


# Week 8 – Preventive Health Checks




## Preventive Health Checks

**Week 8 – Eight Weeks to Wellness**  
Prepared by Don Hall, DrPH, CHES

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## Strategy for Good Health

1. Live a healthy lifestyle (primary prevention)
  - eat well
  - be physically active daily
  - avoid substances or practices that harm health
2. Get regular health exams (secondary prevention)
  - check regularly for any abnormalities
  - early diagnosis and treatment for disease




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## Preventive Checks That Can Add Years to Your Life



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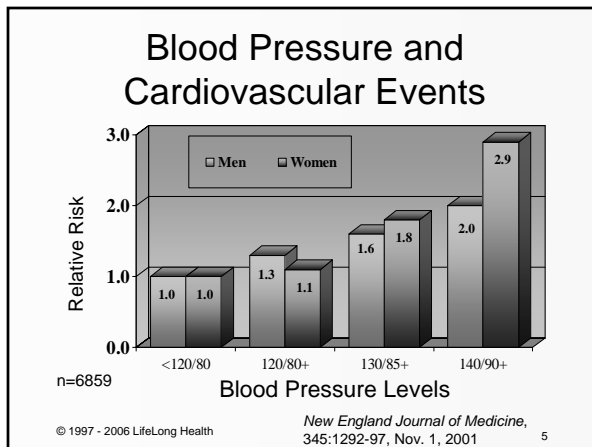



## Blood Pressure Check

Less than 120/80 Normal (Healthy range)  
120/80 -- 139/89 Pre-hypertension  
140/90+ High blood pressure (high risk)

NIH, National High Blood Pressure Education Program, 2002

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## Lifestyle Modifications for Prevention of Hypertension

1. Achieve a healthy body weight (BMI <25).
2. Reduce dietary sodium intake to <1500 mg/day.
3. Engage in regular aerobic physical activity.
4. Limit alcohol consumption.
5. Get adequate potassium, 3500 mg/day.
6. Choose healthy meals (DASH Diet):
  - High in fruits and vegetables, 5-9 servings per day,
  - Low fat dairy products, and reduced saturated fat intake.

Nat. High BP Edu Program, JAMA 288:1882-88, Oct. 16, 2002

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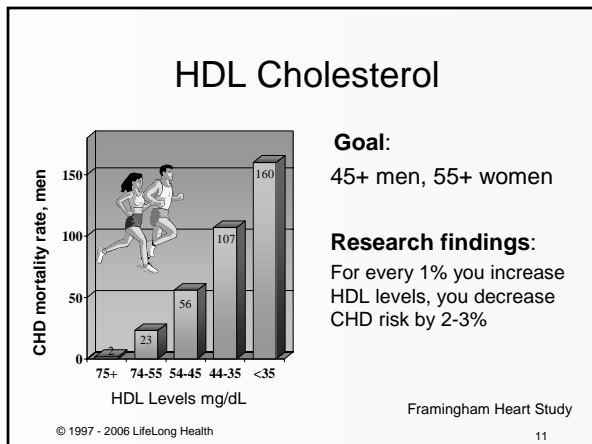
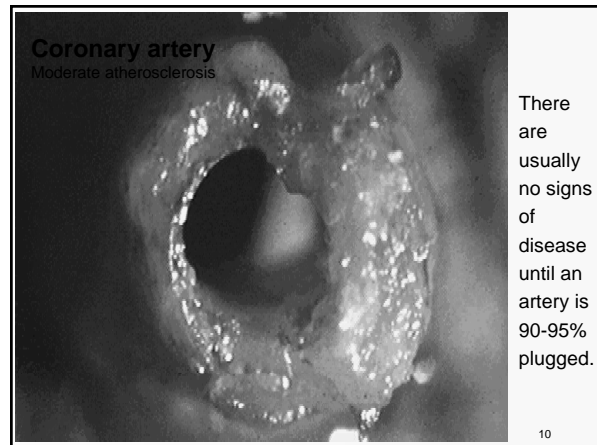
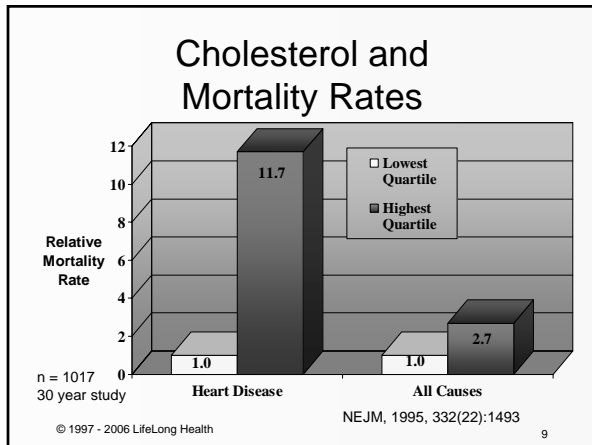
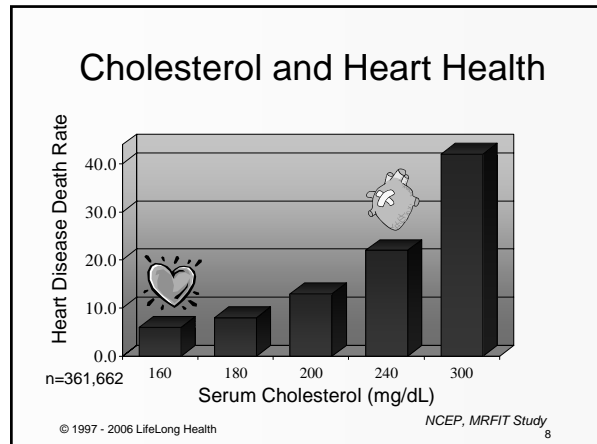


