THE UNIVERSITY of NORTH CAROLINA at CHAPEL HILL
NUTRITION RESEARCH INSTITUTE

The Food and Nutrition Myths that Never Fade Away: Time to Debunk Them

Cecilia Kwan, PhD RD

Nothing in this presentation is intended to be a substitute for professional advice, diagnosis, or treatment. Always seek the advice of your doctor or other health professionals if you have any questions regarding a specific medical condition.

(Fill in the blank with a food)

_____ is evil because it causes health problems.

ALL fats are bad.

Does our body need fats? What do they do in our body?

- Give us energy
- Keep us warm
- Protect organs
- Help absorb fat soluble vitamins (A, D, E, K)
- Produce hormones

What are the different types of fats?

- Saturated fats
  - Solid at room temperature
  - Animal foods, butter, tropical oils

What are the different types of fats?

- Unsaturated fats
  - Liquid at room temperature
  - Monounsaturated fats
    - Avocado, nuts, canola oil, olive oil
  - Polyunsaturated fats
    - Soybean oil, corn oil, safflower oil, walnuts, flaxseed, fatty fish (salmon, anchovies, herring)

What are the different types of fats?

- Trans fats
  - Created by hydrogenation
  - Processed foods,
    foods made with shortening,
    foods made with partially
    hydrogenated oils

Are *all* fats bad?
Can they be part of the *healthy* diet?

- **Saturated fats** and **trans fats** can raise LDL (“bad cholesterol”) in your blood.
- **Monounsaturated fats** and **polyunsaturated fats** can lower LDL and keep HDL (“good cholesterol”) high.
- **Current recommendation:**
  - Less than 10% calories from saturated fats
  - Less than 1% calories from trans fats
  - Replace with monounsaturated fats and polyunsaturated fats

Not all fats are bad.
Some are good for you
and you need them.

(Fill in the blank with a food)

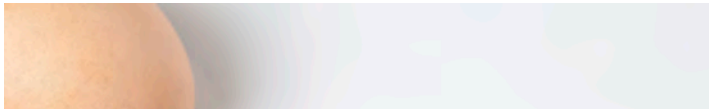
_____ is evil because it causes health problems.

Eggs are bad for you.

Eggs are good for you.

What is the logic behind this myth?

What is in an egg?



Cholesterol. Previously, the Dietary Guidelines for Americans recommended that cholesterol intake be limited to no more than 300 mg/day. The 2015 DGAC will not bring forward this recommendation because available evidence shows no appreciable relationship between consumption of dietary cholesterol and serum cholesterol, consistent with the conclusions of the AHA/ACC report.[2, 35] Cholesterol is not a nutrient of concern for overconsumption.

Nutrition Facts

12 servings per container
Serving size **1 large egg (50g)**

Amount per serving **Calories**	**70**
	% Daily Value*
Total Fat 5g	**6%**
Saturated Fat 1.5g	8%
Trans Fat 0g	
Polyunsaturated Fat 1g	
Monounsaturated Fat 2g	
Cholesterol 185mg	**62%**
Sodium 70mg	**3%**
Total Carbohydrate 0g	**0%**
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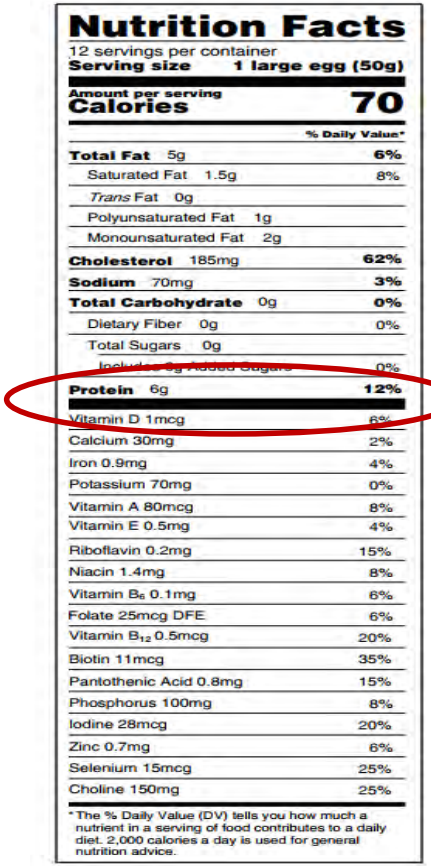
What is in an egg?

