Disclosure to Participants

Notice of Requirements For Successful Completion
Please refer to learning goals and objectives
Learners must attend the full activity and complete the evaluation in order to claim continuing education credit/hours

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No COI/Financial Relationship to disclose

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Overcoming the Barriers to Healthy Eating with Culinary Medicine

Interviewing Goals
- Address your and your patient’s goals
- 24 hour recall/Food Diary
- Typical day
- Barriers to affect change
Barriers
- Planning
- Time
- Cost
- Skill
- Flavor
- Convenience
- Misconceptions
- Food Access
- Social

Be Realistic
- Consider established barriers
- Focus on FOOD and flavor first
- Provide resources & recipes
- Make meal planning a priority
- Consider cultural and ethnic preferences
- Start small
- Short, simple messages
- Remember: Cooking at home is almost always better

Where to start?
Meal Planning!
Six easy steps…

Where to start?
Meal Planning!
Six Easy Steps to Meal Planning:
1. Assume you will eat 21 meals/week. Include snacks.
2. Plan for busy days appropriately.
3. Plan to cross-utilize and repurpose ingredients.
4. Select a few favorite recipes, especially ones that use leftovers. Have a few go-to’s.
5. Plan to batch cook.
6. Build a basic shopping list. Figure out what you already have and what you need to buy.
Shopping Apps
Grocery IQ  Grocery Gadget  Shopping List
Shopper  Grocery List  Green Grocer

At the Store:
• Don’t shop hungry!
• Stick to the list that you made, but be flexible (check circulars)
• Shop the perimeters of store – this is where you’ll find the least processed and healthiest foods.
• Spend the most time in produce section (most of your cart should be fresh produce).
• Focus on plant-based proteins & bulk grains.
• Once you find a brand, stick with it.
• Buy in bulk if possible (the more you buy, the more money you save). Portion and freeze!
• Choose least-processed foods; less ingredients are better (shoot for under 5).
• Don’t fall for marketing gimmicks, and don’t waste your money on coupons.
• If it’s not there, ask the grocer for products!

Time
• Pre-portion foods after shopping & preparing
• Prepare ingredients the night before (after dinner)

At the Store:
• Non-traditional meals
  – Hard-boiled eggs, cheese, fruit or salad
  – Vegetables/Crackers & Hummus
  – Breakfast for dinner
• 10 minute meals
  – Sandwiches, salads from leftovers, tacos, scrambled, stir-frys
• Crock-pot meals

Time
• Cross- utilize ingredients
• Repurpose foods
• Plan for leftovers
• Batch Cook/Freeze
  – Soups, stews, sauces, muffins

Crock Pot Meals
• Sloppy Joes
• Roasts with Vegetables (pork, beef)
• Vegetable Curries with Chicken or Chickpeas
• Meatballs (quinoa/grain based)
• Steel-cut oatmeal
Crock Pot Meals
• Stews, Soups & Chilis
  –Hearty Vegetables: butternut squash, sweet potatoes, carrots, parsnips
  –Legumes & Pulses
• Braised Chicken
  –Chicken Cacciatore, BBQ chicken, curry

Cost
• Cross-utilize ingredients
• Buy in bulk when possible
• Buy seasonally
• Bulk up with veggies, grains and legumes
• Buy the larger, less processed cut
  –Whole Chicken vs. Chicken Breast vs. Boneless Skinless Chicken Breast

Buy in Bulk

Plant Based Proteins

Buy in Bulk

Talk Money
### Talk Money

<table>
<thead>
<tr>
<th></th>
<th>Applebee’s Caesar Salad with Chicken</th>
<th>Homemade Salad with White Bean Dressing and Chicken</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calories (kcal)</td>
<td>800</td>
<td>320</td>
</tr>
<tr>
<td>Total Fat (g)</td>
<td>56</td>
<td>9</td>
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<tr>
<td>Total Carbohydrate (g)</td>
<td>24</td>
<td>15</td>
</tr>
<tr>
<td>Fiber (g)</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>Sodium (mg)</td>
<td>1620</td>
<td>250</td>
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<tr>
<td>Total cost (per serving)</td>
<td>$10.39</td>
<td>$2.00</td>
</tr>
<tr>
<td>Time Spent</td>
<td>30 min</td>
<td>18 min</td>
</tr>
</tbody>
</table>

### Flavor

- Utilize herbs/spices
  - Encourage herb gardens
  - Use acid over salt
- Sweet
- Sour
- Salty
- Bitter
- Umami
- Pungency

### Balancing Tastes

#### Is your dish too sweet?

- Add something acidic.
  1. Vinegars
  2. Citrus (zest, too!)
  3. Dry wines and liquors

#### Is your dish too sour?

- Add something sweet.
  1. Fruit/fruit juice
  2. Honey
  3. Maple Syrup
  4. Sugar