## Cholesterol Check

160 or less	Optimum
Less than 200	Desirable
200-239	Elevated – increased risk
240+	High cholesterol – high risk

NIH, National High Cholesterol Education Program, 2002

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## Therapeutic Lifestyle Change for a Healthy Cholesterol Level

- Achieve/maintain a healthy weight:
  - BMI less than 25 - or lose 10-15+ excess lbs.
- Limit animal/saturated/trans fats:
  - Less than 7% of calories (less than 5% is ideal),
  - Avoid trans fats (partially hydrogenated vegetable oils).
- Limit dietary cholesterol:
  - Less than 200 mg/day (0 intake is ideal).
- Choose healthy fats: unhydrogenated vegetable oils:
  - Polyunsaturated fats, up to 10% calories,
  - Monounsaturated fats, up to 20% of calories,
  - Foods with healthy fats: avocado, olives, nuts, seeds.

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## Therapeutic Lifestyle Change for a Healthy Cholesterol Level–2

- Eat unrefined foods high in fiber:
  - Increase soluble fiber, 10-25 gm/day
    - Oats, oat bran, barley, pectin-rich fruit, beans, psyllium.
  - Eat more fruits, vegetables, whole-grain breads, and cereals.
- Use margarines with plant stanols/sterols:
  - 2-3 gm/day (e.g. Benecol, Take Control)
- Eat nuts, nut butters, or seeds daily.
- Get regular physical activity.



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## Cholesterol Lowering Diets

### Control diet (Good diet)

Low saturated fat/cholesterol diet (STEP 2 diet plus whole grains to increase fiber), nonfat milk, nonfat cheese, egg replacer, vegetarian diet

### Control diet + Lovastatin

### “Best Diet”

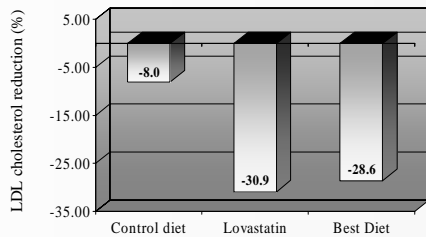
Low saturated fat/cholesterol diet (vegetarian), with soy milk, soy proteins, almonds, oat fiber cereal and bread, psyllium seed (high viscous fiber)

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JAMA 290:502-10, July 23/30, 2003

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## Results of LDL Cholesterol Lowering Diet Versus Lovastatin



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JAMA 290:502-10, July 23/30, 2003

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## Glucose Check

### Fasting blood test

Normal 70-89  
High Normal 90-99  
Pre-diabetes 100-125  
Diabetes 126+

### Non-fasting test

Diabetes 200+

American Diabetes Association, Diabetes Care, Nov. 2003

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## Diabetes – The Problem

- 17 million Americans have diabetes (8% of adults):
  - 6 million are unaware.
  - 11 million are diagnosed and treated.
  - Another 16 million people have pre-diabetes.
- One million people will be diagnosed with diabetes this year (2,200 every day).
- Diabetes is the 6<sup>th</sup> leading cause of death.
- Diabetes increased by 33% this last decade.

