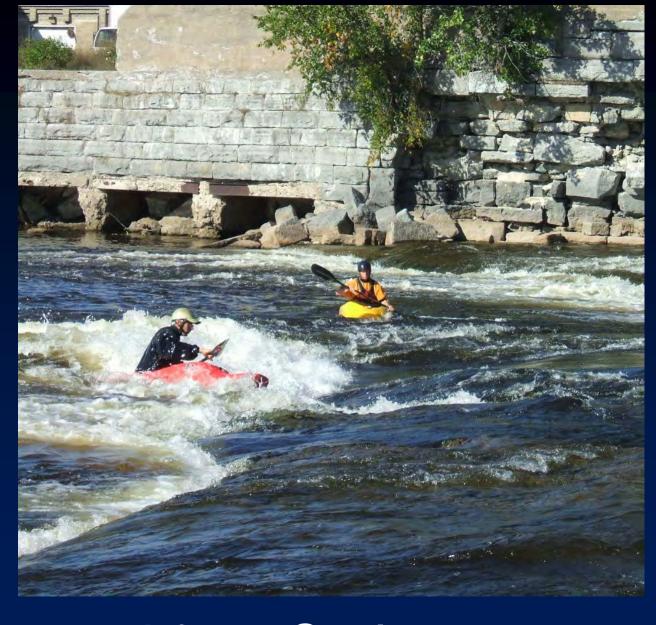
Can You Keep Your Health Out of Jeopardy?

Creating Active Communities

Jefferson County, Watertown NY Sep. 2006



Mark Fenton; mark.fenton@verizon.net

Pedometer Guess?

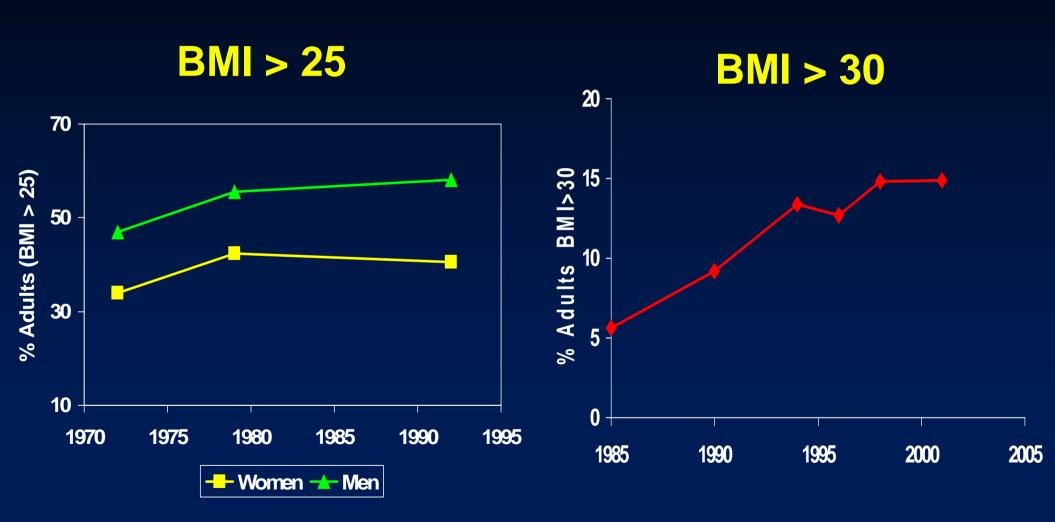


My Mother the Epidemiologist . . .

100

Canada's Looming "Obesity Epidemic"

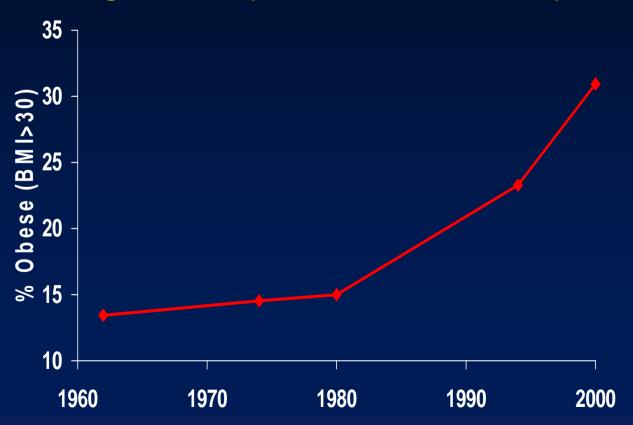
Can. Inst. for Health Information, Aug. 2004; www.cihi.ca



First sign of the chronic disease apocalypse?

