



Eating Well: 7 nutritional strategies for a modern world

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Work Site

- 75% of your company's medical costs are the result of poor eating behavior. (*Center for Disease Control*)
- What to expect when your employees Eat Right:
 - Healthier and happier employees
 - Increased productivity
 - Lower absenteeism
 - Lower health costs
 - Reduced workers comp and disability claims

“Utilizing food as medicine to improve health and reduce costs should be an obvious intervention.”

ORIGINAL ARTICLE

Adiposity changes after a 1-year aerobic exercise intervention among postmenopausal women: a randomized controlled trial

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Objective: We examined the effects of an aerobic exercise intervention on adiposity outcomes that may be involved in the association between physical activity and breast cancer risk.

Design: This study was a two-centre, two-armed, randomized controlled trial. The 1-year-long exercise intervention included 45 min of moderate-to-vigorous aerobic exercise five times per week, with at least three of the sessions being facility based. The control group was asked not to change their activity and both groups were asked not to change their diet.

Subjects: A total of 320 postmenopausal, sedentary, normal weight-to-obese women aged 50–74 years who were cancer-free, nondiabetic and nonhormone replacement therapy users were included in this study.

Measurements: Anthropometric measurements of height, weight and waist and hip circumferences; dual energy X-ray absorptiometry measurements of total body fat; and computerized tomography measurements of abdominal adiposity were carried out.

Results: Women in the exercise group exercised a mean of 3.6 days (s.d. = 1.3) per week and 178.5 min (s.d. = 76.1) per week. Changes in all measures of adiposity favored exercisers relative to controls ($P < 0.001$). The mean difference between groups

Normal weight men and women overestimate exercise energy expenditure

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Aim. The limited potential of exercise to induce weight loss could be partly due to the overestimation of the energy cost of exercise. The objectives of this study were twofold: 1) to investigate whether men and women are able to accurately estimate exercise energy expenditure (EE); and 2) to determine whether they have the ability to accurately compensate for the EE of exercise during a buffet-type meal.

Methods. Sixteen (8 men, 8 women) moderately active (VO₂ peak = 45.4 ± 7.7 mL·kg⁻¹·min⁻¹), normal weight (BMI = 22.8 ± 3.3 kg/m²) individuals, aged 20–35 years, were studied. They were blinded to two randomly assigned experimental conditions: a 200 and a 300 kcal (measured by indirect calorimetry) exercise sessions that were performed on a treadmill at the same intensity (50% of VO₂ peak). At the end of each exercise session individuals were asked to estimate EE of the exercise sessions and to then eat the caloric equivalent of their estimated exercise EE from a buffet-type meal.

