

- [Adult Weight Management](#)
- [Adult Weight Management \(AWM\) Guideline \(2021-22\)](#)

Adult Weight Management

AWM: Guideline Recommendations and Supporting Evidence (2022)

Guideline recommendations are the essence of evidence-based guidelines and provide a course of action for the practitioner based on the evidence. Below, you will find the **Adult Weight Management (2022)** recommendations organized by Nutrition Care Process category. View the [Summary of Changes Table](#) for an overview of the recommendation revisions and updates from the AWM 2014 guideline recommendations.

The Academy categorizes recommendations in terms of either **Imperative** or **Conditional** statements. Conditional statements clearly define a specific situation or specific sub-population with the larger guideline population. Imperative statements are broadly applicable to the target population without restraints on their application. Each recommendation receives a rating, using the scale of **Strong, Fair, Weak, Consensus, or Insufficient Evidence**. The rating for the recommendation is primarily based on the strength of the supporting evidence but also the balance between benefits or harms anticipated and the clinical practice implications when the statement is follows. [Learn more](#) □

The GRADE (Grading of Recommendations, Assessment, Development and Evaluations) is a framework for developing clinical recommendations. AWM recommendations were developed using both formats and were assigned ratings from both systems. [Learn more](#) □

Resources Available with Each Recommendation

In addition to the recommendation statement and strength rating, on each recommendation page, you will find:

- A brief narrative summary of the evidence analyzed to reach the recommendation
- A statement of justification, or reason for the strength of the recommendation
- Detailed information on the evidence supporting the recommendations and background narrative (available in the Supporting Evidence section toward the bottom of each recommendation page)
- A reference list at the end of each recommendation page that includes all the sources used in the evidence analysis for the particular recommendation (each reference is hyperlinked to a summary of the article analyzed in the evidence analysis).

Intervention

- [AWM: Medical Nutrition Therapy Approach for Adult Overweight and Obesity Management](#)
 - *AWM: Utilize the Nutrition Care Process*
 - *AWM: Provide Medical Nutrition Therapy*
 - *AWM: Adapt Goals and Interventions*
 - *AWM: Minimize Weight Bias and Stigma*
- [AWM: Coordination of Care](#)
 - *AWM: Collaborate with Interprofessional Healthcare Team*
 - *AWM: Coordinate Care in a Variety of Settings*
- [AWM: Medical Nutrition Therapy Amount](#)
 - *AWM: Number and Frequency of Interactive Contacts*
 - *AWM: Intervention Duration*
 - *AWM: Follow-Up Contacts*
- [AWM: Delivery of Medical Nutrition Therapy](#)
 - *AWM: Telehealth and In-Person Care*
 - *AWM: Group and Individual Contacts*
- [AWM: Payment for Services](#)
- [AWM: Dietary and Lifestyle Intervention Approaches](#)
 - *AWM: Dietary Patterns*
 - *AWM: Components of a Comprehensive Intervention*
- [AWM: Special Populations](#)
 - *AWM: Co-Morbidities*
 - *AWM: Pharmacotherapy and Metabolic and Bariatric Surgery*
 - *AWM: Members of Groups Disproportionately Affected by Overweight or Obesity and Under-Resourced Communities*

[Proceed to Benefits and Risks/Harms of Implementation](#)

[Return to AWM Home](#)

- [Adult Weight Management](#)
- [Adult Weight Management \(AWM\) Guideline \(2021-22\)](#)

Quick Links

Recommendations Summary

AWM: Medical Nutrition Therapy Approach for Adult Overweight and Obesity Management 2022

[Click here](#) to see the explanation of recommendation ratings (Strong, Fair, Weak, Consensus, Insufficient Evidence) and labels (Imperative or Conditional). To see more detail on the evidence from which the following recommendations were drawn, use the hyperlinks in the [Supporting Evidence Section](#) below.

- [Recommendation\(s\)](#)

AWM: Utilize the Nutrition Care Process

It is reasonable for registered dietitian nutritionists or international equivalents to utilize the Nutrition Care Process to provide effective, client-centered interventions based on shared decision-making and clinical judgement and individualized to each client's needs, circumstances, and goals.

Rating: Consensus
Conditional

AWM: Provide Medical Nutrition Therapy

Medical Nutrition Therapy provided by registered dietitian nutritionists or international equivalents is recommended for adults with overweight or obesity to improve cardiometabolic outcomes, quality of life, and weight outcomes, as appropriate for and desired by each client.

Rating: Level 1(B)
Imperative

AWM: Adapt Goals and Interventions

It is reasonable for registered dietitian nutritionists or international equivalents to monitor and evaluate client outcomes and adapt goals and interventions, including those for weight maintenance, and provide resources as needed for each client.

Rating: Consensus
Conditional

AWM: Minimize Weight Bias and Stigma

It is reasonable for registered dietitian nutritionists or international equivalents to minimize the effects of weight bias and weight stigma and its consequences by targeting client-centered goals, individualizing interventions according to complex contributors of overweight and obesity, communicating using client-preferred terms, and providing an inclusive physical environment.

Rating: Consensus
Conditional

- [Risks/Harms of Implementing This Recommendation](#)

There are few adverse events reported with overweight and obesity management interventions provided by a dietitian (Academy of Nutrition and Dietetics' Evidence Analysis Center 2021, Morgan-Bathke M 2022). In contrast to supervised evidence-based treatment, self-directed dieting or caloric restriction may increase disordered eating behaviors (Cardel, Newsome et al. 2022). However, in some cases, mean effects from interventions provided by dietitians were small and, in comparison to the resources used for the intervention, this level of reduction may not be as beneficial for some adults with overweight or obesity as others.

- [Conditions of Application](#)

Individualized Interventions Using the NCP

When conducting overweight and obesity management interventions, dietitians adhere to scope and standards of practice (2018, Tewksbury, Nwankwo et al. 2022) and use the Nutrition Care Process (NCP) framework (Swan, Vivanti et al. 2017). A description of key elements to consider for each stage of the NCP when providing adult overweight and obesity management interventions is described in the [NCP Figure](#). All interventions are initiated following a full nutrition assessment. During the assessment process, dietitians collect client information on factors that indicate if an intervention may be contraindicated due to other client health conditions (i.e., active eating disorders including overeating due to loss of control, women who are currently pregnant, those undergoing chemotherapy, etc.), a client's motivation level, and other socio- and economic factors. A focus on weight loss is not always indicated and may not always result in overall health improvement. Rather, a focus on overall healthy eating habits coupled with increased physical activity and improved clinical outcomes such as reduction in blood pressure or cholesterol levels may be the goal. Following nutrition assessment, dietitians refer clients to complementary practitioners as needed, such as to a dietitian or mental health counselor specializing in eating disorders or an exercise specialist.

During the initial session, the dietitian collaborates with the client to identify the client's goals. Working together, the dietitian and the client establish and prioritize goals that are specific, measurable, attainable, relevant and time-based (S.M.A.R.T.). Factors such as genetics, social determinants of health (SDoH), knowledge, skills, abilities, and availability of cooking appliances may affect nutrition recommendations and client adherence. These are given consideration, when information is available, to best inform the development of the intervention. In all cases, MNT interventions is individualized to each client's values, health status, environment, nutrition literacy, medications and other factors (Tewksbury, Nwankwo et al. 2022). In overweight and obesity management interventions, clients value specific, tailored, and usable diet and exercise plans (Bloom, Adler et al. 2018). The novelty or tailored aspect of a nutrition program or setting can motivate clients to participate, as can meaningful relationships with healthcare providers and other clients (in group settings) (Skea, Aceves-Martins et al. 2019). It is also important for the dietitian to incorporate proven counseling methods, such as motivational interviewing, to help clients facilitate desired behavior change (Tewksbury, Nwankwo et al. 2022). Dietitians work with clients to make small, acceptable changes towards their goals to sustain intervention adherence. Monitoring and evaluation of anthropometric and other outcomes can occur at scheduled sessions to track progress, when possible. Following the intervention, dietitians monitor and evaluate client outcomes to adapt to changing client needs over time (Swan, Vivanti et al. 2017). Critical thinking is used when determining the appropriateness of each recommendation for each client (Swan, Vivanti et al. 2017). More detailed information on nutrition assessment, monitoring and evaluation can be found in the 2014 Academy AWM guideline (Academy of Nutrition and Dietetics' Evidence Analysis Center 2014).

