



Dr. PED-Chef

Content Outline

Module 3: INTRODUCTION TO CULINARY MEDICINE

Module Overview

Module Overview

Introduction to Culinary Medicine module will provide the background to the evidence-based field of Culinary medicine and bring together nutrition, culinary knowledge and skills to assist families in maintaining health, preventing and treating disease through the choice of high quality healthy food. The module will provide interactive resources and materials to teaching basic culinary skills to interested participants and focus on practical aspects of day-to-day issues when patients need to make lifestyle changes.

Module Objectives/Outcomes

Upon completion of this Module participants should be able to:

- Comprehend the concepts of culinary medicine, its importance in health and diet and how it can be applied to prevent health issues.
- Understand the transition to a better nutrition foundation
- Plan healthy meals following the indications of Culinary Medicine
- Incorporate culinary medicine in their lifestyle

- **Units in the Module:**

Please list the Units that your Module includes in the table below:

Module: Introduction to Culinary Medicine

Unit 1: What is Culinary Medicine and Why it is important?

Unit 2: Planning for Culinary Medicine

Unit 3: Culinary Medicine and Lifestyle

Unit 4: Barriers to Culinary Medicine

Unit 1: What is Culinary Medicine and Why it is important?

Unit Overview

- Introduction of Culinary Medicine. How this term arose and what is the evidence behind this practice? Participants will gain a basic understanding of the concepts of Culinary



Co-funded by the
Erasmus+ Programme
of the European Union



Dr. PED-Chef

Medicine. Participants will be able to understand the impact of medical interaction and intervention in the prevention and treatment of diet-related illnesses.

Unit Topics

- The definition of Culinary Medicine (Topic 1)
- Principles and Goals of Culinary Medicine (Topic 2)
- Culinary Medicine VS Nutrition (Topic 3)
- How can the field of Culinary Medicine be implemented (Topic 4)

Learning objectives per unit

Upon completion of this Unit participants should be able to:

- comprehend the definition of culinary medicine, its principles and goals, the importance of applying culinary medicine in health and diet and how culinary medicine can be applied to prevent diet related diseases.

Topic 1: The definition of Culinary Medicine

Diet has been identified as the single most important risk factor for morbidity and mortality in the United States ¹ yet most health care providers spend relatively few hours learning about nutrition during their training ^{2,3}. The nutrition education that is offered is often primarily didactic and focused on the biochemistry of nutrients and health consequences of deficiency states—content that is of limited use in a clinical setting where the majority of the population faces overnutrition due to high intake of ultra-processed, calorie-dense foods.

Culinary medicine is an emerging, evidence-based discipline, which aims to positively affect public health by improving eating behaviors through integrating nutritional science with food preparation. It brings together nutrition and culinary knowledge and skills to assist families in maintaining health and preventing and treating food-related disease by choosing high-quality, healthy food in conjunction with appropriate medical care ⁴.

In the past decade, there have been a growing number of educational initiatives that focus on culinary medicine and are designed for clinicians or directly for children or parents and communities⁵. These range from Continuing Medical Education trainings ^{6,7} and formal medical school curricula⁸ to outpatient shared visits, live online courses, and remote video coaching.⁹

References:

1. U. S. Burden of Disease Collaborators, Mokdad AH, Ballestros K, et al. The State of US Health, 1990-2016: Burden of Diseases, Injuries, and Risk Factors Among US States. *JAMA*. 2018;319(14):1444-1472. 10.1001/jama.2018.0158.
2. National Research Council Committee on Nutrition in Medical Education. *Nutrition Education in U.S. Medical Schools*. Washington, D.C.: National Academy Press; 1985. 0-309-58158-3.
3. Adams KM, Kohlmeier M, Zeisel SH. Nutrition education in U.S. medical schools: Latest update of a national survey. *Acad Med*. 2010;85(9):1537-1542. 10.1097/ACM.0b013e3181eab71b.
4. Parks, K. and Polak, R., 2020. Culinary medicine: paving the way to health through our forks. *American journal of lifestyle medicine*, 14(1), pp.51-53.
5. Polak, R, Phillips, E, Nordgren, J, et al. Health-related culinary education: a summary of representative emerging programs for health professionals and patients. *Glob Adv Health Med*. 2016;5:61-68





Dr. PED-Chef

6. Eisenberg, DM, Miller, AM, McManus, K, Burgess, J, Bernstein, AM. Enhancing medical education to address obesity: “See one. Taste one. Cook one. Teach one.” JAMA Intern Med. 2013;173:470-472.
7. Polak, R, Pober, D, Finkelstein, A, et al. Innovation in medical education: a culinary coaching tele-nutrition training program. Med Educ Online. 2018;23:1510704.
8. Birkhead, AG, Foote, S, Monlezun, DJ, et al. Medical student-led community cooking classes: a novel preventive medicine model that’s easy to swallow. Am J Prev Med. 2014;46:e41-e42.
9. Polak, R, Pober, DM, Budd, MA, Silver, JK, Phillips, EM, Abrahamson, MJ. Improving patients’ home cooking—a case series of participation in a remote culinary coaching program. Appl Physiol Nutr Metab. 2017;42:893-896.

Materials to be provided/presented:

Video on Culinary Art of Medicine

URL/link to the video	https://www.youtube.com/watch?v=wugvnDq1IZI
Title of the video	The Culinary Art of Medicine Ben Chipkin TEDxJeffersonU
Description of the content of the video	Ben Chipkin is a food-minded future physician who is passionate about empowering healthcare providers and their patients with healthy lifestyles. He views nutrition, physical activity and the environment as central to our health and strives to transform medicine through this lens. Currently a third-year medical student at Sidney Kimmel Medical College at Thomas Jefferson University, Ben dedicates his time outside the clinic to patient education at JeffHOPE, developing the culinary medicine curriculum at Jefferson and serving on the Board of Directors of Physicians for Social Responsibility Philadelphia. He holds a Master of Science in Biochemical and Molecular Nutrition from Tufts University and a Bachelor of Arts from Vassar College. This talk was given at a TEDx event using the TED conference format but independently organized by a local community.
Debriefing	Provide your thoughts on the video presented How can this be helpful and provide an added value in your line of work?