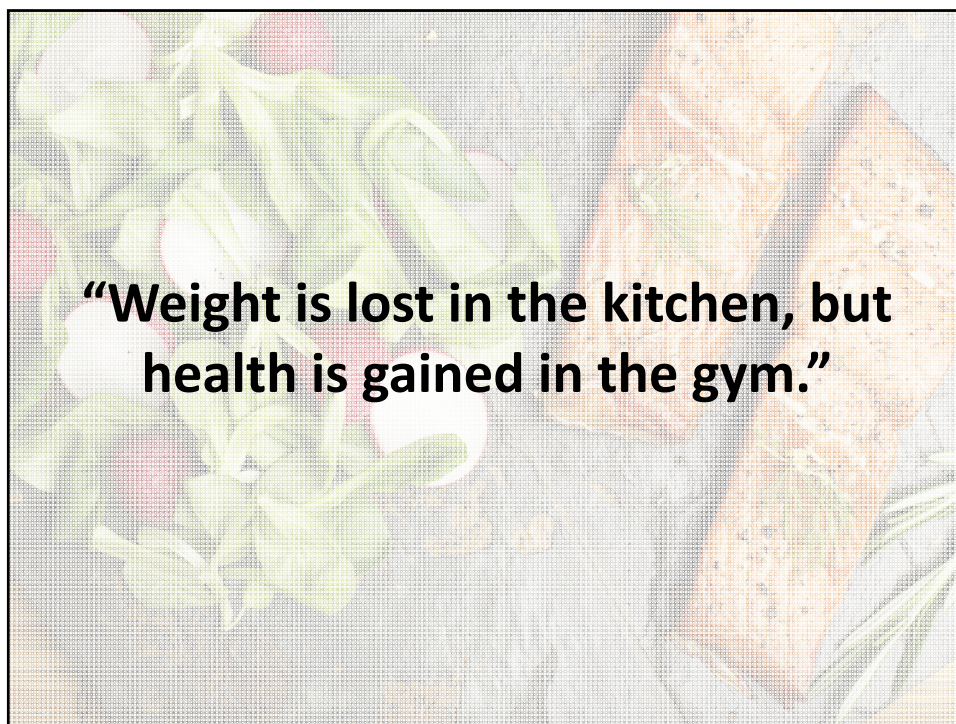
Results. Estimated EE was higher than measured EE for both the 200 kcal (825.0 ± 1061.8 vs. 200.1 ± 0.7 kcal, $P < 0.05$) and 300 kcal (896.9 ± 952.4 vs. 300.2 ± 0.7 kcal, $P < 0.05$) sessions. Further, post-exercise energy intake was higher than measured EE for the 200 kcal (556.8 ± 204.4 vs. 200.1 ± 0.7 kcal, $P < 0.001$) and the 300 kcal (607.2 ± 166.5 vs. 300.2 ± 0.7 kcal, $P < 0.001$) sessions. Although post-exercise energy intake was lower than estimated EE, no significant differences were noted.

Conclusions. These results suggest that normal weight individuals overestimate EE during exercise by 3–4 folds. Further, when asked to precisely compensate for exercise EE with food intake, the resulting energy intake is still 2 to 3 folds greater than the measured EE of exercise.

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It has been reported that there is a ≈40% compensation of exercise energy expenditure (EE) over 7-day.¹ This earlier finding may explain the low resolution potential of exercise as a modality to induce body weight loss.² It has been postulated that the misconceptions regarding the energy value of food intake relative to the energy value of energy expenditure (EE) from exercise participation may be why exercise does not result in weight loss for some individuals.^{3,4} Blundell *et al.*³ suggested that it may be that individuals have a tendency to overestimate the EE derived from exercise and to subsequently underestimate the energy value of food intake (kilocalories), although this has, to our knowledge, never been tested. Hence, the present study was performed to in-



Original Investigation

Comparison of Weight Loss Among Named Diet Programs in Overweight and Obese Adults

A Meta-analysis

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ideal diet is the one that is best adhered to by individuals so that they can stay on the diet as long as possible.

DATA SOURCES Search of 6 electronic databases: AMED, CDSR, CENTRAL, CINAHL, EMBASE, and MEDLINE from inception of each database to April 2014.

jamanetworkcme.com and
CME Questions page 958

STUDY SELECTION Overweight or obese adults (body mass index ≥ 25) randomized to a popular self-administered named diet and reporting weight or body mass index data at 3-month follow-up or longer.

DATA EXTRACTION AND SYNTHESIS Two reviewers independently extracted data on populations, interventions, outcomes, risk of bias, and quality of evidence. A Bayesian framework was used to perform a series of random-effects network meta-analyses with meta regression to estimate the relative effectiveness of diet classes and programs for change in weight and body mass index from baseline. Our analyses adjusted for behavioral support and exercise.

“The people who are most successful are those who embrace both consistency and imperfection. Think of starting out a weight management or healthy living program like you would a martial art. You'd never expect yourself to have a black belt from the get go. Instead, you'd start with really basic moves that you'd practice over and over and over again, you'd fall down a bunch, and doing so would be an expectation, and not a disappointment. And then slowly but surely you'd get better and better at it. Same thing is true when building any skill set, including healthful living, and just like you might be able to picture a jumping spinning hook kick in your mind's eye when you start out at your dojo, that doesn't mean you'll be able to simply do one. So, too, with healthy living. Sure you might have a mind's eye idea of what your healthy lifestyle should look like when you're done, but getting there will be slow, plodding, and will include many falls.”

