
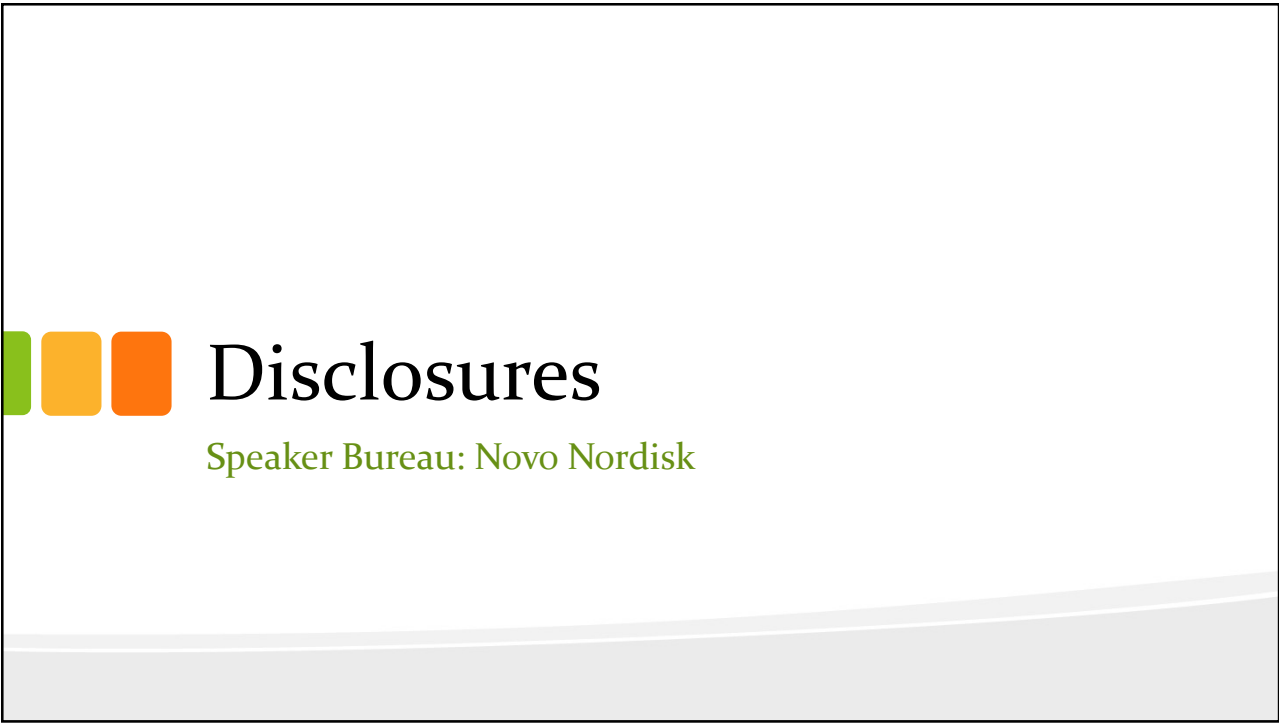


Obesity Management: Developing a Nutrition Plan

Karon Potter PA-C, RD, CSOWM, CDE





Disclosures

Speaker Bureau: Novo Nordisk



48 y.o. female presents as a new patient because she “cannot lose weight.” Lost only 6 pounds in 12 wks. with lifestyle interventions. Goal wt 145 lbs

Ht: 65 in Wt: 171 lbs. BMI 28.5 BP 128/78 HR 72

PMH: HTN recently started on lisinopril 10/12.5 mg after BP failed to normalize with lifestyle interventions.

Lifestyle interventions:

Diet: 1650 calorie restricted diet using smart phone app to track intake; Meets calorie restriction 85-90% of days.

Exercise: 3-4 days per week 30-45 min. Includes a variety of activities (walking/elliptical, group exercise, light weights)

Pertinent lifestyle history: Has a goal to stop blood pressure medication. Elevated blood pressure 10 years ago that she was able to normalize with weight loss and high intensity exercise. Weight regain began 3 years ago after severe LE injury that has limited her to low intensity exercise. A promotion 18 mo. ago has meant more travel and increased frequency of dining out.

Case #1

35 y.o female presents for weight management.

Case #2

Key factors: struggled w/weight since early 20's; tried many different diet/exercise interventions; max 15-20 pounds lost w/rapid regain; stops interventions due to lack of progress, difficult to sustain changes and hunger

Current motivation: mid back pain; needs breast reduction; must have BMI <35; worried about have to go on disability if cannot have surgery


Ht: 67 in Wt: 286 lbs. BMI 44.8 BP 135/85 HR 88

Current Medications: valsartan 160 mg; amlodipine 10 mg, meloxicam 15 mg daily





Medical Hx: GDM w/2 of 3 pregnancies, HTN, chronic back pain

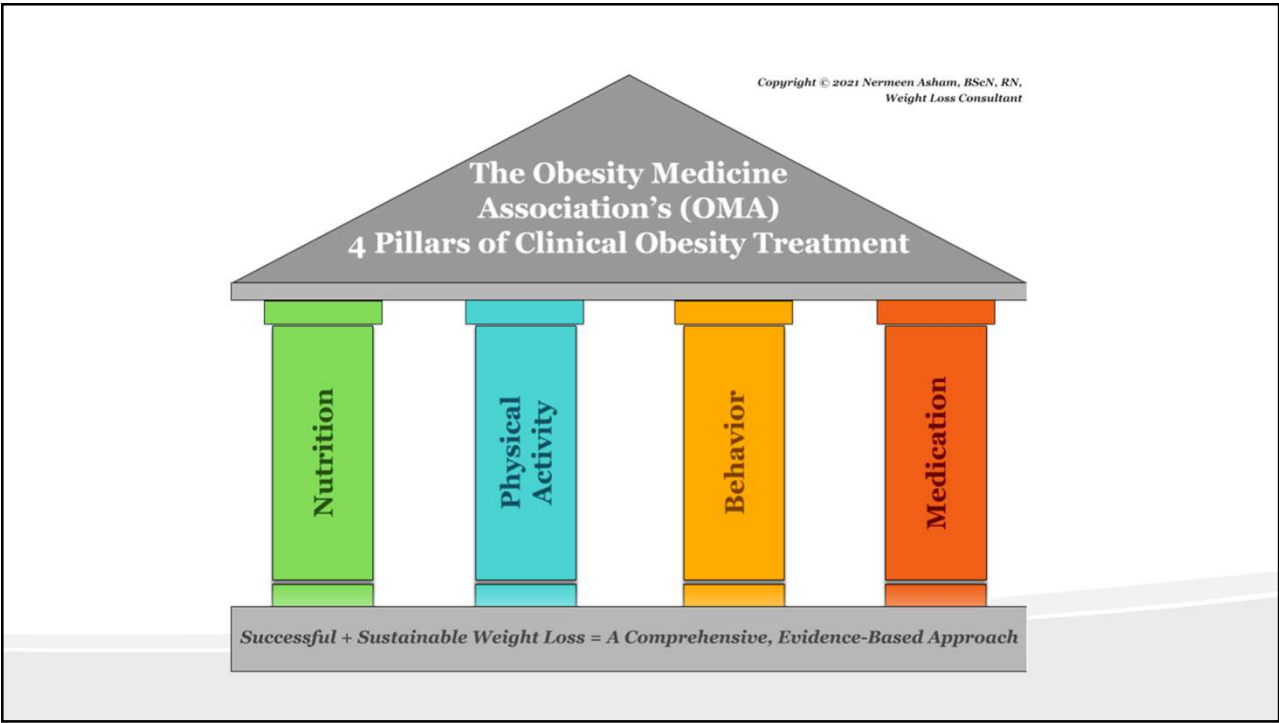
FH: Mother-type 2 diabetes, HTN, hyperlipidemia, osteoarthritis, obesity; Father-deceased at age 39 from MI

Lifestyle factors: Single mom; 3 kids age 8-14; CNA; night shift; frequently skips meals and rarely cooks; dinner often at mom's house; snacks overnight at work on snacks she takes with her; no high calorie or alcoholic beverages.

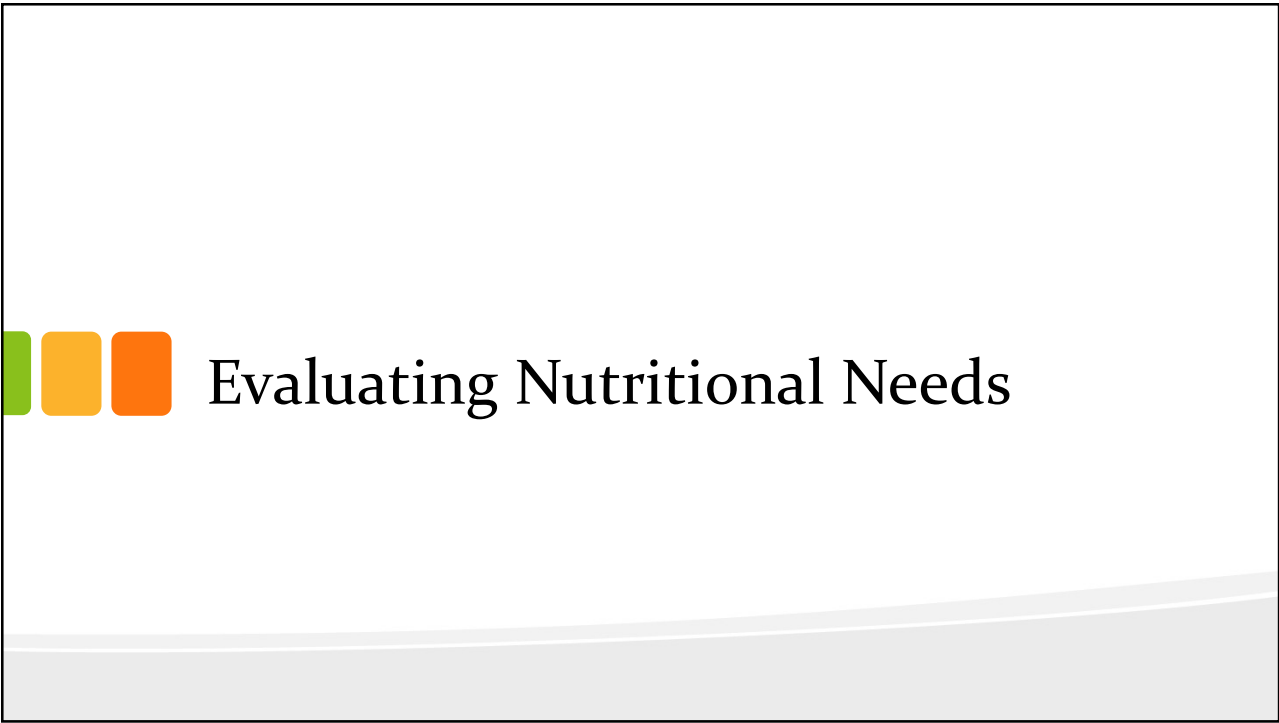


Objectives

-  Evaluate the nutritional needs of an individual with obesity
-  Recognize the advantages and disadvantages of common nutrition approaches for weight loss
-  Identify resources that promote adherence and patient success with nutrition interventions
-  Formulate an individualized nutrition treatment plan









**Evidence shows
that energy deficit
is the most
important factor
for weight loss.**





Mifflin-St Jeor Equation

Tool to predict daily energy expenditure in healthy adults.

