

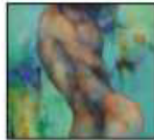
Optimal Health and Wellness for a Lifetime



Barbara J. Steinberg, DDS
Clinical Professor of Surgery

Drexel University College of Medicine
Adjunct Associate Professor of Oral Medicine
University of Pennsylvania School of Medicine

SEX



• Benefits:

- Men who have sex ≥ 3 a week can cut the risk of heart attack in half
- Men who have regular sex can halve their chances of having a stroke
- 200 calories / 30 mins of sexual activity
- Helps brain produce neurotransmitters - chemical messengers that help mellow mood
- Releases sleep-inducing endorphins

SEX



• Benefits:

- Having sex once or twice a week boosts the immune system by approximately 30%
- Sex tones the pelvic muscles that support the uterus, bladder, and bowel – meaning control of urine
- After reaching climax oxytocin releases endorphins which help alleviate pain from menstrual cramps, arthritis, etc.

SEX



• Benefits:

- Women who have sex once per week have more regular menstrual cycles
- It curbs irritability – tactile stimulation soothes nerves
- Sex can trigger the onset of labor when you are at term
- ↑ blood flow to the pelvis keeping female genitalia healthy

An active sex life slows the aging process!

Sleep Deprivation Can Lead to Serious Health Issues

- *Coronary artery disease*
- *Changes in hormone levels that control appetite causing obesity*
- *Anxiety*
- *Relationship between depression and sleep issues*
- *Migraines*
- *Decreased function of immune system*



Sleep Deprivation Can Lead to Serious Health Issues

- *Increased sensitivity to pain*
- *Insulin resistance*
- *Possible link to prostate, breast and colon cancer*
- *Memory loss*
 - *Increased incidence in Alzheimer biomarkers*
- *Car crashes due to fatigue*



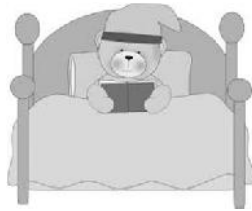
Avoid "Sleep Stealers"

- *Alcohol*
- *Caffeine*
- *Heavy eating before bed*
- *Sleeping in a warm room (>70 °F)*
- *Dozing*
- *Electronic devices with back-lit displays*
- *Long-term exposures to any artificial light*
- *Pets in the bed or bedroom*
- *Worrying*
- *Exercising too close to bedtime*



Practice Good Sleep Hygiene

- *Exercise regularly during the day*
- *Create a pleasant sleep environment*
 - *Curtains that block out light and noise*
 - *Comfortable mattress and sheets*
- *Create rituals*
 - *Warm bath*
 - *Read a book*
 - *Listen to soft music*
 - *Pray*
 - *Meditate*
- *Don't go to bed until your regular bedtime*



Practice Good Sleep Hygiene

- *Get help for a snoring bed partner*
 - *Could be sleep apnea*
- *If none of these tips have worked, consult a physician.*



Stress Effects:

- *Eating disorders*
- *Stomach ailments*
- *Skin reactions*
- *Emotional conditions*
 - *Blue or irritable mood*
 - *Depression*



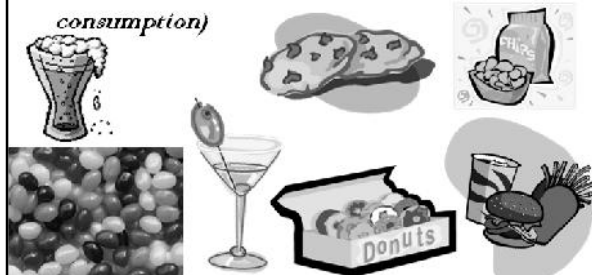
Stress Effects:

- *Sleep problems*
- *Concentration difficulty*
- *Heart disease*
- *Lowered immune response*
- *Cancer*
 - *Possible link between stress and the development of breast and ovarian cancer*



Stress Effects:

- *Provokes negative behaviors (e.g. binging on junk food, smoking, excessive alcohol consumption)*



Tips for Managing Stress:

- *Improve your diet*
- *Make time for exercise*
- *Connect with family and friends and people you enjoy being around*
- *Rediscover your favorite hobbies*
- *Yoga*
- *Tai chi*
- *Meditation*
- *Vacations*
- *May require professional help*



Mindfulness Meditation (Mindfulness-Based Stress Reduction)

Defined as nonjudgmental, moment-to-moment-awareness, or the ability to pay attention deliberately, on purpose, and in the present moment



Mindfulness Meditation Benefits

- *Bolstered immune functioning*
- *Improved memory and cognition associated with increases in gray matter density in the brain*
- *Reduction in stress hormones*

"Just the practice of focusing your awareness on something quiets down your mind and allows you to feel that inner sense of peace. Even a minute of meditation will carry you through the day."

