- Adult Weight Management
- Adult Weight Management (AWM) Guideline (2014)

Adult Weight Management

AWM: Executive Summary of Recommendations (2014)

Executive Summary of Recommendations

Below are the major recommendations and ratings for the Academy of Nutrition and Dietetics Adult Weight Management (AWM) Evidence-Based Nutrition Practice Guideline. Use the links on the left to view the Guideline Overview. More detail (including the evidence analysis supporting these recommendations) is available on this website to Academy members and EAL subscribers under **Major Recommendations**.

To see a description of the Academy Recommendation Rating Scheme (Strong, Fair, Weak, Consensus, Insufficient Evidence), click here.

The Adult Weight Management Recommendations are listed below. *[Note: If you mouse-over underlined acronyms and terms, a definition will pop up.]*

- Screening and Referral

AWM: Annual Screening for Overweight/Obesity
The registered dietitian nutritionist (RDN), in collaboration with other health care professionals, administrators and public policy decision-makers, should ensure that all adult patients have the following measurements at least annually:

- Height and weight to calculate BMI, classified as overweight (BMI more than 25.0kg/m^2 to 29.9kg/m^2) or obese
  - Class I obesity: BMI 30kg/m^2 to 34.9kg/m^2
  - Class II obesity: BMI 35kg/m^2 to 39.9kg/m^2
  - Class III (extreme) obesity: 40kg/m^2 or higher.
- Waist circumference to determine the risk of CVD, type 2 diabetes and all-cause mortality
  - NIH/NHLBI
    - *Men:* More than 102cm (more than 40 inches)
    - *Women:* More than 88cm (more than 35 inches).

Annual BMI screening will identify adults who are overweight or obese and therefore may be at elevated risk of CVD and all-cause mortality. In addition, the greater the waist circumference, the greater the risk of CVD, type 2 diabetes and all-cause mortality.

Fair
Imperative

AWM: Referral to RDN for Medical Nutrition Therapy
The RDN, in collaboration with other health care professionals, administrators and public policy decision-makers, should ensure that overweight or obese adults are referred to an RDN for medical nutrition therapy (MNT). Intensive counseling and behavioral interventions promote sustained weight loss and reduce known risk factors for diet-related chronic disease.

Fair
Imperative

- Nutrition Assessment

AWM: Medical Nutrition Therapy
Medical nutrition therapy (MNT) provided by a registered dietitian nutritionist (RDN) is recommended for overweight and obese adults. MNT provided by an RDN results in both statistically significant and clinically meaningful weight loss in overweight and obese adults, as well as reduced risk for diabetes, disorders of lipid metabolism and hypertension.

Strong
Imperative

AWM: Duration and Frequency of MNT for Weight Loss
For weight loss, the registered dietitian nutritionist (RDN) should schedule at least 14 medical nutrition therapy (MNT) encounters (either individual or group) over a period of at least six months. High-frequency comprehensive weight loss interventions result in weight loss.

Strong
Imperative

AWM: Duration and Frequency of MNT for Weight Maintenance
For weight maintenance, the registered dietitian nutritionist (RDN) should schedule at least monthly medical nutrition therapy (MNT) encounters over a period of at least one year. High-frequency comprehensive weight maintenance interventions result in maintenance of weight loss.

Strong
Imperative

AWM: Incorporating Telenutrition Interventions for Weight Loss
If the registered dietitian nutritionist (RDN) incorporates telenutrition interventions for weight loss, medical nutrition therapy (MNT) should consist of both in-person and non-in-person encounters. Research on telenutrition interventions involving an RDN reported that hybrid interventions (containing both in-person and non-in-person components) were more effective for weight loss than using telenutrition interventions (only non-in-person components).

Strong
Conditional

AWM: Incorporating Telenutrition Interventions for Weight Maintenance
If the registered dietitian nutritionist (RDN) incorporates telenutrition interventions for weight maintenance, medical nutrition therapy (MNT) may consist of either in-person or non-in-person encounters. Research on telenutrition interventions involving an RDN reported that either hybrid interventions (containing both in-person and non-in-person components) or telenutition interventions (only non-in-person components) were effective for weight maintenance.