Video on Culinary Art of Medicine

URL/link to the video	https://www.youtube.com/watch?v=yTQ0tBmLbns
Title of the video	The role of food in health Dr Rupy Aujla TEDxBristol
Description of the content	Dr Rupy Aujla is an NHS doctor who believes modern medicine is fundamentally missing a focus on nutritional medicine. Despite diet being an essential ingredient to our well-being, medical students in





Dr. PED-Chef

of the video	the UK often receive just a few hours training in nutrition. Rupy's TEDx talk explores the medicinal effects of different ingredients and debunks some common 'diets', focusing on how we can make 'culinary medicine' rather than fad diets the default option.
Debriefing	Provide your thoughts on the video presented How can this be helpful and provide an added value in your line of work?

Principles and Goals of Culinary Medicine (Topic 2)

The field of CM arose out of a perceived need to make evidence-based nutrition education practical and accessible for everyone. Nearly 80% of the chronic diseases faced by those in the U.S. are preventable through lifestyle changes.²⁷ Poor diet has been identified as the top contributor to early death and lost healthy life years in the U.S.⁴ and dietary risks are associated with 11 million deaths across the globe annually.²⁸

However, only an average of 20 hours are spent on nutrition content in US medical schools—this is equivalent to approximately one week (or 0.6%) of the total average hours of instruction.²⁹ Very little, if any, time is dedicated to helping students learn the components of a healthy diet, how to make a healthy diet enjoyable and practical, or how to effectively counsel families on making healthy dietary changes.

The intention is to help create positive behaviour change by not just providing knowledge, but by teaching specific skills that may aid in creating lasting change. Culinary medicine is not a practice that uses alternative approaches, such as specific foods or ingredients as a panacea to disease; rather, it is an evidence-based approach that includes simple nutrition education and instruction in nutritious cooking skills, including shopping, meal planning and preparation, and food storage

Finally, CM principles are relevant to all specialties of medicine and allied health professions. Encourage students taking a CM course to think about how lessons learned might be applied in their specific field or specialty. Invite faculty from a variety of specialties to join a class session and share clinical correlations from their practice with the topic of the day. Patients and families can and should be exposed to CM and nutrition principles, where relevant, in all parts of the health care system they interact with. This is particularly important because behavior change is much easier when there is buy-in from the whole family.

References:

27. Ahmed HM, Blaha MJ, Nasir K, et al. Low-risk lifestyle, coronary calcium, cardiovascular events, and mortality: results from MESA. *Am J Epidemiol.* 2013;178(1):12-21. 10.1093/aje/kws453.



Dr. PED-Chef

28. Afshin A, Sur PJ, Fay KA, et al. Health effects of dietary risks in 195 countries, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017. *The Lancet*. 2019;393(10184):1958-1972. 10.1016/s0140-6736(19)30041-8.

29. Association of American Medical Colleges: Scheduled Hours per Week During the Pre-Clerkship Period. Washington, D.C.: Association of American Medical Colleges, 2018. <https://www.aamc.org/initiatives/cir/446332/33.html>.

Culinary Medicine VS Nutrition (Topic 3)

Culinary medicine is not nutrition, dietetics, or preventive, integrative, or internal medicine, nor is it the culinary arts or food science. It does not have a single dietary philosophy; it does not reject prescription medication; it is not simply about good cooking, flavors or aromas; nor is it solely about the food matrices in which micronutrients, phytonutrients, and macronutrients are found.

Learning about culinary medicine will not make you a nutrition expert. Nutrition is important, but most need practical skills and resources, in addition to nutrition education, to help them move toward healthier diets. Using CM, we instead focus on how to prepare delicious foods, simply, inexpensively, and quickly. The nutrition lessons begin stealthily, meaning that the focus is on learning techniques to prepare delicious, craveable food. Only after the students are hooked by the smells, sounds, colors, and flavors of the cuisine—tasted while sitting around a table with others who worked together to prepare the meal—do the nutrition and counseling lessons emerge and take root.

Culinary medicine pairs the art of cooking with the science of medicine. The objective is to educate about the powerful influence that food has on health and disease and through hands-on cooking classes teach skills for preparing meals with nutritional health benefits toward preventing, managing, and reversing chronic disease. It's about teaching the why and how behind low-cost, convenient, health promoting, and delicious home-cooked meals, and eating patterns.

It's as much about learning about which foods reduce inflammation and fight disease as it is about how to slice an onion and cook with healthy spices and herbs. Importantly, culinary medicine offers individuals an opportunity to practice culinary skills and taste new recipes alongside education, all of which is taught in a way that translates to their home kitchen.

Culinary medicine should be targeted for the audience, with medical training and professional education including clinical case studies and peer-reviewed journal articles and community classes focusing on education and skills that can be translated in the home kitchen. Culinary medicine, if executed appropriately, is accessible for all populations regardless of culinary skill, socioeconomic background, or educational level. Although culinary medicine doesn't adhere to one dietary pattern, it is aligned most closely with the Mediterranean diet and whole food and plant-based eating patterns—both of which are supported by a rigorous evidence base for their health-promoting and disease-fighting properties.⁹⁻¹²



Dr. PED-Chef

MATERIAL: VIDEO FIRST YEAR MEDICAL STUDENTS COOKING

URL/link to the video	https://www.youtube.com/watch?v=G-vxi9u7oHw
Title of the video	Using Food as Medicine
Description of the content of the video	First-year medical students are cooking alongside Rutgers nutritional sciences students to gain a better understanding of the role food can play in treating patients. Professors at Rutgers Robert Wood Johnson Medical School believe requiring a class in culinary medicine will produce better doctors.
Debriefing	Please describe how the methodology used in this video can help you in your line of work

REFERENCES:

9. The diet and 15-year death rate in the seven countries study. *Am J Epidemiol.* 2016;36(5):391–401.

10. Kastorini, CM, Milionis, HJ, Esposito, K, Giugliano, D, Goudevenos, JA, Panagiotakos, DB. The effect of Mediterranean diet on metabolic syndrome and its components. *J Am Coll Cardiol.* 2011;57(11):1299–1313. doi:10.1016/j.jacc.2010.09.073.

