


Complimentary Webinar Presentation

**Eating Beyond the Headlines:
Sorting Evidence from Emotion**

Earn 1 CPEU

**Presented by Neva Cochran, MS, RDN, LD, FAND
on Wednesday, March 7 from 2-3pm ET**

Brought To You Through The Support Of
Egg Nutrition Center



eggnutritioncenter.org

Disclosure



Nutrition Communications Consultant:

- Consultant, Bigelow Tea
- Member, Monsanto's LEAD Network (Leaders Engaged in Advancing Dialogue about modern agriculture)
- Speakers Bureau, National Cattlemen's Beef Association
- Has served as a Health Professional Advisor to Egg Nutrition Center

2

Learning Objectives

After completing this continuing education course, nutrition professionals should be able to:

1. Read and critically evaluate studies that have been sensationalized in the media.
2. Identify the scientific facts behind popular nutrition myths in the media.
3. Explain the nutritional consequences of omitting specific foods from the diet that have been maligned in the media.

3

If you are tweeting....

@NevaRDLD



4

PALEO LEAP

"11 Ways Gluten and Wheat Can Damage Your Health"

WHEAT BELLY- William Davis, MD

"Lose the wheat. Lose the weight. And find your path back to health."

AUTHORITY NUTRITION- Kris Gunnars

"6 Reasons why gluten may be bad for you."

GRAIN BRAIN- David Permuter, MD

"The surprising truth about wheat, carbs, and sugar – your brain's silent killers."

5

WHAT ABOUT WHEAT?

Only 1% of the population has celiac disease and up to 6% may be gluten-sensitive



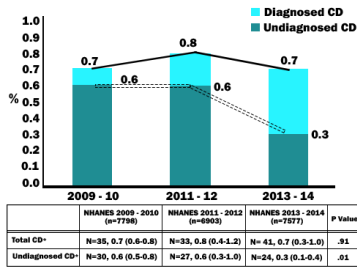
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Gluten Sensitivity Study

- 2-year prospective study of 392 patients complaining of gluten-related symptoms
- Results:
 - NCGS was diagnosed if symptoms disappeared within 6 months of a gluten-free diet and then returned when gluten was back in the diet for 1 month
 - 26 (6.6%) had celiac disease, 2 (0.5%) had wheat allergy and 27 (6.9%) had non-celiac gluten sensitivity
 - Remaining 337 patients (85.96%) did not have any change in symptoms with a gluten-free diet
- Conclusions: Self-perceived gluten-related symptoms are rarely indicative of the presence of NCGS. 10

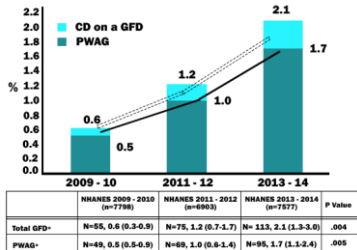
Digestion (2015) 92:8-13

Prevalence of Celiac Disease



Mayo Clin Proc. 2017; 92:30-38

Prevalence of Gluten Avoidance



Mayo Clin Proc. 2017; 92:30-38

Unintended Consequences of a Gluten-Free Diet

- 2009-2014 NHANES analyzed for cross-sectional associations between self-reported gluten-free diet status and urinary and blood biomarkers of exposure to toxic metals.
- 73 (1.2% of) 7,471 NHANES participants in analysis self-reported being on a gluten-free diet.
- Higher concentrations of urinary total arsenic, estimated total arsenic 1, estimated total arsenic 2, dimethylarsonic acid, urinary cadmium and blood total mercury among those on a gluten-free diet

13

Epidemiology 2017 Feb 1 [Epub ahead of print]

Wheat Benefits

- Wheat provides significant fiber, trace minerals, B vitamins, antioxidants, phytonutrients and prebiotics
- Resistant starches and gluten benefit GI health, blood pressure control and immune function
- Wheat foods supply most of the folic acid in the U.S. diet
- By eating fortified grain products, 77% of low-income women could consume adequate folic acid, which is often not taken as a supplement due to cost