*Dean Ornish, MD
Clinical Professor of Medicine UCSF
Founder of Preventive Medicine Research Institute*

SLEEP DURATION RECOMMENDATIONS

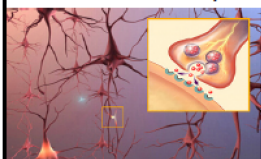


SLEEPFOUNDATION.ORG | SLEEP.ORG

Hirshkowitz M, The National Sleep Foundation's sleep time duration recommendations: methodology and results summary, Sleep Health (2015), <http://dx.doi.org/10.1016/j.sleh.2014.12.010>

Alzheimer's Disease (AD)

- Estimated 5.3 million Americans have AD
 - 1 in 8 people \geq 65 yrs.
 - More common in women
- Projections: by 2030- 7.7 million people
by 2050- 11-16 million people



Alzheimer's Disease

10 Warning Signs

- Memory loss that disrupts daily life
- Challenges in planning or solving problems
- Difficulty completing familiar tasks at home, at work or at leisure
- Confusion with time and place
- Trouble understanding visual images and spatial relationships
- New problems with words in speaking or writing

Alzheimer's Disease

10 Warning Signs (con't)

- Misplacing things and losing the ability to retrace steps
- Decreased or poor judgment
- Withdrawal from work or social activities
- Changes in mood and personality

Simple Lifestyle Measures May Help Maintain Cognition As We Age

- Control blood pressure, cholesterol, and blood sugar levels
- Quit smoking (smoking increases blood pressure)
- Stay physically active (e.g. dancing, tennis, bicycling, or any physical activity you enjoy)



Simple Lifestyle Measures May Help Maintain Cognition As We Age

- Stay mentally active
 - Exercise the mind with mental challenges as you age (e.g. play chess, bridge, learn a new language, crosswords, games, reading, puzzles, etc.)



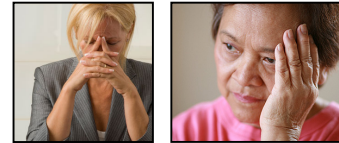
Simple Lifestyle Measures May Help Maintain Cognition As We Age

- Maintain a strong social network
 - Support system of family and friends
 - Stay socially connected and interact with people



Simple Lifestyle Measures May Help Maintain Cognition As We Age

- Manage your mood
 - Anxiety, worry, anger, and depression have been linked with higher rates of cognitive impairment
 - May require professional help



Simple Lifestyle Measures May Help Maintain Cognition As We Age

- Avoid head injury
 - Take steps to prevent falls
- Get enough sleep
 - Short term memory improves when you get plenty of sleep (at least 7 hours a night)
- Heart healthy diet
 - Whole grains and fatty fish are linked to production of high density lipoproteins which are associated with the preservation of memory



Diet and Nutritional Concerns



Healthy Eating



Mediterranean Diet Emphasizes:

- Eating primarily plant-based foods, such as fruits and vegetables, whole grains, legumes, and nuts
- Replacing butter with healthy fats such as olive oil
- Limiting red meat to no more than a few times a month
- Eating fish and poultry at least twice a week
- Drinking red wine in moderation (optional)



Healthy Eating

Dietary Approaches to Stop Hypertension (DASH diet) :

- DASH diet similar to Mediterranean diet but also emphasizes low sodium intake to help lower blood pressure



A little
DASH
will do you



Healthy Eating



The Mediterranean- DASH Diet Intervention for Neurodegenerative Delay (MIND diet):

- Research suggests that combining elements of both the Mediterranean diet and DASH diet is associated with a lower risk of developing Alzheimer's disease (AD) by 54% (strict adherence)
 - Even moderate adherence to the MIND diet was enough to lower the risk of AD by about 35%