Google Scholar | Crossref | Medline | ISI

11. Sofi, F, Cesari, F, Abbate, R, Gensini, GF, Casini, A. Adherence to Mediterranean diet and health status: meta-analysis. *BMJ.* 2008. <http://www.bmj.com/content/337/bmj.a1344>.

Accessed March 3, 2019.

Google Scholar

12. Resolving the Coronary Artery Disease Epidemic through Plant-Based Nutrition | Dr. Esselstyn's Prevent & Reverse Heart Disease Program . Misleading Research. 2001.

<http://dresselstyn.com/site/study03/>. Accessed March 3, 2019.

Google Scholar

How can the field of Culinary Medicine be implemented (Topic 4)

There are different options to better prepare health professionals to implement the field of Culinary Medicine:

- A teaching programme can be implemented curricula in modules and courses in medical schools
- Obtaining additional qualification parallel to the practice of medical profession within the framework of a structured curriculum
- Interactive workshops for students





Dr. PED-Chef

CASE STUDY	Patient-Centered Medical Home Cooking: Community Culinary Workshops for Multidisciplinary Teams
<p>Introduction</p> <p>The aim of this study was to determine whether a culinary medicine curriculum delivered to a multidisciplinary team of primary care medical staff and medical students in a community setting would improve self-reported efficacy in nutritional counseling and whether efficacy differed between participant roles. A 4-h interactive workshop that took place within the neighborhood of a primary care medical home was delivered to medical staff and students. Participants completed a voluntary questionnaire before and after the workshop that addressed participants' attitudes and confidence in providing nutritional counseling to patients.</p> <p>Methodology</p> <p>Three 4-h culinary medicine workshops were held between May and June 2019 engaging a primary care medical home in East Baltimore. The workshops took place in the community space of a church next to the medical practice. This church was already being utilized for a weekly teaching kitchen with community residents and was equipped with an industrial sized kitchen, 2 oven ranges, and large countertop space. An adjacent large multi-purpose room was used for workshop didactics, a group lunch following meal preparation, and a debrief session. Two facilitators, a physician and a registered dietitian, led each workshop, and developed the educational objectives. The recipes used during the workshop were selected by nearby elementary/middle school students as favorite meals. The facilitators recruited 12 participants for each workshop based on the kitchen size, which could accommodate 3 teams of 4 to prepare recipes. Recruitment methods included emails to the primary care medical practice staff and medical students, along with an in-person presentation introducing the workshops to medical practice staff at their monthly administrative meeting. A variety of medical staff were recruited, including medical assistants, office assistants, nurses, and physicians. Participants were not required to have prerequisite culinary medicine experience.</p> <p>Results</p> <p>Thirteen of seventeen responses related to attitudes and efficacy demonstrated significant improvement after the workshop compared with prior to the workshop. Significant differences noted between roles prior to the workshop disappear when asking the same questions after the workshop. Delivery of culinary medicine curricula to a primary care medical home team in a community setting is an innovative opportunity to collaboratively improve nutritional education and counseling in chronic disease prevention.</p>	

Unit 2: Planning for Culinary Medicine

Unit Overview

- Understand and develop a learning guide to facilitate families to incorporate culinary medicine in their lifestyles and to source information in order to become an everyday habit. The unit will be a toolbox that can be used by participants in order to help families to acquire the knowledge to incorporate the principles of culinary medicine in their lifestyle and how they can achieve lifestyle change.





Dr. PED-Chef

Unit Topics

- Introduction (Topic 1)
- Lifestyle Nutrition and Medicine (Topic 2)
- Eating Mindfully not mindlessly (Topic 3)
- Shifting away from diets in meat or added refined sugars (Topic 4)

Learning objectives per unit

Upon completion of this Unit participants should be able to:

- Understand that families need to plan before implementing the techniques of Culinary Medicine
- Provide informative materials to families to achieve lifestyle change through culinary medicine methodologies

Introduction (Topic 1)

This topic will focus on how to establish the basics when planning to incorporate the techniques of culinary medicine and provide a learning guide for health professionals to help families change their habits. The topic will provide basic knowledge, principles and useful materials for health professionals that can integrate useful culinary medicine materials during their counselling.

Lifestyle Nutrition and Medicine (Topic 2)

Lifestyle Medicine is the use of evidence-based lifestyle therapeutic intervention—including a whole-food, plant-predominant eating pattern, regular physical activity, restorative sleep, stress management, avoidance of risky substances and positive social connection—as a primary modality, delivered by clinicians trained and certified in this specialty, to prevent, treat and often reverse chronic disease.

Lifestyle medicine is not conventional medicine but the foundation of conventional medicine. Clinical practice guidelines for the top lifestyle-related chronic diseases support lifestyle medicine as the first line of treatment, before medications. Lifestyle Medicine is essential to sustainable health and healthcare since it addresses root causes of the disease by focusing on the lifestyle choices that give rise to diseases and chronic illnesses. When implemented lifestyle medicine can prevent, treat, and perhaps reverse to a degree certain health conditions.

The Importance and Urgency of Lifestyle Medicine

Chronic disease is the leading cause of death and disability in the U.S. Rates of chronic disease have never been higher, with the cost of chronic conditions eating up 86% of all health care dollars spent. Chronic disease is so common that more than half of U.S. adults have at least one condition, accounting for 90% of health care spending.