Inclusive, Non-Biased Care

There are many factors that contribute to overweight and obesity beyond lifestyle behaviors, including genetics, SDoH and the environment (Centers for Disease Control and Prevention 2021, Tewksbury, Nwankwo et al. 2022). Thus, dietitians should not assume that a client's weight status implies a lack of motivation, willpower, or unhealthy lifestyle behaviors. Dietitians should ask clients with overweight or obesity if and how they would like to talk about their weight, utilizing what terms they prefer to use when describing weight status or body size (Puhl 2020). Dietitians can ensure they are targeting outcomes important to the client by conducting a thorough nutrition assessment including motivational interviewing. Additional guidance to address internalized weight bias and weight stigma in the healthcare setting includes ensuring furniture, equipment and facilities can accommodate diverse body sizes (Howes, Harden et al. 2021). These techniques are also important when working with adults with disabilities. When conducting overweight and obesity management sessions, dietitians should strive to use inclusive, non-stigmatizing language and use a people-first approach (Ananthakumar, Jones et al. 2020, Howes, Harden et al. 2021). Dietitians are encouraged to assess their own weight bias or other biases (Project Implicit 2011). All dietitians should provide compassionate, evidence-based and client-centered care to actively address weight stigma and end diet culture by prioritizing health over weight (Cardel, Newsome et al. 2022). Dietitians working with clients who are members of groups with high rates of overweight or obesity or who are under-represented may consider using resources and materials tailored to that group, such as those with low socio-economic status (U.S. Department of Agriculture 2022), who are members of racial or ethnic minority groups, (National Organization of Blacks in Dietetics and Nutrition 2022, National Organization of Blacks in Dietetics and Nutrition 2022) or who are transgender or gender diverse (Linsensmeyer 2020).

o [Potential Costs Associated with Application](#)

Dietitian visits are less costly for insurers compared to visits to primary care physicians (Academy of Nutrition and Dietetics 2021). LOW certainty evidence demonstrated that overweight and obesity management interventions provided by dietitians may be cost-effective (Academy of Nutrition and Dietetics' Evidence Analysis Center 2021, Morgan-Bathke M 2022). Given the benefits demonstrated with overweight and obesity management interventions provided by a dietitian, the cost-benefit ratio of MNT provided by a dietitian is unlikely to be very high, and if MNT is successful, benefits may outweigh financial costs. Public and private payers may not be willing to cover overweight and obesity management interventions, particularly those provided by an interprofessional healthcare team. However, interventions provided by a dietitian may be less expensive and more cost-effective than visits to a medical doctor or more intensive therapies such as prescription drugs or surgery to treat co-morbidities (Academy of Nutrition and Dietetics 2021).

o [Recommendation Narrative](#)

Approximately 70% of the U.S. population is classified as having overweight or obesity by BMI (Fryar CD 2020) and individuals across all weight categories gain weight over time. (Botosaneanu and Liang 2012, Malhotra, Ostbye et al. 2013, Song, Hu et al. 2016). Thus, all healthcare practitioners, including dietitians, will likely work with adults with overweight or obesity. Consequences of overweight are less severe than obesity, but both increase risks for adverse health outcomes such as cardiometabolic diseases including cardiovascular disease and type 2 diabetes mellitus, mental health conditions, decreased quality of life (QoL) and, with obesity, decreased life expectancy (Centers for Disease Control and Prevention 2021). Interventions provided by dietitians have the potential to mitigate high rates of overweight and obesity and associated outcomes by tailoring interventions to the individual needs of each client to improve the likelihood of efficacy.

The systematic review supporting this guideline demonstrated that interventions provided by dietitians may improve cardiometabolic outcomes, quality of life, and weight outcomes. Evidence certainty ranged from MODERATE to HIGH for cardiometabolic and weight outcomes and LOW to MODERATE for QoL (Academy of Nutrition and Dietetics' Evidence Analysis Center 2021, Morgan-Bathke M 2022). However, heterogeneity in outcomes demonstrated that efficacy of interventions may vary in important ways across individuals and sub-populations ([Summary of Findings Table](#), [Relationships between Recommendation Statements and Evidence Table](#)). (Academy of Nutrition and Dietetics' Evidence Analysis Center 2021, Morgan-Bathke M 2022) Recent systematic reviews have described that personalized nutrition interventions can improve dietary intake and cost-effectiveness compared to non-personalized interventions. (Galekop, Uyl-de Groot et al. 2021, Jinnette, Narita et al. 2021) In addition, many other factors outside of the client's control such as environment, SDoH, health literacy and medications may impact intervention adherence and outcomes. (Centers for Disease Control and Prevention 2021) Thus, for interventions to be effective, they must be tailored to each individual client based on their needs, preferences and circumstances. Dietitians systematically assess, diagnose, intervene with, monitor and evaluate each individual client within the NCP framework to ensure consistent, high-quality nutrition care. (Swan, Vivanti et al. 2017) Interventions delivered with a team of health

professionals, such as qualified exercise practitioners, mental health professionals, obesity medicine specialists, or primary care providers, may provide solutions to address complex etiologies of overweight and obesity.

Adults with overweight and obesity may experience internalized weight bias, which is described as negative ideologies associated with obesity, and weight stigma, which are discriminatory acts and ideologies targeted at an individual based on their weight and size.(World Obesity 2022) Experiencing weight stigma is associated with increased diabetes risk, depression, anxiety, lowered self-esteem and increased C-reactive protein levels, among other outcomes.(Wu and Berry 2018, Alimoradi, Golboni et al. 2020) Addressing weight stigma in obesity treatment interventions may reduce weight bias, (Pearl, Wadden et al. 2020) though internalized weight bias may be difficult to address.(Mensing, Calogero et al. 2016) Very low quality evidence describes that healthcare professionals, including dietitians, report both implicit and explicit weight-biased attitudes toward people with obesity.(Panza, Armstrong et al. 2018, Lawrence, Kerr et al. 2021) Clients' engagement with health services can be negatively impacted when they perceive weight bias from healthcare professionals. (Alberga, Edache et al. 2019) However, providing compassionate, client-centered care and providing evidence-based overweight and obesity management interventions are not mutually exclusive.(Cardel, Newsome et al. 2022) Dietitians and other healthcare providers have a responsibility to recognize weight stigma and weight bias as some of the many complex contributors to negative health outcomes related to overweight and obesity and consider how these factors may affect or be addressed in nutrition interventions.

- [Recommendation Strength Rationale](#)

The recommendation to provide medical nutrition therapy to adults with overweight or obesity, when appropriate and desired, is supported by evidence of beneficial effects on several outcomes including anthropometrics, blood pressure and quality of life. Evidence certainty ranged from HIGH to LOW.

Consensus recommendations are "best practice" recommendations. Effects of these practices are not easily or typically examined in research. However, expert panel members determined, based on clinical experience and related evidence, that these recommendations are important to consider when delivering weight management interventions.

- [Minority Opinions](#)

No minority opinions.

- [Supporting Evidence](#)

The recommendations were created from the evidence analysis on the following questions. To see detail of the evidence analysis, click the blue hyperlinks below (recommendations rated consensus will not have supporting evidence linked).

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent, compared to usual care or no intervention from an RDN, on body mass index?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent, compared to usual care or no intervention from an RDN, on percent weight loss?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent, compared to usual care or no intervention from an RDN, on waist circumference?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent, compared to usual care or no intervention from an RDN, on blood pressure?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent, compared to usual care or no intervention from an RDN, on fasting blood glucose?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent, compared to usual care or no intervention from an RDN, on quality of life?](#)

[In adults with overweight or obesity, what is the cost-effectiveness of weight management interventions provided by an RDN or international equivalent, compared to usual care or no intervention from an RDN?](#)

[In adults with overweight or obesity, what is the adverse events of weight management interventions provided by an RDN or international equivalent, compared to usual care or no intervention from an RDN?](#)

- [References](#)

[Al-Hamdan R, Avery A, Salter A, Al-Disi D, Al-Daghri NM, McCullough F. Identification of Education Models to Improve Health Outcomes in Arab Women with Pre-Diabetes. *Nutrients* 2019; 11:1113](#)

[Almanza-Aguilera E, Brunius C, Bernal-Lopez M, Garcia-Aloy M, Madrid-Gambin F, Tinahones F, Gómez-Huelgas R, Landberg R, Andres-Lacueva C. Impact in plasma metabolome as effect of lifestyle intervention for weight-loss reveals metabolic benefits in metabolically healthy obese women. *Journal of Proteome Research* 2018; 17:2600-2610](#)

[Annesi J, Whitaker A. Weight loss and psychologic gain in obese women-participants in a supported exercise intervention. *The Permanente Journal* 2008; 12:36-45](#)

[Assunção M, Gigante D, Cardoso M, Sartorelli D, Santos I. Randomized, controlled trial promotes physical activity and reduces consumption of sweets and sodium among overweight and obese adults. *Nutrition Research* 2010; 30:541-549](#)

[Barratt R, Frost G, Millward D, Truby H. A randomised controlled trial investigating the effect of an intensive lifestyle intervention v. standard care in adults with type 2 diabetes immediately after initiating insulin therapy. *The British Journal of Nutrition* 2008; 99:1025-1031](#)

[Beleigoli A, Andrade A, Diniz M, Ribeiro A. Personalized web-based weight loss behavior change program with and without dietitian online coaching for adults with overweight and obesity: randomized controlled trial. *Journal of Medical Internet Research* 2020; 22:e17494](#)

[Bennett G, Herring S, Puleo E, Stein E, Emmons K, Gillman M. Web-based weight loss in primary care: a randomized controlled trial. *Obesity* 2010; 18:308-313](#)

[Bennett G, Steinberg D, Askew S, Levine E, Foley P, Batch B, Svetkey L, Bosworth H, Puleo E, Brewer A, DeVries A, Miranda H. Effectiveness of an app and provider counseling for obesity treatment in primary care. *American Journal of Preventive Medicine* 2018; 55:777-786](#)

[Bertz F, Brekke H, Ellegård L, Rasmussen K, Wennergren M, Winkvist A. Diet and exercise weight-loss trial in lactating overweight and obese women. *The American journal of clinical nutrition* 2012; 96:698-705](#)

[Chambliss H, Huber R, Finley C, McDoniel S, Kitzman-Ulrich H, Wilkinson W. Computerized self-monitoring and technology-assisted feedback for weight loss with and without an enhanced behavioral component. *Patient Education and Counseling* 2011; 85:375-382](#)

[Colleran H, Lovelady C. Use of MyPyramid menu planner for moms in a weight-loss intervention during lactation. *Journal of the Academy of Nutrition and Dietetics* 2012; 112:553-558](#)

