Introduction to Culinary Medicine
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Objectives

• Learn about Culinary Medicine
• Understand how Culinary Medicine can be used to improve health
• Learn tips to apply Culinary Medicine to your clinical practice big and small
Culinary Medicine

• The utilization of a unique combination of nutrition and culinary knowledge to assist patients in achieving and maintaining optimal health.
  • AKA Teaching nutrition by teaching cooking skills
  • I.e. Teaching medical professionals about nutrition through the culinary arts, so they may better serve, and understand, their patients

• It is NOT*:
  • Nutrition, dietetics, integrative or preventive medicine
  • Culinary arts or food science
  • Made up of a single dietary philosophy
  • A rejection of conventional medicine
  • Simply about cooking good food

*La Puma J, Popul Health Manag 2016
Culinary Medicine

• It IS*
  • A field that blends the art of food and cooking with the science of medicine
  • Aimed at helping people access and eat high-quality meals that prevent and treat disease, and restore well-being
  • Concerned about patients’ immediate needs, who asks “What do I eat for my condition?”
  • A way to understand and appreciate a patient’s understanding of food and cooking as part of their health
  • Fun… and tastes good

*La Puma J, Popul Health Manag 2016
Culinary Medicine

• SUNY-Upstate 2003: first cooking and nutrition elective in a US medical school
• Harvard School of Public Health 2007: led first *Healthy Kitchens, Healthy Lives* post-grad conference at the Culinary Institute of America
• Tulane University School of Medicine 2013: first culinary medicine center in a US medical school
  • Medical school elective
  • Service learning
  • Expanding to community programs
  • Spreading rapidly to other medical schools
The Top Ten Causes of Death in the U.S. 2015 (CDC)

- Heart disease
- Cancer
- Respiratory disease
- Accidents
- Stroke
- Alzheimer's
- Diabetes
- Flu and pneumonia
- Kidney disease
- Suicide

HARVARD SCHOOL OF PUBLIC HEALTH
Diet-related vs. non-diet causes of death in the U.S. (2015)
Diet and Disease

• The science is done...
  • Refined grains, processed meats, unprocessed red meats, sugar sweetened beverages, trans fat and sodium

= 

• Higher risks of CVD events, diabetes and cancer

• The science is not done...
  • Exactly what diet is best… and for who
  • How to get us there
A Brief History of Diets

- **1830:** Graham's high-fiber diet (Graham crackers)
- **1863:** Englishman William Banting used a low-carb diet to lose weight
- **1903:** Chewing each bite of food 32 times, for better digestion and weight loss.
- **1917:** LA physician Lulu Hunt Peters invented calorie counting
- **1925:** The cigarette diet coincided with the ad campaign "Reach for a Lucky instead of a sweet."
- **1930:** The grapefruit diet, which resurfaced two decades later as the Hollywood diet
- **1950:** The cabbage soup diet (one of the oldest fad diets still in use)
- **1960:** The Zen macrobiotic diet, a grain-heavy approach created by a Japanese philosopher.
- **1961:** Weight Watchers launched, moving toward "eating management."
- **1975:** A doctor created a cookie containing "secret amino acid protein blend"
- **1976:** The Sleeping Beauty diet: Individuals were sedated as a way to promote weight loss.
- **1981:** The Beverly Hills diet
- **1990s:** Mediterranean diet — old as history — became part of the vernacular.
- **1994:** Atkins diet- fat is our friend.
- **1995:** "The Zone," by Barry Sears, ushered in the 40-30-30 ratio of carbs, fat and protein
- **1995:** The Sugar Busters diet: Sugar was declared Public Enemy No. 1.
- **1996:** "Eat Right for Your Type" by Peter J. D'Adamo paired diets with blood type.
- **2000:** The self-explanatory raw foods diet made an appearance.
- **2003:** "The South Beach Diet" - ditch the "white stuff," such as sugar, flour and baked potatoes.
- **2010s:** "The Paleo Diet"
Weight loss and losing weight

• Majority of US trying to lose weight\(^1\)
  • 73% of women, 55% of men desired to weigh less
  • 57% of women, 40% of men actively trying to lose weight

• Weight loss is tough\(^2\)

• What if half of adults were trying to eat “healthier”?  
• Determining what is healthy can be hard

1 Yaemsiri, Int J Ob 2011  
2 Loveman E, Health Tech Ass 2011
“Healthy” = “Tastes Bad”

• Eating healthy has always been about “forcing” ourselves to eat healthy, aka tasteless

• Why not make tasty food that is also healthy
Figure 1. Specific Surveyed Frauds, by Number of Victims

Nutrition in 2021

• As much research as ever
• As much confusion as ever

The Seminary Effect
Summary: credit to Eric B Rimm, ScD, Professor of Epidemiology and Nutrition, Harvard School of Public Health

- Large observational data sets with decade of follow-up
  - CONFIRMED BY-
- Long-term randomized efficacy trials with at least 2 years of follow-up
- Most done in context of weight loss
Low-Fat Diets Summary