Dr. PED-Chef

According to the World Health Organization, 80% of heart disease, stroke, and type 2 diabetes and 40% of cancer could be prevented, primarily with improvements to diet and lifestyle.

Lifestyle medicine as an evidence-based approach is shown to treat the underlying causes of disease rather than the symptoms that are addressed with medication, prescriptions, pills and procedures.

Most medical students and physicians do not receive adequate training in even the basics of lifestyle medicine, such as nutrition and physical activity. Lifestyle Medicine is crucial to a health professional since most of chronic disease today is caused by unhealthy lifestyle choices in these and other areas.

Helping Others Move Toward a Healthier Diet (Tips)

When counseling on dietary behavior change, it is often helpful for people to begin by highlighting what should be included in the diet.

For some, simply increasing healthy foods will help to crowd out a substantial portion of unhealthy foods, without any feelings of deprivation. It is essential to address which foods detract from health and may be contributing to current health issues or future health risks.

Tailoring counseling with patients based on whether a patient places more value on accomplishing a goal or avoiding a negative outcome as evidence suggests patients receiving appropriately tailored messages lead to more positive feelings about healthy behavior changes. Additionally, adapting a person-centered approach free of blame, such as motivational interviewing, can help a health care provider elicit motivations for, and facilitators of, change. It allows the provider to empathize with patients, while also helping them to work through barriers, ambivalence, or resistance to change.

- Most people's diets can be improved by incorporating more plant foods and cutting out highly-processed foods— start with these topics if you can't find common ground with regard to type of diet.
- Most evidence-based healthy diets have the following in common:
 - Fresh produce every day.
 - Focus on plant foods
 - Cutting out highly processed foods
 - Limit or cut out red and processed meat and focus on healthier protein options.
 - Eliminate sugar-sweetened beverages and juices—making water the drink of choice.
- **Portion size:** Portion size is relevant for families with high energy dense diets in order to maintain or lose weight. For families following a plant-based diet portion size can be unregulated since the diet is lower in calorie density and can be provided in bigger portions. For families and children, the idea of not limiting the portion size is favorable, especially families that have tried diets that left them feeling hungry.





Dr. PED-Chef

- For people trying to lose weight, manage blood sugar, or maintain energy throughout the day, make sure meals and snacks include foods that contain fiber, healthy proteins (ideally plant-based), and healthy fats (ideally from whole, plant foods).
- Know that healthy food can be delicious and present it as such. If families aren't finding healthy food to be delicious, work with them to figure out what the specific issues are or refer them to someone who can. Generally, altering cooking techniques, seasonings, or substituting other food options can address this issue.
- Practice mindful eating; avoid mindless eating.
- **Cooking together as a family:** Learn to cook and eat together as a family. Incorporate all family members in shopping and meal planning processes. Discuss healthy lifestyle and set goals together.

Eating Mindfully, Not Mindlessly (Topic 3)

Eating mindlessly happens when one is not paying attention to how hungry they are, how much they're eating, or why they're eating. This usually goes along with overeating or eating foods that are less healthy than one would pick when paying close attention. To be mindful, or practice mindfulness, means one is focusing on the present moment and accepting without judgment the bodily sensations, thoughts, and feelings they experience in that moment. Mindful eating, or using mindfulness while eating, occurs when one uses all of their senses to appreciate the food they are eating and pays attention to their hunger and satiety cues. Practicing mindful eating can help one to enjoy food more fully while also helping with weight management. **See the handout**, Eating Mindfully, Not Mindlessly, for more tips on how to engage in mindful eating and avoid eating mindlessly.

What does it mean to eat mindlessly?

Eating mindlessly happens when one is not paying attention to how hungry they are, how much they're eating, or why they're eating. This usually goes along with overeating or eating foods that are less healthy than one would pick if they were paying close attention. Mindless eating can happen when you're distracted by something else such as TV, other technology, or dinner companions.

Mindfulness

Mindfulness is the act of focusing on the present moment and accepting the bodily sensations, thoughts, and feelings experienced in that moment. Mindfulness can be applied to many aspects of life, and can help to bring relaxation, focus, or clarity to a task at hand.

Mindful Eating

Mindfulness applied to eating is called mindful eating. It occurs when one uses all of their senses to appreciate the food they are eating and pays attention to their hunger cues. Practicing mindful eating can help one to enjoy food more fully, while paying attention to satiety cues. This in turn can help with weight management.

What can you do to prevent mindless eating?



Dr. PED-Chef

- Avoid distracted eating
- Don't graze
- Make sure that indulgences are infrequent—have a plan to eat healthy at restaurants or celebrations when you might otherwise be tempted to overeat
- Choose plates, bowls, and cups that hold smaller amounts of food
- Eat slowly and chew thoroughly
- Note whether you have physical hunger versus emotional “hunger”. Find non-food ways to cope with emotional eating.

Practice Mindful Eating

- Eat all meals at a designated place, such as a table, while sitting down and relaxing.
- Avoid distractions—don't try to do or watch other things while eating.
- Take deep breaths and avoid judgment of yourself and your reaction to food when you eat.
- Take small bites; chew slowly and thoroughly.
- As you eat, frequently check in with your body and notice feelings of hunger or fullness and use these as a guide for when to stop eating.
- Use all of your senses while eating.

Try the following mindful eating exercise with a raisin or piece of chocolate:

- LOOK: Look at your food, letting your eyes explore and take in the colours and textures of the food.
- TOUCH: Hold a piece of food in your hand. Move it around, exploring how it feels in your hand.
- SMELL: Close your eyes and hold the food under your nose and inhale. Note the different aromas.
- TASTE: Place the food in your mouth, but don't swallow it yet. Move the food around in your mouth without chewing and note the flavours that are released.
- LISTEN: Finally, begin to chew and note the sound the food makes as you chew. Also pay attention to how the flavours of the food change.





Dr. PED-Chef

Handout:

Eating mindfully, not mindlessly

WHAT CAN YOU DO TO PREVENT MINDLESS EATING?