Strong
Conditional

AWM: Weight Management for Older Adults

For older adults (aged 65 years and older) who are overweight or obese, the registered dietitian nutritionist (RDN) should provide medical nutrition therapy (MNT) for weight loss and weight maintenance. Research has reported reduced risk of mortality, reduced development of type 2 diabetes and improved cardiovascular risk factors with intentional weight loss in older persons and weight gain produces increased risk for several health outcomes.

Fair
Conditional
AWM: Assess Data to Individualize the Comprehensive Weight Management Program
The registered dietitian nutritionist (RDN) should assess the following data in order to individualize the comprehensive weight management program for overweight and obese adults:

- Food- and nutrition-related history, including but not limited to:
  - Beliefs and attitudes, including food preferences and motivation
  - Food environment, including access to fruits and vegetables
  - Dietary behaviors, including eating out and screen time
  - Diet experience, including food allergies and past dieting history
  - Medications and supplements
  - Physical activity.
- Anthropometric measurements, including but not limited to:
  - Height, weight, body mass index (BMI)
  - Waist circumference
  - Weight history
  - Body composition (if available).
- Biochemical data, medical tests and procedures, including but not limited to:
  - Glucose and endocrine profile
  - Lipid profile.
- Nutrition-focused physical findings, including but not limited to:
  - Ability to communicate
  - Affect
  - Amputations
  - Appetite
  - Blood pressure
  - Body language
  - Heart rate.
- Client history, including but not limited to:
  - Appropriateness of weight management in certain populations (such as eating disorders, pregnancy, receiving chemotherapy)
  - Client and family medical and health history
  - Social history, including living or housing situation and socio-economic status.

Moderately strong evidence indicates that the food environment is associated with dietary intake, especially less consumption of vegetables and fruits and higher body weight. Strong and consistent evidence indicates that adults who eat fast food often are at increased risk of weight gain, overweight and obesity and that screen time, especially television screen time, is directly associated with increased overweight and obesity.

Strong
Imperative
AWM: Assess Motivation for Weight Management
The registered dietitian nutritionist (RDN) should assess motivation, readiness and self-efficacy for weight management, based on behavior change theories and models (such as cognitive-behavioral therapy, transtheoretical model and social cognitive theory/social learning theory). While research supports cognitive-behavioral therapy as an effective method of overweight and obesity treatment, there is limited research in the areas of the transtheoretical model and social cognitive theory and social learning theory.

Fair
Imperative
AWM: Measure Resting Metabolic Rate (RMR)
If indirect calorimetry is available, the registered dietitian nutritionist (RDN) should use a measured resting metabolic rate to determine energy needs in overweight or obese adults. Measurement of resting metabolic rate using indirect calorimetry is more accurate than estimating resting metabolic rate using predictive equations.

Consensus
Conditional
AWM: Use Mifflin-St. Jeor Equation to Estimate RMR
If indirect calorimetry is not available, the registered dietitian nutritionist (RDN) should use the Mifflin-St. Jeor equation using actual weight to estimate resting metabolic rate (RMR) in overweight or obese adults. The majority of research reviewed supports the use of the Mifflin-St. Jeor equation (using actual body weight) to predict RMR in overweight or obese adults because it demonstrated good accuracy and correlation with indirect calorimetry.

Strong
Conditional
AWM: Estimate Total Energy Needs
The registered dietitian nutritionist (RDN) should multiply the resting metabolic rate (RMR, measured or estimated) by one of the following physical activity factors to estimate total energy needs:

- *Sedentary:* 1.0 or more to less than 1.4
- *Low active:* 1.4 or more to less than 1.6
- *Active:* 1.6 or more to less than 1.9
- *Very active:* 1.9 or more to less than 2.5.

The Dietary Reference Intakes (DRI) Physical Activity Levels (PAL) represent the ratio of total energy expenditure to basal energy expenditure and are defined as sedentary, low active, active or very active.

Consensus
Imperative
AWM: Assess Energy Intake and Nutrient Content of the Diet
The registered dietitian nutritionist (RDN) should assess the energy intake and nutrient content of the diet. Any nutrient inadequacy and the nutrients affected are dependent on the composition of the diet followed, as well as on the nutritional needs of the individual.