US "Obesity Epidemic"

Ogden et. al. (JAMA 288, 14; Oct. 2002)









Families' lives measure pace of progress in Iraq

The al-Tajes Three generations potimistic for future but cautious for now

The Muhaisens Life looks neither

better nor worse from squatter's shack

The al-Zubaidis

Clan turns shame into honor, fear into anticipation

by John Dismond, Solvids of Artholic Life Serviced Hondon Sadjey and Lifey Main Smith LISA (1994)

MACIOND — their records it finds, here not benefited such war a bot sign in the delige fraces and between the both with on the probability work in the delige fraces and benefit from the emission between the process and the same and to be the process and the same and to be the process and the benefit from the both with the process and the process an

Obesity threatens life expectancy

lose 2 to 5 years

Vote sets stage for drilling in refuge

Senate Democrats say fight isn't over

June 8, 2006

Obese boomers face immobile future

Weight takes toll on body

By Nanci Hellmich USA TODAY

zens, a possibility that could such as bathing or dressing. have dire repercussions for them and for the nation's already overburdened nursing home system, leading obesity and aging experts say.

"Obesity will have a big impact on increasing disability in his country in the coming years unless the epidemic can be halted and turned back." says Richard Suzman of the lational Institute on Aging.

said for years that obesity in-creases the risk of diseases such as type 2 diabetes, heart dis-ease, osteoarthritis and cancer. Now a growing body of re-search suggests that being obese - 30 or more pounds over a healthy weight - in-Millions of overweight baby creases the chances of becomboomers are on the fast track to ing disabled at a younger age becoming disabled senior citi- and unable to perform tasks and unable to perform tasks

The longer a person has been obese, the greater the wear on joints and the probability of developing type 2 diabetes, Suzman says. People who need joint replacements may have pain and disability for years before the surgery and for months afterward during recovery.

Experts are scrambling to head off the problem. The Obe-Public health officials have Society for Nutrition recently

On the rise

The percentage of obese Americans ages 20-74 has skyrocketed. People are obese if they are roughly 30 or more pounds over a healthy weight.



Source: Centers for Disease Control and Prevention, (Figures are from the inter-mittent Hational Health and Nutrition Examination Survey.)

By Julie Solder, USA TODAY

lose weight to avoid becoming disabled. But boomers are at sity Society and the American the crossroads of three trends: ure, amoutations, heart attacks in and out of bed can be a big

boomers (born from 1946 to 1964) have turned 65, more than 71 million senior citizens will be living in the Lose it USA, the U.S. Census Bureau says.

► More Americans

Control and Prevention.

among people in their 30s, 40s and 50s has risen dramatically over the past 20 years, accordobesity-related illnesses, says Brangman, a geriatrician in Called for obese older adults to Darius Lakdawalla, a Rand Syracuse, N.Y., and a board economist. Type 2 diabetes can member of the American Geri-▶ By 2030, after all baby and strokes.

likely to increase future

now, 8D

nursing home populations by 10% to 25% over current projections, Lakdawalla says. But the nursing home

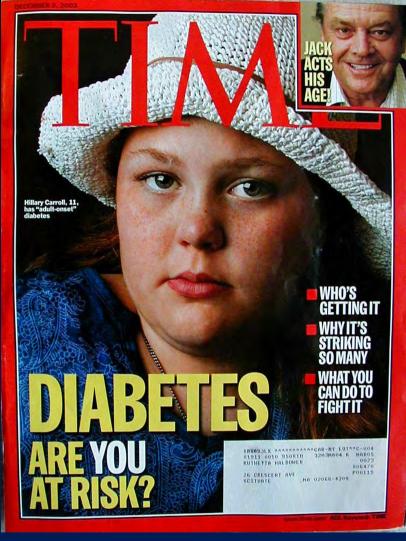
system is stretched to than ever are obese: one-third the limit. There are 52,000 vaof the adult population, accord- cancies for certified nursing asing to the Centers for Disease sistants in nursing facilities says Susan Feeney of the Amer-▶ The number of disabilities ican Health Care Association, a group that represents assistedliving and nursing facilities.