[de Freitas P, de Menezes M, Dos Santos L, Pimenta A, Ferreira A, Lopes A. The transtheoretical model is an effective weight management intervention: a randomized controlled trial. *BMC Public Health* 2020; 20:652](#)

[de Vos B, Runhaar J, Bierma-Zeinsträ S. Effectiveness of a tailor-made weight loss intervention in primary care. *European Journal of Nutrition* 2014; 53:95-104](#)

[Abd El-Kader SM, Saiem Al-Dahr MH. Weight loss improves biomarkers endothelial function and systemic inflammation in obese postmenopausal Saudi women. *African Health Sciences* 2016; 16:533-541](#)

[Abd El-Kader SM, Al-Jiffri OH, Neamatallah ZA, AlKhateeb AF, AlFawaz SS. Weight reduction ameliorates inflammatory cytokines, adipocytokines and endothelial dysfunction biomarkers among Saudi patients with type 2 diabetes. *African Health Sciences* 2020; 20:1329-1336](#)

[Foster-Schubert K, Alfano C, Duggan C, Xiao L, Campbell K, Kong A, Bain C, Wang C, Blackburn G, McTiernan A. Effect of diet and exercise, alone or combined, on weight and body composition in overweight-to-obese postmenopausal women. *Obesity* 2012; 20:1628-1638](#)

[Gallagher R, Kirkness A, Zelestis E, Hollams D, Kneale C, Armari E, Bennett T, Daly J, Tofler G. A randomised trial of a weight loss intervention for overweight and obese people diagnosed with coronary heart disease and/or type 2 diabetes. *Annals of Behavioral Medicine* 2012; 44:119-128](#)

[Gandler N, Simmance N, Keenan J, Choong P, Dowsey M. A pilot study investigating dietetic weight loss interventions and 12 month functional outcomes of patients undergoing total joint replacement. *Obesity Research & Clinical Practice* 2016; 10:220-223](#)

[Georgoulis M, Yiannakouris N, Kechribari I, Lamprou K, Perraki E, Vagiakis E, Kontogianni M. Cardiometabolic Benefits of a Weight Loss Mediterranean Diet/Lifestyle Intervention in Patients with Obstructive Sleep Apnea: The "MIMOSA" Randomized Clinical Trial. *Nutrients* 2020; 12:](#)

[Hardcastle S, Taylor A, Bailey M, Harley R, Hagger M. Effectiveness of a motivational interviewing intervention on weight loss, physical activity and cardiovascular disease risk factors: a randomised controlled trial with a 12-month post-intervention follow-up. *The International Journal of Behavioral Nutrition and Physical Activity* 2013; 10:40](#)

[Hassapidou M, Tziomalos K, Lazaridou S, Pagkalos I, Papadimitriou K, Kokkinopoulou A, Tzotzas T. The Nutrition Health Alliance \(NutriHeAl\) study: a randomized, controlled, nutritional intervention based on Mediterranean diet in Greek municipalities. *Journal of the American College of Nutrition* 2020; 39:338-344](#)

[Haste A, Adamson A, McColl E, Araujo-Soares V, Bell R. Web-based weight loss intervention for men with type 2 diabetes: pilot randomized controlled trial. *JMIR Diabetes* 2017; 2:e14](#)

[Hurkmans E, Matthys C, Bogaerts A, Scheys L, Devloo K, Seghers J. Face-to-face versus mobile versus blended weight loss program: randomized clinical trial. *JMIR mHealth and uHealth* 2018; 6:e14](#)

[Huseinovic E, Bertz F, Brekke H, Winkvist A. Two-year follow-up of a postpartum weight loss intervention: Results from a randomized controlled trial. *Maternal & Child Nutrition* 2018; 14:e12539](#)

- [Innes A, Thomson G, Cotter M, King J, Vollaard N, Kelly B. Evaluating differences in the clinical impact of a free online weight loss programme, a resource-intensive commercial weight loss programme and an active control condition: a parallel randomised controlled trial. *BMC Public Health* 2019; 19:1732](#)
- [Jiang X, Fan X, Wu R, Geng F, Hu C. The effect of care intervention for obese patients with type II diabetes. *Medicine* 2017; 96:e7524](#)
- [Johnson K, Alencar M, Coakley K, Swift D, Cole N, Mermier C, Kravitz L, Amorim F, Gibson A. Telemedicine-based health coaching is effective for inducing weight loss and improving metabolic markers. *Telemedicine Journal and e-Health* 2019; 25:85-92](#)
- [Karintrakul S, Angkatavanich J. A randomized controlled trial of an individualized nutrition counseling program matched with a transtheoretical model for overweight and obese females in Thailand. *Nutrition Research and Practice* 2017; 11:319-326](#)
- [Liljensøe A, Laursen J, Bliddal H, Søballe K, Mechlenburg I. Weight loss intervention before total knee replacement: a 12-month randomized controlled trial. *Scandinavian Journal of Surgery* 2021; 110:3-12](#)
- [Ma J, Yank V, Xiao L, Lavori P, Wilson S, Rosas L, Stafford R. Translating the Diabetes Prevention Program lifestyle intervention for weight loss into primary care: a randomized trial. *JAMA Internal Medicine* 2013; 173:113-121](#)
- [Nilsen V, Bakke P, Gallefoss F. Effects of lifestyle intervention in persons at risk for type 2 diabetes mellitus - results from a randomised, controlled trial. *BMC Public Health* 2011; 11:893](#)
- [Pablos A, Drehmer E, Ceca D, Garcia-Esteve A, Lopez-Hernandez L, Fargueta M, Romero FJ, Pablos C. Effects of a lifestyle intervention program for treating obesity in lower socioeconomic status adults: a randomized controlled trial. *Gazzetta Medica Italiana* 2017; 1776:467-477](#)
- [Rollo ME, Baldwin JN, Hutchesson M, Aguiar EJ, Wynne K, Young A, Callister R, Haslam R, Collins CE. The feasibility and preliminary efficacy of an ehealth lifestyle program in women with recent gestational diabetes mellitus: a pilot study. *International Journal of Environmental Research and Public Health* 2020; 17:7115](#)
- [Salinardi T, Batra P, Roberts S, Urban L, Robinson L, Pittas A, Lichtenstein A, Deckersbach T, Saltzman E, Das S. Lifestyle intervention reduces body weight and improves cardiometabolic risk factors in worksites. *American Journal of Clinical Nutrition* 2013; 97:667-76](#)
- [Shrivastava U, Fatma M, Mohan S, Singh P, Misra A. Randomized control trial for reduction of body weight, body fat patterning, and cardiometabolic risk factors in overweight worksite employees in Delhi, India. *Journal of Diabetes Research* 2017; 2017:1-12](#)
- [Tanaka N, Murakami H, Aiba N, Morita A, Watanabe S, Miyachi M. Effects of 1-year weight loss intervention on abdominal skeletal muscle mass in Japanese overweight men and women. *Asia Pacific Journal of Clinical Nutrition* 2019; 28:72-78](#)
- [Uemura M, Hayashi F, Ishioka K, Ihara K, Yasuda K, Okazaki K, Omata J, Suzutani T, Hirakawa Y, Chiang C, Aoyama A, Ohira T. Obesity and mental health improvement following nutritional education focusing on gut microbiota composition in Japanese women: a randomised controlled trial. *European Journal of Nutrition* 2019; 58:3291-3302](#)
- [van Gemert W, Schuit A, van der Palen J, May A, Iestra J, Wittink H, Peeters P, Monnikhof E. Effect of weight loss, with or without exercise, on body composition and sex hormones in postmenopausal women: the SHAPE-2 trial. *Breast Cancer Research* 2015; 17:120](#)
- [Vissers D, Verrijken A, Mertens I, Van Gils C, Van de Sompel A, Truijzen S, Van Gaal L. Effect of long-term whole body vibration training on visceral adipose tissue: a preliminary report. *Obesity Facts* 2010; 3:93-100](#)
- [Weinhold K, Miller C, Marrero D, Nagaraja H, Focht B, Gascon G. A randomized controlled trial translating the diabetes prevention program to a university worksite, Ohio, 2012-2014. *Preventing Chronic Disease* 2015; 12:E210](#)
- [Alencar M, Johnson K, Muller R, Gray V, Gutierrez E, Korosteleva O. The efficacy of a telemedicine-based weight loss program with video conference health coaching support. *Journal of Telemedicine and Telecare* 2017; 25:151-157](#)
- [Cai R, Chao J, Li D, Zhang M, Kong L, Wang Y. Effect of community-based lifestyle interventions on weight loss and cardiometabolic risk factors in obese elderly in China: A randomized controlled trial. *Experimental Gerontology* 2019; 128:110749](#)
- [Carnie A, Lin J, Aicher B, Leon B, Courville A, Sebring N, de Jesus J, Dellavalle D, Fitzpatrick B, Zalos G, Powell-Wiley T, Chen K, Cannon R. Randomized trial of nutrition education added to internet-based information and exercise at the work place for weight loss in a racially diverse population of overweight women. *Nutrition & Diabetes* 2013; 3:e98](#)
- [Colleluori G, Aguirre L, Phadnis U, Fowler K, Armamento-Villareal R, Sun Z, Brunetti L, Hyoung Park J, Kaiparettu B, Putluri N, Auetumrongsawat V, Yarasheski K, Qualls C, Villareal D. Aerobic plus resistance exercise in obese older adults improves muscle protein synthesis and preserves myocellular quality despite weight loss. *Cell Metabolism* 2019; 30:261-273.e6](#)
- [Hageman P, Pullen C, Hertzog M, Pozehl B, Eisenhauer C, Boeckner L. Web-based interventions alone or supplemented with peer-led support or professional email counseling for weight loss and weight maintenance in women from rural communities: results of a clinical trial. *Journal of Obesity* 2017; 2017:1602627](#)