Diet Index Enjoyability Total (DIET)

- To determine a diet's overall sustainability, go through the checklist below and assign an "enjoyability" score of 1-10 before you decide to try the diet:
 - Hunger
 - Cravings
 - Feelings of fullness/satisfaction
 - Need to cook special meals for other family members
 - Ability to still eat out with friends and family
 - Energy levels and feelings of general well-being
 - Complexity of dietary requirements
 - Dietary flexibility vs. monotony
 - Rigidity of dietary requirements (ie forbidden foods/food groups and impact on quality of life)
 - Expense/cost of dietary requirements (ie expensive foods, supplements, etc.)

Even Simplier

- Most diets can be boiled down to three words:

Eat More Vegetables

Eat More Vegetables

- Natural, unprocessed and organic.
- Little or no added sugar.
- Eat foods grown locally and in-season.
- Eat fermented foods.
- Include healthy fats in your diet.

*(Grains are not included in this statement)

Recommended Diets

- Paleo
- Low-Carb
- Mediterranean Diet
- DASH
- MIND

Carl Nathan's History of Medicine

- **2000 BC:** Here, eat this root.
- **1000 AD:** The root is heathen, say this prayer.
- **1850:** That prayer is superstitious, drink this potion.
- **1920:** That potion is snake oil, swallow this pill.
- **1945:** That pill is ineffective, take penicillin.
- **1955:** Oops, that bug mutated, try this tetracycline.
- **1960-1999:** 29 more "oops", now try this powerful antibiotic.
- **2000s:** The bugs have won. Here, eat this root.

7 Nutritional Strategies in a Modern World

- 3 Worksite Strategies
- 3 Individual Strategies
- 1 Community Strategy



Strategy #1: Policy

- **Health-Related policies for nutrition**
 - Workplace policies promote a corporate “culture of good health.”
- **Promote a workplace healthy food policy**
 - Workplaces can promote healthy eating among employees by providing nutritious foods in the company cafeteria, in the vending machines, and at worksite functions. For example, some companies have implemented policies that require healthier food options such as salad, turkey sandwiches, and fruit, be served at meetings or other employee events
 - Worksite nutrition can be improved when developing contracts with food vendors. Suppliers can be required to include specified percentages of healthy food in recommended portion sizes. The Centers for Disease Control and Prevention’s Division of Adolescent and School Health has prepared *Making It Happen!*, which provides guidance on food, snack and beverage content for schools, but can be applied to worksites.

Strategy #2: Food Environment

- **Environmental support for nutrition**
 - Environment support provides a worksite physically designed to encourage good health. Several promising approaches for changing the nutrition environment are being studied.
- **Workplace availability of healthy foods can affect employee nutrition**
 - Clinical nutrition counseling includes instructions on selecting healthy foods when eating away from home. Providing healthy dietary choices at the worksite in vending machines, cafeterias, snack bars, common areas, meetings, and company-sponsored events such as holiday parties reinforces this counseling
 - If employees do not have access at the worksite to fresh fruit and vegetables through cafeterias or vending machines, establish a garden market where local farmers and growers can come to the worksite and sell fresh produce
 - Healthy food options should be appropriately labeled or marked for easy identification, which could include nutritional content
 - Marketing techniques at the point of sale can be adapted to promote healthy diet and food choices. This approach, called social marketing, includes “the four P’s”
 - **Products** that are healthy and appealing to employees
 - **Placement** of healthy foods in easily accessible locations such as vending machines
 - **Promotion** strategies to inform employees and encourage them to select these foods
 - **Price** the foods at levels that encourage employees to purchase them

Strategy #3: Social Eating

- **Have regular communal gatherings around healthy food.**
 - Encourage your organization to hold regular pot-lucks, celebrations, and holiday meals with a focus of gathering around healthy food.
 - Invest in your employee’s health by promoting and encouraging healthy eating behaviors.
 - **Lead by example:**
 - Set nutritional standards in your organization
 - Support healthy food access for your organization
 - Nutrition incentive program (ie. Wholesome Wave)
 - Sponsor regular pot-lucks, celebrations, and holiday meals .