- AVOID DISTRACTED EATING
 - DON'T GRAZE
- MAKE SURE THAT INDULGENCES ARE INFREQUENT—HAVE A PLAN TO EAT HEALTHY AT RESTAURANTS OR CELEBRATIONS WHEN YOU MIGHT OTHERWISE BE TEMPTED TO OVEREAT
 - CHOOSE PLATES, BOWLS, AND CUPS THAT HOLD SMALLER AMOUNTS OF FOOD
 - EAT SLOWLY AND CHEW THOROUGHLY
 - NOTE WHETHER YOU HAVE PHYSICAL HUNGER VERSUS EMOTIONAL “HUNGER”. FIND NON-FOOD WAYS TO COPE WITH EMOTIONAL EATING

TRY THE FOLLOWING EXERCISE

LOOK: LOOK AT YOUR FOOD, LETTING YOUR EYES EXPLORE AND TAKE IN THE COLORS AND TEXTURES OF THE FOOD.
TOUCH: HOLD A PIECE OF FOOD IN YOUR HAND. MOVE IT AROUND, EXPLORING HOW IT FEELS IN YOUR HAND.
SMELL: CLOSE YOUR EYES AND HOLD THE FOOD UNDER YOUR NOSE AND INHALE. NOTE THE DIFFERENT AROMAS.
TASTE: PLACE THE FOOD IN YOUR MOUTH, BUT DON'T SWALLOW IT YET. MOVE THE FOOD AROUND IN YOUR MOUTH WITHOUT CHEWING AND NOTE THE FLAVORS THAT ARE RELEASED
LISTEN: FINALLY, BEGIN TO CHEW AND NOTE THE SOUND THE FOOD MAKES AS YOU CHEW. ALSO PAY ATTENTION TO HOW THE FLAVORS OF THE FOOD CHANGE.

Shifting Away from Diets High in Meat and Added Sugars (Topic 4)

Protein Flip

This term was popularized by the Culinary Institute of America, and it is the practice of flipping the plate from meat-centric to plant-centric. Instead of meat making up the centre of the plate with vegetables being the smaller portion or an afterthought, vegetables and other plants become the stars while meat portions get reduced to garnishes or sides.

This is a great strategy for patients who are not willing to entirely give up meat but could benefit from reducing intake and/or substituting with plant sources of protein. In a typical meal, one might have eaten a large piece of chicken with a small side salad.



Co-funded by the
Erasmus+ Programme
of the European Union



Dr. PED-Chef

In a Protein Flip, the portions are reversed. In a Protein Flip this meal may become a large salad with added whole grains, legumes, nuts, and seeds to make the salad more filling and increase the protein content while reducing the portion of chicken to 1-2 ounces sliced atop the salad as a garnish.

This technique is very useful for those who are uninterested or unwilling to cut unhealthy foods—such as red meat—out of their diets completely. It also adds the familiarity of something they associate with deliciousness and satiety (e.g., meat) to foods previously eschewed from the diet (e.g., vegetables). Finding a way to incorporate these healthier foods into the diet helps one to develop a taste for them, making it more likely they will try other vegetables or choose them as a regular part of their diet.

Satisfying a craving can also help some people limit total food consumed because their psychological hunger (a desire to eat for a variety of reasons—such as habit, emotional state, or because something looks or tastes good—separate from physiologic hunger) is quenched. For others, however, controlling portions of these foods is challenging and they may find it easier to completely eliminate them.

Dessert Flip

The dessert flip is a method to retrain the palette to appreciate the natural sweetness in healthier options instead of choosing sweets and desserts.

For instance, in a typical dessert, one might have a large piece of a decadent sweet garnished with a bit of fruit—think strawberry cheesecake with a sliced strawberry on top. In a Dessert Flip, the portions are reversed. The size of the dessert is reduced to just a bite or two and accompanied by a larger arrangement of fresh fruit. This is generally just as satisfying as the original while increasing the nutrient density and decreasing the calorie density.

This is because the most enjoyable bites of any dessert are the first and having a couple bites is generally enough to quench a sweet craving at the end of a meal.

The Dessert Flip is not the same as a healthy dessert, which is one that is nutritious in its own right.

While the Dessert Flip, like the Protein Flip, works well for some to satiate cravings and prevent binging on sugary foods, other individuals may struggle to limit highly palatable foods to a few bites and may prefer to cut added sugars altogether.

Work with your patients to find out what works best for them. The overall goal of reducing added sugars in the diet is achieved by both approaches.

Desert Flip & Healthier Desserts – A guide (Handout)

- Practice making a variety of healthy desserts based on fresh fruit, dark chocolate, and nuts
- Discuss concept of the Dessert Flip in order to enjoy the desserts you love in a healthier way—example: Chocolate Silk Pie with Fresh Berries
- Increase the use of fruit in desserts in order to decrease added sugar, saturated fat, processed grains, and calories, as well as increase fibre



Dr. PED-Chef

- Look into different options on working with chocolate—example: Chocolate-dipped Strawberries and Dried Fruit
- Find recipes on Roasting nuts
- Include natural sweetener options & how to sweeten with dates
- Replacing eggs in baking
- Try out the following recipes
 - Apple Crumble without an Oven, Chocolate-dipped Strawberries & Dried Fruit, Chia Pudding, Chocolate Silk Pie with Berries, Fresh Fruit Salad with Mint, Tropical Fruit Salad with Lime Yogurt Sauce, Dark Chocolate with Fruit and Nuts, Grilled Fruit, and Banana Bread (or Muffins).