To handle obese and exing to a 2004 study by the Rand tremely obese people, nursing Corp. The new disability pa- homes will need more staff and tients were more likely to have stronger help, says Sharon lead to blindness, kidney fail- atrics Society. "Just to get them

living and nursing facilities. To handle obese and extremely obese people, nursing homes will need more staff and stronger help, says Sharon Brangman, a geriatrician in Syracuse, N.Y., and a board member of the American Geriatrics Society. "Just to get them in and out of bed can be a big iob.

Obesity Epidemic?





It's an epidemic of physical inactivity and poor nutrition!

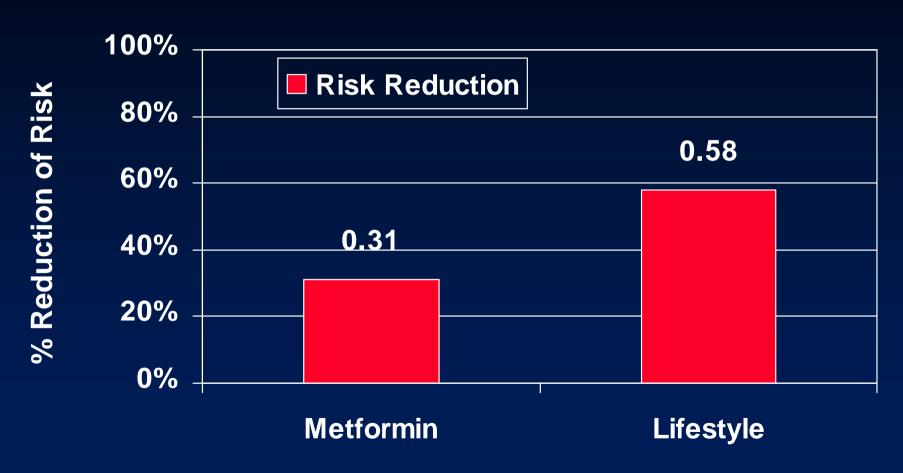
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Diabetes Prevention Program (DPP)

- Compared three treatments for nationwide cohort (3,000+) at risk for developing diabetes (elevated fasting glucose).
- 1. Control: Standard exercise and nutrition counseling; placebo.
- 2. Standard plus drug treatment: Metformin
- 3. Intensive lifestyle change: Nutritional training, 150 min./week physical activity.

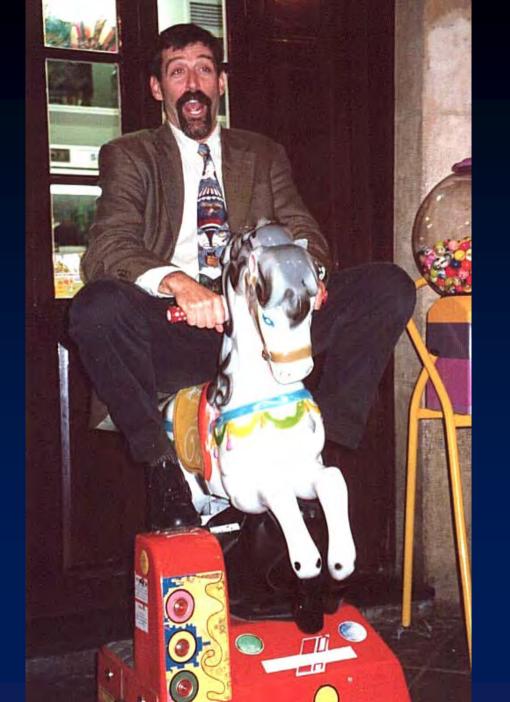
Diabetes Risk Reduction

(Diabetes Prevention Program; NEJM, April 2002)



Relative to Control Group (standard intervention)





"I get all the physical activity I need right here! Yee-haa!"