Females: $(10 * \text{weight [kg]}) + (6.25 * \text{height [cm]}) - (5 * \text{age [years]}) - 161$

Males: $(10 * \text{weight [kg]}) + (6.25 * \text{height [cm]}) - (5 * \text{age [years]}) + 5$

Multiply by scale factor for activity level:

Sedentary *1.2

Lightly active *1.375

Moderately active *1.55

Active *1.725

Very active *1.9

<https://www.calculator.net/calorie-calculator.html>

Calculator.net FINANCIAL FITNESS & HEALTH

home / fitness & health / calorie calculator [Print](#)

Calorie Calculator

Result

Basal Metabolic Rate (BMR) **1,407** Calories/day

US Units Metric Units Other Units

Age: 48 (ages 15 - 80)

Gender: male female

Height: 5 feet 5 inches

Weight: 171 pounds

Activity: Basal Metabolic Rate (BMR)

Settings

Results unit: Calories Kilojoules

BMR estimation formula: Mifflin St Jeor Revised Harris-Benedict Katch-McArdle [Body Fat](#) 20 %

- Exercise: 15-30 minutes of elevated heart rate activity.
- Intense exercise: 45-120 minutes of elevated heart rate activity.
- Very intense exercise: 2+ hours of elevated heart rate activity.



Calorie Calculator

[Print](#)

Result

Basal Metabolic Rate (BMR) **1,407**
Calories/day

US Units Metric Units Other Units

Age ages 15 - 80

Gender male female

Height feet inches

Weight pounds


Activity
Basal Metabolic Rate (BMR)
Sedentary: little or no exercise
Light: exercise 1-3 times/week
Moderate: exercise 4-5 times/week
Active: daily exercise or intense exercise 3-4 times/week
Very Active: intense exercise 6-7 times/week
Extra Active: very intense exercise daily, or physical job

Revised Harris-Benedict

Katch-McArdle Body Fat %

- Exercise: 15-30 minutes of elevated heart rate activity.
- Intense exercise: 45-120 minutes of elevated heart rate activity.
- Very intense exercise: 2+ hours of elevated heart rate activity.

<https://www.calculator.net/calorie-calculator.html>



Calorie Calculator [Print](#)


Result

The results show a number of daily calorie estimates that can be used as a guideline for how many calories to consume each day to maintain, lose, or gain weight at a chosen rate.

Maintain weight	1,934 100% Calories/day
Mild weight loss 0.5 lb/week	1,684 87% Calories/day
Weight loss 1 lb/week	1,434 74% Calories/day
Extreme weight loss 2 lb/week	934 48% Calories/day

Please consult with a doctor when losing 2 lbs or more per week since it requires that you consume less than the minimum recommendation of 1,200 calories a day.
[Show info for weight gain](#)

<https://www.calculator.net/calorie-calculator.html>



48 y.o. female presents as a new patient because she “cannot lose weight.” **Lost only 6 pounds in 12 wks.** with lifestyle interventions. Goal wt 145 lbs.

Ht: 65 in Wt: 171 lbs. BMI 28.5 BP 128/78 HR 72 Goal wt 145 lbs

PMH: HTN recently started on lisinopril 10/12.5 mg after BP failed to normalize with lifestyle interventions.

Lifestyle interventions:

Diet: **1650 calorie** restricted diet using smart phone app to track intake; Meets calorie restriction 85-90% of days.

Exercise: 3-4 days per week 30-45 min. Includes a variety of activities (walking/elliptical, group exercise, light weights)

Pertinent lifestyle history: Has a goal to stop blood pressure medication. Elevated blood pressure 10 years ago that she was able to normalize with weight loss and high intensity exercise. Weight regain began 3 years ago after severe LE injury that has limited her to low intensity exercise. A promotion 18 mo. ago has meant more travel and increased frequency of dining out.

Sedentary Activity

Calorie Calculator

Result

The results show a number of daily calorie estimate calories to consume each day to maintain, lose, or gain weight.

Maintain weight	1,688	100%
Mild weight loss 0.5 lb/week	1,438	85%
Weight loss 1 lb/week	1,188	70%
Extreme weight loss 2 lb/week	688	41%

Please consult with a doctor when losing 1 lb or more than the minimum recommendation of 1,200 calories per day.

Light Activity

Calorie Calculator

Result

The results show a number of daily calorie estimate calories to consume each day to maintain, lose, or gain weight.

Maintain weight	1,934	100%
Mild weight loss 0.5 lb/week	1,684	87%
Weight loss 1 lb/week	1,434	74%
Extreme weight loss 2 lb/week	934	48%

Please consult with a doctor when losing 2 lbs or more less than the minimum recommendation of 1,200 calories per day.

Moderate Activity

Calorie Calculator

Result

The results show a number of daily calorie estimate calories to consume each day to maintain, lose, or gain weight.

Maintain weight	2,061	100%
Mild weight loss 0.5 lb/week	1,811	88%
Weight loss 1 lb/week	1,561	76%
Extreme weight loss 2 lb/week	1,061	51%

Please consult with a doctor when losing 2 lbs or more less than the minimum recommendation of 1,200 calories per day.

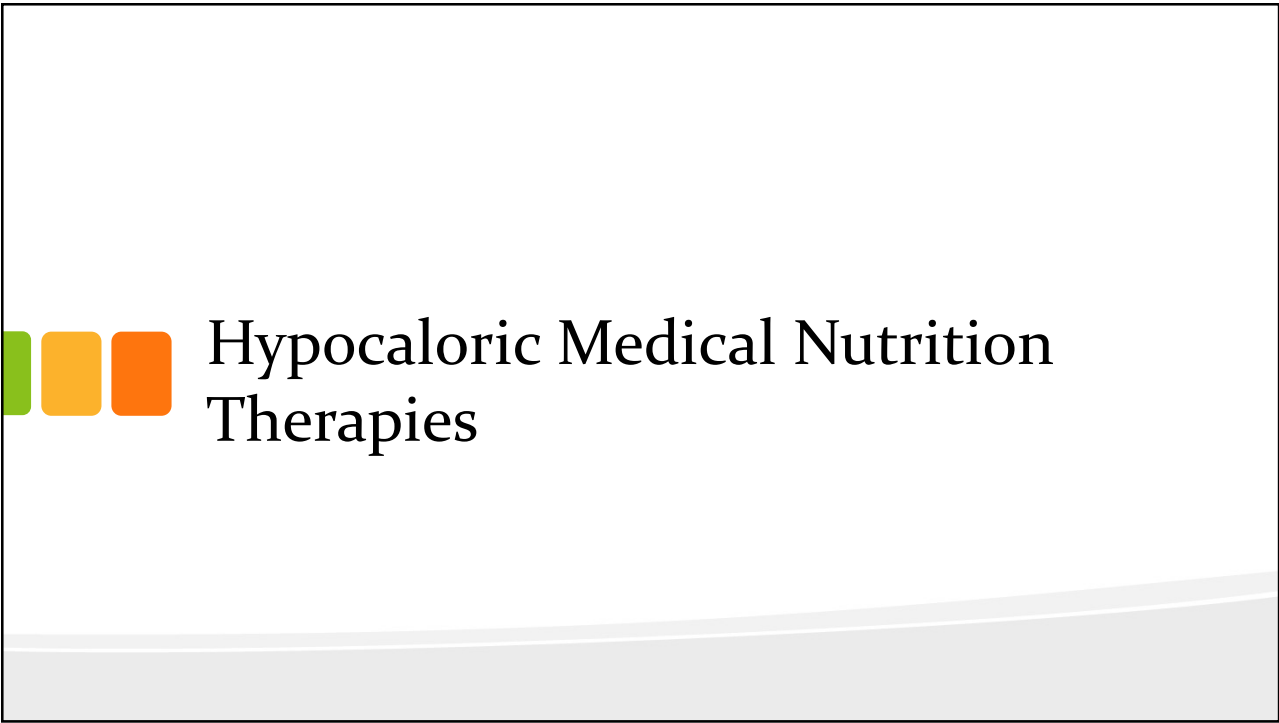
**Recommendation:
1200-1400 Calorie Restricted Diet**

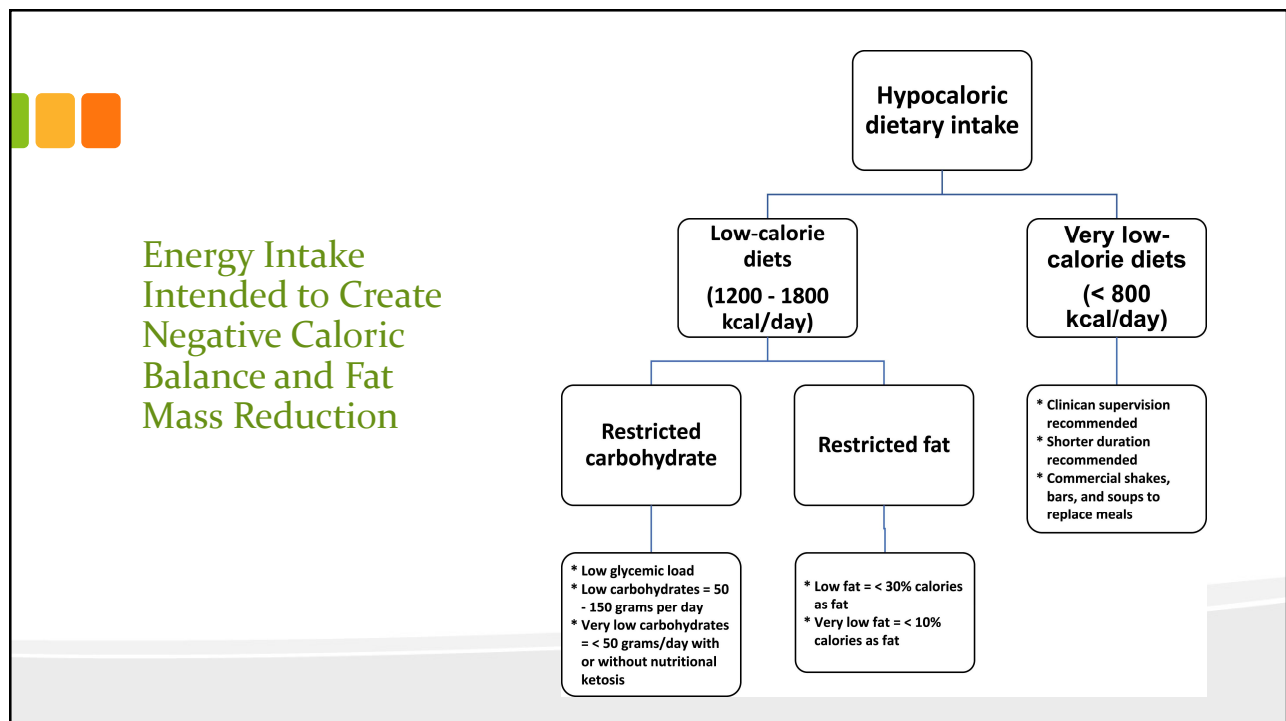
<https://www.calculator.net/calorie-calculator.html>