Others

- **Health benefits for nutrition**
 - Employee health benefits are part of an overall compensation package and affect an employee's willingness to seek preventative services and clinical care.
- **Provide coverage for clinical nutrition counseling**
 - Provide intensive dietary counseling for adults with lipid disorders and other risk factors for cardiovascular and diet-related chronic diseases. Counseling can be delivered in clinical settings by physicians, or specialists such as nutritionists or dietitians, and should include nutrition education and behavioral education such as self-monitoring, overcoming barriers to selecting a healthy diet, setting goals, shopping and food preparation, and social support.
 - Counseling is recommended for adults with lipid disorders and other risk factors for cardiovascular and diet-related chronic diseases
 - Counseling interventions help individuals acquire the skills, motivation, and support they need to alter their eating and food preparation habits. Counseling advice includes self-monitoring, overcoming barriers to selecting healthy foods, goal-setting, shopping and food preparation, role playing, and social support
- **Health-related programs for nutrition**
 - Employee programs refer to activities that include active employee involvement such as classes, seminars, or competitions. Employee programs are frequently provided on-site at the workplace.
 - [Health risk appraisals \(HRA\)](#) or employee health surveys should be used in combination with individualized clinical assessment, counseling on nutrition, and follow-up for health behavior change.

Others

- **Lactation Support Program**
 - A basic lactation support program includes providing a breastfeeding employee time and a location where she can privately, comfortably, and safely express milk during the workday. Program components include teaching employees about breastfeeding and offering professional lactation management services and support
 - Lactation support in the workplace benefits both employees and employers. For example, employers benefit through lower health care costs and lower absenteeism from mothers not needing to stay home with sick children as often. Additionally, employers benefit through retention of valuable, trained employees and improved public relations. Mothers enjoy health benefits and greater peace of mind that they can still provide ideal nutrition for their infants
 - A basic lactation support program includes providing a breastfeeding employee time and a location where she can privately, comfortably and safely express milk during the workday. Health Benefits components include providing coverage for breastfeeding counseling (A U.S. Preventive Services Task Force B Recommendation)
 - A basic lactation support program includes providing a breastfeeding employee time and a location where she can privately, comfortably, and safely express milk during the workday. Policy components include written policies to support breastfeeding women; allowing flexible scheduling to support milk expression during work; and giving mothers options for returning to work, such as teleworking, part-time work, and extended maternity leave
 - A basic lactation support program includes providing a breastfeeding employee time and a location where she can privately, comfortably, and safely express milk during the workday. Environmental support components include creating designated lactation room(s) that are clean, private, comfortable spaces (non-bathroom) that do not have to be large or expensive to establish; providing high-quality breast pumps; and refrigeration to store expressed breast milk.

Individual Strategies



Strategy #1: Eat more!

- Eating vegetables, means you have to increase the volume of what you eat.
- With more veggies comes more volume and diversity of fiber.
 - Fiber is necessary for the gut microbiome.