Strong
Imperative

- Nutrition Intervention

AWM: Realistic Weight Goal Setting
The registered dietitian nutritionist (RDN) should collaborate with the individual regarding a realistic weight loss goal, such as one of the following:

- Up to two pounds per week

- Up to 10% of baseline body weight
- A total of 3% to 5% of baseline body weight if cardiovascular risk factors (hypertension, hyperlipidemia and hyperglycemia) are present.

Studies regarding the effectiveness of medical nutrition therapy (MNT) for under six months reported significant weight losses of approximately one to two pounds per week, and six to 12 months of MNT resulted in significant mean weight losses of up to 10% of body weight. While a sustained weight loss of 3% to 5% is likely to result in clinically meaningful reductions in triglycerides, blood glucose, HbA1c, and the risk of developing type 2 diabetes, greater amounts of weight loss will also reduce blood pressure, improve LDL-C and HDL-C, and reduce the need for medications.

Strong
Imperative
AWM: Components of a Comprehensive Weight Management Program
For weight loss and weight maintenance, the registered dietitian nutritionist (RDN) should include the following components as part of a comprehensive weight management program:

- Reduced calorie diet
- Increasing physical activity
- Use of behavioral strategies.

Adequate evidence indicates that intensive, multi-component behavioral interventions for overweight and obese adults can lead to weight loss as well as improved glucose tolerance and other physiologic risk factors for cardiovascular disease.

Strong
Imperative
AWM: Achieve Nutrient Adequacy during Weight Loss
During weight loss, the registered dietitian nutritionist (RDN) should prescribe an individualized diet, including patient preferences and health status, to achieve and maintain nutrient adequacy and reduce caloric intake, based on one of the following caloric reduction strategies:

- 1,200kcal to 1,500kcal per day for women and 1,500kcal to 1,800kcal per day for men (kcal levels are usually adjusted for the individual's body weight)
- Energy deficit of approximately 500kcal per day or 750kcal per day
- One of the evidence-based diets that restricts certain food types (such as high-carbohydrate foods, low-fiber foods, or high-fat foods) in order to create an energy deficit by reduced food intake.

Several studies report changes in nutrient adequacy with caloric restriction, however the extent of nutrient inadequacy and the nutrients affected are dependent on the composition of the diet followed, as well as on the nutritional needs of the individual. Limited research reports reductions in nutrient adequacy with weight loss through an energy restriction of at least 500kcal per day or daily consumption below 1,200kcal per day.

Strong
Imperative
AWM: Maintain Nutrient Adequacy during Weight Maintenance
During weight maintenance, the RDN should prescribe an individualized diet (including patient preferences and health status) to maintain nutrient adequacy and reduce caloric intake for maintaining a lower body weight. Several studies report changes in nutrient adequacy with caloric restriction, however the extent of nutrient inadequacy and the nutrients affected are dependent on the composition of the diet followed, as well as on the nutritional needs of the individual. Limited research reports reductions in nutrient adequacy with weight loss through an energy restriction of at least 500kcal per day or daily consumption below 1,200kcal per day.

Strong
Imperative
AWM: Dietary Approaches for Caloric Reduction in Weight Loss
For weight loss, the registered dietitian nutritionist (RDN) should advise overweight or obese adults that as long as the target reduction in calorie level is achieved, many different dietary approaches are effective. There is strong and consistent evidence that when calorie intake is controlled, macronutrient proportion, glycemic index and glycemic load of the diet are not related to losing weight.

Strong
Imperative
AWM: Dietary Approaches for Caloric Reduction in Weight Maintenance
For weight maintenance, the registered dietitian nutritionist (RDN) should advise overweight and obese adults that as long as the target reduction in calorie level is achieved, many different dietary approaches are effective. A moderate body of evidence provides no data to suggest that any one macronutrient is more effective than any other for avoiding weight re-gain in weight-reduced persons. Strong and consistent evidence shows that glycemic index and glycemic load are not associated with body weight and do not lead to better weight maintenance.

