

March 6 - beginning of Lent

Will you be giving up some treat this
Lent?

WEIGHT MANAGEMENT: ACHIEVING AND MAINTAINING A HEALTHY WEIGHT IN AN OBESOGENIC ENVIRONMENT

Presented by
Patricia Read-Hunter, EdM, PhD

Course Content

- Session 1: Nutritional fads and fallacies; review of key concepts in nutrition
- Session 2: Commonly prescribed and effective diets, and
- Session 3: A plan for healthy eating

Session 1, Part 1: Fads & Fallacies

What are fads and fallacies?

- Fad – temporary, usually unsupported idea: an intense and widely shared enthusiasm for something, short-lived and without basis; a craze (e.g., Metrecal)
- Fallacy – a mistaken idea: faulty reasoning, a misleading or unsound argument (e.g., detoxification – MasterCleanse)

How many fad diets can you name?
What's the implication here?

Why do fads happen?

- Nutrition is a new and under-funded science: we don't really know as much as we'd like
- Ethical issues prevent effective research on humans
- Foxes guard the hen house: lobby-influenced USDA generates eating guidelines instead of CDC or NIH
- Advertising shapes our eating habits – and who pays for advertising?
- Nothing works for very long!
- Peddling diet advice is profitable: Simple as that.

*Nutrition: we don't really
know as much as we'd like*

So let's take a moment to understand what
generates good information.

What are the characteristics of a good study?

- Lots of participants, and high statistical power
- High follow-up rates
- Good dietary compliance on the part of participants (in intervention studies)
- Carefully designed and validated dietary assessment tools (repeated measures are best)
- Statistical analyses that control and evaluate confounding factors as much as possible
- Confirmation by other studies (i.e., reproducible results)
- Supportive evidence from short-term controlled feeding studies with biochemical or physiologic outcomes and
- Careful interpretation of data in the context of available evidence and the limitations of the study design.

Popular Approaches of Our Time

- Grapefruit, cabbage soup, apple cider – frankly whacko
- Meal replacements (e.g., Slim-Fast)
- Food combinations (e.g., Beverly Hills Diet)
- Macronutrient ratio (e.g., Zone)
- Low fat approaches (e.g., Ornish, Pritikin)
- Cleanses, juicing, herbs (e.g., MasterCleanse, Herbalife)
- Proprietary systems (e.g., WW, Nutrisystem, Jenny Craig)
- Paleo (e.g., Whole 30)
- Ketogenic diets (started at Mayo Clinic – for epilepsy)
- Low carb approaches (Banting – Stillman – Atkins, etc.)
- Fasting

What is the result?

On the societal level,

- Public health disaster: Increasing prevalence of obesity, diabetes
- Waste of money (OTC drugs, scams, proprietary systems)

On the individual level,

- Orthorexia or confusion
- Abdication of responsibility

How to Recognize a Fad Diet

- Promises to “cure” one or several serious conditions
- Claims to be secret, “they don't want you to know”
- Usually claims to be quick (short term)
- Term “miracle” often appears
- Generally touted through anecdotes, testimonials
- Exerts time pressure - “act now”
- Always proprietary – vague about active ingredients

Critical Fallacies in Nutrition

- Calories in, calories out – all calories are the same
- Ketosis is desirable
- Artificial sweeteners help with weight loss
- Cleanses help weight management
- Exercise (cardio) is the best way to lose weight
- Olive oil, canola oil are “heart healthy”
- You can't be healthy on a plant-based diet
- “Natural” or “organic” equals safe, good for you:
“Processed” equals bad (what is “processed?”)

Can I harm myself through dieting?

Yes.