Healthy Eating

The MIND Diet Includes 10 Healthy Categories

- Whole grains- at least 3 servings a day
- Green leafy vegetables- at least 6 servings a week
- Other vegetables- at least 1 serving a day
- Nuts- at least 5 servings a week
- Fish (not fried)- at least once a week
- Poultry (chicken or turkey not fried)- twice a week
- Beans- more than 3 meals per week
- Berries- at least twice a week (especially strawberries and blueberries)
- Olive oil- use as primary oil (cooking too)
- Wine- 1 glass a day



Healthy Eating

The MIND Diet Includes 5 Unhealthy Categories to Limit or Avoid

- **Red meat**— less than **4** servings a week
- **Cheese**- less than **1** serving a week
- **Butter and stick margarine**- less than **1** tbsp. a day
- **Pastries and sweets**- less than **5** servings a week
- **Fried and fast food**- less than **1** serving a week



Exercise



Make Time For Fitness- Need To Move!

Cardiorespiratory (Aerobic) Exercise

Moderate intensity aerobic exercise **150 min/ week**

OR

High intensity aerobic exercise **75 min/week**

Break a sweat- increase heart rate
Releases endorphins- makes you feel good!

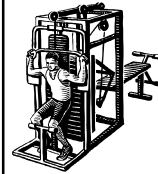


Make Time For Fitness- Need To Move!

Resistance Training

2 to 3 days a week

Lifting weights, elastic bands, performing modified push-ups & sit-ups or other body weight exercises, etc.



Make Time For Fitness- Need To Move!

Mobility/Flexibility and Balance

2 to 3 days a week

Dance, yoga, tai chi, balance balls, etc.



Make Time For Fitness- Need To Move!

Combine Physical Activities

with

Family Time- Have Fun!



Make Time For Fitness- Need To Move!

Walking

(72,488 female nurses 40-65 years of age)

- Women who walked at least 3 hours/week (~30 min/day) at 3 M.P.H. or > had a 30% - 40% ↓ risk of MI than sedentary women
- Women who walked 5 hrs/wk at 3 M.P.H. or > had a 50% ↓ risk of MI than sedentary women



Make Time For Fitness- Need To Move!

Walking (con't)

- Moderate health benefits from a pace of 2.0-2.9 M.P.H.
- No benefits < 2.0 M.P.H.
- Even women who smoked, were overweight, had ↑ blood pressure, ↑ cholesterol level, or a family history of premature heart disease significantly ↓ their risk



JoAnn E. Manson, MD, DrPH
New England Journal of Medicine
Aug. 26 1999, Vol 341 No. 9 pp650-658

Make Time For Fitness- Need To Move!

Tips:

- Recent study shows that as little as 70 minutes per week (10 minutes per day) can ↓ the risk of major disease and improve quality of life.
 - Walking a few minutes a day may not cause your weight to ↓ substantially, but it will ↓ your risk of:
 - Cardiovascular disease
 - Anxiety
 - Depression
 - Diabetes
 - Other conditions



*The Number One
Killer of Men and Women:*

Heart Disease



Cardiovascular Disease

Risk Factors

- *Smoking*
- *Hypertension*
- *Elevated cholesterol*
- *Overweight / obesity*
- *Physical inactivity*
- *Diabetes*
- *Family history*
- *Age*
- *Male Gender*

Cardiovascular Disease

Risk Factors

- *Stress*
- *Oral contraceptives*
- *Menopausal hormone therapy*
- *Alcohol*
- *Pregnancy complications*
 - *Preeclampsia*
 - *Gestational diabetes*
 - *Preterm birth*

Symptoms of heart disease that may experienced

- *Chest pain or discomfort*
- *Atypical chest, stomach or abdominal pain*
- *Nausea, vomiting, or dizziness*
- *Extreme fatigue, weakness, and sleeplessness*
- *Shortness of breath*
- *Unexplained anxiety*
- *Palpitations*
- *Cold sweat*
- *Paleness*
- *Severe indigestion*
- *Jaw, neck, shoulder or back pain*



American Heart Association and American College of Cardiology Cholesterol Guidelines

November 2018

- *High cholesterol at any age, can increase a persons lifetime risk for heart disease and stroke. A healthy lifestyle is the first step in prevention and treatment to lower that risk.*
- *The 2018 guidelines recommend detailed risk assessments to help healthcare providers better determine a patients individualized risk and treatment options*

