Periodic Health Examination
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Definitions
• Visit with a health care provider to assess an asymptomatic person’s health and risk factors for preventable disease, with delivery of preventive services tailored to age, sex and risk factors
  American College of Physicians
• Visits to a general practitioner by well feeling adults on a regular basis... generally involves history, physical examination, laboratory tests and preventive services
  Wikipedia

CDC Website
Regular Check-Ups are Important
It's time to take charge of your health! Schedule an appointment with your health care provider to discuss what screenings and exams you need and when you need them.

Why are Check-Ups Important?
Regular health exams and tests can help find problems before they start. They also can help find problems early, when your chances for treatment and cure are better.
A Cautionary Tale

GWB was a 67 year-old man in excellent health. He had no known risk factors for coronary artery disease. He was very active - golfing, working out almost daily in a home gymnasium, and regularly riding his mountain bike long distances. Shortly before his annual physical exam, he led a 106-mile bike ride for wounded veterans near his Central Texas ranch. He had no reported chest pain, shortness of breath or exercise limitation. As a former president, he had a routine annual “VIP” examination at the Cooper Clinic in Dallas. This examination included a resting EKG and cardiac stress test. There were no reports of any cardiac symptoms during testing. The cardiac stress test demonstrated an abnormality and was followed by a CT coronary angiogram, which also showed an abnormality. He was transferred immediately to Texas Health Presbyterian Hospital where, on the same day, he underwent an angiogram and placement of a single vessel coronary stent. He was discharged with a diagnosis of coronary artery disease and was prescribed aspirin and clopidogrel (both dangerous while biking).

The “Presidential Physical Examination”

Examinations and Tests

- History
  - Medical, surgical, and social history

- Medications

- Basic measurements
  - Height, weight, body mass index
  - Blood pressure, heart rate, temperature
  - Pulse oximetry, % body fat

- HEENT
  - Routine eye exam, slit lamp exam, dilated ophthalmoscopy, visual field testing
  - Audiometry, tonometry
  - Fiberoptic nasolaryngoscopy
  - Carotid ultrasound

Recommended

- Chest X-ray
- Pulmonary function testing
- Abdominal ultrasound
- Colonoscopy (every 5 years)
- Resting EKG
- Echocardiography
- Coronary calcium score
- Prostate specific antigen (PSA)
- Prostate ultrasound
- Comprehensive blood tests
- Fasting lipids
- C-reactive protein
- Homocysteine
- Urine analysis
- Tb skin test

Periodic Health Examination

Why Not Get All These Tests?

- No evidence of benefit
- Evidence of harm
  - Inappropriate reassurance
  - False positives
  - Incidental findings
  - Overdiagnosis
- Cost
  - Worry, anxiety
  - Labeling
  - More tests
  - More treatment

Examinations and Tests
- Every 10 years
- X-ray
- Pulmonary function testing
- Abdominal ultrasound
- Colonoscopy (every 5 years)
- Resting EKG
- Echocardiography
- Coronary calcium score
- Prostate specific antigen (PSA)
- Prostate ultrasound
- Comprehensive blood tests
- Fasting lipids
- C-reactive protein
- Homocysteine
- Urine analysis
- Tb skin test
No Evidence of Benefit

- Systematic review of 21 studies of "periodic health exam"
  - Improved compliance with Pap smears
  - Improved receipt of cholesterol testing
  - Improved receipt of fecal occult blood testing
- Systematic review of 16 studies of "general health check"
  - No effect on overall mortality, or death from coronary disease or cancer
  - No effect on morbidity, hospitalization, disability

Korgboll, BMJ, 2012

False Positive Tests

Definition: Test says you have (might have) a disease, but you don’t
- No test is 100% accurate
- Most people without symptoms don’t have disease
- “Routine” urinalysis is positive in 5% of asymptomatic people with no urine infection
  - if 100,000 people get UA, 5000 falsely positive
  - 5000 people get unneeded antibiotics