Dietary Reference Intakes (DRIs): Acceptable

Macronutrients for Adults

Macronutrient	Range (% of Energy)	Grams/day
Fat (9 kcal/g)	20-35	30
Omega 6 polyunsaturated fatty acids	5-10	
Omega 3 polyunsaturated fatty acids	0.6-1.2	
Carbohydrate (4 kcal/g)	45-65	130 g/day
Protein (4 kcal/g)	10-35	0.8 to 2.0 grams/kg/day
Alcohol (7 kcal/g)		







Low Calorie Diets : Restricted Carbohydrate

Daily restriction

- Low 50-150 g/day
- Very low <50 g/day


Expectations

- > weight loss in 1st 6 mo.
- ↓ fasting glucose, insulin, TG, and BP
- ↑ HDL, LDL

} independent of weight loss

Challenges


- Malaise, carbohydrate cravings as initiated
- Gout flare
- Not appropriate if medical need for protein restriction
- Hypoglycemia/Hypotension (if DM/HTN treatment)



Low Calorie Diets : Restricted Fat

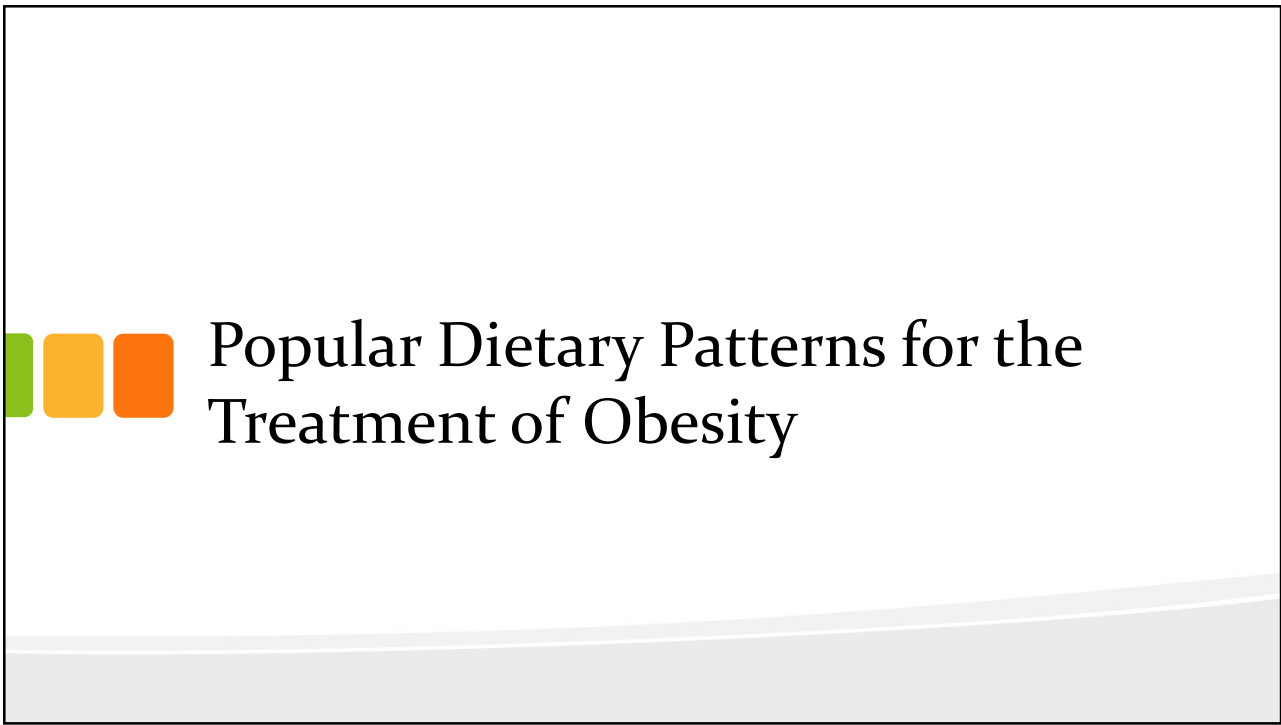
- Daily restriction**
 - 10-30% of total daily calories
- Expectations**
 - Slower/less weight loss in 1st 6 mo. then equivocal
 - ↓ fasting glucose, insulin, and BP
 - ↓ HDL, LDL

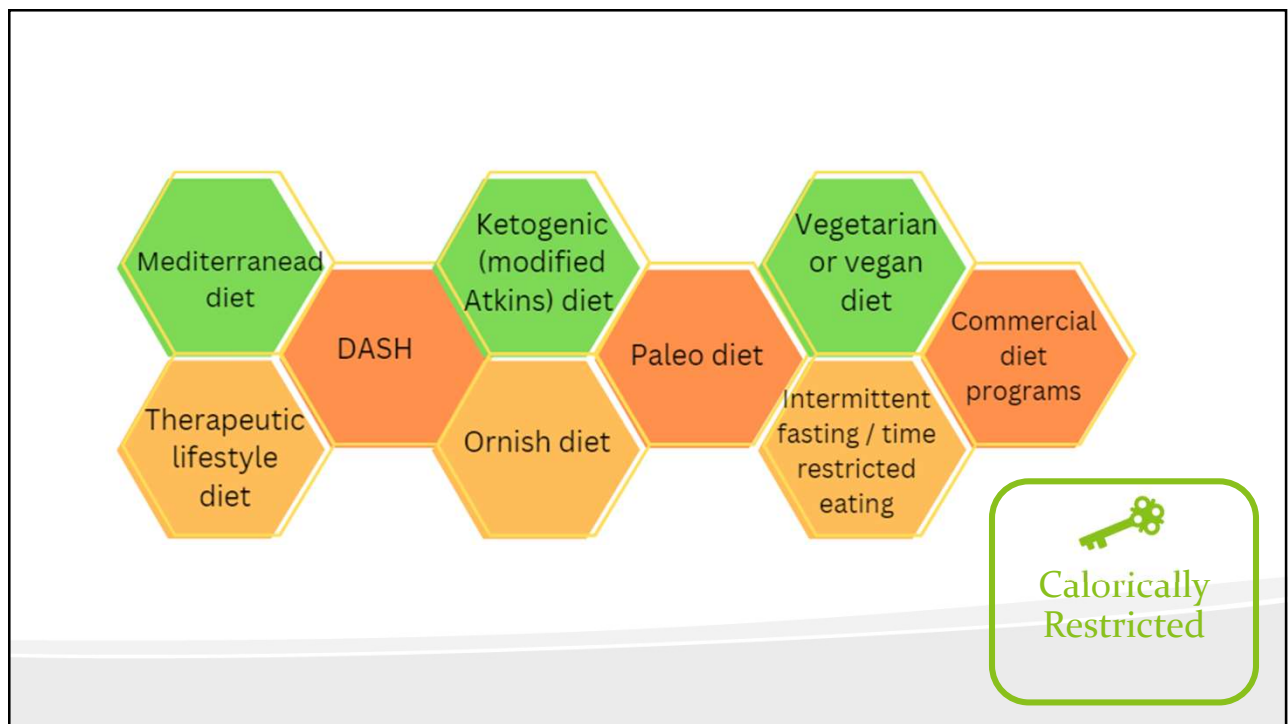
} weight loss dependent
- Challenges**
 - Hunger control
 - ↑ glucose, insulin, TG and ↓ HDL




Very Low Calorie Diets (VLCD)

- <800 calories/day
 - Specifically formulated meal replacement products
- Expectations
 - Rapid weight loss
 - ↓ fasting glucose, insulin, LDL and BP; ↑ HDL
- Challenges
 - Fatigue, nausea, constipation, diarrhea, hair loss, brittle nails, cold intolerance, dysmenorrhea
 - Risk for gallstones, kidney stones and gout flares
 - ↑ Hypoglycemia/Hypotension (if DM/HTN treatment)
 - Palpitations, cardiac dysrhythmias and muscle cramps
 - Weight regain







Ketogenic Diet (Keto or Modified Atkins Diet)


Carbohydrate restrictive diet that promotes use of fat for energy and generates ketosis

Encouraged

- 20g (induction) to 60-90 g (maintenance) carbohydrate daily
- Adequate protein
- Balance of saturated, monounsaturated and polyunsaturated fatty acids

Discouraged

- Ultra processed/refined foods, high glycemic index foods
- Trans fatty acids
- Cereals, breads, grains (except cheese), starchy vegetables, and most fruits (liberalized in maintenance)



Ketogenic Diet (Keto or Modified Atkins Diet)


Carbohydrate restrictive diet that promotes use of fat for energy and generates ketosis

Advantages

- Clinically meaningful weight loss
- Reduced hunger
- Metabolic improvement-glucose/insulin, DBP, TG, HDL
- Seizure disorders, cancer

Disadvantages

- ↑ LDL (marked increase rare)
- Insulin sensitivity improvement dependent on weight reduction
- Transient fatigue and decrease in mental cognition



Mediterranean Diet

Primarily plant-based eating plan with sufficient scientific evidence for risk reduction of CVD, obesity, type 2 diabetes, metabolic syndrome and obesity

Encouraged

- Olive oil as main source of fat
- Vegetables, fruit, legumes, whole grains, nuts, seeds
- Red wine (in moderation)
- Moderate intake of seafood, fermented dairy products poultry and eggs

Discouraged

- Red meat, processed meat
- Ultra-processed carbohydrates
- Saturated fats



Mediterranean Diet

Primarily plant based eating plan with sufficient scientific evidence for risk reduction of CVD, obesity, type 2 diabetes, metabolic syndrome and obesity

Advantages

- Fat intake: ↓ saturated fat, ↑ Omega-3 fatty acids
- Disease risk reduction

Disadvantages

- Modest weight loss
- Cost/access to preferred food choices



Comparison of dietary foods between Mediterranean and Western Diets.