THE DESSERT FLIP AND HEALTHIER DESSERTS

A GUIDE

- Practice making a variety of healthy desserts based on fresh fruit, dark chocolate, and nuts
- Discuss concept of the Dessert Flip in order to enjoy the desserts you love in a healthier way—example: Chocolate Silk Pie with Fresh Berries
- Increase the use of fruit in desserts in order to decrease added sugar, saturated fat, processed grains, and calories, as well as increase fiber
- Look into different options on working with chocolate—example: Chocolate-dipped Strawberries and Dried Fruit
- Find recipes on how to roast nuts
- Include natural sweetener options & how to sweeten with dates
- Replacing eggs in baking
- Try out the following recipes
 - Apple Crumble without an Oven, Chocolate-dipped Strawberries & Dried Fruit, Chia Pudding, Chocolate Silk Pie with Berries, Fresh Fruit Salad with Mint, Tropical Fruit Salad with Lime Yogurt Sauce, Dark Chocolate with Fruit and Nuts, Grilled Fruit, and Banana Bread (or Muffins).

Unit 3: Culinary Medicine and Lifestyle

Unit Overview

- Understand and develop a practical skill set to facilitate families to incorporate culinary medicine in their lifestyles and to source information in order to become an everyday habit. The unit will be a toolbox that can be used by participants in order to help families to acquire the knowledge to incorporate the principles of culinary medicine in their lifestyle, learn basic techniques and achieve lifestyle change through applying culinary medicine.





Dr. PED-Chef

Unit Topics

- The complete list of Cooking techniques (Topic 1)
- How to cook healthy foodstuffs (Topic 2)
- Deliciously Healthy – how healthy food can also be delicious (Topic 3)

Learning objectives per unit

Upon completion of this Unit participants should be able to:

- List most of the cooking techniques listed in this unit
- Describe ways on how to use spices and herbs to make a healthy dish tastier
- Describe the process of cooking healthy food items, such as beans and grains.

Exercises/Materials to be provided: How to cook beans, wholegrains etc, Cooking techniques (handout), what is seasoning, Herbs and seasoning from the world,

The complete list of cooking techniques (Topic 1)

Cooking techniques covered in this topic include the most common and high-yield healthy cooking techniques that can be easily incorporated into the everyday life of families from a variety of cultural food traditions. They can be taught by any combination of instructors who have expertise in patient care, cooking, nutrition, in order to assist patients in making behavior changes.

Cooking Techniques

Boil	to cook in rapidly bubbling, often salted, water.
Braise	to brown an ingredient—often a protein—in a small amount of fat and then put into a covered pot with some cooking liquid and simmer slowly over low to moderate heat.
Broil	to cook underneath a flame.
Grill	to cook on a grate over open flame or hot coals.
Microwave	microwaving can be used instead of boiling, steaming, or some long-cooking techniques to preserve nutrients, especially in fruits and vegetables.
Poach	to cook in hot water that is bubbling very gently. Used for delicate items such as eggs or fish.
Roast or Bake	to cook uncovered, using dry heat (no liquid), generally in an oven
Sear	to cook by adding an ingredient directly to a very hot pan or griddle to quickly caramelize or brown the outside. This generally adds flavor at the beginning or end of cooking and is used along with another cooking method.
Simmer	to cook in liquid that is gently bubbling (at a temperature above poaching, but below boiling).
Steam	to cook an ingredient set over top of, but not submerged in, boiling water.
Water Sauté	the same as sauté but using water (or broth) in place of oil; this technique generally will not achieve the same degree of caramelization as





Dr. PED-Chef

	traditional sauté but reduces oil and calories in a dish. A similar method can be used in stir-frying as well.
Sauté	to cook small or medium-sized pieces of food quickly over medium-high heat, stirring or tossing frequently, in a small amount of oil.
Stir-fry	Similar to sautéing, but uses higher heat and food is always cut small. The goal is to cook very quickly with a small amount of oil.
No Cooking!	Eating fresh vegetables and fruits alone, in a salad, or added to another dish is a great way to “bulk up” your meal without many added calories, but LOTS of added nutrients.

Sauces:

A variety of cooked and uncooked sauces based on nuts, fruits, vegetables, herbs, spices, and other flavoring ingredients. Many require no cooking and can be made ahead. Add these sauces to any combination of whole grains, legumes, and vegetables for a quick, delicious, healthy meal.

Nut-based Sauces	Cooked or raw sauces made from nut butters or soaked and blended nuts. These can either highlight the flavor of the nut or provide a creamy backdrop for other flavors.
Pureed Vegetable, Herb, & Fruit-based Sauces	Can replace oil or cream-based sauces and add flavor with minimal calories.
No- or Low-Oil Dressings	Can be made similarly to a vinaigrette, by replacing oil with water, juice, broth, or another liquid. However, others are blended to incorporate a mixture of fruits, vegetables, broths, herbs, spices, vinegars, acids, and/or nuts and more closely resemble Nut-based or Pureed Sauces.
Vinaigrettes	Classic French sauce made of 2/3 to 3/4 oil and 1/4 acid (e.g., vinegar, lemon juice, etc.); for other styles, a variety of flavoring ingredients can be added. Often used to dress salads or for marinades.

How to cook healthy foodstuffs (Topic 2)

How to cook Beans

Preparation

- Rinse beans ahead of cooking and pick out any debris
- Soaking beans overnight before cooking helps reduce cooking time and save energy, but it is not necessary. Soaking beans in clean water overnight, or for a few hours at the countertop.
- Place desired quantity of beans in a container that has room for them to triple in size, fill with water, and cover.

Cooking Method #1: Boiling on the Stove Top





Dr. PED-Chef

Place soaked or rinsed, dry beans in a pot that has room for soaked beans to expand somewhat and dry beans to triple or quadruple in size. Cover soaked beans with 1-2 inches of water (or cooking liquid) or dry beans with a few inches of water. Bring to a boil, and then reduce heat so that liquid is gently simmering. Cook uncovered or partially covered until beans are tender.

Cooking Method #2: Slow Cooker

It is best to use soaked beans for cooking in a slow cooker or they will take far too long to cook. Soaked beans can generally be cooked on high for 4 hours or low for 8 hours in a slow cooker.