[Kesman R, Ebbert J, Harris K, Schroeder D. Portion control for the treatment of obesity in the primary care setting. *BMC Research Notes* 2011; 4:346](#)

[O'Neil P, Miller-Kovach K, Tuerk P, Becker L, Wadden T, Fujioka K, Hollander P, Kushner R, Timothy Garvey W, Rubino D, Malcolm R, Weiss D, Raum W, Salyer J, Hermayer K, Rost S, Veliko J, Sora N. Randomized controlled trial of a nationally available weight control program tailored for adults with type 2 diabetes. *Obesity* 2016; 24:2269-2277](#)

[Svetkey L, Batch B, Lin P, Intille S, Corsino L, Tyson C, Bosworth H, Grambow S, Voils C, Loria C, Gallis J, Schwager J, Bennett G, Bennett G. Cell phone intervention for you \(CITY\): A randomized, controlled trial of behavioral weight loss intervention for young adults using mobile technology. *Obesity* 2015; 23:2133-2141](#)

[Tapsell L, Lonergan M, Batterham M, Neale E, Martin A, Thorne R, Deane F, Peoples G. Effect of interdisciplinary care on weight loss: a randomised controlled trial. *BMJ Open* 2017; 7:e014533](#)

[Teeriniemi A, Salonurmi T, Jokelainen T, Vähänikkilä H, Alahäivälä T, Karppinen P, Enwald H, Huotari M, Laitinen J, Oinas-Kukkonen H, Savolainen M. A randomized clinical trial of the effectiveness of a web-based health behaviour change support system and group lifestyle counselling on body weight loss in overweight and obese subjects: 2-year outcomes. *Journal of Internal Medicine* 2018; 284:534-545](#)

[Thomas J, Bond D, Raynor H, Papandonatos G, Wing R. Comparison of smartphone-based behavioral obesity treatment with gold standard group treatment and control: a randomized trial. *Obesity* 2019; 27:572-580](#)

[Trepanowski J, Kroeger C, Barnosky A, Klempel M, Bhutani S, Hoddy K, Gabel K, Freels S, Rigdon J, Rood J, Ravussin E, Varady K. Effect of alternate-day fasting on weight loss, weight maintenance, and cardioprotection among metabolically healthy obese adults: a randomized clinical trial. *JAMA* 2017; 177:930-938](#)

[Ventura Marra M, Lilly C, Nelson K, Woofter D, Malone J. . A pilot randomized controlled trial of a telenutrition weight loss intervention in middle-aged and older men with multiple risk factors for cardiovascular disease. *Nutrients* 2019; 11:](#)

[Villareal D, Chode S, Parimi N, Sinacore D, Hilton T, Armamento-Villareal R, Napoli N, Qualls C, Shah K. Weight loss, exercise, or both and physical function in obese older adults. *The New England Journal of Medicine* 2011; 364:1218-1229](#)

[Bove K, Nilsson M, Pedersen L, Mikkelsen N, Suhls H, Astrup A, Prescott E. Comprehensive treatment of microvascular angina in overweight women - a randomized controlled pilot trial. *PLoS One* 2020; 15:e0240722](#)

[de Freitas P, de Menezes M, Dos Santos L, Pimenta A, Ferreira A, Lopes A. The transtheoretical model is an effective weight management intervention: a randomized controlled trial. *BMC Public Health* 2020; 20:652](#)

[Duncan MJ, Fenton S, Brown WJ, Collins CE, Glozier N, Kolt GS, Holliday EG, Morgan PJ, Murawski B, Plotnikoff RC, Rayward AT, Stamatakis E, Vandelanotte C, Burrows TL. Efficacy of a multi-component m-health weight-loss intervention in overweight and obese adults: a randomised controlled trial. *International Journal of Environmental Research and Public Health* 2020; 17:6200](#)

[Gilmore L, Klempel M, Martin C, Myers C, Burton J, Sutton E, Redman L. Personalized Mobile Health Intervention for Health and Weight Loss in Postpartum Women Receiving Women, Infants, and Children Benefit: A Randomized Controlled Pilot Study. *Journal of Women's Health* 2017; 26:719-727](#)

[Hollis G, Franz R, Bauer J, Bell J. Implementation of a very low calorie diet program into the pre-operative model of care for obese general elective surgery patients: outcomes of a feasibility randomised control trial. *Nutrition & Dietetics* 2020; 77:490-498](#)

[Parker A, Byham-Gray L, Denmark R, Winkle P. The effect of medical nutrition therapy by a registered dietitian nutritionist in patients with prediabetes participating in a randomized controlled clinical research trial. *Journal of the Academy of Nutrition and Dietetics* 2014; 114:1739-48](#)

[Hagberg L, Winkvist A, Brekke H, Bertz F, Hellebø Johansson E, Huseinovic E. Cost-effectiveness and quality of life of a diet intervention postpartum: 2-year results from a randomized controlled trial. *BMC Public Health* 2019; 19:38](#)

[Villareal D, Aguirre L, Gurney A, Waters D, Sinacore D, Colombo E, Armamento-Villareal R, Qualls C. Aerobic or resistance exercise, or both, in dieting obese older adults. *New England Journal of Medicine* 2017; 376:1943-1955](#)

[Padwal R, Klarenbach S, Sharma A, Fradette M, Jelinski S, Edwards A, Majumdar S. The evaluating self-management and educational support in severely obese patients awaiting multidisciplinary bariatric care \(EVOLUTION\) trial: principal results. *BMC Medicine* 2017; 15:46](#)

[Anton S, Manini T, Milsom V, Dubyak P, Cesari M, Cheng J, Daniels M, Marsiske M, Pahor M, Leeuwenburgh C, Perri M. Effects of a weight loss plus exercise program on physical function in overweight, older women: a randomized controlled trial. *Clinical Interventions in Aging* 2011; 6:141-149](#)

[Campbell K, Foster-Schubert K, Alfano C, Wang C, Wang C, Duggan C, Mason C, Imayama I, Kong A, Xiao L, Bain C, Blackburn G, Stanczyk F,](#)

o References not graded in Academy of Nutrition and Dietetics Evidence Analysis Process