American Heart Association and American College of Cardiology Cholesterol Guidelines

November 2018

- *In some cases, a coronary artery calcium score can help determine one's need for cholesterol-lowering treatments if their risk status is uncertain or if the treatment decision isn't clear*

American Heart Association and American College of Cardiology Cholesterol Guidelines

November 2018

- Although **statins** are still the **first choice** of medication for lowering cholesterol new drug options are available for patients who have already had a heart attack or stroke and are at highest risk for recurrence. For those patients, medication should be prescribed in a stepped approach, first with a maximum intensity statin treatment, adding **ezetimibe (Zetia)** if desired LDL cholesterol levels aren't met and then adding a **PCSK9 inhibitor** if further cholesterol reduction is needed

Cholesterol Lowering Drugs Discussed in 2018 Cholesterol Guidelines

Statins

- Work in the liver to prevent cholesterol from forming. This reduces the amount of cholesterol circulating in the blood.
- Statins are most effective in lowering LDL cholesterol
- They also help lower triglycerides and raise HDL

Cholesterol Lowering Drugs Discussed in 2018 Cholesterol Guidelines

Selective Cholesterol Absorption Inhibitors

- Works by preventing cholesterol from being absorbed in the intestine.
- Selective cholesterol absorption inhibitors are most effective at lowering LDL cholesterol
- They may also have modest effects on lowering triglycerides and raising HDL
- The first medication of this class, **ezetimibe (Zetia)** was approved in 2002 for treating high cholesterol and certain inherited lipid abnormalities

Cholesterol Lowering Drugs Discussed in 2018 Cholesterol Guidelines

PCSK9 inhibitors

- **Alirocumab (Praluent)**
- **Evolocumab (Repatha)**
 - PCSK9 inhibitors are monoclonal antibodies that target and inactivate PCSK9 a protein that binds to LDL receptors. Knocking out this protein, dramatically reduces the amount of harmful LDL cholesterol circulating in the bloodstream by freeing up more receptors to remove LDL cholesterol from the blood

Cholesterol Lowering Drugs Discussed in 2018 Cholesterol Guidelines

PCSK9 inhibitors (cont.)

- Approved for familial hypercholesterolemia and for those already taking statins where further reduction of LDL is needed to reduce risk of cardiovascular events
- Injection given once or twice a month at a cost of **\$14,000 - \$15,000** a year (pharmaceutical company has recently lowered price)

Cholesterol Lowering Drugs Discussed in 2018 Cholesterol Guidelines

PCSK9 inhibitors (cont.)

- **Evolocumab (Repatha)**
 - Following FDA Priority Review, Repatha is the only PCSK9 inhibitor approved to reduce risk of **heart attack (27%)**, **stroke (21%)** and **coronary revascularization (22%)**

December 2017

Cardiovascular Disease

Screening Tests

- *Electrocardiogram (ECG or EKG)*
- *Nuclear Scan (Thallium Stress Test)*
- *Exercise Echocardiography*
- *Electron-Beam Computed Tomography (EBCT) (Coronary Artery Calcium Scan)*
- *Cardiac Catheterization (angiography or arteriography)*

Cardiovascular Disease

Treatment

Medications to treat:

- *Hypertension*
- *High blood cholesterol*
- *Heart disease itself*



Cardiovascular Disease

Treatment

Special Procedures:

- *Coronary artery bypass graft surgery (CABG)*
- *Coronary angioplasty (balloon angioplasty) with or without stent insertion*



Heart disease risk can be lowered enormously > 80% simply by leading a healthy lifestyle



Cardiovascular Disease

Prevention

Lifestyle Changes

Adopting new habits

Begin Today!!!



Cardiovascular Disease

Prevention

Lifestyle Changes

Smoking Cessation

DON'T LIGHT UP!!!



Cardiovascular Disease

Prevention

Lifestyle Changes

Maintain a healthy weight

- Balance calories taken in with those used up in physical activity
- Body Mass Index (BMI) should be $< 25 \text{ kg/m}^2$ and waist circumference ≤ 35 inches in women and ≤ 40 inches in men



Cardiovascular Disease

Prevention

Lifestyle Changes

Stress reduction



Cardiovascular Disease

Prevention

Lifestyle Changes

Heart Healthy Eating Plan

- If you drink alcoholic beverages, have **no** more than one per day for women and two for men



Cardiovascular Disease

Prevention

Lifestyle Changes

Manage risk factors vigorously!!