Low-dose CT scan screening for lung cancer
- Of 1000 people screened annually for 3 years
  - 190 (19%) will have a positive test
  - 95% of positive findings are not cancer
  - All with positive tests will need further evaluation
  - 40 will need a biopsy or surgical procedure and 2 will have a major complication related to evaluation

Bach, JAMA, 2012

Incidental Findings

- Incidentaloma: A mass or lesion (-oma) found incidentally in a person without symptoms or suspicion during a routine physical exam or imaging procedure
- Common incidentalomas:
  - Adrenal
  - Pulmonary
  - Thyroid
  - Parotid
  - Pituitary
  - Renal
  - Liver
Incidental Findings

- Study of 1426 imaging studies done for research
- 567 persons (40%) had at least one IF (1055 total)
- 6 (1%) had a clear medical benefit
- 3 (0.5%) underwent laparoscopy or surgery for benign conditions
- Most IFs from CT scans of the chest and abdomen

Orme, JAMA Internal Medicine, 2010

A Cautionary Tale

A man in his 50s with brachial plexopathy had a chest X-ray to make sure this was not caused by a tumor in the lung. The X-ray showed no masses, but a left pleural effusion with adjacent atelectasis or pneumonia. A chest CT scan done to evaluate this incidental finding showed no masses, but the left hemidiaphragm was elevated with adjacent atelectasis or consolidation. There were two 5mm thyroid nodules, three 3-6mm pulmonary nodules, an indeterminate left adrenal nodule, a 3.7 cm hepatic cyst, and stones in the gall bladder. The patient had a mild reaction to the IV dye. The patient's thyroid function tests were normal, and thyroid ultrasound showed multiple thyroid nodules. There are being followed by periodic ultrasound. An abdominal CT scan (with another mild reaction to the dye due to pretreatment with prednisone and diphenhydramine) showed a 1.3 cm adrenal nodule consistent with a benign adenoma. A follow-up CT scan of the chest showed no growth of the pulmonary nodules. Two years later, the patient is well. All told, he had 3 ultrasound examinations, 3 CT scans, 2 specialty consultations and multiple laboratory tests, all unrelated to his original problem.

Barry, JAMA Internal Medicine, 2014

Overdiagnosis

Definition: You are diagnosed with a disease, which would never have caused symptoms: you would have died of another cause

- The probability of having prostate cancer is about equal to age, but symptomatic prostate cancer and death from prostate cancer are uncommon
- In randomized trials, there is typically a higher rate of cancer in persons screened than not screened

O'Malley, JAMA Internal Medicine, 2010

Overdiagnosis

- Low-dose CT scan screening for lung cancer
- Of 1000 people screened annually for 3 years
  - Chance that a lung cancer detected by screening is an overdiagnosis is 18%
  - 3 fewer persons will die from lung cancer in the screened compared to control group
  - 4 persons in the screened group will be overdiagnosed

Patz, JAMA Internal Medicine, 2014
Recommendations NOT to Have Periodic Health Examination

- Canadian Task Force on the Periodic Health Examination
- American College of Physicians
- American Medical Association
- US Preventive Services Task Force
- Society for General Internal Medicine

Cost

- Single most common reason US patients seek care – 10% of all primary care visits
- Cost about $10 billion per year
- Funds could be better used
- Physician time could be better used

Recommendations to Increase the Value of Care

- Pay for visit to new doctor to establish relationship
- Provide preventive care at visits for other reasons
- Stop paying for annual health exams
When Do Asymptomatic Adults Need a Checkup?

- To meet a new physician and provide your health history
- To help with lifestyle health risk factors like smoking, alcohol abuse, obesity, healthy eating and exercise
- For family planning and prenatal care
- For other reasons that are based on your individual needs
  - Immunizations (flu, pneumonia, shingles)
  - Age and risk-factor based screening (cancer, osteoporosis)
- Evidence-based apps:
  - AHRQ ePSS
  - KP Preventive Care for Northern California

Questions?