- Adult Weight Management Systematic Review 2021. Academy of Nutrition and Dietetics' Evidence Analysis Center. <https://andeal.org/awm>. Published July 2021. Accessed July 27, 2021.
- Adult Weight Management Evidence-Based Nutrition Practice Guideline. Academy of Nutrition and Dietetics Evidence Analysis Library. <https://www.andeal.org/topic.cfm?menu=5276&cat=4688> Published 2014. Accessed August 23, 2021.
- Academy of Nutrition and Dietetics. Medicare Fee Schedule for RDNs- MNT and G-Codes. <https://www.eatrightpro.org/payment/medicare/providing-service-and-billing/medicare-physician-fee-schedule>. Accessed July 2022.
- Academy Quality Management Committee. Academy of Nutrition and Dietetics: Revised 2017 Scope of Practice for the Registered Dietitian Nutritionist. *J Acad Nutr Diet*. 2018 Jan;118(1):141-165. PMID: 29173834
- Alberga AS, Edache IY, Forhan M, Russell-Mayhew S. Weight bias and health care utilization: a scoping review. *Prim Health Care Res Dev*. 2019; Jul 22.20;e116. PMID: 32800008
- Alimoradi Z, Golboni F, Griffiths MD, Broström A, Lin CY, Pakpour AH. Weight-related stigma and psychological distress: A systematic review and meta-analysis. *Clin Nutr*. 2020 Jul; 39(7):2001-2013. PMID: 31732288
- Ananthakumar T, Jones NR, Hinton L, Aveyard P. Clinical encounters about obesity: Systematic review of patients' perspectives. *Clin Obes*. 2020 Feb;10(1):e12347. PMID: 31793217
- Bloom K, Adler J, Bridges C, Bernstein J, Rini C, Goldstein AO, Ripley-Moffitt C. Examining Patient Perspectives on Weight Management Support in the Primary Care Setting. *J Prim Prev*. 2018 Aug;39(4):387-399. PMID: 30008041
- Botoseneanu A, Liang J. The effect of stability and change in health behaviors on trajectories of body mass index in older Americans: a 14-year longitudinal study. *J Gerontol A Biol Sci Med Sci*. 2012 Oct; 67(10):1075-1084. PMID: 22459621
- Cardel M I, Newsome FA, Pearl RL, Ross KM, Dillard JR, Miller DR, Hayes JF, Wilfley D, Keel PK, Dhurandhar EJ, Balantekin KN. Patient-Centered Care for Obesity: How Health Care Providers Can Treat Obesity While Actively Addressing Weight Stigma and Eating Disorder Risk. *J Acad Nutr Diet*. 2022 Jun;122(6):1089-1098. PMID: 35033698
- Centers for Disease Control and Prevention. Adult Obesity Causes & Consequences. <https://www.cdc.gov/obesity/adult/causes.html>. Accessed September 17, 2021.
- Fryar CD, Carroll MD, Afful J. Prevalence of overweight, obesity, and severe obesity among adults aged 20 and over: United States, 1960–1962 through 2017–2018. NCHS Health E-Stats. <https://www.cdc.gov/nchs/data/hestat/obesity-adult-17-18/obesity-adult.htm> Accessed September 16, 2021.
- Galekop MMJ, Uyl-de Groot CA, Ken Redekop W. A Systematic Review of Cost-Effectiveness Studies of Interventions With a Personalized Nutrition Component in Adults. *Value Health* 2021 Mar;24(3):325-335. PMID: 33641765
- Howes EM, Harden SM, Cox HK, Hedrick VE. Communicating About Weight in Dietetics Practice: Recommendations for Reduction of Weight Bias and Stigma. *J Acad Nutr Diet*. 2021 Sep;121(9): 1669-1674. PMID: 33589383
- Jinnette R, Narita A, Manning B, McNaughton SA, Mathers JC, Livingstone KM, Does Personalized Nutrition Advice Improve Dietary Intake in Healthy Adults? A Systematic Review of Randomized Controlled Trials. *Adv Nutr*. 2021 Jun 1;12(3): 657-669. PMID: 33313795
- Lawrence BJ, Kerr D, Pollard CM, Theophilus M, Alexander E, Haywood D, O'Connor M. Weight bias among health care professionals: A systematic review and meta-analysis. *Obesity (Silver Spring)* 2021 Nov;29(11):1802-1812. PMID: 34490738
- Linsenmeyer W. Nutrition Guidance for Transgender and Gender Diverse Individuals. <https://sites.google.com/slu.edu/transgendernutrition/home>. Accessed May 16, 2022.
- Malhotra R, Ostbye T, Riley CM, Finkelstein EA. Young adult weight trajectories through midlife by body mass category. *Obesity (Silver Spring)* 2013 Sep;21(9):1923-1934. PMID: 23408493
- Mensinger JL, Calogero RM, Tylka TL. Internalized weight stigma moderates eating behavior outcomes in women with high BMI participating in a healthy living program. *Appetite* 2016 Jul 1;102:32-43. PMID: 26829370
- Morgan-Bathke M, Baxter SD, Halliday TM, Lynch A, Malik N, Raynor HA, Garay JL, Rozga M. Weight Management Interventions Provided by a Dietitian for Adults with Overweight or Obesity: An Evidence Analysis Center Systematic Review and Meta-Analysis. *J Acad Nutr Diet*. 2022 Mar 25;S2212-2672(22)00170-8. PMID: 35788061.
- National Organization of Blacks in Dietetics and Nutrition. Member Group of the Academy of Nutrition and Dietetics. <https://www.nobidan.org/home>. Accessed May 13, 2022.
- National Organization of Blacks in Dietetics and Nutrition. Member Group of the Academy of Nutrition and Dietetics. Member Resource Library. <https://www.nobidan.org/nobidan/get-connected/nobidan-resource-library>. Accessed June 13, 2022.
- Panza GA, Armstrong LE, Taylor BA, Puhl RM, Livingston J, Pescatello LS. Weight bias among exercise and nutrition professionals: a systematic review. *Obes Rev*. 2018 Nov;19(11):1492-1503. PMID: 30176183.
- Pearl RL, Wadden TA, Bach C, Tronieri JS, Berkowitz RI. Six-Month Follow-up from a Randomized Controlled Trial of the Weight BIAS Program. *Obesity (Silver Spring)* 2020 Oct;28(10):1878-1888. PMID: 32860344
- Project Implicit. Project Implicit, Take a Test. <https://implicit.harvard.edu/implicit/selectatest.html>. Accessed June 13, 2022.
- Puhl RM. What words should we use to talk about weight? A systematic review of quantitative and qualitative studies examining preferences for weight-related terminology. *Obes Rev*. 2020 Jun;21(6):e13008. Epub 2020 Feb 12. PMID: 32048465
- Skea ZC, Aceves-Martins M, Robertson C, De Bruin M, Avenell A. Acceptability and feasibility of weight management programmes for adults with severe obesity: a qualitative systematic review. *BMJ Open*. 2019 Sep 11;9(9):e029473. PMID: 31511284
- Song M, Hu FB, Wu K, Must A, Chan AT, Willett WC, Giovannucci EL. Trajectory of body shape in early and middle life and all cause and cause specific mortality: results from two prospective US cohort studies. *BMJ* 2016 May 4;353: i2195. PMID: 27146280
- Swan WI, Vivanti A, Hakel-Smith NA, Hotson B, Orreval Y, Trostler N, Howarter KB, Papoutsakis C. Nutrition Care Process and Model Update: Toward Realizing People-Centered Care and Outcomes Management. *J Acad Nutr Diet*. 2017 Dec;117(12): 2003-2014. PMID: 28988837
- Tewksbury C, Nwankwo R, Peterson J. Academy of Nutrition and Dietetics: Revised 2022 Standards of Practice and Standards of Professional Performance for Registered Dietitian Nutritionists (Competent, Proficient, and Expert) in Adult Weight Management. *J*

Acad Nutr Diet. 2022 Oct;122(10):1940-1954 e45 PMID: 35738538

- U.S. Department of Agriculture MyPlate. Healthy Eating on a Budget. <https://www.myplate.gov/eat-healthy/healthy-eating-budget>. Accessed May 13, 2022.
- World Obesity. Weight Stigma. <https://www.worldobesity.org/what-we-do/our-policy-priorities/weight-stigma>. Accessed April 21, 2022.
- Wu YK, Berry DC. Impact of weight stigma on physiological and psychological health outcomes for overweight and obese adults: A systematic review. *J Adv Nurs.* 2018 May;74(5):1030-1042. PMID: 29171076

- [Adult Weight Management](#)
- [Adult Weight Management \(AWM\) Guideline \(2021-22\)](#)

Quick Links

Recommendations Summary

AWM: Coordination of Care 2022

[Click here](#) to see the explanation of recommendation ratings (Strong, Fair, Weak, Consensus, Insufficient Evidence) and labels (Imperative or Conditional). To see more detail on the evidence from which the following recommendations were drawn, use the hyperlinks in the [Supporting Evidence Section](#) below.

- [Recommendation\(s\)](#)

AWM: Collaborate with Interprofessional Healthcare Team

Registered dietitian nutritionists or international equivalents should collaborate with an interprofessional healthcare team to provide comprehensive, multi-component care for adults with overweight or obesity, as appropriate for and desired by each client.

Rating: Level 1(C)

Imperative

AWM: Coordinate Care in a Variety of Settings

Registered dietitian nutritionists or international equivalents providing medical nutrition therapy interventions for adults with overweight and obesity should coordinate care in a variety of settings, including primary care/outpatient, community and workplace settings, to access and support each client with resources in the environment that best suits individualized needs.

Rating: Level 1(B)

Imperative

- [Risks/Harms of Implementing This Recommendation](#)

Interventions involving physical activity with an exercise practitioner may carry an additional risk of adverse events, but evidence certainty was VERY LOW (Academy of Nutrition and Dietetics' Evidence Analysis Center 2021, Morgan-Bathke M 2022) and risk of harm may not be greater than if individual clients attempted a physical activity intervention on their own (i.e., not under supervision).

Data from the systematic review supporting this evidence-based practice guideline suggests that a blended format of one-on-one and group counseling may be most efficacious (Academy of Nutrition and Dietetics' Evidence Analysis Center 2021). Thus, if only primarily group counseling is available in community and workplace settings, outcomes may not be as robust. Depending on the workplace culture, employees may not feel comfortable engaging in discussions about their personal eating habits with co-workers and/or supervisors. There may be distrust regarding how information obtained from a workplace wellness program could be used negatively against them for health insurance costs.

- [Conditions of Application](#)

Interprofessional Healthcare Team

Use of an interprofessional healthcare team is considered when working with adults with specialized needs that are not within the scope of practice of the dietitian, such as working with an exercise practitioner for clients with specialized physical needs or a mental health professional for clients with specialized psychological needs.(Tewksbury, Nwankwo et al. 2022) Adults with a variety of life stressors (e.g., work-life balance, family caretaking responsibilities) may also benefit from inclusion of both mental health and physical activity professionals along with dietitian services to address overweight and obesity.(Cochrane, Dick et al. 2017) Referrals to other health professionals are standard practice, (Tewksbury, Nwankwo et al. 2022) and can increase client engagement and success.(Bloom, Adler et al. 2018) Potential members of the interprofessional healthcare team serving adults with overweight and obesity are described in [Interprofessional Team Figure](#). To determine if an aspect of an intervention is within one's scope of practice, dietitians can consult the Academy's Scope of Practice Decision Algorithm tool (Academy of Nutrition and Dietetics 2021, Scope of Practice Decision Algorithm).

Dietitians should maintain regular communication with other members of the healthcare team regarding client progress. Development of a joint care plan may be appropriate to ensure consistent strategies and messages are delivered by each member of the healthcare team working with the client. Dietitians can be key advocates for adults with overweight or obesity by providing education to other healthcare practitioners regarding the complex contributors to weight status. This collaboration may facilitate an improved physician perspective regarding client circumstances and motivation and improve empathy with the client (Ananthakumar, Jones et al. 2020).

Primary Care Interventions

Dietitians in private practice should seek to establish a relationship with primary care/outpatient providers in their local area who can provide MNT referrals for adult clients with overweight or obesity (Academy of Nutrition and Dietetics 2017). To the extent possible, the dietitian should have a physical presence in the primary care/outpatient setting to facilitate contact with adult clients and lessen client

burden to attend separate appointments for MNT. This will also lead to improved communication between the dietitian and the primary care/outpatient provider and increase the likelihood that the dietitians will have access to the client's medical records. The Intensive Behavioral Therapy for Obesity toolkit provides a detailed description of how to establish healthy partnerships with primary care/outpatient providers to treat obesity.(Academy of Nutrition and Dietetics 2017) Public and private payer reimbursement for overweight and obesity management is needed to ensure individuals have access to interventions.