• Short-term trials
  • Modest weight loss
  • Moderate compliance

• Long-term trials
  • Little or no weight loss
  • Poor compliance

• Often fat is replaced with highly processed carbohydrates

• Overall: not a viable weight loss option for most
Others

- Low-carb diet/Atkins
- South Beach, The Zone, Sugar Busters, etc
- Paleo
- Gluten-free (for weight loss and health, not Celiac Disease or Gluten Intolerance)
- Caloric Restriction (for health and longevity)

**NO solid, long-term data**
Mediterranean Diet

Shai I, NEJM 2012
“South Med Diet”

UNC’s southern twist on Mediterranean diet keeps diners on track, earns $3.8M grant

July 19, 2019 by Thomas Goldsmith

UNC researchers have devised an inviting mix of the Mediterranean diet and down-home Southern cooking thanks to a new $3.8 million grant that will enable them to study food’s role in heart health.

Fresh-caught Outer Banks fish don’t have to be fried to be tasty, Mattamuskeeta chef Shawn Raulke Kennedy says by using the no-fuss approach of poaching, seen here as a bluefish filet cooked in tomato basil sauce. Photo credit: Thomas Goldsmith
Occam’s Razor

- More things should not be used than are necessary.
- When faced with competing hypotheses, the one with the fewest assumptions (the simplest) should be chosen.

- KISS: Keep It Simple Stupid
HEALTHY EATING PLATE

Use healthy oils (like olive and canola oil) for cooking, on salad, and at the table. Limit butter. Avoid trans fat.

The more veggies—and the greater the variety—the better. Potatoes and french fries don’t count.

Eat plenty of fruits of all colors.

Drink water, tea, or coffee (with little or no sugar). Limit milk/dairy (1-2 servings/day) and juice (1 small glass/day). Avoid sugary drinks.

Eat whole grains (like brown rice, whole-wheat bread, and whole-grain pasta). Limit refined grains (like white rice and white bread).

Choose fish, poultry, beans, and nuts; limit red meat; avoid bacon, cold cuts, and other processed meats.

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Harvard School of Public Health
The Nutrition Source
www.hsph.harvard.edu/nutritionsource

Harvard Medical School
Harvard Health Publications
www.health.harvard.edu
Eco Logic

• The Japanese eat very little fat and suffer fewer heart attacks than the British or Americans.
• The French eat a lot of fat and also suffer fewer heart attacks than the British or Americans.
• The Japanese drink very little red wine and suffer fewer heart attacks than the British or Americans.
• The Italians drink excessive amounts of red wine, and also suffer fewer heart attacks than the British or Americans.
Eco Logic

Eat and drink what you like.

It's speaking English that kills you.
Remember- The Toxic Environment
Impact of Media

• Marketing of calorically dense foods
• Impacts brand loyalty
• Impacts snacking habits

The Drool Factor

• “When a baby drools, they look at their wet shirt and see a brand.” Brand recognition in the crib.
  - James McNeal

• “If you own this child at an early age, you can own this child for years to come”
  - President, Kids-R-Us

• “They aren’t children so much as what I like to call ‘evolving consumers.’”
  - CEO, Prism Communications
B: From: The Lunch Tray www.thelunchtray.com/vintage-ad-touts-7-up-as-a-beverage-for-babies/
Food Access

- Proliferation of fast food restaurants
- Fewer healthy options available in low income areas
- Food Insecurity Paradox: association between hunger and obesity
Food Subsidies

- **Fats, Oils & Sweets**
  - Use sparingly
  - $3.8 Billion

- **Milk, Yogurt & Cheese Group**
  - 2-3 servings
  - $2 Billion

- **Vegetable Group**
  - 3-5 servings
  - $26 Billion

- **Meat, Poultry, Fish, Dry Beans, Eggs & Nuts Group**
  - 2-3 servings
  - $170 Million

- **Bread, Cereal, Rice & Pasta Group**
  - 6-11 servings
  - $9.6 Billion

*Does not include corn*

Source: ABC News
Why do we need Culinary Medicine?

- Little nutrition education in medical training (medicine, nursing, pharmacy)

- Only 1/3 of medical schools have dedicated nutrition course*
  - Average of 24 contact hours (range 2-70)
  - 88% of instructors expressed need for additional education
  - UT Memphis (Skelton’s alma mater): 2 hour course taught by biochemist

- Only half of graduating resident physicians feel trained to counsel on preventive health behaviors

*Adams KM, Am J Clin Nutr 2006
Are Future Doctors Prepared to Address Patients’ Nutritional Needs? Cooking and Nutritional Knowledge and Habits in Medical Students

