Annual Wellness Exam for Elderly

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Goals
- What are the assessment tools for Geriatric Health Promotion and Wellness?
- What are the controversies and evidenced-based approaches to healthy lifespans?

Human aging starts at 20

What is preventive medicine?
- Promotion, protection and maintenance of health and well being
- Prevention of disease, disability and premature death in defined populations.
What is health promotion?

Health promotion is the process of enabling people to increase control over the determinants of health and thereby improve their health.

Health Promotion competencies

- Enable change
- Health Advocacy
- Mediate through partnership
- Work with individuals, groups, & communities to improve health and reduce health inequities.
- Advocate health and well being. Help build capacity for health promotion action

Health promotion in contemporary medical practice

Standard care
- Symptom driven encounters.
- Tell patient to change their lifestyle
- Hand outs insensitive to health literacy & cultural competency
- No regularly scheduled follow up

New approach
- Collaborate to establish lifestyle action plan
- e.g. structured counseling
- Intentional Follow up
- e.g., health coach follow up

Skip the annual checkup?

Pro annual check up
1. Screening assessments
   - MCI
   - Cancer
   - Function / gait speed
2. Opportunity to evaluate health prevention needs

Anti – annual check up
1. Does not reduce rates of illness
2. Does not reduce mortality
3. Waste of health care resources

Inadequate time to perform preventive services

- High RVU generating clinics neglect PHE
- 2500 patient panel consumes 1700 + physician hours annually for new and recurrent PHE. Equivalent to 7.4 hours daily.


Conundrum: poor cancer screening

> 50 F:
only 56% had mammography or breast exam in previous 2 years
> 50 M & F:
only 30% had fecal occult blood testing in past 3 years, and only 39% ever had colonoscopy.
> 65 y.o. cancer rates per 100,000 population

<table>
<thead>
<tr>
<th>Cancer</th>
<th>ND</th>
<th>USA</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>47</td>
<td>40</td>
</tr>
<tr>
<td>Colon</td>
<td>130</td>
<td>123</td>
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</table>

Conundrum: Do periodical physical exams work?

Physicians are split on the importance of the annual physical exam

Physicians are split on the importance of the annual physical exam.

RCTs show mixed results for annual physical exams.

- Most do not show differences in mortality
- May increase testing for non-significant disease

Public wants annual physical exams

- 60% respondents believe a physical exam is necessary annually.
- 90% feel that a history with lifestyle questions about alcohol, smoking and vaccinations should be asked annually.

Employer mandates for annual physical exams as terms for health care coverage.
**Current recommendations**

- Use visit to strengthen Patient – Physician – Community collaboration
- Use history to focus on symptoms and health risks
- Use physical exam in elderly on vitals, neurosensory, mood, cognition, and function.
- Use check lists for preventive health screens (nutrition, immunizations, chemoprevention)
- Integrate structured lifestyle counseling
- Establish life plan / goals
- Follow up recommendations through scheduled calls
- Integrate lifestyle recommendations with group visits and community resources.

**Geriatric Preventive Medicine axioms**

- Consider preventive measures relative to Active Life Expectancy, Functional status (physical & cognitive)
  - e.g., Cholesterol lowering treatment in a 95 year old with active life expectancy of 98.
- Preventive health measures are both underused and overused in elderly
  - e.g. overused: cancer screen
  - e.g. underused: lifestyle changes (exercise)

**Breast Cancer Screening**

- Mammography screening trials do not include women > 75 y/o.
  - Conventional
  - Digital: equals conventional, except 40-49 y/o dense breast tx.
  - 3-D digital: no RCTs versus digital
- Self breast exam: 2 large RCTs found no difference between self exam and no exam
- Clinical breast exam no RCTs

**Breast cancer screening recommendations**

- USPSTF
  - Middle age: start at 50 y/o and repeat every 1-2 yrs.
  - 65 – 74: every 1 – 2 years
  - 75+: stop screening

- American Geriatrics Society
  - 75+: except if life expectancy > 5 years, then perform screening mammography every 1-2 years.

**Cervical cancer screening**

- USPSTF
  - 21 – 29 every 3 years
  - 30 – 65 every 5 years with HPV co - test
  - 65 + stop
- American Geriatrics Society
  - If two consecutive normal PAP smears by 65 y/o, stop screening, otherwise two normal consecutive screens, then stop.