- Research studies have shown:
  - Protein from whole eggs and exercise may slow age-related muscle loss
  - Intact protein from whole eggs (vs. isolated amino acids) better increases muscle protein synthesis after resistance training
  - Protein from whole eggs may promote satiety and facilitate weight loss if eggs are part of a reduced energy diet



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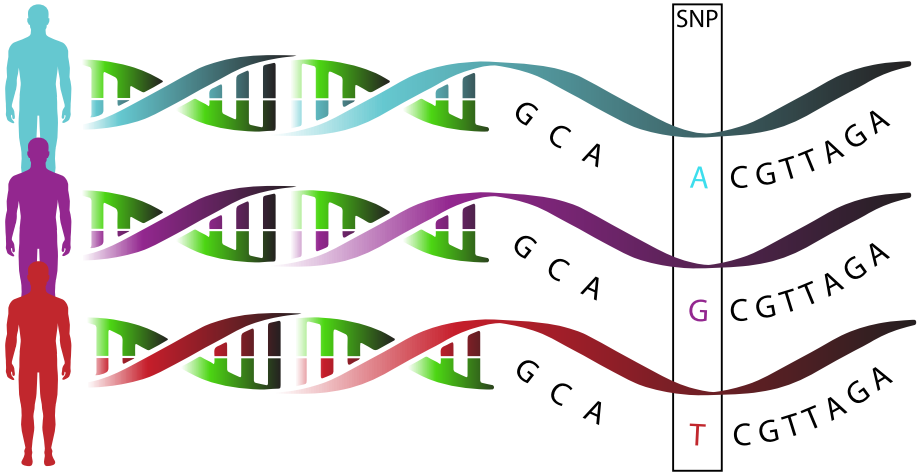
What is in an egg?

- Genetic polymorphisms in choline metabolism



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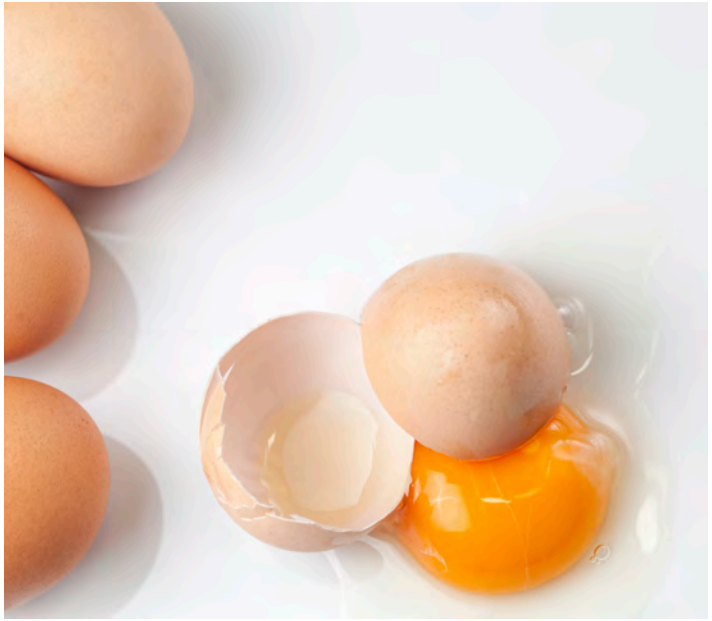
What is in an egg?

- Lutein
  - May reduce risk of developing cataracts
  - May slow the progression of age-related macular degeneration, the leading cause of vision loss



Not enough evidence to stop eating eggs.

(It may cause nutrient deficiency and health problems in some people…)

(Fill in the blank with a food)

_____ is evil because it causes health problems.

MYTH

To stay healthy and live longer…

Drink 3 glasses of milk a day.

Don’t eat any dairy or drink any milk.

What are the benefits of drinking milk?

- Bone and dental health
  - Calcium
  - Vitamin D
  - Magnesium
  - Vitamin K
  - Potassium
  - Protein

GALLON MILK LABELS - Homogenized

Nutrition Facts

Serv. Size 1 cup (240 mL)
Servings 16
Calories 160
Fat Cal. 70

*Percent Daily Values (DV) are based on a 2,000 calorie diet.

Amount/Serving	%DV*	Amount/Serving	%DV*
Total Fat 8g	**8%**	**Potassium** 400mg	**11%**
Sat. Fat 5g	**15%**	**Total Carb.** 13g	**4%**
Trans Fat 0g		Fiber 0g	**0%**
Cholest. 35mg	**11%**	Sugars 12g	
Sodium 125mg	**5%**	**Protein** 8g	

Vitamin A 10% • Vitamin C 2% • Calcium 30% • Iron 0% • Vitamin D 25%

INGREDIENTS: MILK, VITAMIN A PALMITATE, VITAMIN D3.