### Planning

- Make an “appointment”
  - 1-2 hours per week
- Have go-to’s
- Cross-utilize & repurpose ingredients
- Start with dinner
- Plan to freeze
- Make cooking goals

### Balancing Tastes

#### Is your dish too sweet?

- Add something acidic.
  1. Vinegars
  2. Citrus (zest, too!)
  3. Dry wines and liquors

#### Is your dish too sour?

- Add something sweet.
  1. Fruit/fruit juice
  2. Honey
  3. Maple Syrup
  4. Sugar

### Planning

- Be flexible at the store (look at circulars)
- Focus on plant-based proteins & bulk grains
- Make 5 minute meals
- Don’t feel like you have to cook 21 meals
- Utilize seasonal & local ingredients
Balancing Tastes

Is your dish too salty?
~Add something acidic.
1. Vinegars
2. Citrus (zest, too!)
3. Dry wines and liquors

Balancing Tastes

Is your dish too bitter?
~Add umami, a pinch of salt or a sweet ingredient.
1. Parmesan cheese
2. 1/2 tsp less-sodium soy sauce
3. Tomato paste
4. Pinch of salt
5. 1/2 tsp of sugar

Umami
• Aged Cheese, like Parmesan
• Soy, Fish & Worcestershire Sauce
• Tomato Paste, Canned Tomatoes
• Seaweed
• Miso & other fermented products
• Olives & other cured products
• Mushrooms (especially dried)
• Beef

Herb Garden!
• Cost-effective addition of flavor
• 3x fresh/dried
• Herb identification/cutting

Convenience
• Do a cost-savings analysis
• Review better options – Know your prepared foods section
• On-the-Go Snacks
• Meals in under 10 minutes
• Plan for time crunches
Cost Savings Analysis

Meal: PB&J, Water, Apple
Cost: $1.25

Meal: Cheeseburger Extra Value Meal
Cost: $5.00

vs.
Daily Savings: $3.75
Weekly (5 day) Savings: $18.75
Yearly Savings: $975

Cross-Utilization

• Use same vegetables/grains in multiple dishes
• Make extra protein for other meals
• Use leftover vegetables in tacos, stews, salads or sandwiches

Food in Under 10 Minutes

• PB&J
• Yogurt with Jam/Fruit
• Smoothies
• Peanut Butter and Jelly
• Roasted Chickpeas
• Hummus or Yogurt Dip
• Salads

Cross-Utilization

Breakfast
1. Oatmeal with Nuts x 2
2. Cereal with Fruit
3. Eggs & Toast x 2
4. Yogurt & Fruit
5. Toast & Peanut Butter

Dinner
1. Vegetarian Chili
2. Tacos with Corn Relish
3. Red Beans & Rice
4. Fish, Rice Pilaf & Roasted Squash
5. Tuna Casserole
6. Roasted Chicken & Sweet Potatoes with Sautéed Greens
7. Chicken & Rice Soup
Cross-Utilization

Lunch
1. Bean & Rice Burritos (from beans & rice)
2. Tuna Casserole (leftover)
3. Chili Nachos (from chili)
4. Chicken Salad Sandwich (from chicken)
5. Sweet Potato & Black Bean Tacos (from extra sweet potato)
6. Peanut Butter & Jelly
7. Chicken Soup (leftover)

Simplicity

Snacks
1. Salted Sunflower Seeds
2. Apples with Peanut Butter
3. Hardboiled Eggs
4. Popcorn
5. Veggie Sticks with Herb Dip
6. Roasted Broccoli Bites

Other Misconceptions

• Small portions
  – Plant-centric cuisine has less energy-density
• Cannot enjoy foods one likes
  – Inclusion vs. exclusion

Energy Density

Increasing Nutrient Density

• Fruit, vegetable and legume-based sauces
  - Coulis, chutney, compote, confit, salsa, pistou/pesto, yogurt sauce, bean spreads
  - Greek yogurt > heavy cream
  - Flavorful oils > butter

Increasing Nutrient Density

• Thickeners
  - Pureed beans, nuts
  - Grains
  - Pureed vegetables
  - Yogurt, sour cream, Kefir, cottage cheese
Increasing Nutrient Density

• Less refined sugar
  – Fruit purees (apple, prune, banana) for less sugar and fat
  – 25% reduction in sugar
  – Vanilla & sweet flavors