- Exacerbates metabolic syndrome, type 2 diabetes
- Reduces lean muscle mass – potentially including heart muscle
- May cause electrolyte imbalance
- Association between youthful dieting and later eating disorders, alcohol problems, and obesity
- Risk of orthorexia

*Session 1, Part 2:
Review of Key Concepts in Nutrition*

Hormones – Chemical Messengers

The principal hormones involved in metabolism and appetite regulation are

- Glucoregulatory hormones (e.g., **insulin** and **glucagon**, which act in opposition), adipokines (e.g., **leptin**), epinephrine, cortisol, and HGH
- **Ghrelin**, “the hunger hormone” (obviously, appetite also responds to signals such stomach fullness, circadian patterns, external stressors that generate flight/fight/fright responses)

Review: Components of Your Diet

- Macro nutrients:
 - Protein
 - Carbohydrate
 - Fat
- Micro nutrients: mg – milligram
mcg – microgram
IU – international unit
 - Vitamins
 - Minerals
- Fiber

Macronutrients

- Protein, carbohydrates, fat – providing 4, 4, and 9 calories per gram respectively
- All foods contain a MIX of these
- Each macronutrient has a different primary role:
 - Protein builds and repairs body tissues
 - Carbohydrates are the primary source of energy
 - Fats store energy, and are critical in vitamin absorption

Micronutrients

- Vitamins are water or fat soluble substances that support normal cell function, growth, and development
- Minerals keep bones, muscles, heart, and brain working properly, and make enzymes and hormones: You probably know all about the importance of sodium, for example

Essential Micronutrients

- There are 13 essential vitamins:

A, C, D, E, K

B1, 2, 3, 5, 6, 7 9, 12

- Lack of any one leads to a deficiency disease

- There are macro minerals and trace minerals:

Macro: calcium, phosphorus, magnesium, sodium, potassium, chloride, and sulfur

Trace: iron, manganese, copper, iodine, zinc, cobalt, fluoride, and selenium

Fiber

- Soluble fiber ferments in the colon into gases and physiologically active by-products (e.g., short-chain fatty acids) PECTIN
 - Sometimes called prebiotic fiber
 - Delays gastric emptying, so can extend the feeling of fullness
- Insoluble fiber provides bulk BRAN
 - Some forms, such as resistant starches, can be fermented in the colon
 - Bulking fibers absorb water as they move through the digestive system, easing defecation

Conclusion: What do you need in your "diet"?

- Energy, measured as calories – a function of age, weight, metabolism, activity level, etc. - around 2000 for a woman, 2500 for a man
- Fat – enough for vitamin transport, organ protection, and energy storage: about $\frac{3}{4}$ to 1 ounce
- Minerals – tiny, tiny amounts, usually met by a varied diet. Recommended supplements for our age group include B complex, D, and calcium.

Next Week

Commonly prescribed and effective diets:

- DASH
- Mediterranean
- MIND
- Flexitarian

I will research and answer questions sent to me at
patriciareadhunter@thebluecoatgroup.com

See you on the 13th!

Appendices

The New Nutrition Label

Nutrition Facts	
8 servings per container	
Serving size	2/3 cup (55g)
Amount per serving	
Calories	230
% Daily Value*	
Total Fat 8g	10%
Saturated Fat 1g	5%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 160mg	7%
Total Carbohydrate 37g	13%
Dietary Fiber 4g	14%
Total Sugars 12g	
Includes 10g Added Sugars	20%
Protein 3g	
Vitamin D 2mcg	10%
Calcium 260mg	20%
Iron 8mg	45%
Potassium 235mg	6%
<small>* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.</small>	

Courtesy of Women's Nutrition Connection.
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1. Note the serving size – not necessarily what you'd expect.
2. Calories are *per serving*.
3. The DVs (daily values) have been updated.
4. This one is key: You want to avoid foods with added sugars (empty calories).
5. The vitamin content mentions only those in which you might be deficient, or have trouble obtaining. A and C are not required to be listed, as deficiencies in these are uncommon.
6. The DV figures are for a 2,000 calorie intake. If you take in fewer or more calories, all these figures need to be adjusted.