Baby Carrots

570 grams = 200 Calories



Apples

385 grams = 200 Calories



Sliced Smoked Turkey
204 grams = 200 Calories



Kiwi Fruit
328 grams = 200 Calories



Avocado

125 grams = 200 Calories



Blueberry Muffin

72 grams = 200 Calories



Sesame Seed Bagel
70 grams = 200 Calories



Gummy Bears
51 grams = 200 Calories



Doritos

41 grams = 200 Calories



Peanut Butter

34 grams = 200 Calories



Fried Bacon

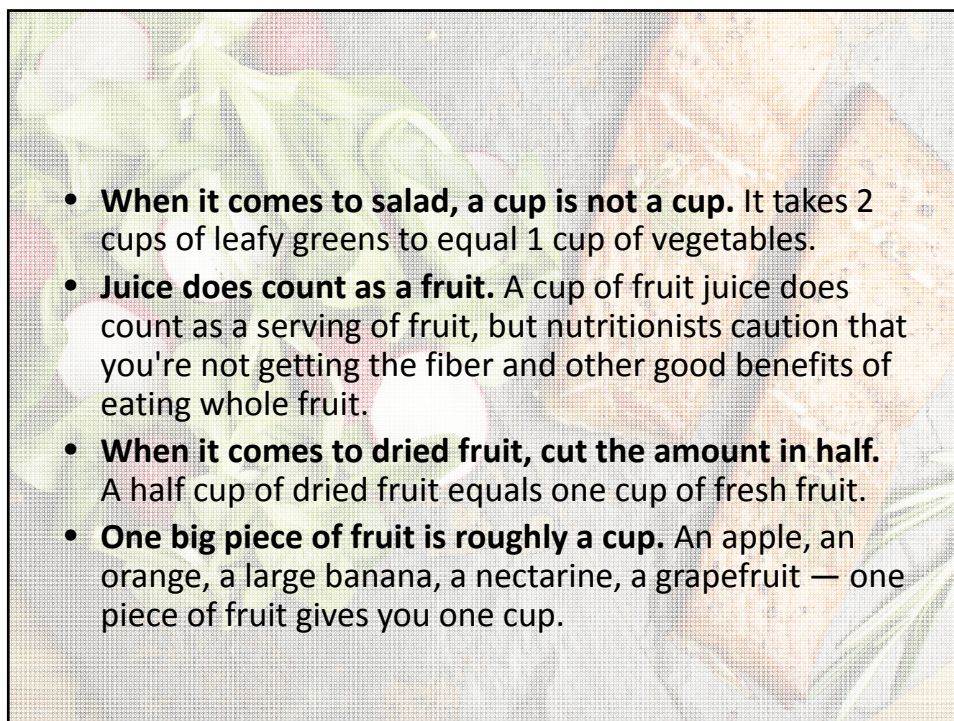
34 grams = 200 Calories

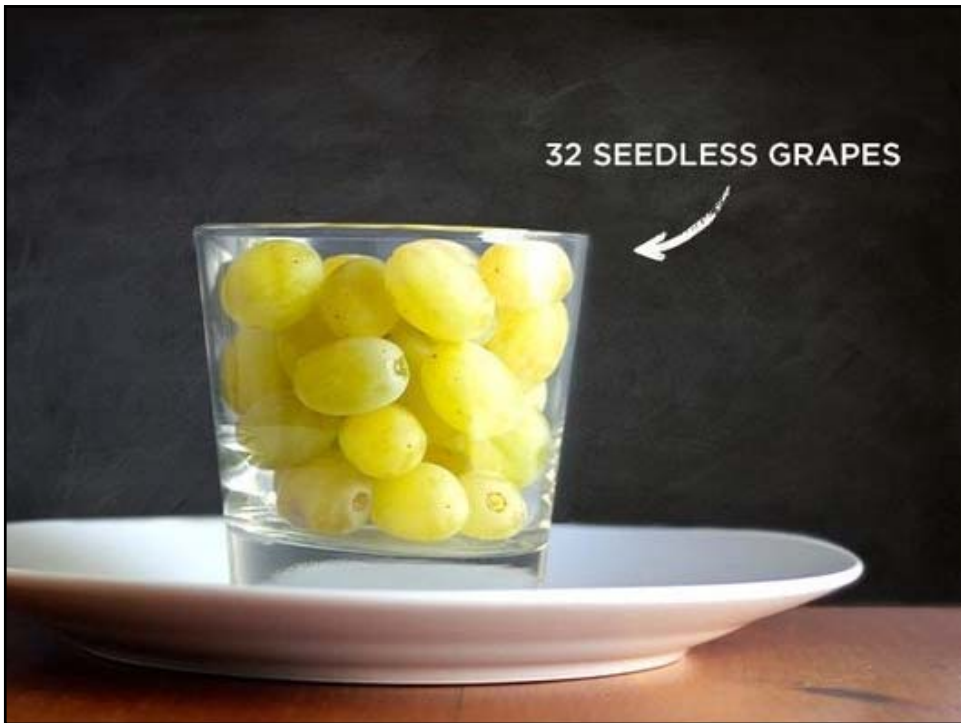
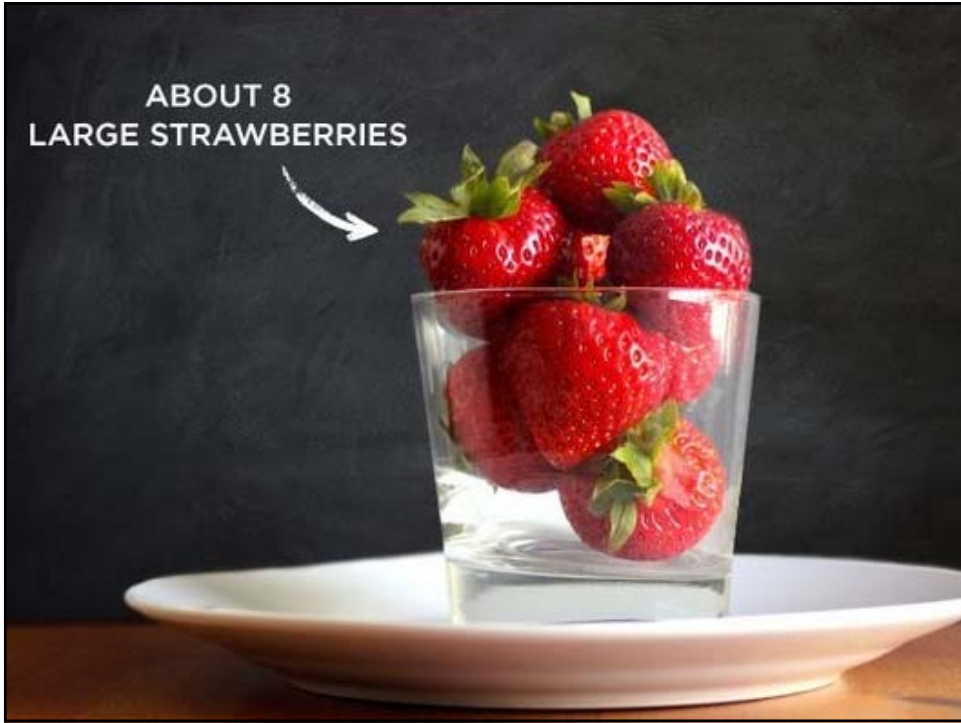