**Prostate cancer screening: PSA**

- Two large RCTs
  - Prostate, Lung, Colorectal and Ovarian Cancer Screening Trial (US)
  - European Randomized Study of Screening for Prostate Cancer (EUR)
- No reduced mortality benefit over all age groups
- ERSPC found 20% prostate cancer mortality decrease in 55 – 64 y/o (most had radical prostatectomies)
- USPSTF recommends against PSA screening
Prostate screening

Digital rectal exam
- High false positive,
- Only 1/3 biopsy (+)

New approaches
- PSA velocity: serial PSA levels relative to ultrasound prostate volume
- Age – adjusted PSA nomograms (PSA increases with age)

Colon cancer screening

- Screening test: colonoscopy and fecal occult blood
- Prevalence: 1 – 2 out of 100 at age 60 will get colon cancer by age 70
- Problem: high mortality and morbidity
- Impact: 10,000 preventable deaths annually
- Recommendations
  - Colonoscopy every 10 years, stop at 75 y/o
  - FOB annually up to 75 y/o
  - Caveat: if active life expectancy > 10 yrs, screen

Disease Screening

- Polypharmacy
- Thyroid
- HTN
- DM
- AAA
- Osteoporosis
- HL

Polypharmacy

16% of elderly hospitalizations due to Adverse Drug Events


Most susceptible: frail and over 80 years old

Systematic and regular review of medications with slow tapering
Beers Criteria

Screening for thyroid disease

- Screening test: serum TSH
- 1: 100 elderly with hyperthyroidism
- 1: 50 elderly with hypothyroidism
- Insidious onset
- AGS: screen q 2 – 5 years (e.g., memory loss)
- USPSTF: neither for / against
- Watch for atypical manifestations of disease in elderly!

Hypertension

- Screening: sit or stand measurement. Use manual cuff with palpation if cardiac arrhythmia!
- Prevalence: HTN increases with increasing age (NHANES ~ 67%)
- Intervention reduces stroke, CAD, and total mortality
- Screening recommendations unclear about frequency: minimum biannually.
- Positive screen: two elevated reading on two separate visits over several weeks.
Diabetes

- Screening: Hemoglobin A1c (> 6.5%), FBS x 2 > 126 mg/dL, 2 HR post load glucose
- Prevalence: 26.9%
- USPSTF recommends screening asymptomatic adults with BP > 135/80 mmHg (treated and non-treated).

Antibiotic Odds ratio 94% CI

<table>
<thead>
<tr>
<th>Antibiotic</th>
<th>Odds ratio</th>
<th>95% CI</th>
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<tbody>
<tr>
<td>Clarithromycin</td>
<td>3.96</td>
<td>2.42-6.49</td>
</tr>
<tr>
<td>Levofoxacin</td>
<td>2.50</td>
<td>2.15-3.10</td>
</tr>
<tr>
<td>Sulfamethoxazole-trimethoprim</td>
<td>2.06</td>
<td>1.46-3.07</td>
</tr>
<tr>
<td>Metronidazole</td>
<td>2.11</td>
<td>1.28-3.47</td>
</tr>
<tr>
<td>Ciprofloxacin</td>
<td>1.62</td>
<td>1.33-1.97</td>
</tr>
</tbody>
</table>

Odds ratio for antibiotic associated hypoglycemia in elderly taking sulfonylureas

Vascular screening: AAA

- Screen: Abdominal ultrasound
- Prevalence in HTN elderly:
  - 4-8% M and 2% F, smoking 5x risk
- Problems:
  - 1:3 rupture (5.5cm)
  - Most AAA asymptomatic & symptoms non-specific:
    - Throbbing or deep pain in back or side.
    - Pain in the buttocks, groin, or legs
- Recommendation
  - USPSTF recommends screening at least once all > 65 M who smoked > 100 cigarettes. No screen for F.

Screening Osteoporosis

- Prevalence: 16% F and 4% M with 50% of women > 80 y.o.
- Problem: 4 of 10 F will have hip, spine, or axial fracture
- Recommendation:
  - USPSTF recommends bone mineral density screen through dual x-ray absorptiometry in 60+ with risk and all 65+ women.
  - AGS: recommends screening to include men > 80 or androgen RX
  - NNS to prevent one hip fx = 731 for 65–69 y/o and 143 for 75–79 y/o
  - Medicare pays q 2 year.

FRAX score for osteoporosis and fracture risk.