Foods	Mediterranean Diet	Western Diets
Vegetables	Every main meal (≥ 2 servings)	Rarely
Fruits	Every main meal (1–2 servings)	Rarely
Bread/pasta/rice/couscous/other cereals	Every main meal (1–2 servings, preferably whole grain)	Rarely whole grain cereals, often refined grains
Olive Oil	Every main meal (3–4 servings, especially extra virgin)	Rarely olive oil, often replaced by margarine and butter
Nuts/seeds/olives	Every day (1–2 servings)	Occasionally
Dairy Foods	Every day in moderate portions (2 servings, preferably low fat)	Often high fat dairy foods
Herbs/spices/garlic/onions	Every day (less added salt)	Less often
Legumes	Weekly (≥ 2 servings)	Less often
Potatoes	Weekly (≤ 3 servings)	Less often
Eggs	Weekly (2–4 servings)	Less often
Fish/seafood	Weekly (≥ 2 servings)	Less often
White meat	Weekly (2 servings)	Less often
Red meat	Weekly (< 2 servings)	Often
Processed meat	Weekly (≤ 1 serving)	Often
Sweets	Weekly (≤ 2 servings)	Often

Obesity and the Mediterranean Diet: A Review of Evidence of the Role and Sustainability of the Mediterranean Diet - Scientific Figure on ResearchGate. Available from: https://www.researchgate.net/figure/Comparison-of-dietary-foods-between-Mediterranean-and-Western-Diets_tbl1_333685197 [accessed 3 Mar, 2024]


Mediterranean Diet Pyramid

- Less Often**
Meats and Sweets
- Weekly: Moderate Portions**
Poultry, Eggs, Cheese and Yogurt
- Often: at least Twice each Week**
Fish and Seafood
- Every Day: Base Each Meal Around these Foods**
Vegetables, Fruits, Whole Wheat Grains, Olive Oil, Beans, Nuts, Legumes and Seeds, Herbs and Spices
- Every Day**
Be Physically Active; Enjoy Meals with Others

In Moderation — Wine

Every Day — Water

Illustration by George Nollman
© 2009 Oldways Preservation and Exchange Trust • www.oldwayspt.org



DASH Diet


“Dietary Approaches to Stop Hypertension” – Diet pattern promoted to treat high blood pressure.

Encouraged

- Vegetables, fruits, and whole grains
- Fat-free or low-fat dairy products
- Fish, poultry, and lean meats
- Nuts, seeds, and legumes
- Fiber
- Minerals: calcium, potassium, magnesium

Discouraged

- Limit sodium: 1,500 - 2,300 mg per day
- Limit total fat: ~27% of total daily calories.
- Limit saturated fat: <6% of total daily calories
- Limit cholesterol: 150 mg (for 2,100 kcal/d)
- Avoid red and processed meats
- Avoid sugar sweetened beverages
- Avoid food with added sugars



DASH Diet


“Dietary Approaches to Stop Hypertension” – Diet pattern promoted to treat high blood pressure.

Advantages

- May reduce CVD risk
- May improve blood pressure and dyslipidemia

Disadvantages

- Challenging to maintain
- Eliminates most convenience foods
- Limited weight loss



Vegetarian Diet

Primarily plant based dietary intervention.
Multiple variants.

Encouraged

- Vegetables
- Fruits
- Whole grains
- Legumes
- Seeds, nuts
- Variants may include eggs, milk, seafood, and occasional poultry

Discouraged

- Animal protein (variable per variant)




Vegetarian Diet Variants. Common variants of the vegetarian diet, including veganism, lacto-vegetarianism, lacto-ovo vegetarianism, pescatarianism, and flexitarianism [77,78].

VEGETARIAN DIET VARIANTS

Vegan (“total vegetarian”)	Only plant-based foods (e.g., fruits, vegetables, legumes, grains, seeds, and nuts) with no animal proteins or animal by-products, such as eggs, milk, or honey
Lacto-vegetarian	Plant foods plus some or all dairy products (e.g., cheese)
Lacto-ovo vegetarian (or ovo-lactovegetarian)	Plant foods, dairy products, and eggs
Semi- or Partial Vegetarian	Plant foods and may include chicken or fish, dairy products, and eggs, but not red meat
Pescatarian	Plant foods and seafood
Flexitarian	Mostly plant-based foods (minimally processed), with occasional fish, meat, and animal products in moderation

Lydia Alexander, Sandra M. Christensen, Larry Richardson, Amy Beth Ingersoll, Karli Burr ridge, Angela Golden, Sara Karjoo, Danielle Cortez, Michael Shelver, Harold Edward Bays; Nutrition and physical activity: An Obesity Medicine Association (OMA) Clinical Practice Statement 2022, Obesity Pillars, Volume 1, 2022, 100005, ISSN 2667-3681, <https://doi.org/10.1016/j.obpill.2021.100005>.



Vegetarian Diet


Primarily plant based dietary intervention.
Multiple variants.

Advantages

- Reduced risk of CVD, heart failure
- Beneficial effects on metabolic disease, cancers, all- cause mortality
- Promotes weight loss maintenance

Disadvantages

- Health benefits may be negated by energy dense, ultra-processed plant-based foods
- Vitamin/mineral deficiencies



Therapeutic Lifestyle Change Diet (TLC)

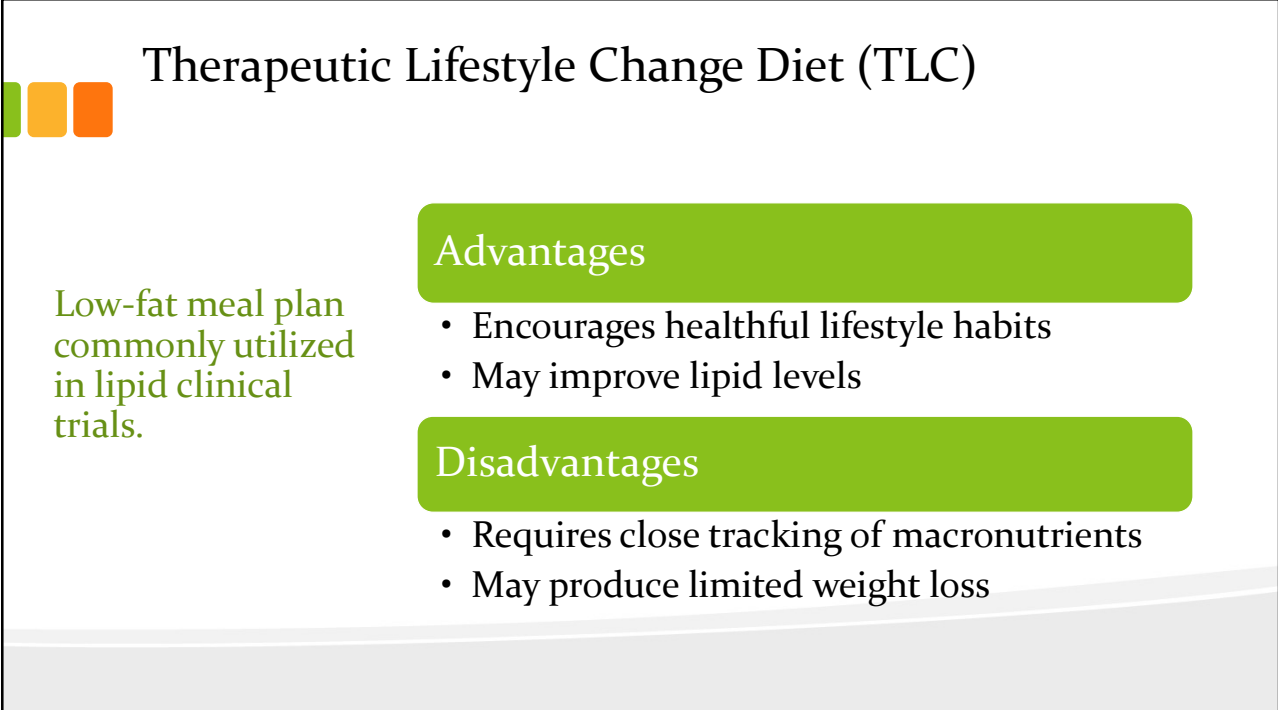
Low-fat meal plan commonly utilized in lipid clinical trials.

Encouraged

- Total fat: 25–35% of daily calories
 - PUFA: Up to 10% of daily calories
 - MUFA: Up to 20% of daily calories
- Carbohydrate: 50% to 60% of total calories
- Soluble fiber: min. 5–10 g/day, pref. 10–25 g/day
- Plant stanols or sterols 2 g/day

Discouraged

- Limit saturated fat: < 7% of total calories
- Limit cholesterol: < 200 mg a day
- Avoid foods with trans fatty acids.



Therapeutic Lifestyle Change Diet (TLC)

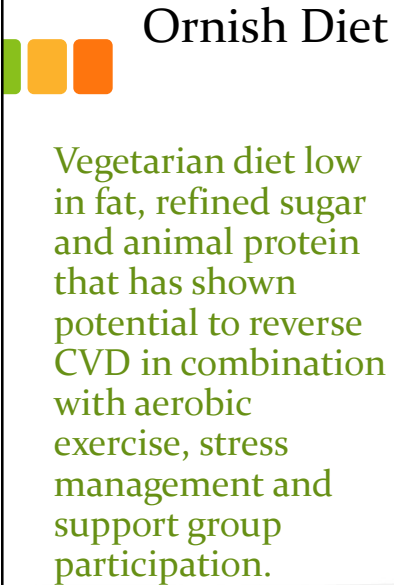
Low-fat meal plan commonly utilized in lipid clinical trials.

Advantages

- Encourages healthful lifestyle habits
- May improve lipid levels

Disadvantages

- Requires close tracking of macronutrients
- May produce limited weight loss



Ornish Diet


Vegetarian diet low in fat, refined sugar and animal protein that has shown potential to reverse CVD in combination with aerobic exercise, stress management and support group participation.

Encouraged

- Foods eaten in natural form
- Vegetables, fruits, whole grains, and legumes
- 1 serving soy product daily
- Limited green tea
- Fish oil 3-4 g/day
- Small frequent meals

Discouraged

- Limit dietary fat: < 10% of daily calories
- Limit dietary cholesterol: 10 mg per day
- Limit sugar, sodium, and alcohol
- Avoid animal products (including fish)
- Avoid caffeine (except green tea)
- Avoid trans fatty acids
- Avoid refined carbohydrates and oils



Ornish Diet


Vegetarian diet low in fat, refined sugar and animal protein that has shown potential to reverse heart disease in combination with aerobic exercise, stress management and support group participation.

