"

Rubenstein, 1982

Comprehensive geriatric assessment

- Key components of CGA:
    - Comorbidity
    - Polypharmacy
    - Functional status
    - Cognitive function
    - Mood
    - Social support
    - Nutritional status

Comprehensive geriatric assessment

- CGA works in (inpatient) geriatric <u>medicine</u>

- A systematic review of 22 RCTs (n=10,315) demonstrated 16% greater likelihood of discharge alive and to home and 24% less likely to die or deteriorate with CGA

Ellis G. BMJ 2011; 343:d6553.

CGA identifies things oncologists do not

- 7 studies of geriatric oncology population:
  - 14-69% dependent in one or more basic ADL's
  - 48-74% dependent in one or more instrumental ADL's
  - 14-40% had significant depressive symptoms
  - 25-51% had cognitive impairment
  - Taking a mean of 6 medications

Extermann J Clin Oncol 2007; 25:1824

A SYSTEMATIC REVIEW OF THE USE OF GERIATRIC ASSESSMENT IN USE FOR OLDER ADULTS IN THE ONCOLOGY SETTING

M.T.E. Puts, J. Hardt, J. Monette, V. Girre, E. Springall and S.M.H. Alibhai

GA and mortality

- 11 studies (n=37 to 660)

- In 8 of 11 studies GA factors associated with mortality:
  - older age
  - inadequate finances
  - poor mental health
  - comorbidity
  - high medication use
  - high GFI scores (frailty)
  - low MNA scores (nutrition)
  - mild ADL impairments

GA and treatment complications

- 13 studies (12 in chemo setting)
- Complications were generally defined as grade 3 or 4 toxicity, treatment interruptions, and postoperative complications such as wound infections.

- 8 studies showed increased toxicity with:
  - ADL impairments
  - IADL impairments
  - comorbidity
  - poor mental health/cognitive functioning
  - poor social support

GA and treatment plan

- Systematic review of 10 studies examining impact of CGA on subsequent treatment plan (Hamaker M et al. Acta Oncologica 2013)
- Initial treatment plan made by primary oncologist or MDT
- CGA done by clinician(s) and results fed back usually to primary oncologist or MDT

- **<u>Median of 39% of initial treatment plans modified by CGA</u>**
  - In 2/3 of cases led to less intensive treatment

CGA and Oncologic Outcomes

- Corre et al. (J Clin Oncol 2016; 34:1476)
  - First completed RCT of CGA
  - 494 patients age 70+ with stage IV lung cancer considering chemo
  - Randomized to usual care or chemo guided by CGA
  - ** No CGA-based management of other conditions **
  - CGA led to more aggressive and more supportive care only treatments, less toxicity, but similar survival
  - Positive or negative result?

CGA – Does it work?