14

THE SKINNY ON BEEF



15

BBC NEWS

Processed meats do cause cancer - WHO

THE SALT

Bad Day, For Bacon: Processed Meats Cause Cancer, WHO Says

NEW YORK TIMES

Meat Is Linked to Higher Cancer Risk, W.H.O. Report Finds

16

LANCET ONCOL

Carcinogenicity of consumption of red and processed meat

In October, 2015, 22 scientists from ten countries met at the International Agency for Research on Cancer (IARC) in Lyon, France, to evaluate the carcinogenicity of the consumption of red meat and processed meat. These assessments will be published in volume 114 of the IARC Monographs.¹

17

Lancet Oncol (2015) 16:1599-1600

Methods

- 22 scientists from ten countries evaluated the carcinogenicity of the consumption of red and processed meat
- Assessed over 800 epidemiological studies that investigated the association of cancer with consumption of red or processed meat in many countries

18

Conclusions

- Classified consumption of processed meat as “carcinogenic to humans” (Group 1) on the basis of sufficient evidence for colorectal cancer
- Additionally, a positive association with the consumption of processed meat was found for stomach cancer
- Classified consumption of red meat as “probably carcinogenic to humans” (Group 2A)
- Consumption of red meat was also positively associated with pancreatic and prostate cancer

19

GROUP	WHAT DOES IT MEAN?	WHAT DOES IT INCLUDE?
GROUP 1	CARCINOGENIC TO HUMANS Sufficient evidence in humans. Causal relationship established.	Smoking, exposure to solar radiation, alcoholic beverages, and processed meats.
GROUP 2A	PROBABLY CARCINOGENIC TO HUMANS Limited evidence in humans. Sufficient evidence in animals.	Emissions from high-temperature frying, steroids, exposures working in hairdressing, and red meat.
GROUP 2B	POSSIBLY CARCINOGENIC TO HUMANS Limited evidence in humans. Insufficient evidence in animals.	Coffee, gasoline & gasoline engine exhaust, welding fumes, and pickled vegetables.
GROUP 3	CARCINOGENICITY NOT CLASSIFIABLE Inadequate evidence in humans. Inadequate evidence in animals.	Tea, static magnetic fields, fluorescent lighting, and polystyrene.
GROUP 4	PROBABLY NOT CARCINOGENIC Evidence suggests no carcinogenicity in humans, animals.	Caprolactam, which is used in the manufacture of synthetic fibers.

20

Limitations of Report

- The IARC program evaluates **cancer hazards but not the risks associated with exposure.**
 - Hazard* is capable of causing cancer under some circumstances.
 - Risk* measures the probability that cancer will occur, taking into account the level of exposure to the agent
 - Therefore, IARC may identify cancer hazards even when risks are very low with known patterns of use or exposure
- IARC does not specialize in food evaluation: the few foods they have evaluated include coffee, pickled vegetables and salted fish

21

WHO Clarification: Processed Meat

- The review does not ask people to stop eating processed meats but indicates that reducing consumption of these products can reduce the risk of colorectal cancer.
- Processed meat has been classified in the same category as causes of cancer such as tobacco smoking and asbestos but this does NOT mean that they are all equally dangerous. The IARC classifications describe the strength of the scientific evidence about an agent being a cause of cancer, rather than assessing the level of risk.

22

Clarification: Red Meat

- For red meat, the classification is based on *limited evidence* from epidemiological studies showing positive associations between eating red meat and developing colorectal cancer as well as strong mechanistic evidence.
- *Limited evidence* means that a positive association has been observed between exposure to the agent and cancer but that other explanations for the observations (chance, bias or confounding) could not be ruled out.

23

Other Considerations

- Cancer is a complex disease and single foods, including beef, have not been shown to cause any type of cancer.
- Cancer risk isn't about diet alone.
- Aging, smoking and being overweight and physically inactive are known risk factors.
- To improve all aspects of health, eat a nutrient-rich, balanced diet, including lean meat, maintain a healthy weight, be physically active and don't smoke or drink too much alcohol.