Abstract: Background. Many illnesses are linked to lifestyle in the United States, yet physicians receive little training in nutrition. Medical students’ prior knowledge of nutrition and cooking is unknown. Objectives. To determine incoming medical students’ prior nutrition knowledge, culinary skills, and nutrition habits. Methods. A dual-methods study of first-year medical students. Cross-sectional survey assessing prior knowledge, self-efficacy, and previous education of cooking and nutrition. Interviews of second-year medical students explored cooking and nutrition in greater depth. Results. A total of 142 first-year medical students participated, 81% had taken a nutrition course with majority (60%) learning outside classroom settings. Students had a mean score of 67% on the Nutritional Knowledge Questionnaire versus comparison group (64.9%). Mean cooking and food skills score were lower than comparison scores. Overall students did not meet guidelines for fiber, fruit, vegetables, and whole grains. Interviews with second-year students revealed most learned to cook from their families, all believed it important for physicians to have this knowledge. Conclusions. Medical students were knowledgeable about nutrition, but typically self-taught. They were not as confident or skilled in cooking, and mostly learned from their family. They expressed interest in learning more about nutrition and cooking.

Keywords: student, nutrition, cooking, education, medical

the United States continues to struggle with preventable cardiometabolic diseases linked to lifestyle. The prevalence of obesity in adults is up to 39.8%, and 18.8% in children aged 2 to 19 years. Furthermore, 31.1 million Americans or 9.4% of the US population are diabetic, and 47% of adults in the United States are at risk for cardiovascular disease (CVD), which kills 3 out of 4 Americans and is one of the leading causes of death for both men and women. Not only are these diseases devastating to those affected by them, but managing these conditions is extraordinarily expensive. Every year the United States spends $322 billion on health care, averaging roughly $8,000 per person, with much of this cost directly going to the management and treatment of CVD, diabetes, and cancer. The average medical spending among patients diagnosed with diabetes...
Skills versus knowledge
Time Spent Cooking and Obesity


*Cutler DM J Econ Persp 2003
Why do we need Culinary Medicine?

- Hands-on experience
  - *See one, do one, teach one*

- Children involved in home meal preparation had healthier diets\(^1\)

- Cooking skills positively correlate with vegetable consumption\(^2\)

- Home meal preparation associated with consumption of healthier diet\(^3\)

- Home meal consumption reduces risk of diabetes\(^4\)

1. Chu, JNEB, 2014
2. Hartmann, Appetite, 2013
Power of Experience and Role Modeling

• Physicians are more apt to counsel on health behaviors if they practice themselves
  • Exercise
  • Seat belts
  • Sun screen
  • Smoking
  • Nutrition?

“…practicing a health behavior oneself was the most consistent and powerful predictor of physicians counseling patients about related prevention issues.”

*Frank, JAMA 2004
Figure 1

Percentage of 12- to 17-Year-Olds Who Ate a Meal with Their Family Fewer than Four, Four to Five, or Six to Seven Days in the Past Week, By Race and Hispanic Origin: 2011

Source: Child Trends’ original analyses of data from the National Survey of Children’s Health.
Culinary Trends

• Less than 60% of meals eaten at home were made in the home\(^1\)
• Fast food AND restaurant meals are significantly higher in calories, saturated fat, and sodium\(^2\)

“How is it that we are so eager to watch other people browning beef cubes on screen but so much less eager to brown them ourselves?”

- Michael Pollan, 2009

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1 Washington Post 2015
“Let food be thy medicine and medicine be thy food.”

-Hippocrates
Dietary “prescriptions” for disease: Food is Medicine

• Epilepsy: ketogenic diet
• CVD and cancer prevention: Mediterranean diet
• Cholesterol: legumes
• Hypertension: DASH, soy
• Metabolic Syndrome: tree nuts

*Adams KM, Am J Clin Nutr 2006
Culinary Medicine- our take

• Account for the family
  • Significant others and children
  • Authoritative parenting/feeding

• Account for preferences, regions, and culture

• Don’t forget the basics
  • Cooking skills
  • Food and kitchen safety
  • Equipment: pots, pans, stoves, etc.

• Patient-centered: meet them where they are
  • Mediterranean Diet isn’t “easy”
  • Takes time to develop skills
Eat Healthier!

Meal planning
Shopping
Cooking

Learn to Cook

Cook Healthier

Eat More
Meals at Home

Prepare More
Meals at Home
Applying Culinary Medicine: Big Ideas

• Hot plate in your office: incorporating classes in your waiting rooms after hours, group visits*, inviting guest chefs

• Have an office “cookbook”: you and your partners feature recipes they like to prepare

• Partner with local organizations: culinary schools, high schools with culinary program, restaurants, chefs to donate time

• Record your own Youtube videos to share with patients: can be done on smart phones
Applying Culinary Medicine:
Small Ideas

• Feature recipes in your waiting room
• *ChopChop* magazine in your waiting room
• Collect resources to provide to patients
  • Brenner FIT Youtube channel, Facebook page
• Awareness: gives greater insight into barrier families face in cooking and preparing foods
  • More targeted interventions- don’t make suggestions that won’t be taken or aren’t applicable to patients
  • Talk about small changes like planning meals at home, get take-out but eat family-style
Summary

• We need to do better to serve the nutritional needs of our patients
• Nutrition education through cooking: Applied nutrition
• Can be used in big and small ways