Energy Density

<table>
<thead>
<tr>
<th>Recipe</th>
<th>Calories</th>
<th>Fat</th>
<th>4 ounce cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meat Lasagna</td>
<td>1026</td>
<td>57</td>
<td>0.54</td>
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<tr>
<td>Mushroom Lasagna</td>
<td>451</td>
<td>19</td>
<td>0.40</td>
</tr>
<tr>
<td>Meat Savory Mille-feuille</td>
<td>679</td>
<td>45</td>
<td>0.54</td>
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<tr>
<td>Mushroom Savory Mille-feuille</td>
<td>359</td>
<td>17</td>
<td>0.40</td>
</tr>
<tr>
<td>Meat Sloppy Joe</td>
<td>822</td>
<td>14</td>
<td>0.54</td>
</tr>
<tr>
<td>Mushroom Sloppy Joe</td>
<td>248</td>
<td>4</td>
<td>0.40</td>
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<tr>
<td>Meat Chili</td>
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<td>0.54</td>
</tr>
<tr>
<td>Mushroom Chili</td>
<td>300</td>
<td>5</td>
<td>0.40</td>
</tr>
</tbody>
</table>

Diner’s Perceptions

<table>
<thead>
<tr>
<th></th>
<th>Meat</th>
<th>Mushroom</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portion test meal consumed (%)</td>
<td>93.2</td>
<td>91.3</td>
</tr>
<tr>
<td>Palatability</td>
<td>13.4</td>
<td>13.0</td>
</tr>
<tr>
<td>Satiety (general fullness)</td>
<td>6.0</td>
<td>5.8</td>
</tr>
<tr>
<td>Appetite</td>
<td>4.4</td>
<td>4.3</td>
</tr>
<tr>
<td>Physical activity (daily kcal)</td>
<td>186.60</td>
<td>192.2</td>
</tr>
</tbody>
</table>

Alternatives

Example

Example

*Nutrition Facts* Serving size 2/3 cup cooked, % daily value

<table>
<thead>
<tr>
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<th>2/3 cup cooked</th>
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<tbody>
<tr>
<td>Serving</td>
<td>12 oz</td>
</tr>
<tr>
<td>Calories</td>
<td>216</td>
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<tr>
<td>Total Fat</td>
<td>14 g</td>
</tr>
<tr>
<td>Total Cholesterol</td>
<td>15 mg</td>
</tr>
<tr>
<td>Sodium</td>
<td>3 mg</td>
</tr>
<tr>
<td>Total Carbohydrate</td>
<td>18 g</td>
</tr>
<tr>
<td>Fiber</td>
<td>2 g</td>
</tr>
<tr>
<td>Sugars</td>
<td>0 g</td>
</tr>
<tr>
<td>Protein</td>
<td>13 g</td>
</tr>
</tbody>
</table>

Examples of Spaghetti with Meat Sauce and Spaghetti with Meat Sauce (2)

Alternatives

*Nutrition Facts* Nutrient Buying Guide

<table>
<thead>
<tr>
<th></th>
<th>2/4 cup cooked</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serving</td>
<td>1/2 cup</td>
</tr>
<tr>
<td>Calories</td>
<td>108</td>
</tr>
<tr>
<td>Total Fat</td>
<td>7 g</td>
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<tr>
<td>Total Cholesterol</td>
<td>25 mg</td>
</tr>
<tr>
<td>Sodium</td>
<td>1 mg</td>
</tr>
<tr>
<td>Total Carbohydrate</td>
<td>18 g</td>
</tr>
<tr>
<td>Fiber</td>
<td>2 g</td>
</tr>
<tr>
<td>Sugars</td>
<td>0 g</td>
</tr>
<tr>
<td>Protein</td>
<td>13 g</td>
</tr>
</tbody>
</table>

Examples of Twin Pack Helper Macaroni

*Nutrition Facts* Nutrient Buying Guide

<table>
<thead>
<tr>
<th></th>
<th>2/4 cup cooked</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serving</td>
<td>1/2 cup</td>
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<td>Calories</td>
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<tr>
<td>Sodium</td>
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</tr>
<tr>
<td>Total Carbohydrate</td>
<td>18 g</td>
</tr>
<tr>
<td>Fiber</td>
<td>2 g</td>
</tr>
<tr>
<td>Sugars</td>
<td>0 g</td>
</tr>
<tr>
<td>Protein</td>
<td>13 g</td>
</tr>
</tbody>
</table>
Homemade Hamburger Helper

Easy Homemade Hamburger Helper

<table>
<thead>
<tr>
<th>Prep time</th>
<th>Cook time</th>
<th>Total time</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 min</td>
<td>20 min</td>
<td>30 min</td>
</tr>
</tbody>
</table>

Instructions:
1. In a large pot add beef, onion, pepper flakes, garlic, salt, pepper and brown. Add chickens and bring to a boil. Reduce to a simmer.
2. Add tomatoes, tomato paste and vegetable broth and bring to a boil. Reduce to a simmer.
3. Serve in a cup of cereal, top with cheese and let sit on top.