24

Sugar in the News

THE WASHINGTON POST

Rats find Oreos as addictive as cocaine-
an unusual college research project

CHOICES

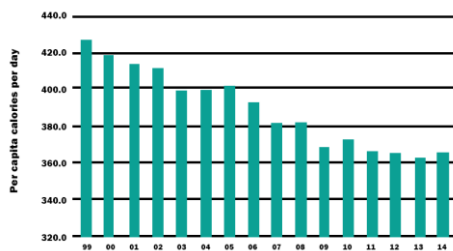
Is sugar causing the obesity 'epidemic'?

DAILY NEWS

Sweet poison: How sugar, not cocaine, is one
of the most addictive and dangerous substances

28

Sugar Calorie Intake 1999 - 2014

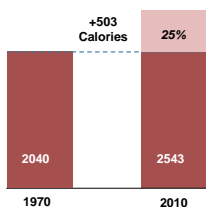


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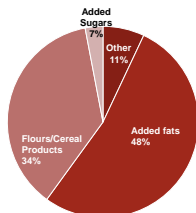
USDA Daily per capita intake

Calorie Intake 1970 - 2010

Calorie Change



Percent of Caloric Growth



30

Source of Additional 503 Calories

Added sugars	34 calories/day
Cereals/Grains	173 calories/day
Fats and oils	243 calories/day
All other foods	53 calories/day

31

Source: Economic Research Service, USDA, 2012. (U.S. per capita loss-adjusted food availability: "Total Calories")

NHANES Added Sugar Data

- Added sugar intake in the U.S. is declining
 - 100 grams (400 kcal) in 1999-2000
 - 77 grams (308 kcal) in 2007-2008
 - 72 grams (287 kcal) in 2005-2010
- Calories from added sugars declined from 18.1% to 14.6% to 12.9%

32

Is Sugar Addictive?

- Addictions are defined by 11 distinct criteria and craving is only one of them.
- Those in need of a "sugar fix" do not dive into the sugar bowl or binge on bananas, which contain the same sugars as ice cream and cola.
- Instead, they seek "forbidden" foods with sugar and fat (cookies, cakes, candy and ice cream) that are highly palatable.
- They are not craving a certain food component (sugar), but particular foods that appeal to the palate.

33

Sugar Addiction Studies

Eur J Nutr (2016) 55 (Suppl 2):S55-S6

- Literature review on food and sugar addiction **found little evidence to support sugar addiction in humans**. Behaviors likely occur from intermittent access to sweet tasting or highly palatable foods, not the neurochemical effects of sugar

Appetite (2017) 114: 64-72

- 1495 university students assessed for diagnostic signs of food addiction for particular food categories
- Overweight was not correlated with addictive-like problems for primarily sugar-containing foods but for high-fat savory and high-fat sweet foods
- Sugary foods contribute minimally to 'food dependence' and increased risk of weight gain**

34

Food Addiction vs. Eating Addiction

- "Food addiction" is a misnomer because it suggests a substance related phenomenon. "**Eating addiction**" is proposed instead to underscore the behavioral addiction to eating.¹
- Adoption of "**food use disorder**" as a term for compulsive eating associated with subjective loss of control may foster continued research in this area without the connotations suggested by "food addiction."²

35

¹Neurosci Biobehav Rev (2014) 47:295-306 ²Appetite 115 (2017) 16-18

Choose your sugars by the company they keep

Nonfat Flavored Yogurt

Nutrition Facts	
Serving Size 1 CONTAINER (170g)	
Servings per Container 1	
Amount per Serving	
Calories 130	Calories from Fat 0
% Daily Value*	
Total Fat 0g	0%
Saturated Fat 0g	0%
Trans Fat 0g	0%
Cholesterol 0mg	0%
Sodium 105mg	4%
Potassium 380mg	10%
Total Carbohydrate 25g	8%
Dietary Fiber 0g	0%
Sugars 25g	
Protein 7g	14%
Vitamin A 0%	Vitamin C 0%
Calcium 28%	Iron 0%