Advantages

- May reduce (reverse) CVD

Disadvantages

- Very restrictive
- Difficulty to maintain long term
- Limited weight loss



Paleolithic Diet


Eating plan patterned on the diet presumed to be eaten in the paleolithic period.

Encouraged

- Fresh vegetables, fruits, and root vegetables
- Grass-fed lean red meats
- Fish/seafood
- Eggs
- Nuts and seeds
- Naturally produced oils

Discouraged

- Cereal grains
- Legumes, including peanuts
- Dairy products
- Potatoes
- Ultra-processed foods
- Refined sugar, refined vegetable oils, and salt



Paleolithic Diet


Eating plan patterned on the diet presumed to be eaten in the paleolithic period.

Advantages

- Reduced intake of preservatives, fillers, and non-natural additives
- Anti-inflammatory
- Improved satiety
- May promote weight loss, ↑ insulin sensitivity, ↓ BP

Disadvantages

- Cost/access to appropriate food choices
- Difficult for vegetarians
- Limited weight loss



Intermittent Fasting/Time Restricted Eating


Periods of not eating that limit overall intake used therapeutically with the intent to avoid malnutrition

Periodic Fasting

- Limited food for >2 consecutive days
- 1 week of normal eating

Intermittent Fasting

- Limited food intake on certain days
 - 5:2 – limited x 2 d; normal x 5 d
 - 2:1 – limited x 1 d; normal x 2 d
 - 1:1 – limited normal in equal durations
- Time Restricted Feeding
 - food limited to a fixed period during the day



Intermittent Fasting/Time Restricted Eating

Periods of not eating that limit overall intake used therapeutically with the intent to avoid malnutrition

Advantages

- Reduced “decision fatigue”
- Quickly reversible
- Overall reduced caloric intake
- Metabolic improvement: weight, insulin sensitivity, BP, lipids, inflammatory markers

Disadvantages

- No emphasis on healthful food choices
- Caution with comorbid eating disorders
- Hypoglycemia risk
- Unknown if provides sustained disease improvement
- Risk of gout, nephrolithiasis , postural hypotension and cardiac dysrhythmias w/prolonged fasting



Commercial Diet Programs

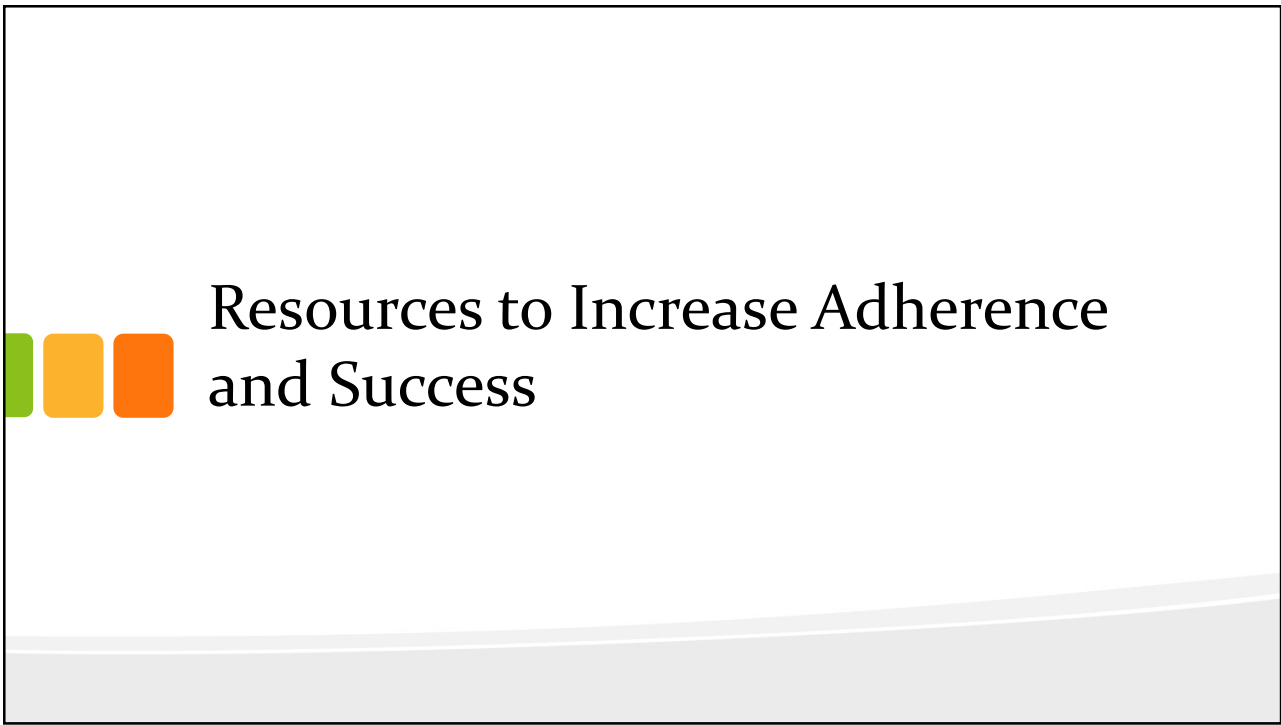
These options usually provide resources such as pre-packaged meals, menus, diet plans, support and more. They traditionally use a 1,000 to 1,500 calorie-per-day diet plan

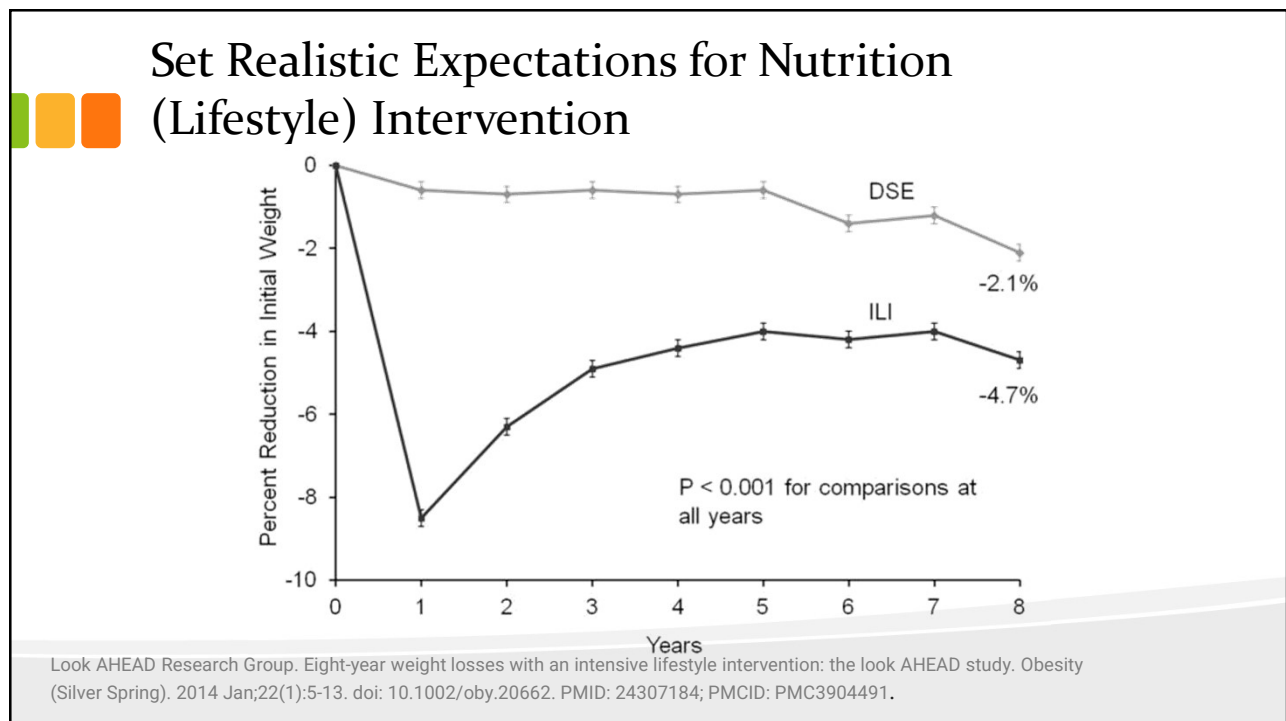
Advantages

- Reduced need for planning
- Support (virtual, face to face, technology)
- Apps/guides for added support

Disadvantages

- Cost
- Minimal medical studies
- Risk of weight regain if program discontinued
- Minimal support for food selection outside of prescribed meal plan







Set Realistic Expectations for Nutrition (Lifestyle) Intervention

Case #1:

Wt: 171 lbs. BMI 28.5
Goal Wt: 145 lbs; BMI
24.5

Desired:

- 26 lbs (15%)

Expected:

- 1 yr - 14 lbs
- 8 yr - 8 lbs

Case #2

Wt: 286 lbs. BMI 44.8
Goal: BMI <35; <223 lbs

Desired

- 64 lbs (22 %)