Servings: 4 servings

Ingredients:
- 1 lb lean ground beef
- 1 medium onion, diced
- 2 tsp garlic powder
- 1 tsp red pepper flakes
- 1/4 tsp salt
- 1/4 tsp pepper
- 1/2 cup vegetable broth
- 1 can diced tomatoes
- 1 can tomato paste

Understand the Landscape

- Investigate local food purveyors
- Use ingredients available and be flexible for substitutes

Access to Food

- Consider availability of fresh food
- Transportation to stores
- Physical disabilities
- Products available at grocer
  - Ask!

Get Creative

- Demonstrate food-first techniques to educate patients on food as medicine
- Provide cooking demonstrations and cooking classes
- Provide tastings to overcome perceptions of healthy food
- Offer shopping tours- partner w/ grocer

Social

- Cooking for one
- Depression
- Eating out

Mediterranean Diet

Adherence to a Mediterranean Diet and Survival in a Greek Population - Antonia Trichopoulou

22,000 study population
Prospective Design
Significant reduction coronary disease AND cancer
Mediterranean Diet

A 2 point improvement from 5 – 7 confers a 25% reduction in death from all causes including heart disease and cancer.

Mediterranean Diet

1. Vegetables
   Male: 303 grams = 10.8 ounces
   Female: 248 grams = 8.9 ounces

Mediterranean Diet

2. Legumes
   Lentils, peas, peanuts, snap beans, bean pods
   Male: 60 grams = 2.1 ounces
   Female: 49 grams = 1.75 ounces

Mediterranean Diet

3. Fruits and Nuts
   Male: 249 grams = 8.9 ounces
   Female: 216 grams = 7.7 ounces

Mediterranean Diet

4. Cereals & Whole Grains
   Male: 291 grams = 10.4 ounces
   Female: 248 grams = 8.9 ounces

Mediterranean Diet

5. Fish
   Male: 28 grams = 1 ounce
   Female: 21 grams = 0.75 ounces
6. Oils / Fats
1:1.6 grams = 10 sat : 16 unsaturated

7. Dairy
Male: 201 grams = 7.2 ounces
Female: 194 grams = 6.9 ounces

8. Meats
The median consumption was about 4 ounces of meat per day.
Male: 109 grams = 3.9 ounces
Female: 91 grams = 3.25 ounces

9. Alcohol
Male: 10 - 50 grams = ~ 2 drinks
Female: 5 – 25 grams = ~ 1 drink

Effects of a Mediterranean-Style Diet on the Need for Antihyperglycemic Drug Therapy in Patients With Newly Diagnosed Type 2 Diabetes

4 years, 215 participants – Prospective
New onset diabetics
Endpoint: Medication

After 4 years only 44% in the study group needed medication and 70% of the standard low-fat diet needed medication

26% difference with diet alone

Case Study

42yo male with history of type 2 diabetes, hypertension, and congestive heart failure, obesity
Admitted for shortness of breath and lower extremity swelling, needs IV Lasix
Dietary Hx: Patient reports that he was told during his last discharge that he should eat more lean protein, more vegetables. Patient reports eating more chicken which he cooks in butter and salt and tries to eat a salad with dressing and tomatoes.
Third hospitalization this year for congestive heart failure exacerbation.

Table 1: Causes for CHF 30-day readmission to Tulane from September 1, 2012 – August 31, 2015 based on cause for readmission

Case Study

52yo female with past medical history of Type 2 Diabetes, Hypertension, and Hyperlipidemia presents for a follow up visit for her diabetes. Her systolic blood pressure has been hard to normalize even with medication and today she complains of some numbness and tingling in her feet.
Vitals: BP is 152/89 and Pulse is 72. BMI 31.
Recent labs: A1C of 8.2, Normal renal function and normal thyroid function, normal lipid panel values
Meds: Metformin 1000 BID, Glipizide 5mg BID, Lisinopril 40 mg, HCTZ 25 mg, Norvasc 10mg, Lipitor 60mg daily, Aspirin 81mg daily, and Ibuprofen as needed for pain.

24 hr dietary recall:
Breakfast: Typically only drinks coffee, not hungry in the morning
Mid-morning snack: Whatever is in the break room - cake, bagels, muffins, etc.
Lunch: Subway chicken sandwich, chips, 20 oz soda
Snack: Chips and almonds from vending machine
Dinner: Rice and chicken bowl with vegetables take out, 20 oz soda

Table 2: Lengths of stay for CHF 30-day readmissions to Tulane from September 1, 2012 – August 31, 2015 based on cause for readmission
Discussion

1. What is this woman lacking in her diet?
2. What recommendations could we make for this woman for breakfast?
3. Is a Subway chicken sandwich a good option for lunch? What recommendations would you make?
4. Is she making a good dinner choice? What recommendations would you make?
5. What inferences can we make about her snacking? What recommendations would you make? What about her beverage intake?
6. Knowing what we know, where would you start?

Thank You!

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www.culinarymedicinecertified.com

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Instagram: @culinarymedicine

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