Cardiovascular Disease

Target Numbers for Heart Health

Blood pressure	$<120/80$
LDL cholesterol	<100
HDL cholesterol	≥ 50
Triglycerides	<150
Fasting blood glucose	70-99 mg/dl
HbA1c	$<5.7\%$
Body Mass Index	18.5-24.9
Waist circumference	≤ 35 in (women) ≤ 40 in (men)

Blood Pressure Categories



BLOOD PRESSURE CATEGORY	SYSTOLIC mm Hg (upper number)		DIASTOLIC mm Hg (lower number)
NORMAL	LESS THAN 120	and	LESS THAN 80
ELEVATED	120 - 129	and	LESS THAN 80
HIGH BLOOD PRESSURE (HYPERTENSION) STAGE 1	130 - 139	or	80 - 89
HIGH BLOOD PRESSURE (HYPERTENSION) STAGE 2	140 OR HIGHER	or	90 OR HIGHER
HYPERTENSIVE CRISIS (consult your doctor immediately)	HIGHER THAN 180	and/or	HIGHER THAN 120

November 2017

Osteoporosis



Osteoporosis

Risk Factors for Osteoporotic Fractures

Non-modifiable

- Personal history of fracture as an adult
- History of fracture in first-degree relative
- Caucasian or Asian race
- Small skeletal frame
- Advanced age
- Female sex
- Dementia
- Poor health / frailty

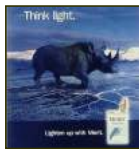


Osteoporosis

Risk Factors for Osteoporotic Fractures

Potentially modifiable

- Current cigarette smoking
- Body Mass Index $<21 \text{ kg/m}^2$
- Estrogen deficiency
 - Early menopause ($<\text{age } 45$) or bilateral oophorectomy
 - Prolonged premenopausal amenorrhea ($>1 \text{ yr}$)



Osteoporosis

Risk Factors for Osteoporotic Fractures

Potentially modifiable (cont.)

- Low calcium intake (lifelong)
- Excessive alcohol consumption
- Excessive protein, sodium and caffeine intake
- Impaired eyesight despite adequate correction
- Recurrent falls
- Inadequate physical activity
- Poor health / frailty
- Cola drinks regularly may \uparrow risk



Osteoporosis

Diseases, Conditions and Medical Procedures That May Cause Bone Loss

Autoimmune Disorders

- Rheumatoid arthritis (RA)
- Lupus
- Multiple sclerosis
- Ankylosing spondylitis

Digestive and Gastrointestinal Disorders

- Celiac disease
- Inflammatory bowel disease (IBD)
- Weight loss surgery

Cancer

- Breast Cancer
- Prostate Cancer

Neurological/Nervous System Disorders

- Stroke
- Parkinson's disease
- Multiple sclerosis (MS)
- Spinal cord injuries

Osteoporosis

Diseases, Conditions and Medical Procedures That May Cause Bone Loss

Hematologic/Blood Disorders

- Leukemia and lymphoma
- Multiple myeloma
- Sickle cell disease

Blood and Bone Marrow Disorders

- Thalassemia

Endocrine/Hormonal Disorders

- Diabetes
- Hyperparathyroidism
- Hyperthyroidism
- Cushing's syndrome
- Thyrotoxicosis
- Irregular periods
- Premature menopause
- Low levels of testosterone and estrogen in men

Osteoporosis

Diseases, Conditions and Medical Procedures That May Cause Bone Loss

Other Diseases and Conditions

- AIDS/HIV
- Chronic obstructive pulmonary disease (COPD), including emphysema
- Female athlete triad (includes loss of menstrual periods, an eating disorder and excessive exercise)
- Chronic kidney disease
- Liver disease, including biliary cirrhosis
- Organ transplants
- Polio and post-polio syndrome
- Poor diet, including malnutrition
- Scoliosis
- Weight loss



Osteoporosis

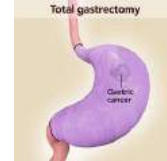
Diseases, Conditions and Medical Procedures That May Cause Bone Loss