Community Interventions

When developing adult overweight and obesity management interventions for community and public settings, dietitians should reach out to various community stakeholders (either individuals or organizations) to better understand the needs of the community and both challenges and opportunities in delivering such interventions.(Bruening, Perkins et al. 2022) Examples of community stakeholders may be a local government official, the county Cooperative Extension staff, a staff member or administrator from the local school district, or clergy from local places of worship. In addition, dietitians should stay updated on the availability of related programs and resources within the community that can support overweight and obesity management interventions (e.g., community gardens, exercise classes, etc.).

When it is time to enroll participants in interventions in community and public settings, dietitians should network with community leaders and peer influencers to help with recruitment and encourage participation. Depending on the target population for the intervention, individuals who desire weight loss but who do not have overweight or obesity may seek to enroll. Dietitians should be aware of the baseline status of all participants in the intervention to tailor messages and goals appropriately. Dietitians working in community and public settings should consider standards of practice that can contribute to intervention efficacy (Bruening, Perkins et al. 2022).

Adult clients encountered in community and public settings may be more likely to have food insecurity, which may be associated with overweight and obesity.(Hernandez, Reesor et al. 2017) Understanding the prevalence of food insecurity, availability of cooking equipment, and the existing food assistance programs available (e.g., the Supplemental Nutrition Assistance Program, food pantries), can improve rapport with clients and facilitate their ability to access and prepare healthy food.(Bruening, Perkins et al. 2022) The two-item Hunger Vital Sign tool has been validated for accuracy in identifying food insecurity (Makelarski, Abramsohn et al. 2017), and can be found on the Food Research & Action Center website (Food Research & Action Center 2022).

Workplace Interventions

Prior to beginning an intervention in the workplace setting, the dietitian should observe the workplace environment to better understand dynamics between employees. This knowledge can be used to design a custom intervention that factors in the unique barriers and/or facilitators to effective programs for that specific workplace. Conducting a baseline survey of employees may also yield insights regarding past attempts at weight loss as well as what employees are looking for in such a program. The dietitian should also consider a blended format of individual- and group-level counseling as well as in-person and telehealth contacts in the workplace setting to allow for the most robust outcomes (Academy of Nutrition and Dietetics' Evidence Analysis Center 2021, Morgan-Bathke M 2022).

Past research has demonstrated mixed results when providing incentives to increase participation in overweight and obesity management programs within the workplace (Cawley and Price 2013, Patel, Asch et al. 2016). However, depending on the employee population, incentives may be an effective way to encourage continued participation. The dietitian may wish to develop a unique, creative incentive program for each workplace, keeping in mind that incentives may become less appealing over time, and individuals may resort to unhealthy tactics to achieve designated weight-loss goals. Dietitians can collaborate with supervisors and human resource representatives in the workplace to devise a program whereby participant attendance/completion can contribute to a reduction in health care premiums.

- o [Potential Costs Associated with Application](#)

Costs may ultimately be higher for an interprofessional approach, but cost-efficacy, in relation to improved outcomes, is not known. Public and private payers may not be willing to cover overweight and obesity management interventions, particularly those provided by an interprofessional healthcare team.

If dietitians are located within a primary care/outpatient setting, few additional resources, aside from additional payments to the dietitian, would be needed. It would likely be cost-effective as dietitian visits are not as expensive as visits to primary care providers.(Academy of Nutrition and Dietetics 2021) While increased reimbursement may increase costs for public and private payers in the short- term, if weight loss can be maintained, interventions may be cost-effective. Implementing dietary interventions in community and public settings is generally less expensive than individual-level contacts and allows dietitians to reach a broader population, making them feasible to implement. Interventions provided in the workplace will most likely vary in cost to the organization and the employees, depending on the scale and type of intervention. However, the potential health benefits as well as the return on investment seen in productivity will likely outweigh the costs associated with any intervention, making it a potentially feasible investment for organizations.

- o [Recommendation Narrative](#)

Dietitians systematically assess, diagnose, intervene with, monitor and evaluate each individual client within the Nutrition Care Process (NCP) framework to ensure consistent, high-quality nutrition care (Swan, Vivanti et al. 2017). Interventions delivered by a team of health professionals, such as qualified exercise practitioners, mental health professionals, obesity medicine specialists, or primary care providers, may provide solutions to address complex etiologies of overweight and obesity.Improving public health through addressing the high prevalence of adult overweight and obesity will require approaches in multiple settings. In the systematic review supporting this EBPG, successful interventions were delivered in a range of settings, including primary care/outpatient, community and workplace settings (Academy of Nutrition and Dietetics' Evidence Analysis Center 2021).

Primary care/outpatient providers may not provide adult weight loss counseling for a variety of reasons including lack of time, perception that clients with obesity are not motivated, and lack of training and expertise (Glauser, Roepke et al. 2015, Kaplan, Golden et al. 2018,

Simon and Lahiri 2018, Ananthakumar, Jones et al. 2020). Therefore, primary care/outpatient providers would likely utilize a dietitian if they had an established system for referrals and knew services could be covered by public and private payers. Individuals always have the option of not participating when offered dietitian services in the primary care/outpatient setting. The primary care/outpatient setting may be more accessible than other types of specialized healthcare settings, as adults may already have an established relationship with a primary care/outpatient provider (Tucker, Bramante et al. 2021). Including dietitians in primary/outpatient care would likely improve coordination of care and compliance with attending multiple sessions with the dietitian. In addition, billing for services is already a part of standard medical practice.

Interventions provided in community and workplace settings allow a broader population to receive nutrition interventions to improve weight outcomes, and thus could potentially reduce the impact on health inequities in disadvantaged groups. Literature demonstrates that community interventions are acceptable to adult participants (Domel, Alford et al. 1992, Domel, Alford et al. 1992). Overweight and obesity management interventions provided by dietitians in a variety of community and public settings (such as places of worship, neighborhood centers, community centers, beauty shops, barber shops, schools, public libraries) and in the workplace may be more accessible and viewed as less threatening and more convenient than medical settings, and possibly help provide “ready-made” support groups to help with weight management during and after interventions. Negative effects of obesity on overall health may have important implications for employers, such as higher rates of absenteeism (VanWormer, Linde et al. 2012). Therefore, employers may benefit by providing employees access to overweight and obesity management interventions. While more evidence is needed on the impacts of interventions in the workplace setting, current evidence demonstrates positive impacts on health while being cost-effective for organizations (Jacobs, Yaquian et al. 2017, Fitzgerald, Murphy et al. 2018, Academy of Nutrition and Dietetics' Evidence Analysis Center 2021).

More information on the evidence supporting these recommendations can be found in the [Summary of Findings Table](#) and [Relationships between Recommendation Statements and Evidence Table](#).

- [Recommendation Strength Rationale](#)

The recommendation of the interprofessional team was based on LOW level evidence from sub-group analysis of interventions utilizing interprofessional teams with dietitians or dietitians alone.

The recommendation for providing care in a variety of settings is from LOW-HIGH evidence that dietitians are efficacious at improving client outcomes in the settings indicated.

- [Minority Opinions](#)

No minority opinions.

- [Supporting Evidence](#)

The recommendations were created from the evidence analysis on the following questions. To see detail of the evidence analysis, click the blue hyperlinks below (recommendations rated consensus will not have supporting evidence linked).

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent, compared to usual care or no intervention from an RDN, on body mass index?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent, compared to usual care or no intervention from an RDN, on percent weight loss?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent, compared to usual care or no intervention from an RDN, on waist circumference?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent, compared to usual care or no intervention from an RDN, on blood pressure?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent, compared to usual care or no intervention from an RDN, on fasting blood glucose?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent, compared to usual care or no intervention from an RDN, on quality of life?](#)

[In adults with overweight or obesity, what is the cost-effectiveness of weight management interventions provided by an RDN or international equivalent, compared to usual care or no intervention from an RDN?](#)

[In adults with overweight or obesity, what is the adverse events of weight management interventions provided by an RDN or international equivalent, compared to usual care or no intervention from an RDN?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent in the community setting, compared to usual care or no intervention from an RDN, on BMI?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent in the community setting, compared to usual care or no intervention from an RDN, on percent weight loss?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent in the](#)

[community setting, compared to usual care or no intervention from an RDN, on waist circumference?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent in the community setting, compared to usual care or no intervention from an RDN, on blood pressure?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent in the community setting, compared to usual care or no intervention from an RDN, on fasting blood glucose?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent in the community setting, compared to usual care or no intervention from an RDN, on quality of life?](#)

[In adults with overweight or obesity, what is the cost-effectiveness of weight management interventions provided by an RDN or international equivalent in the community setting, compared to usual care or no intervention from an RDN?](#)