3 Servings of Milk a Day Linked to Higher Mortality in Women

RESEARCH

Milk intake and risk of mortality and fractures in women and men: cohort studies

OPEN ACCESS

Karl Michaëlsson *professor*[1], Alicja Wolk *professor*[2], Sophie Langenskiöld *senior lecturer*[3], Samar Basu *professor*[3], Eva Warensjö Lemming *researcher*[1,4], Håkan Melhus *professor*[5], Liisa Byberg *associate professor*[1]

[1]Department of Surgical Sciences, Uppsala University, SE-751 85 Uppsala, Sweden; [2]Institute of Environmental Medicine, Karolinska Institutet, Stockholm, Sweden; [3]Department of Public Health and Caring Sciences, Uppsala University, Uppsala, Sweden; [4]Swedish National Food Agency, Uppsala, Sweden; [5]Department of Medical Sciences, Uppsala University, Uppsala, Sweden

Abstract

Objective To examine whether high milk consumption is associated with mortality and fractures in women and men.

Design Cohort studies.

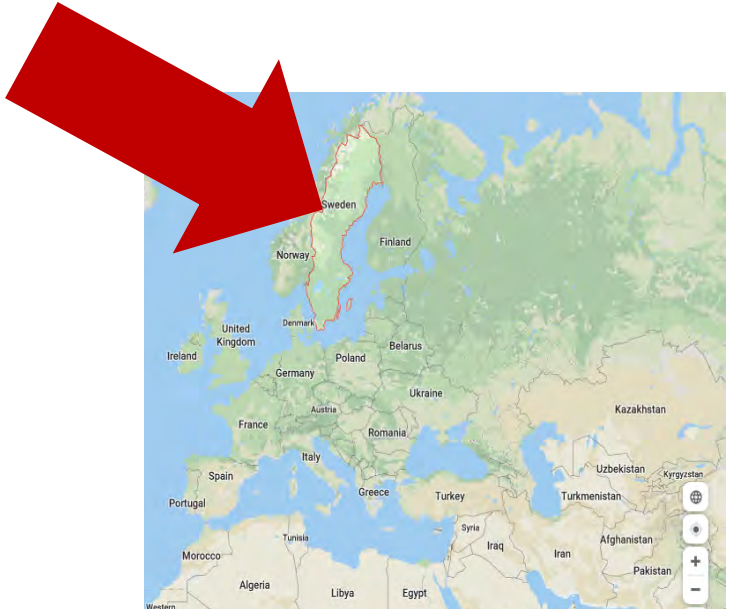
Setting Three counties in central Sweden.

fracture incidence in women. Given the observational study designs with the inherent possibility of residual confounding and reverse causation phenomena, a cautious interpretation of the results is recommended.

Introduction

What does the science *really* say?

- The study was done in Sweden
  - Vitamin D status is unknown – Intake? Sunlight exposure?
  - Genetic susceptibility?
- Effects were found only in people who drink 3+ glasses of milk per day, **NOT** in people who drink 1-2 glasses
- The study participants were adults (40+ years old)

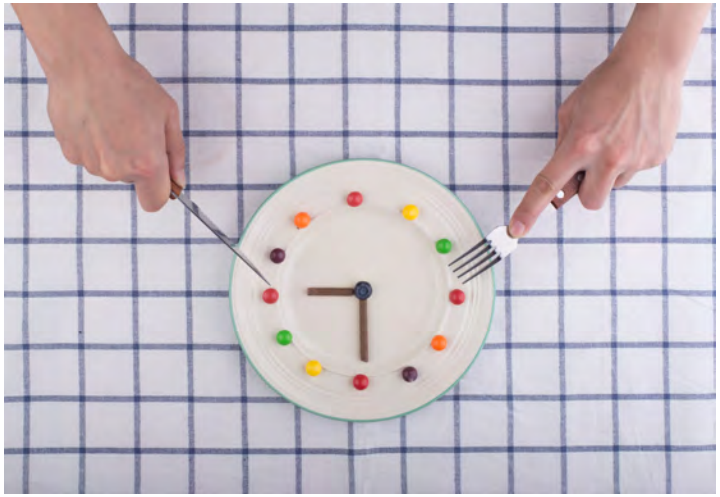


Not enough clear evidence for completely eliminating milk consumption

Balanced diet + healthy lifestyle = strong bones

- Good food sources of calcium
  - Dairy foods
    - Milk, Mozzarella cheese, cheddar cheese, cottage cheese, yogurt
  - Dark, leafy green vegetables
    - Broccoli, kale, collard green, turnip green, Chinese cabbage
    - NOT SPINACH! (because of oxalates)
  - Fish with soft bones that you eat
    - Canned sardines and salmon
  - Tofu, fortified soy milk
  - Fortified orange juice
- Good food sources of vitamin D
  - Oily fish
    - Salmon, canned tuna and sardines
  - Eggs (yolk)
  - Fortified cereals
  - Fortified orange juice
- Risk factors to avoid
  - Alcohol
  - Foods with a lot of salt
- Exercise

MYTH



To avoid gaining weight,

You should not eat late in the day… or…

You should not eat before 11AM or after 7PM.

