Seven Keys to Health and Wellness

Margaret A. Chesney
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Today’s Goals

- Present 7 keys to health and wellness - and the science that supports these
- Convey how learning about health is an important aspect of
  - Lifelong Learning
  - The path to wellness and vitality
How Do We Learn About Health and Wellness?

- Study **people**
  - Societies with long life spans
  - Individuals who live to 100
  - Twins (nature versus nurture)

- Study **animals**

- Study **genes**
What Determines Your Health?

McGinnis JM, et al. Health Affairs, April 2002

- Genetic: 30%
- Behavior: 40%
- Social Situation: 15%
- Physical Environment: 5%
- Health care: 10%
You’re in the Driver’s Seat

- Most of us would like to:

DIE ‘YOUNG’ AS LATE AS POSSIBLE
Christiaan Barnard, M.D.

- Choices you make each day can help you live better, not just longer
Change Your Lifestyle…
Change Your Genes!

- New field of epigenetics
- Later I’ll mention how you can change your lifestyle and change your genes!
But… We’re Not Leading Very Healthy “Lifestyles”

- 153,000 US adults participated in a telephone survey about 4 healthy habits:
  - Not smoking
  - Maintaining a healthy weight
  - Exercising regularly
  - Consuming 5 fruits and vegetables/day

- Only 3% answered yes to all 4 healthy habits!

Reeves MJ and Rafferty AP *Arch Intern Med* 2005;165:854
The 4 Healthy Habits Add Up!

23,153 Europeans

4 Healthy Habits Lower Risk for:
Diabetes, MI, Stroke & Cancer

Ford, ES et al. *Arch Intern Med* 2009;169:1355
How Can I Begin to Make Healthier Choices?

Make the behavior:

✓ EASY
✓ ENJOYABLE
✓ SUSTAINABLE
7 Keys to Health and Wellness

1. Maintain a healthy weight and diet
2.
3.
4.
5. Bonus!
6.
7.
Maintain a Healthy Weight

- 2/3 Americans are overweight
- 1/3 Americans are obese
- 300,000 US adults die each year from obesity-related conditions

It’s Not Surprising……

- We’re hard-wired to…..
  - have an appetite
  - eat when food’s available
  - hold onto fat
- We’re consuming many more calories than our grandparents
- We need fewer calories as we age
Current Environment Invites Overeating

“Highly palatable” food (sugar, fat and salt) lights up the brain’s reward centers
## 20 Years Ago vs. Now

<table>
<thead>
<tr>
<th>Item</th>
<th>20 Years Ago</th>
<th>Now</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cheeseburger</td>
<td>1 portion 333 calories</td>
<td>1 portion 590 calories</td>
</tr>
<tr>
<td>Soda</td>
<td>6.5 ounces 85 calories</td>
<td>about 20 ounces 300 calories</td>
</tr>
<tr>
<td>French Fries</td>
<td>2.4 ounces 210 calories</td>
<td>6.9 ounces 610 calories</td>
</tr>
</tbody>
</table>

- **628 calories** vs. **1500 calories**
Keys to Decreasing Calories

- Portions, portions, portions!
  - Avoid super-sizing
  - Split entrees
  - Use smaller plates
- Limit saturated and trans fats
- Increase fruits & vegetables (7-9/day)
- Increase fiber (whole grains)
- Don’t drink calories (sodas, juices)
Portion Control Plates

The Portion Plate™

1/2 of Your plate should be fruits and vegetables

1/4 or less should be lean meats, poultry, fish, tofu, legumes, or dry beans

1/4 should be whole grains

Take a better look at your portions!
Michael Pollen’s Recommendations

- Eat Real Food
- Not Too Much
- Mostly Plants
7 Keys to Health and Wellness

1. Maintain a healthy weight and diet
2. Exercise

Bonus!

5.
6.
7.
Move Every Day

- 60% US adults don’t exercise regularly
- 25% are sedentary
- Only 1 in 20 of us works up a sweat on any given day
How Much Exercise Do You Need?
2008 Recommendations

- All adults should avoid inactivity!