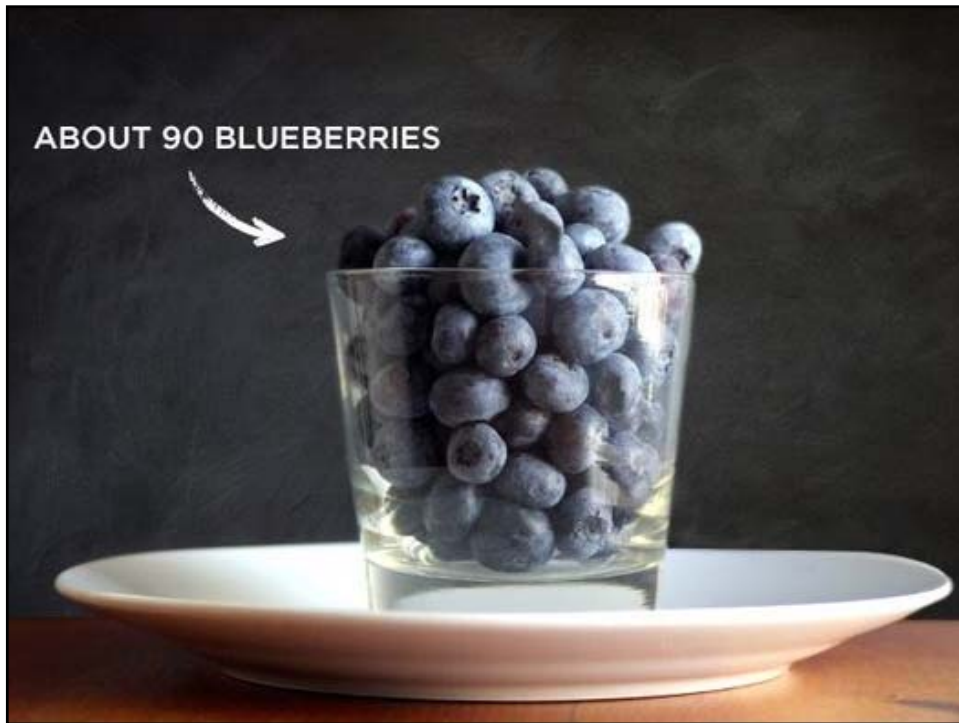
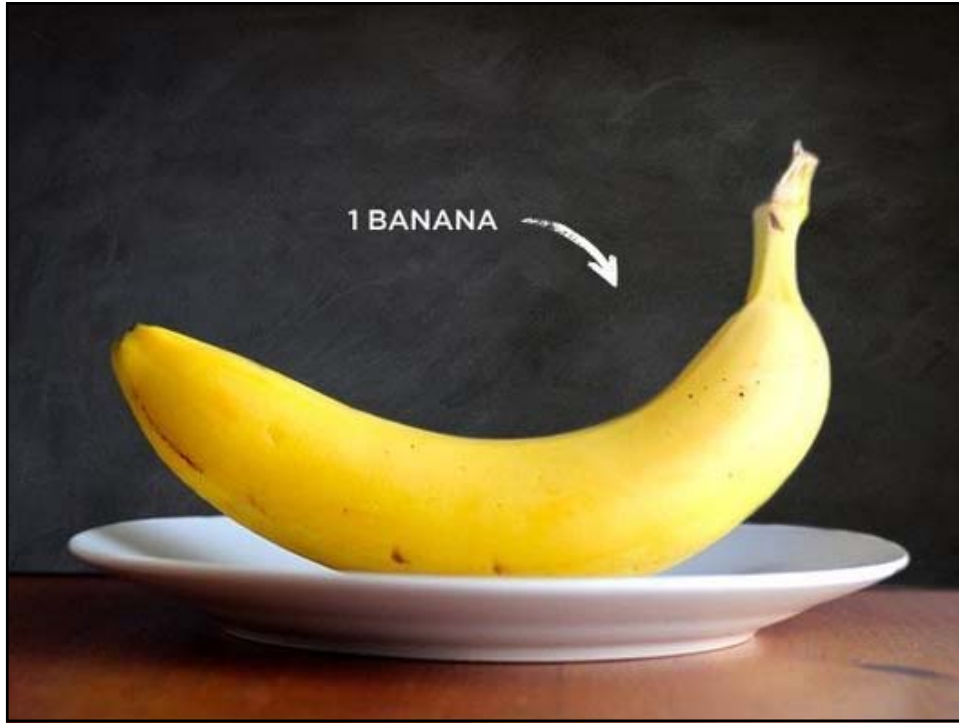
Salted Mixed Nuts