12 grams added sugar

Fat-Free Chocolate Milk

Nutrition Facts	
Serving Size 1 Cup (240 mL)	
Servings per Container 1	
Amount per Serving	
Calories 130	Calories from Fat 0
% Daily Value*	
Total Fat 0g	0%
Saturated Fat 0g	0%
Trans Fat 0g	0%
Cholesterol 0mg	0%
Sodium 200mg	8%
Potassium 450mg	12%
Total Carbohydrate 28g	8%
Dietary Fiber 0g	0%
Sugars 25g	
Protein 8g	16%
Vitamin A 10%	Vitamin C 2%
Calcium 30%	Iron 2%
Vitamin D 20%	Riboflavin 20%
Folate 2%	Vitamin B12 15%
Phosphorus 20%	

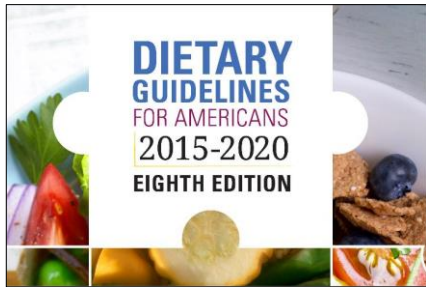
10 grams added sugar

36

Eggs and Cholesterol

- Numerous studies show that the majority of people can eat an egg a day without raising blood cholesterol levels.
- In 2000, the American Heart Association removed the specific limit on eggs in their dietary guidelines for heart health.
- One Grade A large egg contains 185 mg of cholesterol, 12% lower than the 212 mg previously reported in 2002

40



41

Dietary Guidelines 2015 - 2020

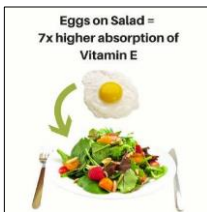
- Removed the 300 mg. daily cholesterol limit
- Current average U.S. intake of dietary cholesterol is ~270 mg per day
- “A few foods, notably egg yolks and some shellfish, are higher in dietary cholesterol but not saturated fats. Eggs and shellfish can be consumed along with a variety of other choices within and across the subgroup recommendations of the protein foods group.”
- “A healthy eating pattern includes a variety of protein foods, including seafood, lean meats and poultry, eggs, legumes, nuts, seeds & soy products.”
- Eggs provide the most choline of all the protein-rich foods

42

Eggs and Nutrition

- Eggs provide high quality protein and over a dozen vitamins and minerals, most in the yolk: 100% of vitamins A, D, E, B12 and B6, iron, zinc and choline, over 90% of the folic acid and phosphorus and about half the selenium and protein.
- Eggs are one of the few natural sources of vitamin D, identified as a “nutrient of concern” in the 2015 Dietary Guidelines for Americans
- Egg yolk is a more bioavailable source of lutein and zeaxanthin, antioxidants that help prevent age-related macular degeneration and resulting blindness

43

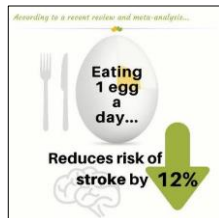


- 16 healthy young men consumed the same salad with:
 - no egg
 - 75 g cooked egg (1.5 large) or
 - 150 g cooked egg (3 large)
 - all served with 3 g canola oil
- a-tocopherol higher for 3-egg trial (981 ± 162 nmol/L) than 1.5 egg (311 ± 162 nmol/L) and no egg (117 ± 162 nmol/L 10)

44

J Nutr (2016) 146:2199-2205

- A meta-analysis of 7 prospective cohort studies with 308,000 adult participants evaluated egg consumption and stroke risk (through August 2015)
- High vs. low egg intake (1 egg/day vs. <2 eggs/week) showed a statistically significant 12% reduced risk of stroke