Expected

- 1 yr = 24 lbs
- 8 yr = 13 lbs



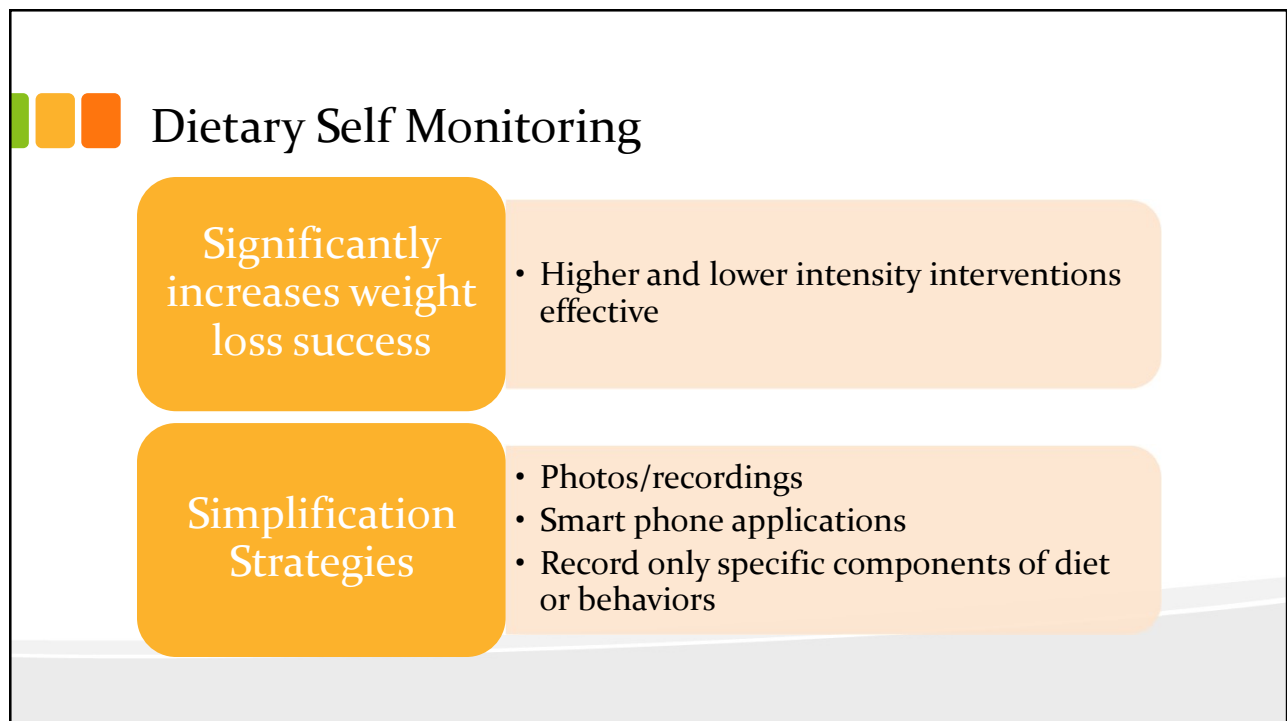
Registered Dietitian Nutritionist (RDN)

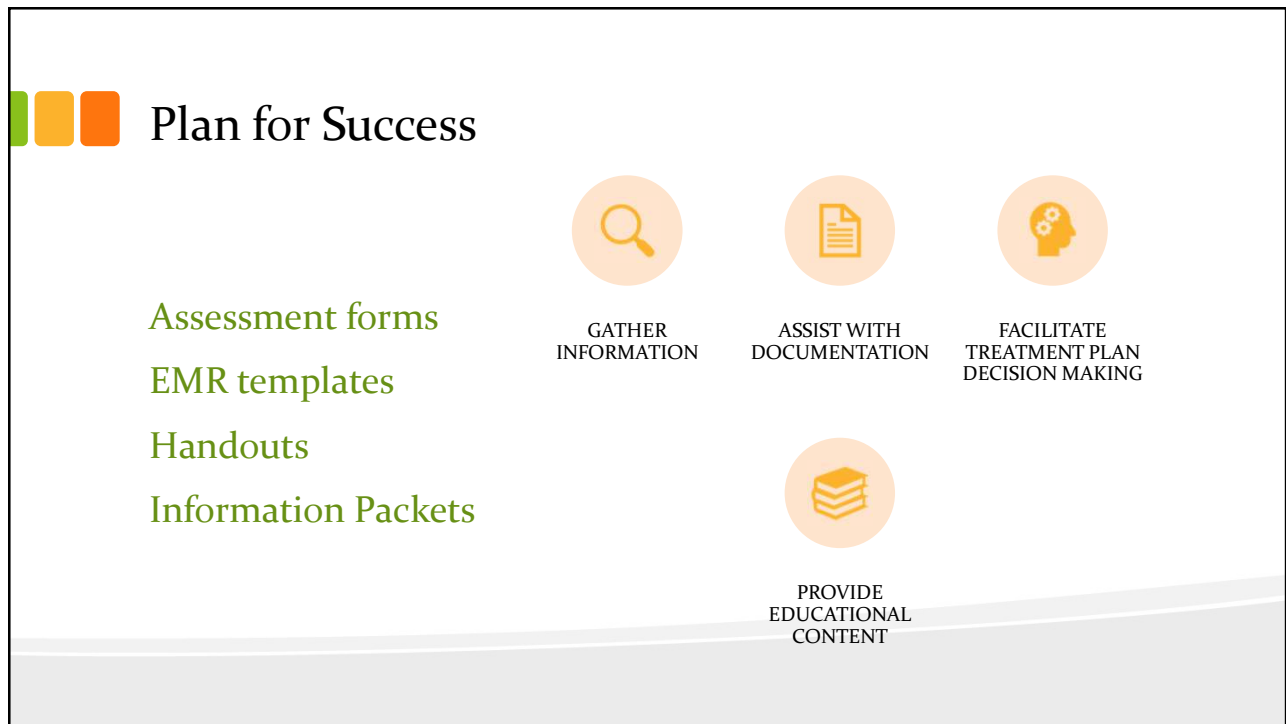
- Establish relationship
- Specialization
 - Certificate of Training in Adult/Pediatric Weight Management
 - Certified Specialist in Obesity and Weight Management
- Dose of Intervention
 - 5+ contacts
 - 12 months in duration
 - ongoing contact Q3 mo for as long as desired by client



Intensity of Intervention

- Frequency of contact is important to outcomes
- Intensity
 - High intensity = ≥ 14 sessions in 6 month
 - Moderate = 1-2 sessions /month
 - Low intensity = less-than-monthly sessions
- Comprehensive lifestyle intervention
 - Multiple team members may provide contact
- Weight loss maintenance program for 2.5 years reduces weight regain






Plan for Success

- Assessment forms
- EMR templates
- Handouts
- Information Packets

- GATHER INFORMATION
- ASSIST WITH DOCUMENTATION
- FACILITATE TREATMENT PLAN DECISION MAKING
- PROVIDE EDUCATIONAL CONTENT

The graphic features a title 'Plan for Success' with three colored squares (green, yellow, orange) to its left. Below the title are four green text items: 'Assessment forms', 'EMR templates', 'Handouts', and 'Information Packets'. To the right, there are four orange circular icons, each with a corresponding text label below it: a magnifying glass for 'GATHER INFORMATION', a document for 'ASSIST WITH DOCUMENTATION', a head with gears for 'FACILITATE TREATMENT PLAN DECISION MAKING', and a stack of books for 'PROVIDE EDUCATIONAL CONTENT'. The bottom of the graphic has a grey gradient background.



Assessment Form

Dietary/Nutritional History

Current Eating Routines/Habits:
 Eat 3 meals a day Frequent Snacker Binge Eater Emotional Eater Healthy Eater
 Eat more than 3 meals a day Skip meal often/Eat 1 time/day Wake overnight to eat
 other _____

Dietary restrictions: none yes, specify: _____

Beverage Intake:
 Regular Intake of High Sugar Drinks (regular soda, lemonade, Kool-Aid etc) Regular Intake of Fruit Juice
 >12 oz Milk-Based Beverages Daily >12 oz Caffeinated Beverages Daily >80 oz Water Daily
 Often Don't Drink Any Fluids During the Day Regular Intake of Beverages Containing Sugar Substitutes
 >3 Servings of Alcohol Containing Beverages Weekly

What time of the day are you usually the hungriest? Morning Afternoon Evening Late Night


What meal of the day is the largest? Breakfast Lunch Dinner

What approaches to healthy lifestyle or weight management have you tried in the past:
Mark Y for what worked, Mark N for what did NOT work, and Mark X for what does NOT apply to you.

Limiting portion size Using meal replacements Tracking food/activity Cooking meals at home
 Avoiding sugary food/drinks Increased Exercise Keto/Paleo/Whole 30 Low Fat Diet
 OTC med/supplement Prescription medication Commercial Weight Loss Program Bariatric Surgery

Handouts & Informational Packets

- Overview
 - Assist in decision making
- Packets
- Informational on individual topics


BALANCE
NUTRITION & WELLNESS

Diet Strategies for Weight Loss

Medical research has proven that dietary changes and calorie restriction are a critical factor for successful weight loss however no single dietary approach has proven superior to another in producing weight loss. Many diet strategies are successful. The most important thing is to find an approach that fits your life and health goals. Below is an abbreviated description of common dietary approaches to consider as you begin your weight loss journey. Diets can and should be adjusted regularly to meet your changing needs and make challenges more manageable.

Calorie or Macro nutrient Tracking

- Track daily food intake on paper or with a smart device
- Individualized calorie or macronutrient goals set to meet health and weight loss goals
- Minimally restrictive, self-directed, very flexible
- Smart device apps contain features that lower daily burden of tracking
- Tracking can be done continually, cyclically or for short focused periods of time
- Low calorie, low fat and moderately low carbohydrate diets are examples of this approach

Calorie Budget

- A strategy to track of your daily calorie intake without having to log every item eaten
- Each day is broken into a consistent eating pattern and calorie allotments are assigned to each time of eating
- Must use resources to determine calorie content of foods at the time of eating
- Preserves variety in the diet but requires a more scheduled eating pattern


Partial Meal Replacement

- Daily intake commonly includes 2 liquid meal replacement meals, a third meal chosen according to specific guidelines and 2-3 snacks
- Low or very low daily calorie intake while maintaining adequate nutrition
- Minimal meal planning, no requirement for tracking intake
- Flexibility with meal and snack timing
- Many ways to modify the diet based on success and challenges
- Slow transition to a diet with increased variety as health and weight loss goal are attained

Dietary Pattern Based Diet

- Meals and snacks are planned by choosing a prescribed number of servings from food lists
- Foods in each food list share similar nutrient profiles at standard portion size
- Logging intake is important when initiating this approach but as the pattern is learned may be relaxed if progress towards goals is maintained
- Pattern based diets can be designed to meet guidelines for a standard balanced diet, Mediterranean diet, DASH diet, low carbohydrate diet, ketogenic diet, or many others

Page 1 of 2


BALANCE
NUTRITION & WELLNESS

Intermittent Fasting

- A diet approach that involves cycling between periods of fasting and eating
- Fasting strategies vary from frequent short fasts (12-20 hours daily) to less frequent longer fasts (24 hours several days per week/month)
- Consistency with the fasting eating regimen over a long period of time is a key factor to success
- Intermittent fasting is often combined with another approach used during the eating window to ensure quality nutrition to allow for weight loss

Commercial Weight Loss Plans



- Brand name diet programs such as Weight Watchers, Jenny Craig, South Beach, Atkins, Whole 30, Optavia, Gena, NODMI etc.
- Significant variability in health benefits and dietary approaches
- Many programs are available based on good science and nutrition
- High risk of weight regain when the program ends or a stopgap transition strategy is critical
- Cost and program burden are common barriers to long-term participation

Page 2 of 2

Handouts & Informational Packets

- Overview
 - Assist in decision making
- Packets
- Informational on individual topics

Which Foods Have Carbohydrates?