Diabetes Fact Sheet, ADA web site, 2002

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## Complications

### Diabetes ...

- Is the leading cause of blindness in the U.S.
- Is the leading cause of end stage kidney disease
- Is responsible for 60% of nontraumatic leg amputations
- Causes heart disease (diabetics leading cause of death)
- Causes high blood pressure, 73% of adults with diabetes have high blood pressure
- Increases the risk for stroke by 2-4 times
- Damages nerves in 60-70% of people with diabetes
- Shortens life expectancy by 4-7 years

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ADA, Fact Sheet 2003

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## Signs and Symptoms of Diabetes

- Unusual thirst and frequent urination
- Extreme hunger
- Unusual weight loss
- Fatigue, irritability
- Frequent infections including bladder infections
- Blurred vision
- Cuts/Bruises that are slow to heal
- Tingling/Numbness in hands or feet



American Diabetes Association, 2003

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## Diabetes Can Be Prevented

- The ADA recommends:
  - Walk briskly for 30-minutes daily,
  - Maintain a healthy weight, or if overweight lose even 10 pounds.
- They estimate that these two simple changes could cut your risk of type 2 diabetes in half.
- Making further changes in diet, stopping smoking, etc. can cut your risk even further.

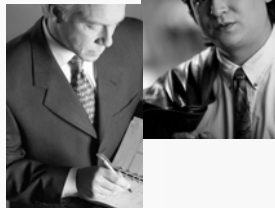
American Diabetes Association, 2003

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## Intervention Trial to Prevent Diabetes

- Researchers studied 3,234 individuals at high risk for diabetes.
  - Sedentary
  - Overweight
  - Elevated glucose
- Participants were randomly assigned to one of three groups:
  - Placebo
  - Medication (metformin)
  - Lifestyle intervention



NEJM 346:393-403, Feb. 7, 2002

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## Lifestyle Intervention

- Lifestyle intervention included:
  - Weight loss, goal 7% of weight
  - Exercise daily, goal 150 min/week
  - Improve eating
    - Higher fiber intake
    - Lower saturated fat
    - Lower glycemic load



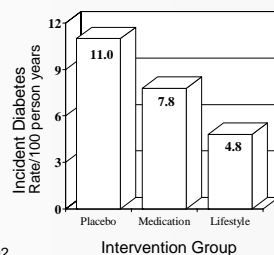
NEJM 346:393-403, Feb. 7, 2002

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## Intervention Results

After 3 years, the incidence of diabetes was 58% lower in the lifestyle intervention group, and 31% lower in the metformin group, compared to the placebo group.



NEJM 346:393-403, Feb. 7, 2002

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## Lifestyle and Risk of Diabetes

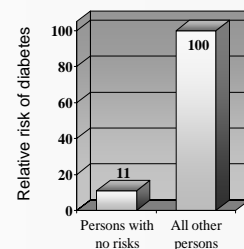
84,941 women, 16 year study

Studied 4 major risk factors:

- Overweight
- Sedentary lifestyle
- Smoking
- Poor diet

Women with none of these risks:

- Cut their risk of diabetes by 88% to 91% compared to all other women
- Risks were similar even if they had a family history of diabetes



NEJM 345:790-97, Sept. 13, 2001

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## Preventive Cancer Checks



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## Colorectal Cancer Check

- 130,000 cases per year
- 56,000 deaths
- American Cancer Society guidelines - at age 50+, get ...
  - Test for blood in stool yearly and a flexible sigmoidoscopy every 5 years, **or**
  - double-contrast barium enema every 5 years, **or**
  - colonoscopy every 10 years
- Do checks sooner or more often if you are high risk

### People at High Risk

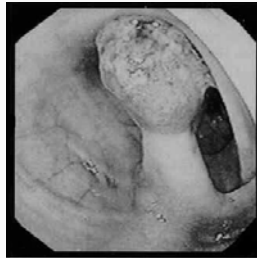
1. Family history of hereditary polyposis (numerous polyps in the colon).
2. Personal history of chronic inflammatory bowel disease.
3. History of colon cancer in a parent or sibling.
4. Personal history of large polyps or colon cancer.
5. Prior history of endometrial, ovarian, or breast cancer.

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ACS Screening Guidelines, 2003  
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## Colon Polyp

Colon cancer screening, using a colonoscopy, can find and remove polyps before they become cancerous.



Endoscopic view of a colon polyp. An initial colorectal screening test is important for detecting polyps and early, localized cancers.

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## Pap Test for Women

- About 14,500 new cases and 4,800 deaths each year
- Screening guidelines
  - An annual Pap test and pelvic exam for all women 3 years after becoming sexually active, or 21 years old
  - Women 30+, after 3 normal consecutive tests, and if low risk, check every 2-3 years; clear with your doctor
  - After 3 normal consecutive tests, women over 70 can stop taking the test

### High Risk Women

1. Sexually active at early age
2. Multiple sex partners
3. Cigarette smoking
4. African-American

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CA: A Cancer Journal for Clinicians, Nov/Dec 2002  
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## Mammogram for Women

- 212,600 breast cancer cases are expected this year and 40,200 deaths.
- Recommendation NCI
  - Mammogram every 1-2 years after age 40
  - If high risk, ask doctor when and how often to get a mammogram