[In adults with overweight or obesity, what are the adverse events of weight management interventions provided by an RDN or international equivalent in the community setting, compared to usual care or no intervention from an RDN?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent in the workplace setting, compared to usual care or no intervention from an RDN, on BMI?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent in the workplace setting, compared to usual care or no intervention from an RDN, on percent weight loss?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent in the workplace setting, compared to usual care or no intervention from an RDN, on waist circumference?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent in the workplace setting, compared to usual care or no intervention from an RDN, on blood pressure?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent in the workplace setting, compared to usual care or no intervention from an RDN, on fasting blood glucose?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent in the workplace setting, compared to usual care or no intervention from an RDN, on quality of life, cost-effectiveness and adverse events?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent in the primary care or outpatient setting, compared to usual care or no intervention from an RDN, on BMI?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent in the primary care or outpatient setting, compared to usual care or no intervention from an RDN, on percent weight loss?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent in the primary care or outpatient setting, compared to usual care or no intervention from an RDN, on waist circumference?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent in the primary care or outpatient setting, compared to usual care or no intervention from an RDN, on blood pressure?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent in the primary care or outpatient setting, compared to usual care or no intervention from an RDN, on fasting blood glucose?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent in the primary care or outpatient setting, compared to usual care or no intervention from an RDN, on quality of life?](#)

[In adults with overweight or obesity, what is the cost-effectiveness of weight management interventions provided by an RDN or international equivalent in the primary care or outpatient setting, compared to usual care or no intervention from an RDN?](#)

[In adults with overweight or obesity, what are adverse events of weight management interventions provided by an RDN or international equivalent in the primary care or outpatient setting, compared to usual care or no intervention from an RDN?](#)

- [References](#)

[Beleigoli A, Andrade A, Diniz M, Ribeiro A. Personalized web-based weight loss behavior change program with and without dietitian online coaching for adults with overweight and obesity: randomized controlled trial. *Journal of Medical Internet Research* 2020; 22:e17494](#)

[Bertz F, Brekke H, Ellegård L, Rasmussen K, Wennergren M, Winkvist A. Diet and exercise weight-loss trial in lactating overweight and obese women. *The American journal of clinical nutrition* 2012; 96:698-705](#)

[Chambliss H, Huber R, Finley C, McDoniel S, Kitzman-Ulrich H, Wilkinson W. Computerized self-monitoring and technology-assisted feedback for weight loss with and without an enhanced behavioral component. *Patient Education and Counseling* 2011; 85:375-382](#)

Colleluori G, Aguirre L, Phadnis U, Fowler K, Armamento-Villareal R, Sun Z, Brunetti L, Hyoun Park J, Kaiparettu B, Putluri N, Auetumrongsawat V, Yarasheski K, Qualls C, Villareal D. Aerobic plus resistance exercise in obese older adults improves muscle protein synthesis and preserves myocellular quality despite weight loss. *Cell Metabolism* 2019; 30:261-273.e6

Foster-Schubert K, Alfano C, Duggan C, Xiao L, Campbell K, Kong A, Bain C, Wang C, Blackburn G, McTiernan A. Effect of diet and exercise, alone or combined, on weight and body composition in overweight-to-obese postmenopausal women. *Obesity* 2012; 20:1628-1638

Johnson K, Alencar M, Coakley K, Swift D, Cole N, Mermier C, Kravitz L, Amorim F, Gibson A. Telemedicine-based health coaching is effective for inducing weight loss and improving metabolic markers. *Telemedicine Journal and e-Health* 2019; 25:85-92

Thomas J, Bond D, Raynor H, Papandonatos G, Wing R. Comparison of smartphone-based behavioral obesity treatment with gold standard group treatment and control: a randomized trial. *Obesity* 2019; 27:572-580

Duncan MJ, Fenton S, Brown WJ, Collins CE, Glozier N, Kolt GS, Holliday EG, Morgan PJ, Murawski B, Plotnikoff RC, Rayward AT, Stamatakis E, Vandelanotte C, Burrows TL. Efficacy of a multi-component m-health weight-loss intervention in overweight and obese adults: a randomised controlled trial. *International Journal of Environmental Research and Public Health* 2020; 17:6200

Tanaka N, Murakami H, Aiba N, Morita A, Watanabe S, Miyachi M. Effects of 1-year weight loss intervention on abdominal skeletal muscle mass in Japanese overweight men and women. *Asia Pacific Journal of Clinical Nutrition* 2019; 28:72-78

Alencar M, Johnson K, Muller R, Gray V, Gutierrez E, Korosteleva O. The efficacy of a telemedicine-based weight loss program with video conference health coaching support. *Journal of Telemedicine and Telecare* 2017; 25:151-157

Almanza-Aguilera E, Brunius C, Bernal-Lopez M, Garcia-Aloy M, Madrid-Gambin F, Tinahones F, Gómez-Huelgas R, Landberg R, Andres-Lacueva C. Impact in plasma metabolome as effect of lifestyle intervention for weight-loss reveals metabolic benefits in metabolically healthy obese women. *Journal of Proteome Research* 2018; 17:2600-2610

Georgoulis M, Yiannakouris N, Kechribari I, Lamprou K, Perraki E, Vagiakis E, Kontogianni M. Cardiometabolic Benefits of a Weight Loss Mediterranean Diet/Lifestyle Intervention in Patients with Obstructive Sleep Apnea: The "MIMOSA" Randomized Clinical Trial. *Nutrients* 2020; 12:

Mason C, Foster-Schubert K, Imayama I, Kong A, Xiao L, Bain C, Campbell K, Wang C, Duggan C, Ulrich C, Alfano C, Blackburn G, McTiernan A. Dietary weight loss and exercise effects on insulin resistance in postmenopausal women. *American Journal of Preventive Medicine* 2011; 41:366-375

Parker A, Byham-Gray L, Denmark R, Winkle P. The effect of medical nutrition therapy by a registered dietitian nutritionist in patients with prediabetes participating in a randomized controlled clinical research trial. *Journal of the Academy of Nutrition and Dietetics* 2014; 114:1739-48

Trepanowski J, Kroeger C, Barnosky A, Klempel M, Bhutani S, Hoddy K, Gabel K, Freels S, Rigdon J, Rood J, Ravussin E, Varady K. Effect of alternate-day fasting on weight loss, weight maintenance, and cardioprotection among metabolically healthy obese adults: a randomized clinical trial. *JAMA* 2017; 177:930-938

Vissers D, Verrijken A, Mertens I, Van Gils C, Van de Sompel A, Truijien S, Van Gaal L. Effect of long-term whole body vibration training on visceral adipose tissue: a preliminary report. *Obesity Facts* 2010; 3:93-100

Rollo ME, Baldwin JN, Hutchesson M, Aguiar EJ, Wynne K, Young A, Callister R, Haslam R, Collins CE. The feasibility and preliminary efficacy of an ehealth lifestyle program in women with recent gestational diabetes mellitus: a pilot study. *International Journal of Environmental Research and Public Health* 2020; 17:7115

van Gemert W, van der Palen J, Monnikhof E, Rozeboom A, Peters R, Wittink H, Schuit A, Peeters P. Quality of life after diet or exercise-induced weight loss in overweight to obese postmenopausal women: the SHAPE-2 randomised controlled trial. *PLoS One* 2015; 10:e0127520

Villareal D, Chode S, Parimi N, Sinacore D, Hilton T, Armamento-Villareal R, Napoli N, Qualls C, Shah K. Weight loss, exercise, or both and physical function in obese older adults. *The New England Journal of Medicine* 2011; 364:1218-1229

Padwal R, Klarenbach S, Sharma A, Fradette M, Jelinski S, Edwards A, Majumdar S. The evaluating self-management and educational support in severely obese patients awaiting multidisciplinary bariatric care (EVOLUTION) trial: principal results. *BMC Medicine* 2017; 15:46

Campbell K, Foster-Schubert K, Alfano C, Wang C, Wang C, Duggan C, Mason C, Imayama I, Kong A, Xiao L, Bain C, Blackburn G, Stanczyk F, McTiernan A. Reduced-calorie dietary weight loss, exercise, and sex hormones in postmenopausal women: randomized controlled trial. *Journal of Clinical Oncology* 2012; 30:2314-2326

O'Neil P, Miller-Kovach K, Tuerk P, Becker L, Wadden T, Fujioka K, Hollander P, Kushner R, Timothy Garvey W, Rubino D, Malcolm R, Weiss D, Raum W, Salyer J, Hermayer K, Rost S, Veliko J, Sora N. Randomized controlled trial of a nationally available weight control program tailored for adults with type 2 diabetes. *Obesity* 2016; 24:2269-2277

[Svetkey L, Batch B, Lin P, Intille S, Corsino L, Tyson C, Bosworth H, Grambow S, Voils C, Loria C, Gallis J, Schwager J, Bennett G, Bennett G. Cell phone intervention for you \(CITY\): A randomized, controlled trial of behavioral weight loss intervention for young adults using mobile technology. *Obesity* 2015; 23:2133-2141](#)

[Villareal D, Aguirre L, Gurney A, Waters D, Sinacore D, Colombo E, Armamento-Villareal R, Qualls C. Aerobic or resistance exercise, or both, in dieting obese older adults. *New England Journal of Medicine* 2017; 376:1943-1955](#)

[Annesi J, Whitaker A. Weight loss and psychologic gain in obese women-participants in a supported exercise intervention. *The Permanente Journal* 2008; 12:36-45](#)

[Hassapidou M, Tziomalos K, Lazaridou S, Pagkalos I, Papadimitriou K, Kokkinopoulou A, Tzotzas T. The Nutrition Health Alliance \(NutriHeAl\) study: a randomized, controlled, nutritional intervention based on Mediterranean diet in Greek municipalities. *Journal of the American College of Nutrition* 2020; 39:338-344](#)

[Cai R, Chao J, Li D, Zhang M, Kong L, Wang Y. Effect of community-based lifestyle interventions on weight loss and cardiometabolic risk factors in obese elderly in China: A randomized controlled trial. *Experimental Gerontology* 2019; 128:110749](#)