Strong
Imperative
AWM: Eating Frequency and Meal Patterns for Weight Loss and Weight Maintenance
For weight loss and weight maintenance, the registered dietitian nutritionist (RDN) should individualize the meal pattern to distribute calories at meals and snacks throughout the day, including breakfast. Research reports inconsistent results regarding the association between eating frequency and body weight, which may be due to the role of portion size, energy density or compensation of energy intake at subsequent eating occasions. The majority of observational research reported that breakfast consumption is associated with a lower BMI and decreased obesity risk, while omitting breakfast is associated with a higher BMI and increased obesity risk. Several studies suggest that cereal-based breakfasts are associated with lower BMI, while breakfasts that are very high in energy are associated with higher BMI.

Fair
Imperative
AWM: Portion Control and Meal Replacements/Structured Meal Plans
For weight loss and weight maintenance, the registered dietitian nutritionist (RDN) should recommend portion control and meal replacements or structured meal plans as part of a comprehensive weight management program. Strong evidence documents a positive relationship between portion size and body weight and research reports that the use of various types of meal replacements or structured meal plans was helpful in achieving health and food behavior change.

Strong
Imperative
AWM: Encourage Physical Activity for Weight Loss
For weight loss, the registered dietitian nutritionist (RDN) should encourage physical activity as part of a comprehensive weight management program, individualized to gradually accumulate 150 to 420 minutes or more of physical activity per week, depending on intensity, unless medically contraindicated. Physical activity less than 150 minutes per week promotes minimal weight loss, physical activity more than 150 minutes per week results in modest weight loss of approximately 2 kg to 3kg, and physical activity of more than 225 to 420 minutes per week results in 5kg to 7.5kg weight loss, and a dose–response exists.

Consensus
Imperative
AWM: Encourage Physical Activity for Weight Maintenance
For weight maintenance, the registered dietitian nutritionist (RDN) should encourage physical activity as part of a comprehensive weight management program, individualized to accumulate 200 to 300 minutes or more of physical activity per week, depending on intensity, unless medically contraindicated. Some studies support the value of approximately 200 to 300 minutes per week of physical activity during weight maintenance to reduce weight regain after weight loss.

Consensus
Imperative
AWM: Multiple Behavior Therapy Strategies
For weight loss and weight maintenance, the registered dietitian nutritionist (RDN) should incorporate one or more of the following strategies for behavior therapy:

- *Self monitoring:* Strong evidence shows that for adults who need or desire to lose weight or for adults who are maintaining body weight following weight loss, self-monitoring of food intake improves nutrition-related outcomes related to weight loss and weight maintenance
- *Motivational interviewing:* Research demonstrated that motivational interviewing significantly enhanced adherence to program recommendations and improved targeted diet-related outcomes including glycemic control, percentage of energy intake from fat, fruit and vegetable intake and weight loss
- *Structured meal plans and meal replacements and portion control:* Research reports that the use of various types of meal replacements or structured meal plans was helpful in achieving health and food behavior change and strong evidence documents a positive relationship between portion size and body weight
- *Goal-setting:* Clients' active participation in selecting and setting goals led to the selection of a goal from the area that could use the most improvement and the goal that was most personally appropriate
- *Problem-solving:* Studies based on the use of problem-solving strategies resulted in improvements in key outcome measures, including maintenance of weight loss and in subjects with diabetes, was linked to improvements in fat consumption, self-efficacy and physical activity.

Strong
Imperative
AWM: Consider Use of Additional Behavior Therapy Strategies
For weight loss and weight maintenance, the RDN may consider using the following behavior therapy strategies:

- Cognitive restructuring
- Contingency management
- Relapse prevention techniques
- Slowing the rate of eating
- Social support
- Stress management
- Stimulus control and cue reduction.

These strategies are not well researched and there is limited evidence demonstrating their effectiveness.