Mental Illness

- Depression
- Eating disorders

Medical Procedures

- Gastrectomy
- Gastrointestinal bypass procedures



Osteoporosis

Drugs Associated with an Increased Risk of Generalized Osteoporosis in Adults

- | | |
|--|---|
| • Aluminum | • Heparin |
| • Anticonvulsants | • Lithium |
| • Cigarette smoking | • Tamoxifen (premenopausal use) |
| • Cytotoxic drugs | • Aromatase inhibitors |
| • Excessive alcohol | • Proton pump inhibitors |
| • Excessive thyroxine | • Long-term progestin (Depo-Provera) |
| • Glucocorticosteroids and adrenocorticotropin | • Selective serotonin reuptake inhibitors |
| • Gonadotropin-releasing hormone agonists | • Cyclosporine A and FK506 |
| • Thiazolidinediones | |

Osteoporosis

Bone Mineral Density (BMD) Testing Technique Dual-energy x-ray absorptiometry (DXA or DEXA)

- Gold standard for assessing bone density
- Measures BMD of the total hip, femoral neck and posterior-anterior lumbar spine
- Performed in a few minutes
- Radiation exposures – 1/10 that of a standard chest x-ray



Osteoporosis

Screening for Osteoporosis to Prevent Fractures US Preventive Services Task Force (USPSTF) Recommendation Statement

- The USPSTF recommends screening for osteoporosis with bone measurement testing to prevent osteoporotic fractures in women **65 years and older**
- The USPSTF recommends screening for osteoporosis with bone measurement testing to prevent osteoporotic fractures in postmenopausal women **younger than 65 years who are at increased risk of osteoporosis**, as determined by a formal clinical risk assessment tool

Osteoporosis

Screening for Osteoporosis to Prevent Fractures US Preventive Services Task Force (USPSTF) Recommendation Statement (cont.)

- The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of screening for osteoporosis to prevent osteoporotic fractures in men

Osteoporosis

Defining Osteoporosis by BMD
(World Health Organization Classification)

Normal	BMD is within 1 SD of a "young normal" adult (T-score above -1)
Low Bone Mass (Osteopenia)	BMD is between 1 and 2.5 SD below that of a "young normal" adult (T-score between -1 and -2.5)
Osteoporosis	BMD is 2.5 SD or more below that of a "young normal" adult (T-score at or below -2.5)

Osteoporosis

FRAX tool can be used to guide treatment decisions in people who meet the following conditions:

- Postmenopausal women or men age 50 and older
- People with low bone density (osteopenia)
- People who have not taken an osteoporosis medicine



Osteoporosis

2008 WHO and NOF Quantitative Risk Assessment Algorithm for Osteoporosis Fractures (cont.)

WHO Fracture Risk Assessment Tool is accessible at many internet sites including:

www.shef.ac.uk/FRAX/



The "Warnings and Precautions" sections of the FDA-approved package inserts for bisphosphonate drugs, as well as denosumab, state that both MRONJ and atypical femoral fractures have been reported rarely with use of these drugs; however, these are not included as so-called "black box" warnings (which is a specially designated warning designed to call attention to serious or life-threatening risks).

A 2016 consensus task force report, based on a literature search, from the American Society for Bone and Mineral Research (ASBMR) concluded that "the risk of atypical femoral fracture, but not osteonecrosis of the jaw, clearly increases with [bisphosphonate] therapy duration, but such rare events are outweighed by vertebral fracture risk reduction in high-risk patients."

Adler RA, El-Hajj Fuleihan G, Bauer DC, et al. Managing Osteoporosis in Patients on Long-Term Bisphosphonate Treatment: Report of a Task Force of the American Society for Bone and Mineral Research. J Bone Miner Res 2016;31(1):16-35.

Osteoporosis

Guidelines on Long-Term Bisphosphonate Use Issued by Task Force of the American Society for Bone and Mineral Research

- Clinicians reassess a woman's fracture risk after 5 yrs of oral bisphosphonate therapy or 3 yrs of IV therapy
 - For women at high risk (e.g., low T score, previous osteoporotic fracture) oral therapy may be continued for up to 10 years or IV therapy for up to 6 yrs
 - Continued treatment can prevent bone loss and reduce risk for vertebral fractures which outweighs risk of osteonecrosis or atypical femoral fractures. Fracture risk should be reassessed every 2 to 3 yrs during this extended treatment



Osteoporosis

Guidelines on Long-Term Bisphosphonate Use Issued by Task Force of the American Society for Bone and Mineral Research (cont.)