- For substantial health benefits:
  - 2 ½ hours per week – moderate exercise (brisk walking), or
  - 1 hour, 15 min per week - vigorous exercise

- For older adults
  - If 2 ½ hours per week is too challenging, be as active as their abilities and conditions allow
  - Do exercises that maintain and improve balance – tai chi, yoga
  - With history of a chronic condition, discuss with physician whether and how their conditions affect their ability to exercise
<table>
<thead>
<tr>
<th>Light (≤3.0 METs)</th>
<th>Moderate (3.0-6.0 METs)</th>
<th>Hard/Vigorous (&gt;6.0 METs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walking, slowly (1-2 mph)</td>
<td>Walking, briskly (3-4 mph)</td>
<td>Walking, briskly uphill or with a load</td>
</tr>
<tr>
<td>Cycling, stationary (&lt;50 W)</td>
<td>Cycling for pleasure or transportation (≤10 mph)</td>
<td>Cycling fast or racing (&gt;10 mph)</td>
</tr>
<tr>
<td>Swimming, slow treading water</td>
<td>Swimming, moderate effort</td>
<td>Swimming, fast treading or crawl</td>
</tr>
<tr>
<td>Conditioning exercise light stretching</td>
<td>Conditioning exercise general calisthenics</td>
<td>Conditioning exercise, stair ergometer, ski machine</td>
</tr>
<tr>
<td>Bowling</td>
<td>Racket sports, table tennis, racketball</td>
<td>Racket sports, single tennis</td>
</tr>
<tr>
<td>Golf, power cart</td>
<td>Golf, pulling cart or carrying clubs</td>
<td></td>
</tr>
<tr>
<td>Home care, carpet sweeping</td>
<td>Home care, general cleaning</td>
<td>Moving furniture</td>
</tr>
<tr>
<td>Mowing lawn, riding mower</td>
<td>Mowing lawn, power mower</td>
<td>Mowing lawn, hand mower</td>
</tr>
</tbody>
</table>
It’s Never Too Late….

- 7553 older white community-dwelling women followed for 12 years
- Those were remained or became active had lower cardiovascular and all cause mortality

Gregg EW et.al., JAMA 2003;289:2379
Cumulative Incidence of Mortality

All-Cause Mortality

Cardiovascular Mortality

Follow-up years

Cumulative Mortality

Stayed Sedentary

Became Sedentary

Stayed Active

Became Active
Keys to Increasing Physical Activity

✓ Integrate activity into your daily life
  ✓ Park further away
  ✓ Take the stairs
  ✓ Get off a stop early
✓ Find something you enjoy (at least don’t dislike)
✓ Exercise with friends
✓ Set a goal and keep track
Steps Taken Per Day

- Sedentary person: 3,000/day
- Public health guidelines: 10,000/day
- Weight loss and maintenance: 12-15,000/day

Set a reachable goal:
*Increase 500 steps/day each week*
Pedometers Work!

- Review of 26 studies involving 2767 subjects
- Pedometer users increased their daily activity 27% above baseline
  - Took 2000 more steps/day (1 mile)
  - Decreased BMI
  - Decreased systolic BP by 3.8 mg Hg

Bravata DM et al. JAMA 2007;298:2296
Technology at Your Fingertips
Playgrounds for Adults!
7 Keys to Health and Wellness

1. Maintain a healthy weight and diet
2. Exercise
3. Stay Active Mentally
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Neuroplasticity

- We can grow new neurons
- Neurons can make new connections
Exercise Your Mind: Learn Something New

Salthouse TA *Neurobiol Aging* 2009;30:507
Brain Fitness Programs

- $225 million spent in 2007
- Some clinical trials show they “work”
- Not yet clear if memory improves, but scores on the “games” improve

Ball K et al. JAMA 2002;288:2271
Mental “Exercise” Needs To Be Stimulating and Ongoing
7 Keys to Health and Wellness

1. Maintain a healthy weight and diet
2. Exercise
3. Stay Active Mentally
4. Get Adequate Sleep
   Bonus!
5. 
6. 
7. 
What Happens When You Don’t Get Adequate Sleep?

- Reduced productivity: school and work
- Increased accidents
- Decreased cognitive performance
- Increased incidence of physical pain
- Increased aggressive behavior
- Poorer general health
- Increased healthcare costs
- Increased mortality with <6 hours or >9 hours/night
How Much Sleep Do You Need?

- The amount that allows you to:
  - Feel consistently alert during the day
  - Avoid falling asleep when inactive and relaxed
- Average = 8 - 8.5 hours (range = 4-11)
- Maybe genetically determined

National Sleep Debt

- Americans slept 9 hours a night in 1910
- Americans now sleep ~ 7 hours/night
- Bill Clinton slept only 5 - 6 hours/night
Sleep-Obesity Connection

- Subjects who are sleep deprived
  - Have increased appetites
  - Consume more calories (especially fat and sugar)

Tasali E et al *Prog Cardio Dis* 2009;51:381
Five Strategies for Restful Sleep

- Maintain a regular sleep-wake cycle
- Keep your body sleep-friendly at bedtime
  - Curb caffeine, exercise and heavy snacks before bedtime
- Create a sleep sanctuary
  - Keep your bedroom cool, dark and quiet, turn off TV
- Surrender to sleep
  - Practice “letting go of wakefulness,” relax, breathe
- Go to bed only when sleepy
  - If unable to sleep, get out of bed until you feel sleepy
Sleep Tracker® iPhone App

Analyzes your sleep pattern
Determines best window of time to wake you
7 Keys to Health and Wellness

1. Maintain a healthy weight and diet
2. Exercise
3. Stay Active Mentally
4. Get Adequate Sleep
   *Bonus!* Change your genes
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Telomeres

- Telomeres are protective DNA-protein complexes which stabilize the ends of chromosomes
  - Like the aglets at the end of shoelaces

- Telomeres shorten in response to age, disease and stress

- But may lengthen in response to healthy lifestyles and stress management!