Fair
Imperative
AWM: Coordinate Care with Interdisciplinary Team
For weight loss and weight maintenance, the registered dietitian nutritionist (RDN) should implement medical nutrition therapy (MNT) and coordinate care with an interdisciplinary team of health professionals (may include specialized RDNs, nurses, nurse practitioners, pharmacists, physicians, physician assistants, physical therapists, psychologists, social workers, and so on), especially for patients with obesity-related co-morbid conditions. Coordination of care may include collaboration on:

- Use of FDA-approved weight-loss medications
- Appropriateness of bariatric surgery for people who have not achieved weight loss goals with less invasive weight loss methods.

Coordination of care with an interdisciplinary team of health professionals promotes the greatest effectiveness of MNT.

Consensus
Imperative
AWM: Recommend Use of Community Resources
The registered dietitian nutritionist (RDN) should recommend use of community resources, such as local food sources, food assistance programs, support systems and recreational facilities. Moderately strong evidence indicates a relationship between the food environment and dietary intake.

Strong
Imperative

- Nutrition Monitoring and Evaluation

AWM: Monitor and Evaluate the Effectiveness of the Comprehensive Weight Management Program
The registered dietitian nutritionist (RDN) should monitor and evaluate the effectiveness of the comprehensive weight management program for overweight or obese adults, through the following data

- Food and nutrition-related history, including but not limited to:
  - Beliefs and attitudes, including motivation
  - Food environment, including access to fruits and vegetables
  - Dietary behaviors, including eating out and screen time
  - Medications and supplements
  - Physical activity.
- Anthropometric measurements, including but not limited to:
  - Weight and BMI
  - Waist circumference
  - Body composition (if available).
- Biochemical data, medical tests and procedures, including but not limited to:
  - Glucose/endocrine profile
  - Lipid profile.
- Nutrition-focused physical findings, including but not limited to:
  - Affect
  - Appetite
  - Blood pressure
  - Body language
  - Heart rate.

Moderately strong evidence indicates that the food environment is associated with dietary intake, especially less consumption of vegetables and fruits and higher body weight. Strong and consistent evidence indicates that adults who eat fast food often are at increased risk of weight gain, overweight and obesity and that screen time, especially television screen time, is directly associated with increased overweight and obesity.

Strong
Imperative
AWM: Monitor and Evaluate Energy Intake and Nutrient Content
For weight loss and weight maintenance, the registered dietitian nutritionist (RDN) should monitor and evaluate energy intake and nutrient content and consider adjusting the selected caloric reduction strategy (if necessary):

- Prescribe 1,200kcal to 1,500kcal per day for women and 1,500kcal to 1,800kcal per day for men (kcal levels are usually adjusted for the individual's body weight)
- Prescribe 500kcal per day or 750kcal per day energy deficit
- Prescribe one of the evidence-based diets that restricts certain food types (such as high-carbohydrate foods, low-fiber foods or high-fat foods) in order to create an energy deficit by reduced food intake.

Several studies report changes in nutrient adequacy with caloric restriction. However, the extent of nutrient inadequacy and the nutrients affected are dependent on the composition of the diet followed, as well as on the nutritional needs of the individual. Limited research reports reductions in nutrient adequacy with weight loss through an energy restriction of at least 500kcal per day or daily consumption below 1,200kcal per day.

Strong
Imperative
AWM: Monitor and Evaluate Total Energy Needs
For weight loss and weight maintenance, the RDN should monitor and evaluate total energy needs and consider one of the following (if necessary):

- Re-measure resting metabolic rate (RMR) using indirect calorimetry, since measurement of RMR using indirect calorimetry is more accurate than estimating resting metabolic rate using predictive equations
- Re-calculate Mifflin-St. Jeor, since the majority of research reviewed supports the use of the Mifflin-St. Jeor equation (using actual body weight) to predict RMR in overweight or obese adults because it demonstrated good accuracy and correlation with indirect calorimetry
- Re-apply a new physical activity factor to RMR (measured or estimated) to estimate total energy needs:
    - *Sedentary:* 1.0 to 1.4
    - *Low active:* 1.4 to 1.6
    - *Active:* 1.6 to 1.9
    - *Very active:* 1.9 to 2.5.

The Dietary Reference Intakes (DRI) Physical Activity Levels (PAL) represent the ratio of total energy expenditure to basal energy expenditure and are defined as sedentary, low active, active or very active.

Consensus
Imperative