- Clinicians reassess a woman's fracture risk after 5 yrs of oral bisphosphonate therapy or 3 yrs of IV therapy
 - For women determined to be at low risk after 5 yrs oral or 3 years IV therapy, a drug holiday of 2-3 yrs may be considered

Same recommendations may be applicable to men with glucocorticoid - induced osteoporosis

Journal of Bone and Mineral Research, Vol. 31, No. 1, January 2016, pp 16–35
DOI: 10.1002/jbmr.2708



The potential morbidity and mortality associated with osteoporosis-related fracture is considerable and treatment with antiresorptive agents outweighs the low risk of MRONJ in patients with osteoporosis receiving these drugs.

Center for Scientific Information, ADA Science Institute
Last Updated: February 8, 2018

Osteoporosis

Bone Health Recommendations

Daily calcium requirements

Women

≤ 50 Years	1,000 mg/day
≥ 51 Years	1,200 mg/day*

Men

≤ 70 Years	1,000 mg/day*
≥ 71 Years	1,200 mg/day*

*This includes the total amount of calcium you get from food and supplements.



Osteoporosis

Bone Health Recommendations

Daily vitamin D requirements

Women and Men

< 50 Years	400-800 IU/day*
≥ 51 Years	800-1,000 IU/day*

*Some people need more vitamin D. According to the Institute of Medicine (IOM), the safe upper limit of vitamin D is 4,000 IU per day for most adults.



Osteoporosis

Bone Health Recommendations for All Patients

Avoidance of tobacco use and alcohol abuse



Osteoporosis

Bone Health Recommendations for All Patients

Regular weight-bearing and muscle strengthening exercise



Medicines Approved to Prevent and/or Treat Osteoporosis

CLASS AND DRUG	BRAND NAME	FORM	FREQUENCY
Bisphosphonates			
Alendronate	Generic Alendronate and Fosamax®	Oral (tablet)	Daily/Weekly
Alendronate	Fosamax Plus D™ (with 2,800 IU or 5,600 IU of Vitamin D3)	Oral (tablet)	Weekly
Ibandronate	Boniva®	Oral (tablet)	Monthly
Ibandronate	Boniva®	Intravenous (IV) injection	Four Times per Year
Risedronate	Actonel®	Oral (tablet)	Daily/Weekly/Twice Monthly/Monthly
Risedronate	Actonel® with Calcium	Oral (tablet)	Weekly
Risedronate	Atelvia™	Oral (tablet)	Weekly
Zoledronic Acid	Reclast®	Intravenous (IV) infusion	One Time per Year/Once every two years
Calcitonin			
Calcitonin	Fortical®	Nasal spray	Daily
Calcitonin	Miacalcin®	Nasal spray	Daily
Calcitonin	Miacalcin®	Injection	Varies
Estrogen*			
Estrogen	Multiple Brands	Oral (tablet)	Daily
Estrogen	Multiple Brands	Transdermal (skin patch)	Twice Weekly/Weekly
Estrogen Agonists/Antagonists Also called Selective Estrogen Receptor Modulators (SERMs)			
Raloxifene	Evista®	Oral (tablet)	Daily
Parathyroid Hormone			
Teriparatide	Forteo®	Injection	Daily
Abaloparatide	Tymlos	Injection	Daily
RANK ligand (RANKL) inhibitor			
Denosumab	Prolia™	Injection	Every 6 Months
Sclerostin inhibitor			
Romosozumab	Evenity	Injection	2 injections given once per month for 12 months

Cancer


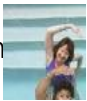
- Almost 1 in 2 Americans ~ 41% of the population will be diagnosed with cancer in their lifetime
- 2nd most common cause of death in U.S.- accounts for 1 of every 4 deaths
 - Estimated that ~ 1/3 of the cancer deaths each year are due to poor nutrition, physical inactivity including excessive weight





Cancer

- Lung cancer accounts for more deaths than any other cancer in both men and women
- 5yr. relative survival rate for all cancers diagnosed between 1999-2005 is 68% up from 50% in 1975-1977