Cooking Method #3: Pressure Cooker:

There are two main types of pressure cookers—stovetop and electric. The former generally cooks at higher temperatures and faster than the latter. Because pressure cookers vary from model to model, it is best to follow the instructions for cooking beans that came with your particular unit. Soaked or unsoaked beans of any type can be safely cooked in a pressure cooker. However, soaked beans cook more quickly and are more likely to stay intact, while unsoaked beans tend to split apart in a pressure cooker.

How to tell when beans are done:

Beans are done cooking when they are tender in the center and do not taste overly starchy or gritty. However, they should not be cooked so long that they are all falling apart. To get all beans completely cooked, some will generally fall apart.

How to amplify flavors:

To amplify the flavor in beans, add dried or fresh herbs or spices and other aromatics while cooking. A common combination is onion, carrot, celery, bay leaf, thyme, and peppercorns.

How to Cook Whole Grains

These are the most basic cooking instructions for a variety of whole grains. Grain is a term encompassing a large group of plant foods including oats, wheat, quinoa, brown rice, barley, and rye.

BASIC METHOD FOR WHOLE GRAINS

1. **RINSE** grains in a strainer under cold running water OR by swishing in a bowl of water, then draining, and repeating 1-2 times until water is mostly clear.
2. **TRANSFER** grains to a large saucepan (for up to 2 cups of dry grain) or stock pot (for >2 cups of dry grain).
3. **ADD WATER & COOK:** Add appropriate amount of water or other liquid, place covered over high heat, stirring occasionally until liquid comes to a boil. Add other seasonings or salt, if desired. Then, stir once more, reduce heat to lowest setting, cover and simmer for the length of time indicated on the chart.
4. **STAND:** Once cooking time is up, remove pot from heat without uncovering, and allow to stand for the standing time given in chart, or longer.



Dr. PED-Chef

5. EAT OR STORE: Your cooked, whole grain is ready to serve or store for later. To store, allow grains to cool to near room temperature. Then, store in a covered container in the refrigerator for up to 4 days (reheat in a covered dish in a microwave to serve) or freeze.

BOILING METHOD FOR WHOLE GRAINS

An alternate method of cooking that works for whole grains that can keep their shape with cooking—such as rice, quinoa, wheat berries, farro, or barley—is to bring a large pot of water to a boil as you would for pasta and boil the grains until done (testing occasionally for taste/texture), then drain in a fine strainer as you would pasta and then run cool water over the grains to stop the cooking. This method works well if you want to serve whole grains in a salad rather than as a warm side.

Deliciously Healthy – how healthy food can also be delicious (Topic 3)

This topic will deal with how to make healthy dishes delicious and craveable. The best ways to get people to eat more healthy foods and fewer unhealthy foods are to make the former taste as good or even better and be as accessible as the latter.

Using grains instead of processed carbohydrates

Using different sources of grains instead of processed carbohydrates can turn make a dish healthy and delicious, while providing a variety of options. Some examples include:

- Quinoa
- Old Fashioned oatmeal or steel-cut oats
- Couscous
- Bulgur wheat
- Sprouted whole grain bread (keep frozen)
- Whole wheat pitas
- Corn tortillas (keep in fridge)
- Frozen whole-wheat pizza dough
- Whole wheat (or other whole grain, bean, or lentil-based) pasta
- Brown Rice and any other whole grains
- Polenta
- Seitan (made from wheat, this is a good source of plant-based protein)

Use seasoning to flavour food

- Low-sodium vegetable stock or broth
- Dijon mustard or yellow mustard
- Something spicy (cayenne pepper, dried chillies, chili flakes, chili-garlic sauce, hot sauce, etc.)
- Salsa
- Nut & seed butters (e.g., peanut, tahini, cashew, etc.)
- Low-sodium tomato sauce, canned tomatoes (whole, crushed, diced), and tomato paste
- Low-sodium soy sauce or tamari





Dr. PED-Chef

- Vinegars (Balsamic, Red wine, apple cider, rice wine, white wine, etc)
- Nutritional yeast
- Coconut milk
- Unsweetened coconut flakes
- Hoisin sauce (or Black Bean-Garlic sauce)
- Olive oil and canola oil (or other liquid plant oil for cooking), optional
- Toasted sesame oil, optional

Using natural sweeteners

- Dark chocolate (at least 70%)
- Honey, Maple syrup, Agave syrup, or Date paste

Basic herbs and spices list

- Salt, optional
- Pepper
- Bay leaves
- Cayenne pepper, ground
- Chili powder
- Cinnamon, ground
- Coriander
- Crushed red pepper
- Cumin
- Curry powder
- Ginger, ground
- Italian seasoning
- Nutmeg
- Oregano
- Paprika
- Rosemary
- Thyme

Unit 4: Barriers to Culinary Medicine

Unit Overview

- Understand the barriers in implementing culinary medicine and how these barriers can be dealt with. The unit will also cover how culture is correlated with culinary medicine and how much cultural importance individuals place on food in order to consider these factors when counselling on behavioural changes regarding culinary medicine.

Unit Topics

- Economic Barriers (Topic 1)
- Understanding and considering food culture in culinary medicine (Topic 2)
- Food Insecurity (Topic 3)





Dr. PED-Chef

Learning objectives per unit

These objectives must be linked to the objectives/outcomes of the module

Upon completion of this Unit participants should be able to:

- Describe the different barriers in implementing culinary medicine
- Provide a list of strategies to overcome different barriers while counselling individuals

Economic Barriers (Topic 1)

For many individuals, a significant barrier to healthy eating is cost.

Foods higher in nutrient density, such as fruits and vegetables, are associated with higher per-calorie costs than refined grains and sweets. Additionally, the extra time required for preparing and cooking healthy meals may make healthy eating seem more difficult for those with limited time and money. A healthy diet, maintaining a healthy weight, and a plant-based diet can be difficult for individuals and families with very limited food budgets.