Screening: Hyperlipidemia

Prevalence:
- If total cholesterol > 260 mg/dL, 42% women, 34% men
- Based on LDL > 130 mg/dL, = 30%
- Cholesterol levels plateaus with increasing age

Screening test: fasting HDL and total cholesterol
- If HDL-C < 40 mg/dL, men and < 50 mg/dL, women, repeat and take average values for risk screening.
- Screening interval: 5 years.
Geriatric functional assessment

Assessment of frailty / vulnerability

<table>
<thead>
<tr>
<th>Tool</th>
<th>Measures</th>
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<tbody>
<tr>
<td>Vulnerability Evaluation Scale (VES-13)</td>
<td>Wellness and functionality</td>
</tr>
<tr>
<td>SF36</td>
<td>Frailty and Frailty risk</td>
</tr>
<tr>
<td>Fried Frailty Scale</td>
<td>Frailty and Frailty risk</td>
</tr>
<tr>
<td>Gait speed</td>
<td>Risk for falls, dementia, hospitalization, death</td>
</tr>
<tr>
<td>ADL / IADL</td>
<td>Functional dependency (full or partial)</td>
</tr>
</tbody>
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Functional Assessment

Activities of Daily Living
- Eating
- Bathing
- Dressing
- Transferring
- Voiding
- Mobilizing

Instrumental Activities of Daily Living

Fried Frailty Scale

Gait Speed

Gait and balance screening:
- Sharpened Romberg
  - Balance (Sharpened Romberg test): Patient stands with feet together, semi-lateral, and tandem, with eyes open for 10 seconds, then closed for 15 seconds in each position.
Immunizations

2016 CDC Adult Immunization Schedule

Cognitive Testing

Short CAM

Mood Disorder & Substance Abuse Screening
Mood and behavioral assessment

Patient Health Questionaire

Screening for lifestyle issues

- Alcoholism
- Smoking
- Sexual dysfunction
- HIV
- Sedentary life

The Aging of the HIV Epidemic in the US

- Number of People living with HIV
  - Age 50 and Older in 1990: 1.25 Million
  - Age 50 and Older in 2002: 37%
  - Age 50 and Older in 2003: 50%
  - Age 50 and Older in 2004: 70%

Sexual Health

Calder

Advance Directives

Albert Bierstadt

Lifestyle recommendations
Chemoprophylaxis

- Aspirin
- Calcium
- Vitamins
- HRT
- Plant medicinals (saw palmeto, echinacea, turmeric, etc)

Physical activity prescription

- Nutrient assessment
  - Assessment: BMI and tools such as the Mini Nutritional Assessment
  - Self assess: DETERMINE check list

Telomere length is reduced by aging and inactivity

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<th>Intensity</th>
<th>Duration (minutes)</th>
<th>Benefit (% CV risk reduction)</th>
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<tr>
<td>Low</td>
<td>30</td>
<td>10</td>
</tr>
<tr>
<td>Moderate</td>
<td>60</td>
<td>20 – 30</td>
</tr>
<tr>
<td>Intense</td>
<td>90</td>
<td>40</td>
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How much exercise is enough?

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65 year old

<table>
<thead>
<tr>
<th>Healthy Life Expectancy</th>
<th>Years gained</th>
</tr>
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<tbody>
<tr>
<td>No exercise</td>
<td>77.7 years old</td>
</tr>
<tr>
<td>Exercise</td>
<td>83.4 years old</td>
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Exercise intensity (MET – h/wk)

PLOS 2012

How much exercise is enough?

How much exercise is enough?
Centenarian Diets

<table>
<thead>
<tr>
<th></th>
<th>Meat</th>
<th>Fish</th>
<th>Milks/cheese</th>
<th>Beans</th>
<th>Vegies</th>
<th>Fruits</th>
<th>Bread</th>
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<tbody>
<tr>
<td>Sardinia</td>
<td>++</td>
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<td>++</td>
<td>++</td>
<td>+++</td>
<td>++</td>
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<td>Okinawa</td>
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<tr>
<td>Loma Linda</td>
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Cognitively impaired elderly annual exam

Caregiver burnout assessment
CASE: Care giver abuse screen
Canadian Journal on Aging 2003, 14, 45-60.

AMA Caregiver Self-Assessment Questionnaire
JAGS 2010, 58(2), 387-388

Dual task exercise

Emerging innovations

- Deep wave therapy
  - Enhance slow wave period to improve memory

- Nicotinamide ribose
  - Improve bioenergetics

- Bright Light Therapy
  - Adjusted to SSRI
  - Reduce agitation
  - Seasonal affective disorder

High Intensity Interval Training

Summary

Integrate geriatrics into primary care

Functional assessment works

Prescribe Healthy lifespan