45

J Am Coll Nutr (2016) 35:704-716

PRAGATI SHUKLA, NDTV

The 12 Most Pesticide-Contaminated Fruits and Vegetables of 2015

DR. AXE

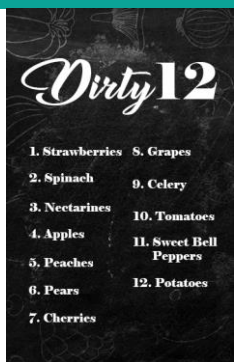
2017 Dirty Dozen List: Are You Eating The Most Pesticide-Laden Produce?

NATURAL NEWS

Be cautious with these fruits and vegetables; they're known to contain the most pesticides

ENVIRONMENTAL WORKING GROUP

What Fruits & Veggies Have The Most Pesticides? The 2017 Dirty Dozen List Is Here



Dirty Dozen Not a Scientific List

JOURNAL OF TOXICOLOGY

Dietary Exposure to Pesticide Residues from Commodities Alleged To Contain the Highest Contamination Levels

Probabilistic techniques were used to characterize dietary exposure of consumers to pesticides found in twelve commodities implicated as having the greatest potential for pesticide residue contamination by a United States-based environmental advocacy group. Estimates of exposures were derived for the ten most frequently detected pesticide residues on each of the twelve commodities based upon residue findings from the United States Department of Agriculture's Pesticide Data Program. All pesticide exposure estimates were well below established chronic reference doses (RfDs). Only one of the 120 exposure estimates exceeded 1% of the RfD (methamidophos on bell peppers at 2% of the RfD), and only seven exposure estimates (5.8 percent) exceeded 0.1% of the RfD. Three quarters of the pesticide/commodity combinations demonstrated exposure estimates below 0.01% of the RfD (corresponding to exposures one million times below chronic No Observable Adverse Effect Levels from animal toxicology studies), and 40.8% had exposure estimates below 0.001% of the RfD. It is concluded that (1) exposures to the most commonly detected pesticides on the twelve commodities pose negligible risks to consumers, (2) substitution of organic forms of the twelve commodities for conventional forms does not result in any appreciable reduction of consumer risks, and (3) the methodology used by the environmental advocacy group to rank commodities with respect to pesticide risks lacks scientific credibility.

Winter & Katz Findings

- “Dirty Dozen” estimates were derived from USDA’s Pesticide Program data for the 10 most frequently detected pesticide residues on the 12 fruits or vegetables listed
- All pesticide exposure estimates were well below established chronic reference doses and pose negligible risks to consumers
- Substitution of organic forms of the twelve commodities for conventional forms does not result in any appreciable reduction of consumer risks
- The methodology used by the the EWG to rank commodities with respect to pesticide risks lacks scientific credibility.

52

Pesticide Use and Safety

- The U.S. EPA develops strict limits for residues at 100 to 1,000 times lower than levels at which health impacts might occur
- FDA and USDA share responsibility for monitoring levels of pesticide residues on foods
- Farmers use pesticides only as necessary and within the strict rules established by the EPA
- Organic farmers use pesticides. There are more than 20 natural chemicals commonly used in organic agriculture that are approved by the USDA National Organic Program

53

<http://www.foodinsight.org/newsletters/facts-figures-pesticide-safety-use-food-production-updated>

SafeFruitsandVeggies.com

PESTICIDE RESIDUE CALCULATOR

“Scientists and health experts overwhelmingly agree that the mere presence of pesticide residues on food does not mean they are harmful.”



54

A woman could consume

454

Servings of strawberries in one day without any effect if the strawberries have the highest pesticide residue recorded for strawberries by USDA.

55

Just Wash It!

Reduce and eliminate any residues on fresh fruits and vegetables by:

- Washing with large amounts of cold or warm tap water, and scrubbing with a brush when appropriate; do not use soap.
- Throwing away outer leaves of leafy vegetables like lettuce and cabbage.