Foods Highest in Carbohydrates	Foods Lowest in Carbohydrates
 <p>Consuming high amounts of these foods will INCREASE your blood sugar!</p> <ul style="list-style-type: none"> ▲ Breads, White/Wheat Bread, Oatmeal, Dry Cereals, Grits, Cream of Wheat, Crackers, Granola ▲ Spaghetti Noodles, White/Brown rice, Whole Wheat Pasta, Barley ▲ Starchy Vegetables (Corn, White/Sweet Potatoes, Pumpkin, Peas, Cooked Carrots) ▲ Beans (navy, black, pinto, garbanzo, butter, kidney), Lentils ▲ Milk (2%, whole, skim), Low-fat Yogurt, Chocolate Milk ▲ All Fruit and Fruit Juices ▲ Sweets (cakes, cookies, ice cream, jam and jelly, chocolates, pastries), Sugary Drinks, Sodas, Sport Drinks 	 <p>Consuming these foods will have the LEAST impact on your blood sugar.</p> <ul style="list-style-type: none"> ▲ Meats (pork, beef, chicken, turkey, fish, crab, shrimp, lunch meat) ▲ Eggs ▲ Unsweetened Beverages (coffee, tea, diet soda) ▲ Cheese (Swiss, mozzarella, feta, cheddar) ▲ Non-Starchy Vegetables (broccoli, lettuce, cucumber, see Starchy vs. Non-Starchy Vegetable handout) ▲ Fats & Oils (olive oil, vegetable oil, avocado, olives, mayonnaise, salad dressings) <p><i>Use fats and oils in small quantities and avoid high fat meals. Fat keeps blood sugar higher longer.</i></p>

How do you figure out how many carbohydrate servings are in your food?

1. Look first at the label's standard serving size.
2. Then check the grams of total carbohydrate. This is the amount of carbohydrate in 1 standard serving.
3. Eat only 1 serving of foods highest in total carbohydrates.

Beware of foods that are sugar-free, low sugar, low-carb, or diet. They may not be carbohydrate free.



Nutrition Facts
Serving Size: 1/2 cup (125g)
Amount Per Serving
Calories 100
Total Fat 5g
Sodium 100mg
Total Carbohydrate 20g
Sugars 10g
Protein 5g



Starchy Vegetables

Starchy vegetables contain a lot of starch, which will raise your blood sugar, and slow down your weight loss.

Chickpeas (Hummus)	Dried beans (black, navy, pinto)
Pickled Beets	Plantains
Sweet Potatoes (Yams)	Winter Squashes (Butternut, Acorn)

Limit amounts of these vegetables, unless your healthcare provider. Strive for a variety of all the colors and varieties of vegetables.

	Anjou
	Broccoli
	Cabbage (all types)
	Celery
	Eggplant
	Leeks
	Onions (all types)
	Radishes
	Sauerkraut
	Turnips
	Yellow/green zucchini or spaghetti squash

 Handouts & Informational Packets

- Overview
 - Assist in decision making
- Packets
- Informational on individual topics



Meal Planning

One of the most vital skills for successful weight loss or weight maintenance is meal planning. If you are struggling with what to eat on your diet or the amount of time it takes to plan or prepare a meal, try some of the tips provided below.

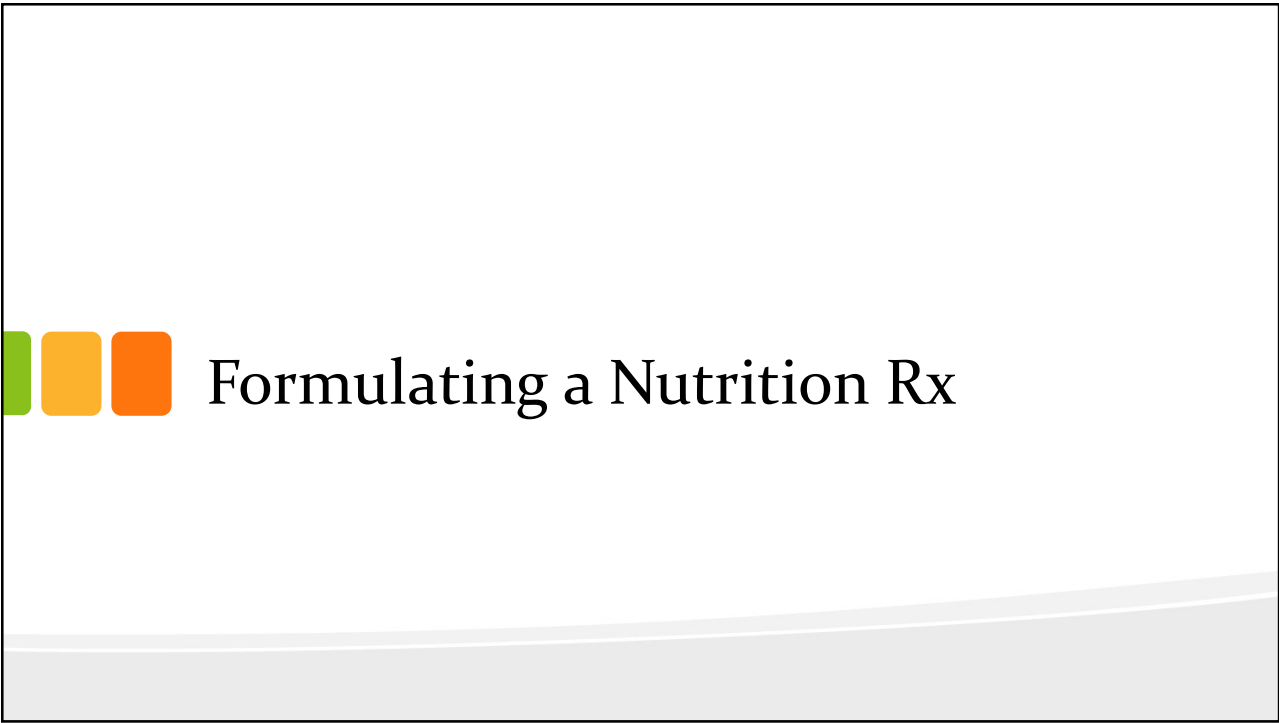
- Prepare meals in bulk so leftovers can be used as additional meals. (For Example: Load your grill with several types of meat on the week you are ready for the upcoming week.)
- Store leftovers in single serving sized disposable tupper-ware like containers or zip top bags for "on demand" meals. You can store complete meals together or items in single servings so you can mix and match meat selections with sides for greater variety.
- Experiment with cooking, do NOT burn yourself out by eating the same thing everyday. You should have a goal of finding 1 new way to prepare a meat and vegetable each week.
- Shop for pre-cooked and easy to prepare items to make food prep easier. (For Example: Pre-cooked fajita chicken, steam in the bag veggies, chopped salad/fruit/veggies)
- If you do not have time or the desire to cook on some days of the week, ahead and dine-out. Be sure to make smart choices by choosing "green" options. If you know the menu well enough, decide what you want to have before entering the restaurant. You can make substitutions to help decrease temptation.



Meal and Snack Timing

Many people struggle with the timing of eating meals and snacks, especially when they are trying to lose weight. The first thing to know is that there is NO one right way. The "right" way is the one that works for you. Use the advice provided below to help you customize and develop your "own way".

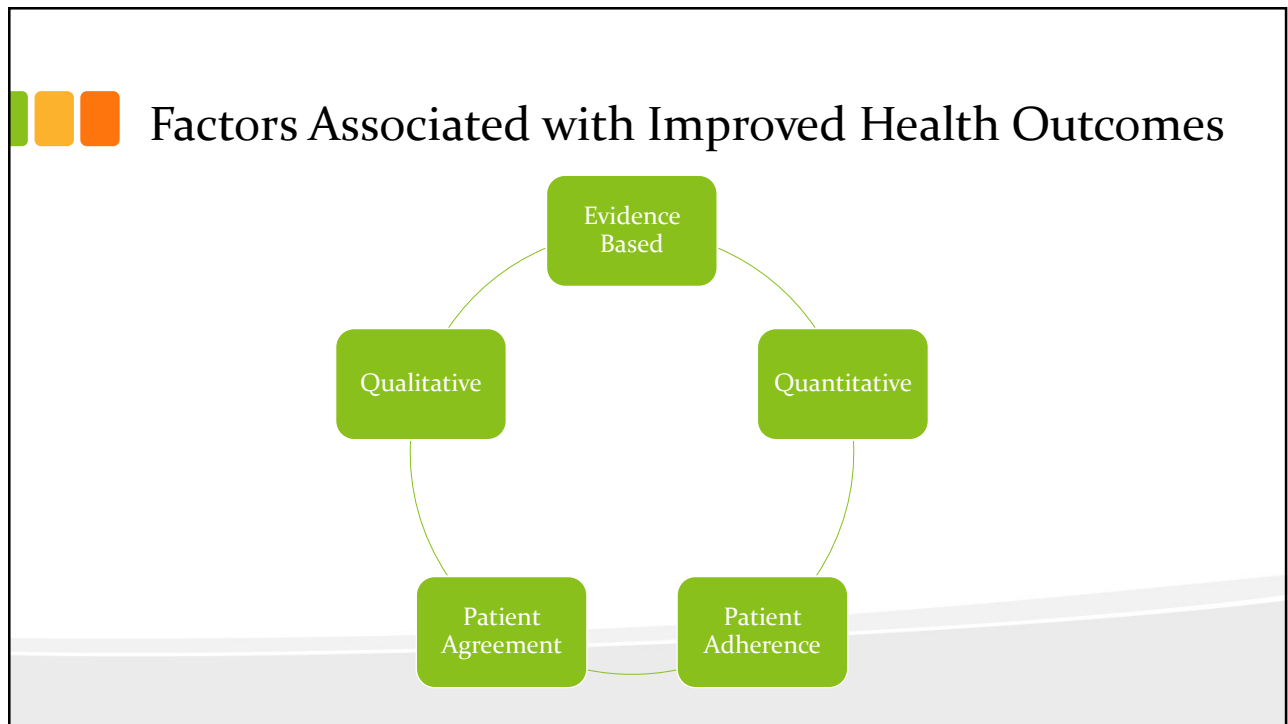
- It is not required that you eat six meals or snacks a day.
- The main idea of eating every 3 to 4 hours is to space out your food intake so you do not overindulge when you are hungry (especially in the evening).
- There is not a set pattern for eating your meals and snacks (example: you can eat snack, snack, meal or snack meal snack).
- There is not a set or scheduled time that your meals and snacks should be eaten. It's important to set your own schedule that you are able to follow (For example: snack at 12pm, lunch at 3pm). Your schedule of eating does not have to be the same everyday.
- If the timing of your meals and snacks continues to be a challenge to your success, be sure to discuss this issue with your health care provider.