Epel ES et al. *PNAS* 2004;101:17312
A Case in Point: Healthy Lifestyle Treatment for Cancer

- Biopsy proven, low-risk prostate cancer
- 35 men agreed to active surveillance (2003-07)
  - 25 received only active surveillance
  - 10 received an integrative treatment plan
  - Dr. Peter Carroll, Chair, UCSF Dept. of Urology

Outcomes: Telomere Length??

Standard Active Surveillance
- Regular visits...

Integrative Care
- Exercise
- Healthy Diet
- Stress Reduction
- Social Support

Shorter - 0.03
p < .03

Longer! + 0.06

7 Keys to Health and Wellness

1. Maintain a healthy weight and diet
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4. Get Adequate Sleep
   Bonus! Change your genes
5. Reduce Inflammation
6.
7.
Inflammation

- Inflammation occurs when our immune system is activated
- It plays an important role in protecting us from infection and injury
- BUT, it also has a “dark side”
- Now believed to play a role in many chronic diseases
  - Heart disease
  - Alzheimer’s
Reduce Inflammation

Exercise

Anti-inflammatory diet
What Is An Anti-inflammatory Diet?

- High in nutrient-dense, plant-based, “whole foods”
- Low in simple carbohydrates, saturated fat, trans fats, additives
- High in healthy fats
- Low in processed foods
Reduce Inflammation

- Exercise
- Anti-inflammatory diet
- Stress management
- Floss
Reduce Inflammation - Floss!

- Periodontal disease - an independent risk factor for heart disease and stroke
- People with gum disease – 2 times more likely to develop diabetes
- More than 50 studies and reviews link periodontal disease with inflammation

7 Keys to Health and Wellness

1. Maintain a healthy weight and diet
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4. Get Adequate Sleep
   *Bonus! Change your genes*
5. Reduce Inflammation
6. Stay Connected
7.
Social Connection & Support

- Meaningful relationships are the most consistent predictor of quality of life
- Can be platonic, romantic, familial
Loneliness

- Loneliness, depression and isolation increase mortality by 3-7 times (after controlling for known risk factors)

- U.S. Survey showed that after an event of major personal importance, 1 out of every 4 Americans had not talked to anyone about the event

(2004 General Social Survey)
Connection Doesn’t Take Much….

- **Getting involved in an OLLI!**
- Going bowling once a month as part of a league
- Belonging to a book club
- Going to a weekly aerobics class
- Being greeted by name at your local Starbucks’s
7 Keys to Health and Wellness

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7. Outsmart Stress!
Keys to Outsmarting Stress

“BREATHE”
“BREATHE”

Breathe: Take a deep breath, be present with yourself *in the moment*
Realistic Goals: Set realistic goals for this moment, this hour and this day

✓ and celebrate meeting them!
“BREATHE”

Everyday events: Notice the positive moments in everyday life,

✦ sunset, flowers
✦ share these events with others
✦ recognize when things go right
Acts of Kindness

- Create positive events for others
Turn negatives around:

- Reframe negative events
- Find the silver lining
- Power of the positive

“BREATHE”
“BREATHE”

Humor
“BREATHE”

Humor
End each day with gratitude

- Note positive steps and all you are thankful for

“BREATHE”

Do positive accounting at the end of the day

Keep a Gratitude Diary
7 Keys to Health, Wellness, Resilience and Vitality

1. Maintain a healthy weight and diet
2. Exercise
3. Stay Active Mentally
4. Get Adequate Sleep
   *Bonus! Change your genes*
5. Reduce Inflammation
6. Stay Connected
7. Outsmart Stress!
7 Keys to Health, Wellness, Resilience and Vitality

- You are in the driver’s seat
- You can create your own path, and take your own steps to...

- Enhance your health and wellness
- Increase your resilience and vitality, and
- Improve the quality for your life
Thank you!
Acknowledgments

I wish to thank my colleague, Ellen Hughes, M.D. Ph.D., Professor of Medicine, for sharing her insights and slides about health and vitality across the lifespan with me. I also wish to express my gratitude to all the individuals who participate in research, providing us with new approaches to disease prevention and health promotion.