56

Low-Income Shoppers and Fruit and Vegetables

What Do They Think?

- 510 low-income shoppers surveyed on their attitudes about organic and conventional fruits and vegetables
- Participants preferred organic fruits and vegetables
- Cost was a significant barrier to purchase them
- Informational statements about organic and conventional fruits and vegetables did not increase their likelihood to purchase more
- Messages naming specific fruits and vegetables with pesticides shifted participants toward "less likely" to purchase any type of fruits and vegetables no matter how they were grown: organic or convention

57

Nutr Today (2016) 51:242-250

10 Red Flags of Junk Science

1. Recommendations that promise a quick fix
2. Claims that sound too good to be true
3. Simple conclusions drawn from a complex study
4. Recommendations based upon a single study
5. Dramatic statements that are refuted by a reputable scientific organization
6. Recommendations based upon studies without peer review
7. Recommendations based upon studies that ignore differences among individuals or groups
8. Dire warnings of danger from a single product
9. Lists of "good" and "bad" foods
10. Recommendations made to help sell a product, or by the manufacturer itself

61

Communication Tips

"If you want to persuade someone, you need to find the rug we can both stand on. Rudeness and contempt, you're not on the same rug. You're not building any kind of trust, and persuasion is built on trust."

Dominique Brossard, PhD
 Chair, Department of Life Sciences Communication
 University of Wisconsin

62

Communication Tips

Approach the situation as someone who wants to have a meaningful conversation not be an expert.

Start with emotion and end with logic.

Target specific emotional drivers or "heart buttons"

- Reinvention: "We can't cure world hunger but we can make a dent."
- Power "When you eat the whole egg instead of just the white you get so much more nutrition."
- Excitement of Discovery: "You don't have to give up beef to have a healthy diet."

63

Communication Tips

Use projective technique to tap into emotions:

- Find the common ground: "Like you, I'm concerned about food safety."
- Trigger a heart button, "We all want to feed our families safe and nutritious meals."
- End with logic: "The good news is any small amount of pesticide residues on produce is far below the level that could affect health. Fruits and vegetables, whether conventionally or organically grown, are safe to eat and important for good health."

64

Food Advocates Communicating Through Science www.foodinsight.org/FACTS

- FACTS is a global, interactive network of scientists, healthcare experts and food advocates
- Provides scientific conclusions and compelling insight from experts, correcting common misperceptions about modern food production, food safety, nutrition, health and wellness.
- Aims to combat the growing tide of deceptive advice, misleading statistics and alarmist tactics that define much of today's food and nutrition dialogue.

65

Facebook Groups

➔ **Dietitians Do Science**
On The Blog
<https://www.facebook.com/groups/NutritionScienceOnTheBlog/>

➔ **Nutritional Sciences Research Group**
<https://www.facebook.com/groups/NutritionSciences/about/>

➔ **Food and Farm Discussion Lab**
<https://www.facebook.com/groups/FAFDL/about/>

➔ **Build Up Dietitians**
<https://www.facebook.com/BuildUpDietitians/>

66

Applications for Practice

- Never take a headline at face value; find the original study and read it before commenting
- If the research is not in your field of expertise, consult someone whose area it is
- Help dispel misinformation and sensational science by explaining the facts to patients, clients and consumers

67

QUESTIONS?

Thank You!

68

Credit Claiming

You must complete a brief evaluation of the program in order to obtain your certificate. The evaluation will be available for one year; you do not need to complete it on March 7, 2018.

Credit Claiming Instructions:

1. Go to CE.TodaysDietitian.com/EmotionalBeliefs. OR log on to CE.TodaysDietitian.com, go to "My Courses" and click on the webinar title.
2. Click "Take Course" on the webinar description page.
3. Select "Start/Resume Course" to complete and submit the evaluation.
4. Download and print your certificate.

Please Note: If you access the Evaluation between 3-4 pm ET on March 7, you may experience a slow connection due to a high volume of users.

69