What makes you gain weight?

- Calories in – Calories out theory of weight control

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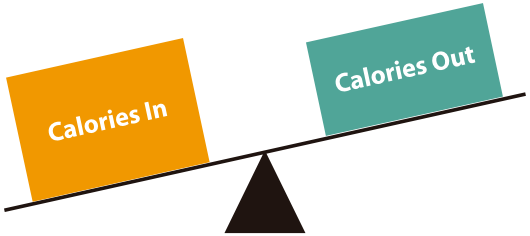
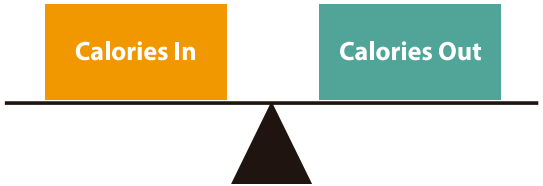
- Calorie in – Calorie out theory of weight control



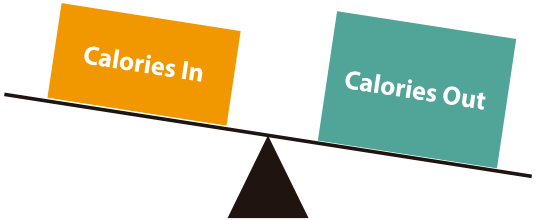
calorie surplus

WEIGHT GAIN



calorie neutral

WEIGHT MAINTENANCE



calorie deficit

WEIGHT LOSS

Problems with late-night eating

- Poor food choices
  - Chips, soda, cookies, ice cream
- Mindless eating
  - Eat while sitting in front of the TV or playing on the computer
  - Usually eat more calorie overall
- Emotional eating
  - Eat due to boredom, not necessarily due to hunger

Tips for dealing with late-night eating

- “Am I truly hungry?”
  - Choose low-calorie, nutrient-dense foods:
    - Carrot and celery sticks with hummus
    - Apple slices with peanut butter
    - Plain popcorn
    - Fruits
  - Portion control
- Turn off the TV/computer and focus on the food
- Go for a walk after eating instead of sitting
- Get enough sleep

Calories do NOT count more at night.

How about eating only between 11AM-7PM?

What is intermittent fasting?

- Diets that cycle between periods of fasting and non-fasting
- Many different forms of intermittent fasting
  - 16:8 method
    - Fast for 16 hours a day
    - Eat during the 8-hour period (11AM-7PM, 10AM-6PM, Noon-8PM)

What does the science ***really*** say?

- Most of the research were done in animals. Only very few human studies are available.
  - Small-scale, short-term
- Have effect on weight loss, but no effect on basal body metabolism
- Weight loss effect from intermittent fasting is **<u>equally as effective as</u>** a calorie-reduction diet
  - Is the weight loss due to the act of fasting itself *or* simply due to calorie deficit?

What does the science *really* say?

- May have undesirable side effects
  - Self report of constant hunger food craving and over-indulgence after fasting
  - Higher risk of developing eating disorders
  - Less likely to adhere to intermittent fasting in the long term
- It is not safe for people who have diabetes or eating disorders, pregnant or breastfeeding women, or children and adolescents.
- Long term results and health effects are largely unclear.

For intermittent fasting, the jury is still out… but it is likely not a good idea for everyone.

Online Resources for Science-Based Diet and Nutrition Information

Government agency

- NIH News in Health: https://newsinhealth.nih.gov/
- NIH Medline Plus: https://medlineplus.gov/
- NIH Office of Dietary Supplement: https://ods.od.nih.gov/
- USDA MyPlate Website: https://www.choosemyplate.gov/
- Federal Food Safety Website: https://www.foodsafety.gov/

Professional organizations

- Academy of Nutrition and Dietetics: https://www.eatright.org/
- Today's Dietitian Magazine: https://www.todaysdietitian.com/
- American Heart Association Nutrition Information Page: https://www.heart.org/en/healthy-living/healthy-eating/eat-smart/nutrition-basics
- American Diabetes Association Nutrition Information Page: https://www.diabetes.org/nutrition

Other

- https://nutribites.blog/
- https://examine.com/

None of this resource is a substitute for professional advice, diagnosis, or treatment. Always seek the advice of your doctor or other health professionals if you have any questions regarding a specific medical condition.

No one single food, or one single nutrient, or one particular eating pattern, is going to be the trigger of diseases.

It is the combination of environment, genetics, lifestyle, and nutrition that will have the biggest impact on the overall health.


Bon Appetit