- Limitations:
  - Only one completed RCTs (4 under way)
  - Unclear if survival or disease control impacted
  - Unclear which method(s) and population(s) optimal for CGA
  - Limited resources – can we efficiently screen/triage patients?
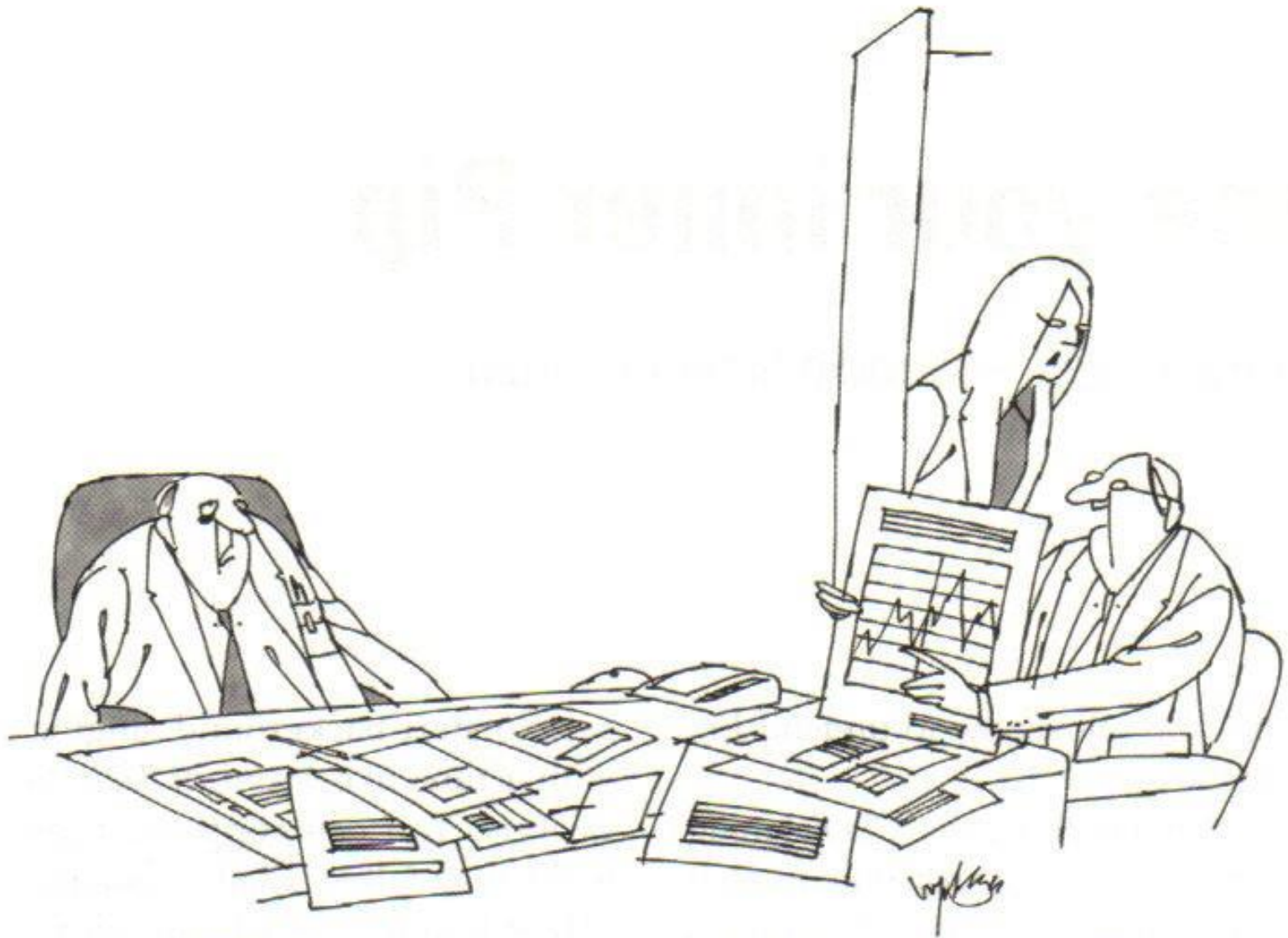
"Wind up your presentation — he's losing bone mass."

Case

- You see an 82 year old woman who is generally healthy and independent in ADLs but has difficulty bathing. She has hypertension and osteoarthritis. She is on an ACEI, vitamin D, and PRN acetaminophen.

- What is her estimated remaining life expectancy?
  a) 5 years
  b) 7 years
  c) 9 years
  d) More than 10 years
  e) Cannot reliably be estimated

Question 2

- You see an 82 year old woman who is generally healthy and independent in ADLs but has difficulty bathing. She has hypertension and osteoarthritis. She is on an ACEI, vitamin D, and PRN acetaminophen.

- What is her estimated remaining life expectancy?
  a) 5 years
  b) 7 years
  c) 9 years
  d) **More than 10 years (10-year mortality 34-43%)**
  e) Cannot reliably be estimated

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Summary

- Cancer disproportionately affects older adults in terms of incidence, morbidity, and mortality

- Older patients with cancer have more comorbidity, disability, polypharmacy, and altered physiology that impact cancer screening and treatment

- Evidence base to treat older adults with cancer limited in several ways

Summary

- The decision to stop cancer screening is sensitive but important to bring up as part of an 'aging' primary care practice

- Validated tools exist to help predict life expectancy

- CGA may help improve management of more complex/frail older adults with cancer but many practical questions remain unanswered