Formulating a Nutrition Rx



The most appropriate nutrition therapy for the management of obesity is one that is **safe**, **effective**, and one that the patient is most likely to **adhere**.







48 y.o. female presents as a new patient because she “cannot lose weight.” Lost only 6 pounds in 12 wks. with lifestyle interventions. Goal wt 145 lbs.

Ht: 65 in Wt: 171 lbs. BMI 28.5 BP 128/78 HR 72

PMH: HTN recently started on lisinopril 10/12.5 mg after BP failed to normalize with lifestyle interventions.

Lifestyle interventions:

Diet: 1650 calorie restricted diet using smart phone app to track intake; Meets calorie restriction 85-90% of days.

Exercise: 3-4 days per week 30-45 min. Includes a variety of activities (walking/elliptical, group exercise, light weights)

Pertinent lifestyle history: Has a goal to stop blood pressure medication. Elevated blood pressure 10 years ago that she was able to normalize with weight loss and high intensity exercise. Weight regain began 3 years ago after severe LE injury that has limited her to low intensity exercise. A promotion 18 mo. ago has meant more travel and increased frequency of dining out.

Which initial nutrition advice is most appropriate to aid her in reaching her weight loss goal?

- Start a very low-calorie diet (<800 calories/day)
- Transition to an intermittent fasting diet
- Reduce caloric restriction to 1200-1400 calories daily
- Transition to the DASH (Dietary Approach to Stop Hypertension) Diet

Case #1

35 y.o female presents for weight management.

Key factors: struggled w/weight since early 20's; tried **many different** diet/exercise interventions; **max 15-20 pounds lost w/rapid regain**; stops interventions due to **lack of progress**, difficult to **sustain changes** and **hunger**

Current motivation: mid back pain; needs breast reduction; **must have BMI <35**; worried about having to go on disability if cannot have surgery

Ht: 67 in Wt: 286 lbs. BMI 44.8 BP 135/85 HR 88

Current Medications: valsartan 160 mg; amlodipine 10 mg, meloxicam 15 mg daily

Medical Hx: **GDM** w/2 of 3 pregnancies, **HTN**, chronic back pain

FH: Mother-type 2 diabetes, HTN, hyperlipidemia, osteoarthritis, obesity; Father-deceased at age 39 from MI

Lifestyle factors: Single mom; 3 kids age 8-14; CNA; night shift; **frequently skips meals** and **rarely cooks**; dinner often at mom's house; snacks overnight at work **on snacks she takes with her**; no high calorie or alcoholic beverages.

Which dietary pattern would be the most likely to provide health improvement, meaningful weight loss and match some lifestyle factors

- A. Ketogenic diet
- B. Mediterranean Diet
- C. Intermittent Fasting
- D. DASH (Dietary Approach to Stop Hypertension) Diet

Case #2

35 y.o female presents for weight management.

Key factors: struggled w/weight since early 20's; tried many different diet/exercise interventions; max 15-20 pounds lost w/**rapid regain**; stops interventions due to lack of progress, difficult to sustain changes and hunger

Current motivation: mid back pain; needs breast reduction; must have BMI <35; worried about have to go on disability if cannot have surgery

Ht: 67 in Wt: 286 lbs. BMI 44.8 BP 135/85 HR 88

Current Medications: valsartan 160 mg; amlodipine 10 mg, meloxicam 15 mg daily

Medical Hx: GDM w/2 of 3 pregnancies, HTN, chronic back pain

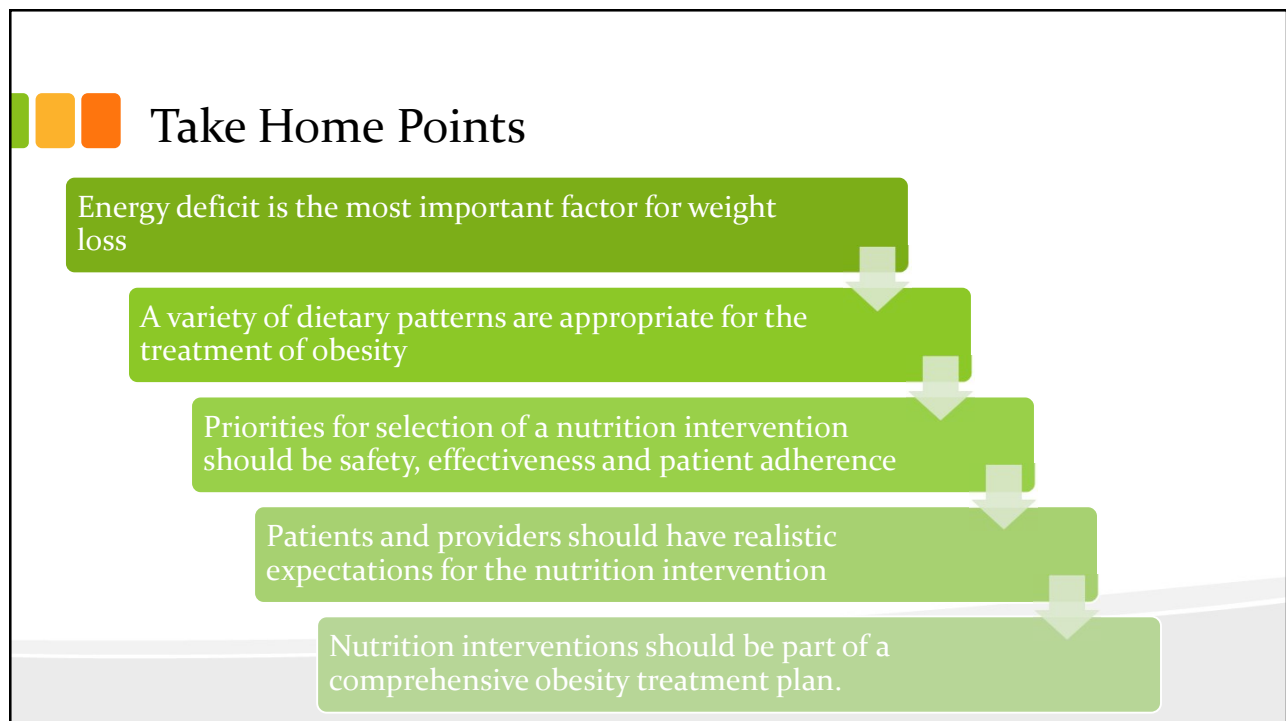
FH: Mother-type 2 diabetes, HTN, hyperlipidemia, osteoarthritis, obesity; Father-deceased at age 39 from MI

Lifestyle factors: Single mom; 3 kids age 8-14; CAN; night shift; frequently skips meals and rarely cooks; dinner often at mom's house; snacks overnight at work on snacks she takes with her; no high calorie or alcoholic beverages.

What expectation can be set with this patient to combat weight regain

- A. Simplified self monitoring strategies
- B. Continued visits for more than 2 years after meeting weight loss goal
- C. Ensure nutrition intervention is based on patient food preferences
- D. All of the above

Case #2





References

Lydia Alexander, Sandra M. Christensen, Larry Richardson, Amy Beth Ingersoll, Karli Burrige, Angela Golden, Sara Karjoo, Danielle Cortez, Michael Shelver, Harold Edward Bays; Nutrition and physical activity: An Obesity Medicine Association (OMA) Clinical Practice Statement 2022. *Obesity Pillars*, Volume 1, 2022, 100005, ISSN 2667-3681, <https://doi.org/10.1016/j.obpill.2021.100005>.

Bays HE, McCarthy W, Burrige K, Tondt J, Karjoo S, Christensen S, Ng J, Golden A, Davisson L, Richardson L. Obesity Algorithm eBook, presented by the Obesity Medicine Association. www.obesityalgorithm.org. 2023. <https://obesitymedicine.org/obesity-algorithm/> (Accessed 3/24/22)

Garvey WT, Mechanick JI, Brett EM, Garber AJ, Hurley DL, Jastreboff AM, Nadolsky K, Pessah-Pollack R, Plodkowski R; Reviewers of the AACE/ACE Obesity Clinical Practice Guidelines. AMERICAN ASSOCIATION OF CLINICAL ENDOCRINOLOGISTS AND AMERICAN COLLEGE OF ENDOCRINOLOGY COMPREHENSIVE CLINICAL PRACTICE GUIDELINES FOR MEDICAL CARE OF PATIENTS WITH OBESITY. *Endocr Pract*. 2016 Jul;22 Suppl 3:1-203. doi: 10.4158/EP161365.GL. Epub 2016 May 24. PMID: 27219496.

Churuangskuk C, Hall J, Reynolds A, Griffin SJ, Combet E, Lean MEJ. Diets for weight management in adults with type 2 diabetes: an umbrella review of published meta-analyses and systematic review of trials of diets for diabetes remission. *Diabetologia*. 2022 Jan;65(1):14-36. doi: 10.1007/s00125-021-05577-2. Epub 2021 Nov 17. PMID: 34796367; PMCID: PMC8660762.

Raber M, Liao Y, Rara A, Schembre SM, Krause KJ, Strong L, Daniel-MacDougall C, Basen-Engquist K. A systematic review of the use of dietary self-monitoring in behavioural weight loss interventions: delivery, intensity and effectiveness. *Public Health Nutr*. 2021 Dec;24(17):5885-5913. doi: 10.1017/S136898002100358X. Epub 2021 Aug 20. PMID: 34412727; PMCID: PMC8928602.

D'Innocenzo S, Biagi C, Lanari M. Obesity and the Mediterranean Diet: A Review of Evidence of the Role and Sustainability of the Mediterranean Diet. *Nutrients*. 2019 Jun 9;11(6):1306. doi: 10.3390/nu11061306. PMID: 31181836; PMCID: PMC6627690.

Look AHEAD Research Group. Eight-year weight losses with an intensive lifestyle intervention: the look AHEAD study. *Obesity (Silver Spring)*. 2014 Jan;22(1):5-13. doi: 10.1002/oby.20662. PMID: 24307184; PMCID: PMC3904491.

Morgan-Bathke M, Raynor HA, Baxter SD, Halliday TM, Lynch A, Malik N, Garay JL, Rozga M. Medical Nutrition Therapy Interventions Provided by Dietitians for Adult Overweight and Obesity Management: An Academy of Nutrition and Dietetics Evidence-Based Practice Guideline. *J Acad Nutr Diet*. 2023 Mar;123(3):520-545.e10. doi: 10.1016/j.jand.2022.11.014. Epub 2022 Dec 1. PMID: 36462613.

Questions



Karon Potter PA-C, RD, CSOWM, CDE

karon.potter@lifestance.com