In addition, the investment in equipment necessary for cooking, as well as access to a kitchen, may be obstacles for some individuals. However, those with even a modest food budget can follow the principles of culinary medicine, if they know how to cook, meal plan, and have access to a kitchen.

Counselling patients on adopting a healthier diet requires an understanding of how economic barriers contribute to underconsumption of healthy foods. A key step when working with patients is to acknowledge cost as a barrier to healthy eating, and to discuss individual concerns and limitations with patients when introducing steps towards following culinary medicine practices. The approach to dietary behaviour change to move along a spectrum toward a healthier diet—is particularly useful in working with those of limited means because it acknowledges the varying levels of difficulty that people face in making dietary changes, encourages changes of any size, and acknowledges that any step toward healthier lifestyle is positive and beneficial.

Eating Healthy on a Budget:

1. **Don't buy prepared foods.** Healthy foods can actually be quite inexpensive if purchased in their unprepared states. The grocery bills really add up when purchasing prepared or partially prepared dishes made with these same ingredients.
2. **Learn to cook and do it often.** Find the time and learn the skills needed to cook. The more you cook, the healthier you'll eat and the less money you'll spend.
3. **Buy in bulk and buy just what you need.** Many dry pantry staples, such as grains, legumes, nuts, and seeds, can be purchased in bulk at grocery stores and supermarkets. When purchased in bulk, these items are usually lower cost than pre-packaged items. For fresh items, make sure to buy in bulk only if you can use the quantity purchased—either by eating fresh or freezing—before it spoils.
4. **Avoid food waste.** Know what fresh items you have and make a plan to use or freeze them.





Dr. PED-Chef

5. **Turn cooking into a social activity and practice meal prepping.** Because lack of leisure time is a key barrier to healthy eating, frame cooking as an activity that the whole family can participate in. This may make it more appealing to those who currently see cooking as a time-consuming activity that doesn't fit into their busy schedule. Similarly, strategizing how to meal prep to efficiently prepare several meals in advance may be appealing to those who do not have time to cook on a daily basis.
6. **Buy in-season and look for sales.** These are great strategies to save money on produce. Similarly, look for grocery stores in your area that carry produce that has limited shelf-life remaining to find steep discounts.
7. **Go to the farmer's market near closing time.** You can bargain with vendors for steeply reduced rates on produce because they don't want to have to take leftover produce back with them when the market closes.
8. **Avoid canned fruits and vegetables.** If you have a freezer, it is generally more economical to purchase frozen over canned fruits and veggies. Frozen also tastes better than canned and is less likely to have added sugars, salt, or chemicals leached from the plastic lining that occur in commercially canned food. If you do buy canned, avoid those with syrups and high salt contents.
9. **Avoid empty calories** like white bread, cakes, cookies, and other items that are highly processed and filled with refined flours and added sugars because these may contribute to food cravings and have limited nutritional value beyond extra calories.
10. **Make your own stock** in recipes from vegetable scraps
11. **Learn when buying organic matters.** Emphasize that fresh produce does not have to be organic to be a healthy choice. Any produce that can be added to the diet is better than none at all.

Understanding and considering food culture in culinary medicine (Topic 2)

Counselling patients on adopting a healthier diet requires an understanding of culture, nutrition, and cooking skills. All of us are influenced by our cultures of origin and the people who surround us. These cultural influences vary from person to person. Taking time to understand the cultural and emotional importance individuals place on food is important when counselling them on healthy dietary behaviour changes.

Make sure that the recommendations provided (e.g. recommended produce, healthy ingredients, cooking techniques) are commonly used in an individual's food tradition rather than your own cultural food tradition. Additionally, encourage patients to engage their household in making healthy dietary changes so as not to alienate them around mealtimes. Recommend changes that don't take a lot of time and don't have a steep learning curve to limit added stress.

Take time to better understand the food cultures in your community of practice so that you can tailor your dietary recommendations accordingly. Most cuisines can be tailored to focus on healthier aspects without excluding traditional foods entirely, and many traditional cuisines are healthier than modern, ultra-processed and fast-food options. Many food traditions around the world draw more heavily on produce, legumes, and spices. Emphasize increasing or reintroducing these traditional foods. For food traditions heavy in meat and highly processed carbohydrates, approaches such as the Protein Flip and Dessert Flip may be good places to start. Knowledge about easy substitutions can also be useful (e.g., healthier cooking



Dr. PED-Chef

techniques, replacing refined grain products with whole grain options, making sauces creamy without butter and heavy cream, etc.).

Food insecurity (Topic 3)

Although certain strategies are intended to make it easier for individuals to afford healthy changes to their diets, health professionals need to be able to screen for other social barriers as well. The lack of a living wage, the persistence of food shortage in low-income regions, no access to a kitchen and no funds to purchase tools are all barriers to healthy eating and should be taken into consideration when counselling individuals about strategies to adopt a healthier diet.

Make sure to screen all patients for food insecurity—a highly prevalent condition affecting 1 in 9 (820 million) around the globe. Food insecurity is defined by the U.S. Department of Agriculture as lack of consistent access to enough food to live an active, healthy life. This is distinct from hunger—a related concept referring to an uncomfortable, physical sensation. Food insecurity refers to the lack of available financial and other resources needed for food at the household level.

The following is a validated, 2-question screener to assess for food insecurity:

Script: "I'm going to read you two statements that people have made about their food situation. For each statement, please tell me whether the statement was often true, sometimes true or never true for your household in the last 12 months."

1. "We worried whether our food would run out before we got money to buy more." Was that often true, sometimes true, or never true for your household in the last 12 months?
2. "The food that we bought just didn't last, and we didn't have money to get more." Was that often, sometimes, or never true for your household in the last 12 months?

A response of "often true" or "sometimes true" to either question = positive screen for food insecurity.

Anyone with a positive screen for food insecurity should be connected with local resources to assist with acquisition of free, healthy foods. Familiarize yourself with food resources in your area, particularly if you treat a high proportion of patients with food insecurity.