200

ACSM Fitness Guidelines

American College of Sports Medicine, 2000

 Aerobic activity 3 to 5 days/week.



- 20 to 60 minutes, at 60% to 90% of maximum heart rate.
- Resistance training.
- Routine flexibility maintenance.

Health Canada & US Surgeon General's Health Recommendations (also World Health Organization)

- 30 minutes of moderate physical activity.
- Most or all days of the week.
- Can be broken up.
- Reduced risk for CVD, diabetes, osteoporosis, obesity, clinical depression, some forms of cancer.



Surgeon General's 1996 Health Recommendation

- 30 minutes of moderate intensity physical activity.
- Most or all days of the week.
- Can be broken up.
- Reduced risk for CVD, diabetes, osteoporosis, obesity, clinical depression, some forms of cancer.



Institute of Medicine 2002/04 & US Dietary Guidelines 2005 Weight Loss Recommendation

- Nutritionally balanced diet low in saturated fats, high in whole foods and fiber.
- 60-90 minutes of activity most days of the week.

The Activity Diamond

Fitness: 20+ min. hard, 3+ days. ACSM fitness recommendation, 1978-2000.

Weight loss: 60-90 min., 5+ days.

USDA Dietary Guidelines, 2005.

Health: 30 min. a day.

Surgeon General's Report on Physical Activity & Health, 1996.

The Activity Diamond

Fitness: 20+ min. hard, 3+ days.

Weight loss: 45-90 min., 5+ days.

Health: 30 min. a day.



But which physical activities should we promote?







Does your exercise...

- Cost more than \$100 to get started?
- Cost more than \$10 each time?
- Need special equipment or instruction?
- Require you to go somewhere special?
- Need other people to take part?
- Not provide much enjoyment?
- Make it hard to do it at work?
- Have a high risk of injury?

The Activity Diamond

Walk faster.
Add variety.

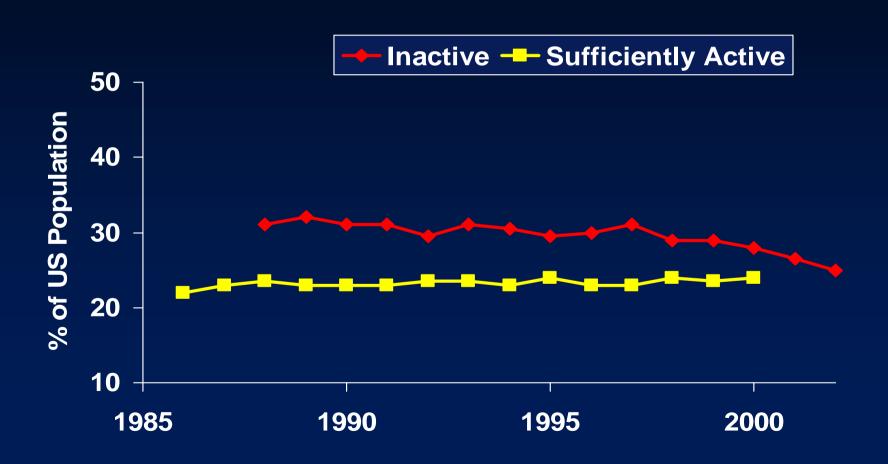
Walk longer. Build strength.

Walk daily. Stretch often.

300

Physical Activity in the US

(MMWR 50 (09); 166-9; Mar. 9, 2001)



My somewhat unique perspective . . .