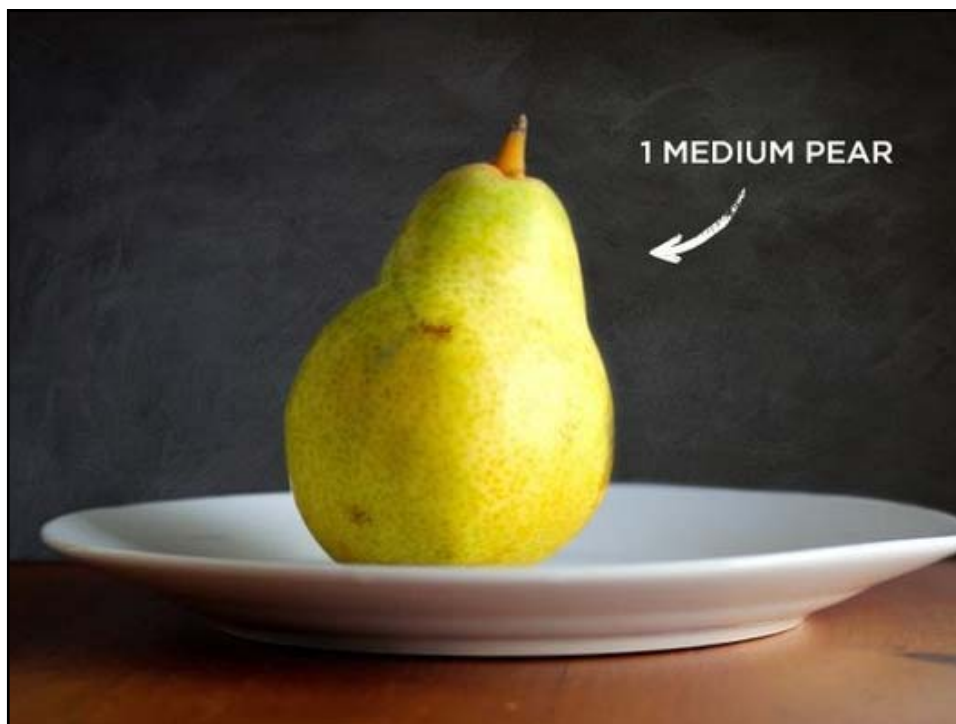
33 grams = 200 Calories











“In 2010, only **33% of adults** were eating the daily recommended amount of fruit, and even fewer — **27%** — were meeting their veggie quota.”



Recommended F&V Intake

5 cups total:

2 cups of fruit

3 cups of vegetables



Strategy #2: The Smoothie for Vegetable and Fruit Intake

“Blending fruits and vegetables is a
great way to boost your F&V
intake.”

Strategy #3: Cook and freeze in bulk

- Cook more!
 - Cook with your kids, involved them
 - Batch your cooking

The Crock Pot is your friend



Cook & Freeze Soups



Frozen Soups

- **The 5 Best Types of Soups to Freeze:**
 1. Bean Soups
 2. Rice Soups
 3. Broth-Based Soups
 4. Meaty Soups
 5. Pureed Soups

Soups That Don't Freeze Well

- Soups with a lot of cream or dairy or potatoes will change in texture and possibly separate when thawed.
- Seafood soups can also develop some off flavors when frozen
- Soups thickened with cornstarch or eggs might reheat thin and watery.
- Any toppings (tortilla chips, fresh herbs, cheese or pestos) should be kept out of the soups and added in when reheated and served.

“Avoid freezing these types of soups.”

Strategy #6: Take Lunch to Work



dry on the top

greens
walnuts
celery
radish
apple
dressing

wet on the bottom

BUILD A SALAD DRESSING

1 *tblsp*
OIL EVOO // Walnut
Hazelnut // Avocado
Flavored

1 *teaspoon* +
VINEGAR Balsamic // Sherry
Apple Cider // Rice wine
Red wine // Flavored

+
1/2 *teaspoon*
SWEETNESS Honey // Maple syrup
Brown sugar // Jam

+
1/2 *teaspoon*
MUSTARD Dijon // Honey mustard
Grainy // Spicy

+
2 *pinches*
HERBS Herbs de Provence
Rosemary // Thyme
Basil // Dill

+
1 *pinch*
SEASONING Salt // Pepper // Garlic
Smoked paprika

Katheats.com



BONUS: Nutrition, Eating, and Awareness

1. “Eat breakfast like a king, lunch like a prince and dinner like a pauper”
2. Food Journal
3. Grow your own food!
4. Avoid Food Waste



BONUS: Physical Activity

- NEAT (Non Exercise Adaptive Thermogenesis)
- Post-prandial light exercise and glucose levels.
- Vinegar and post-prandial glucose.



**Community Strategy:
Support Local Food**

- CSA Programs
- Farmers' Markets
- Food Hubs
- Urban Gardening



Questions?

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