Reducing risk:

- Stay away from tobacco
- Stay at a healthy weight
- Get moving with regular physical activity
- Eat healthy with plenty of fruits and vegetables
- Limit how much alcohol you drink (if you drink at all)
- Protect your skin
- Know yourself, your family history, and your risks
- Have regular checkups and cancer screening tests

HPV

HPV is the most common sexually transmitted infection in the US

- Almost 79 million Americans are currently infected with HPV
 - Almost all sexually active people will get HPV sometime in their lives though most will never know it.
 - Most of the time the body naturally fights off HPV before it causes any health problems
 - In some, HPV can cause anogenital warts (condylomata) and cancer
 - About 1 in 100 sexually active adults in the US have genital warts at any given time



HPV

Approximately 33,700 cancers are caused by HPV in the US each year

- 12,900 oropharyngeal cancers among men and women
- 63% of oropharyngeal squamous cell carcinomas (OP-SCC) are associated with HPV infection
- 10,800 cervical cancers among women
- 6,000 anal cancers among men and women
- Vaginal, vulvar and penile cancers are less common



HPV

Screening

- For women, screening is available to detect most cases of cervical cancer with a PAP test and/or HPV test
- No routine screening available for other HPV-related cancers for women or men



HPV Vaccines approved to prevent HPV related cancers

- 3 HPV vaccines approved in the US
 - **Gardasil (quadrivalent vaccine)**
 - Protects against HPV types 6, 11, 16 and 18
 - HPV 16 and 18, the two common "high-risk" genotypes, causes approximately 70% of all cervical cancers and 85% - 90% of HPV - positive OP-SCC
 - HPV 6 and 11, two "low-risk" genotypes, cause 90% of anogenital warts
 - Approved for females and males
 - **Cervarix (bivalent vaccine)**
 - Protects against HPV types 16 and 18
 - Approved for females not males

HPV Vaccines approved to prevent HPV related cancers

- 3 HPV vaccines approved in the US (cont.)
 - **Gardasil 9 (nine-valent vaccine)**
 - Approved for females for the prevention of cervical, vulvar, vaginal and anal cancers caused by HPV types 16, 18, 31, 33, 45, 52, 58
 - Approved for males and females for precancerous or dysplastic lesions caused by HPV 6, 11, 16, 18, 31, 33, 45, 52, 58
 - Approved for males for prevention of anal cancer caused by HPV 16, 18, 31, 33, 45, 52, 58
 - Approved for prevention of genital warts caused by HPV 6, 11



HPV As of May 2017 Gardasil 9 is the only HPV Vaccine Available for use in the US



Persons who have completed a valid series with any HPV vaccine do not need any additional doses 2018

HPV CDC New HPV Vaccination Recommendations

- Children and adults aged 9 through 26 years
 - Girls and boys should get their 1st dose of HPV vaccine 11 or 12 years of age- and a second dose 6 to 12 months later
 - Vaccination can be given starting at age 9 years
 - If they do not get vaccinated on time- "catch-up vaccination" should be completed by the time they turn 26
 - Those getting vaccinated after their 15th birthday will require 3 dose a regimen (0, 1-2 mos after 1st dose, 6 mos after 1st dose)

HPV vaccine
is CANCER PREVENTION
www.cdc.gov/vaccines/teens

HPV CDC New HPV Vaccination Recommendations (cont.)

- Adults aged >26 years
 - Catch-up HPV vaccination is not recommended for adults >26 years. Instead shared clinical decision-making regarding HPV vaccination is recommended for some adults aged 27 through 45 years who are not adequately vaccinated
 - It was recognized that some persons who are not adequately vaccinated might be at risk for new HPV infection and might benefit from vaccination in this age range

CDC
Morbidity and Mortality Weekly Report
August 16, 2019 / 68(32):698-702

HPV Key Points

- Adolescents remain the most important focus of the HPV vaccination program in the US
 - The existing HPV vaccination program for adolescents has the potential to prevent the majority of HPV related cancers
- HPV vaccination is most effective when given before exposure to any HPV, as in early adolescents
- Clinical trials have indicated that HPV vaccines are safe and effective against infection and disease attributable to HPV vaccine types that recipients are not infected with at the time of vaccination