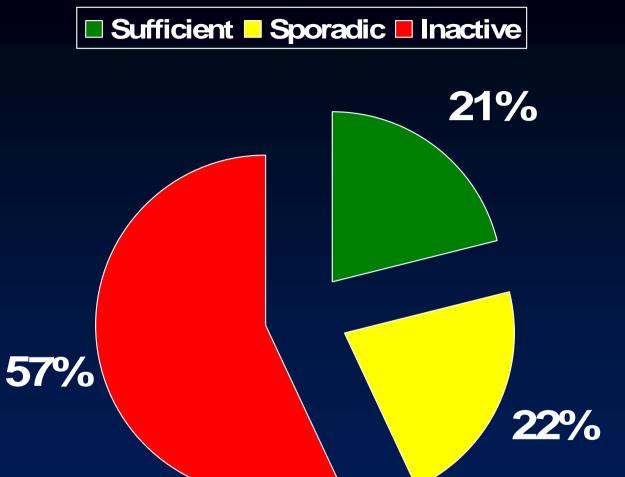




The Bad News:

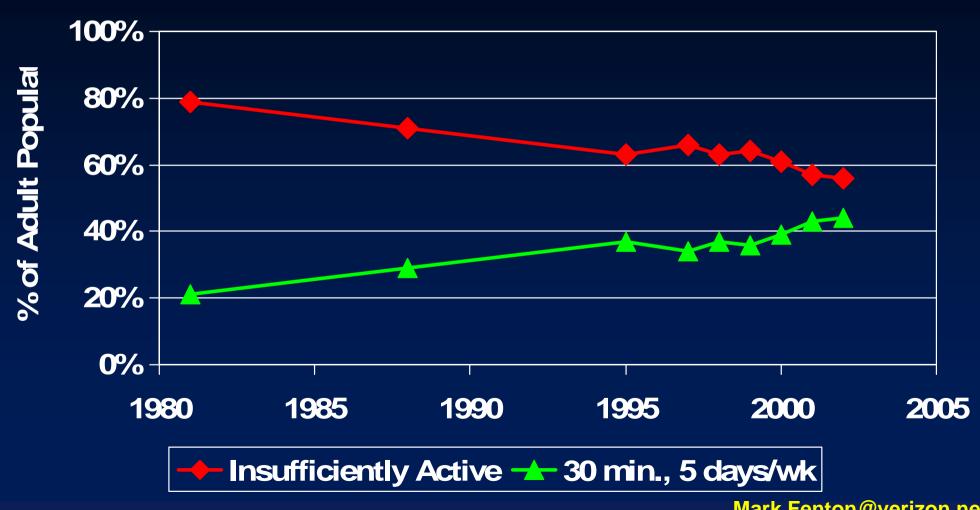
Canadian
Physical
Activity Rates
(Nat'l Population Health
Survey; Health Canada)

Sufficient: 30 min., 5 days/wk. Sporadic: Some weekly activity. Inactive: Sedentary!



Physical Activity Rates in Canada

Canadian Fitness and Lifestyle Institute; www.cflri.ca



Traditional Activity Promotion Limitations:

Sports leagues meet limited days, reach more motivated employees.



Gym serves the active 10%-20% of employee population.











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Calculate the cost of inactivity at: www.activelivingleadership.org

E.g.: Typical 200 employee company in Washington DC. Annual costs of physical inactivity:

Medical care:

\$42,459

Worker's comp.:

\$1,586

• Lost productivity:

\$1,134,360

• Total:

\$1,178,405

400

But it's not just about WEIGHT LOSS!

The benefits of physical activity. Within days:

- Reduced stress levels.
- Reduced blood pressure.
- Better sleep.
- Feeling of taking control, doing something for yourself.



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Within weeks:



- Generally improved mood.
- Fewer aches and pains, less stiffness.
- First measured fitness improvements.
- Growing confidence, interest in better nutrition.

Within months:

- Noticeable weight loss.
- Firming of muscles, toning.
- Improved fitness, metabolic measures.
- Improved "self-efficacy."
- Adoption of other healthy habits (bettter diet, quit smoking).