### Women at High Risk

1. Family history of breast cancer (mother, sister)
2. Over 30 and no births
3. Obesity
4. Personal history of ovarian or endometrial cancer
5. High alcohol intake

National Cancer Institute (NCI)

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## Prostate Exam for Men

- 220,900 cases of prostate cancer are discovered each year, and 28,900 deaths.
- Offer screening beginning at age 50:
  - digital rectal exam annually
  - PSA test offered annually to persons with a life expectancy of 10+ years
  - Persons should be informed about benefits and limitations and then given a choice for the PSA test

### Men at Higher Risk

(start screening earlier, 45)

1. Family history of prostate cancer
2. African-American
3. Obesity
4. PSA normal ranges may vary with age and race. Values less than 2.5 are ideal. Ask your doctor for specific guidance.

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Amer. Cancer Society Guidelines, 2003  
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## Other Cancer Checks

- Depending upon the person's age the doctor may also check for cancer of the:
  - Thyroid
  - Oral cavity
  - Skin
  - Lymph nodes
  - Testes and ovaries
- The exam should also include health counseling for:
  - Tobacco use
  - Sun exposure
  - Diet and nutrition
  - Risk factors
  - Sexual practices
  - Environmental exposures

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## Other Checks



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## Immunizations

### Adults should have:

- tetanus shot every 10 years.
- people 65+ need a pneumonia shot every 10 years.
- annual flu shots are recommended for all over 65 (or for anyone who doesn't want the flu).
- Ask doctor about any others you may need.

### Children's Immunizations

- All children should be up-to-date on immunizations.

Immunizations are one of the most effective ways of preventing serious illness.

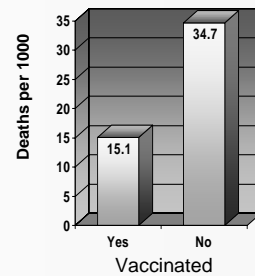
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## Influenza and Pneumonia Immunizations

- In a study of 260,000 persons 65+, influenza and pneumonia vaccinations reduced:
- Hospital admissions for influenza by 46% and pneumonia by 29-52%
  - Mortality from all causes by 57%

*Lancet* 2001; 357: 1008-11



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## Hearing and Vision Checks

### Hearing



- The doctor should inquire about hearing loss
- Hearing tests should be done when appropriate
- If you have hearing loss, you should be counseled on the availability of treatment and treatment options
- You should be referred for treatment when appropriate

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### Vision



- Periodic vision testing is recommended, as needed, especially past age 40 (more often in elderly)
- Vision checks should include screenings for
  - glaucoma
  - retinal problems (regularly in diabetics)
  - cataracts



## Dental Exams

- Regular dental exams are an important part of maintaining health.
- One purpose of dental exams is to preserve teeth and gums:
  - Loss of teeth limits ability to chew healthy food effectively.
  - A tight gum around the base of a tooth protects the root and tooth from decay.

### Sign in a Dentist Office

You don't have to floss all your teeth, just the teeth you want to keep.



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## Tooth Decay

- Decay occurs at any age
  - Early fillings can fail in later years
  - Decay in later years occurs at base of gums
- Severe decay affects general health
  - *Symptoms:* pain, swelling, fever, fatigue
  - *Prevention:*
    - Brushing and flossing
    - Good nutrition
    - Regular dental exams
    - Fluoride in water (or pills if not in water for children), and tooth paste. Fluoride reduces decay by 40% or more

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## Periodontal Disease

- Bacteria cause gum disease when the immune system weakens or fails, especially in people with a genetic predisposition.
- To avoid gum disease:
  - Brush and floss regularly
  - Eat healthy foods
  - Don't smoke (alcohol is also hard on gums)
  - Maintain overall health
  - Get regular dental checks and professional cleaning

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## Getting Good Medical Care

- It's important that you understand any health problem you have
  - ask for clarification if needed
  - ask for specific guidance, what you should do
  - ask for help in making lifestyle changes
- Work in partnership with your doctor or health provider — be a team player
- Take responsibility for your health and wellbeing.
- Good health is not an accident, but a commitment to healthy living.

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## Quiz

1. An example of secondary prevention is \_\_\_\_\_.
2. Normal or healthy blood pressure is \_\_\_\_\_.
3. Name 4 lifestyle actions that can lower blood pressure.
4. Cholesterol levels should be less than \_\_\_\_\_.
5. The most important action to lower your cholesterol level is \_\_\_\_\_.
6. What 4 lifestyle actions can you take to raise your HDL?
7. What is a healthy fasting glucose level?
8. What are 4 things a person can do to lower the risk of diabetes?
9. At what age should a person get a colon cancer screening test?
10. What immunizations are recommended for persons 65 and older?

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