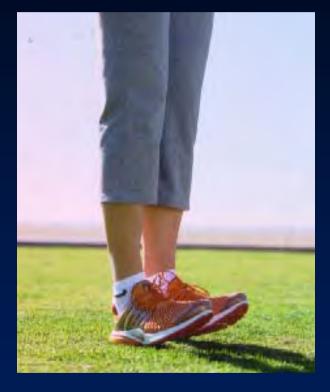
Simple activity rules of thumb:

- Warm up before exercise.
- Stretch *afterward*, when muscles are warm and most compliant.
- Don't exercise without fuel and hydration.
- Use sun protection.









Warm-up: Up, side, back, downs.

Abdominal Crunches







Straight Knee Leg Lifts

Preventive Exercises

The Activity Diamond

Push off of your toes.

Bend your arms.



Tall posture.

Quick steps.

How fast are you walking?

145 – 155 steps/min. = >4.5mph (~50 steps in 20 seconds)

125 - 135 steps/min. = ~4.0 mph (~45 steps in 20 seconds)

110 – 120 steps/min. = ~3.0 mph (~40 steps in 20 seconds)

The Activity Diamond

4.5 mph = 450+ cals.

4 mph = \sim 360 cals.

3 mph = ~240 cals.

Why not intensify with . . .

Hand weights?

- Risk of shoulder, elbow discomfort.
- Elevated blood pressure (pressor response).

Ankle, leg weights?

Alters walking gait, risk of knee injury.

Retractable waist-worn cords?

• Hard to use, ungainly, unnatural gait.

Weighted vests?

Need to add lots of weight to boost intensity.





Source: The Complete Guide to Walking for Health, Weight Loss, and Fitness, M.Fenton

Intensify with . . .

Speed.

• Boosts calorie burn and fitness benefits.

Hiking, hills.

• 5% to 50% boost in calorie burn (depends on terrain and incline); works thighs & glutes.

Nordic (pole) walking.

- Average 20% calorie burn boost; up to 45%.
- Engages arms, shoulders, back, chest, abs.
- Adds stability, reduces knee strain on descents.





Calorie burn in an hour of walking:

4.5 mph = 450+ cals.

w/ NW = $540 \sim 630$ cals.





4 mph = 360 calories

w/ NW = $430 \sim 500$ cals.

3 mph = 250 calories w/ NW = $300\sim350$ cals.



Do incidental walking trips matter? Imagine:

Eliminate 20 minutes of walking, 5 days a week (2 kcal/min vs. 4 kcal/min).

Net loss of 2 kcal/min; 40 kcal/day.

200 kcal/week = 10,400 kcal/year ~ 3 lbs./year (30 lbs./decade!)

Selecting walking shoes:

Flexible at the ball of the foot. (Do hand flex test.)



Rounded or beveled heel, not squared off. (Can ease sore shins.)

NO flexibility through the arch. (Leads to plantar fasciitis.)

What to pick?

- More rounded, beveled heels than most running shoes.
- More flexible forefoot than most running & cross-training shoes.
- "Rugged walking," light hiking shoes for trails, weak ankles, pregnancy.

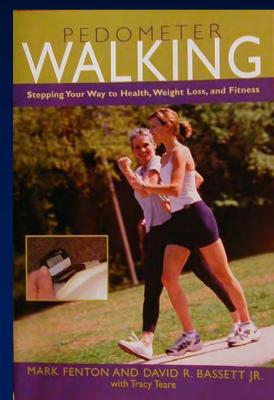


For summary information (& a moment of shameless self-promotion):

 Web site for "America's Walking:" www.pbs.org/americaswalking

Books: "Pedometer Walking" (Lyons press, 2006)

"The Complete Guide to Walking for Health, Weight Loss, and Fitness" (Lyons, 2001)



For summary information (& a bit more shameless self-promotion):

Another Book:

"Walking Through
Pregnancy and
Beyond" (Mark and
Lisa Fenton; Lyons
Press, 2004)



Wear a pedometer:

- Measure steps all day.
 - Determine your average daily steps.
 - Increase by only 10%-20% a week.
 - Keep gradually increasing . . .



Key to Success: Keep a record! www.cornerstonefitness.com