[Hageman P, Pullen C, Hertzog M, Pozehl B, Eisenhauer C, Boeckner L. Web-based interventions alone or supplemented with peer-led support or professional email counseling for weight loss and weight maintenance in women from rural communities: results of a clinical trial. *Journal of Obesity* 2017; 2017:1602627](#)

[Tapsell L, Lonergan M, Batterham M, Neale E, Martin A, Thorne R, Deane F, Peoples G. Effect of interdisciplinary care on weight loss: a randomised controlled trial. *BMJ Open* 2017; 7:e014533](#)

[Gilmore L, Klempel M, Martin C, Myers C, Burton J, Sutton E, Redman L. Personalized Mobile Health Intervention for Health and Weight Loss in Postpartum Women Receiving Women, Infants, and Children Benefit: A Randomized Controlled Pilot Study. *Journal of Women's Health* 2017; 26:719-727](#)

[Tapsell L, Lonergan M, Batterham M, Neale E, Martin A, Thorne R, Deane F, Peoples G. Effect of interdisciplinary care on weight loss: a randomised controlled trial. *BMJ Open* 2017; 7:e014533](#)

[Anton S, Manini T, Milsom V, Dubyak P, Cesari M, Cheng J, Daniels M, Marsiske M, Pahor M, Leeuwenburgh C, Perri M. Effects of a weight loss plus exercise program on physical function in overweight, older women: a randomized controlled trial. *Clinical Interventions in Aging* 2011; 6:141-149](#)

[Salinardi T, Batra P, Roberts S, Urban L, Robinson L, Pittas A, Lichtenstein A, Deckersbach T, Saltzman E, Das S. Lifestyle intervention reduces body weight and improves cardiometabolic risk factors in worksites. *American Journal of Clinical Nutrition* 2013; 97:667-76](#)

[Weinhold K, Miller C, Marrero D, Nagaraja H, Focht B, Gascon G. A randomized controlled trial translating the diabetes prevention program to a university worksite, Ohio, 2012-2014. *Preventing Chronic Disease* 2015; 12:E210](#)

[Shrivastava U, Fatma M, Mohan S, Singh P, Misra A. Randomized control trial for reduction of body weight, body fat patterning, and cardiometabolic risk factors in overweight worksite employees in Delhi, India. *Journal of Diabetes Research* 2017; 2017:1-12](#)

[Salinardi T, Batra P, Roberts S, Urban L, Robinson L, Pittas A, Lichtenstein A, Deckersbach T, Saltzman E, Das S. Lifestyle intervention reduces body weight and improves cardiometabolic risk factors in worksites. *American Journal of Clinical Nutrition* 2013; 97:667-76](#)

[Al-Hamdan R, Avery A, Salter A, Al-Disi D, Al-Daghri NM, McCullough F. Identification of Education Models to Improve Health Outcomes in Arab Women with Pre-Diabetes. *Nutrients* 2019; 11:1113](#)

[Assunção M, Gigante D, Cardoso M, Sartorelli D, Santos I. Randomized, controlled trial promotes physical activity and reduces consumption of sweets and sodium among overweight and obese adults. *Nutrition Research* 2010; 30:541-549](#)

[Barratt R, Frost G, Millward D, Truby H. A randomised controlled trial investigating the effect of an intensive lifestyle intervention v. standard care in adults with type 2 diabetes immediately after initiating insulin therapy. *The British Journal of Nutrition* 2008; 99:1025-1031](#)

[Bennett G, Herring S, Puleo E, Stein E, Emmons K, Gillman M. Web-based weight loss in primary care: a randomized controlled trial. *Obesity* 2010; 18:308-313](#)

[Bennett G, Steinberg D, Askew S, Levine E, Foley P, Batch B, Svetkey L, Bosworth H, Puleo E, Brewer A, DeVries A, Miranda H. Effectiveness of an app and provider counseling for obesity treatment in primary care. *American Journal of Preventive Medicine* 2018; 55:777-786](#)

[de Freitas P, de Menezes M, Dos Santos L, Pimenta A, Ferreira A, Lopes A. The transtheoretical model is an effective weight management intervention: a randomized controlled trial. *BMC Public Health* 2020; 20:652](#)

[de Vos B, Runhaar J, Bierma-Zeinstra S. Effectiveness of a tailor-made weight loss intervention in primary care. *European Journal of Nutrition* 2014; 53:95-104](#)

- Abd El-Kader SM, Al-jiffri OH, Neamatallah ZA, AlKhateeb AF, AlFawaz SS. Weight reduction ameliorates inflammatory cytokines, adipocytokines and endothelial dysfunction biomarkers among Saudi patients with type 2 diabetes. *African Health Sciences* 2020; 20:1329-1336
- Gallagher R, Kirkness A, Zelestis E, Hollams D, Kneale C, Armari E, Bennett T, Daly J, Tofler G. A randomised trial of a weight loss intervention for overweight and obese people diagnosed with coronary heart disease and/or type 2 diabetes. *Annals of Behavioral Medicine* 2012; 44:119-128
- Gandler N, Simmance N, Keenan J, Choong P, Dowsey M. A pilot study investigating dietetic weight loss interventions and 12 month functional outcomes of patients undergoing total joint replacement. *Obesity Research & Clinical Practice* 2016; 10:220-223
- Hardcastle S, Taylor A, Bailey M, Harley R, Hagger M. Effectiveness of a motivational interviewing intervention on weight loss, physical activity and cardiovascular disease risk factors: a randomised controlled trial with a 12-month post-intervention follow-up. *The International Journal of Behavioral Nutrition and Physical Activity* 2013; 10:40
- Huseinovic E, Bertz F, Brekke H, Winkvist A. Two-year follow-up of a postpartum weight loss intervention: Results from a randomized controlled trial. *Maternal & Child Nutrition* 2018; 14:e12539
- Jiang X, Fan X, Wu R, Geng F, Hu C. The effect of care intervention for obese patients with type II diabetes. *Medicine* 2017; 96:e7524
- Karintrakul S, Angkatavanich J. A randomized controlled trial of an individualized nutrition counseling program matched with a transtheoretical model for overweight and obese females in Thailand. *Nutrition Research and Practice* 2017; 11:319-326
- Liljensøe A, Laursen J, Bliddal H, Søballe K, Mechlenburg I. Weight loss intervention before total knee replacement: a 12-month randomized controlled trial. *Scandinavian Journal of Surgery* 2021; 110:3-12
- Ma J, Yank V, Xiao L, Lavori P, Wilson S, Rosas L, Stafford R. Translating the Diabetes Prevention Program lifestyle intervention for weight loss into primary care: a randomized trial. *JAMA Internal Medicine* 2013; 173:113-121
- Nilsen V, Bakke P, Gallefoss F. Effects of lifestyle intervention in persons at risk for type 2 diabetes mellitus - results from a randomised, controlled trial. *BMC Public Health* 2011; 11:893
- Kesman R, Ebbert J, Harris K, Schroeder D. Portion control for the treatment of obesity in the primary care setting. *BMC Research Notes* 2011; 4:346
- Ventura Marra M, Lilly C, Nelson K, Woofter D, Malone J. . A pilot randomized controlled trial of a telenutrition weight loss intervention in middle-aged and older men with multiple risk factors for cardiovascular disease. *Nutrients* 2019; 11:
- Bove K, Nilsson M, Pedersen L, Mikkelsen N, Suhrs H, Astrup A, Prescott E. Comprehensive treatment of microvascular angina in overweight women - a randomized controlled pilot trial. *PLoS One* 2020; 15:e0240722
- Hollis G, Franz R, Bauer J, Bell J. Implementation of a very low calorie diet program into the pre-operative model of care for obese general elective surgery patients: outcomes of a feasibility randomised control trial. *Nutrition & Dietetics* 2020; 77:490-498
- Hagberg L, Winkvist A, Brekke H, Bertz F, Hellebø Johansson E, Huseinovic E. Cost-effectiveness and quality of life of a diet intervention postpartum: 2-year results from a randomized controlled trial. *BMC Public Health* 2019; 19:38

○ References not graded in Academy of Nutrition and Dietetics Evidence Analysis Process

- Adult Weight Management Systematic Review 2021. Academy of Nutrition and Dietetics' Evidence Analysis Center. <https://andeal.org/awm>. Published July 2021. Accessed July 27, 2021.
- Academy of Nutrition and Dietetics. Intensive Behavioral Therapy for Obesity. <https://www.eatrightstore.org/product-type/toolkits/intensive-behavioral-therapy-for-obesity-putting-it-into-practice>. Published 2017. Accessed September 17, 2021.
- Academy of Nutrition and Dietetics. Medicare Fee Schedule for RDs- MNT and G-Codes. <https://www.eatrightpro.org/payment/medicare/providing-service-and-billing/medicare-physician-fee-schedule>. Accessed July 2022.
- Academy of Nutrition and Dietetics. Scope of Practice Decision Algorithm. https://www.eatrightpro.org/practice/quality-management/scope-of-practice?rdType=short_url&rdInfo=scope. Published 2021. Accessed September 17, 2021.
- Ananthakumar T, Jones NR, Hinton L, Aveyard P. Clinical encounters about obesity: Systematic review of patients' perspectives. *Clin Obes*. 2020 Feb;10(1): e12347. PMID: 31793217
- Bloom K, Adler J, Bridges C, Bernstein J, Rini C, Goldstein AO, Ripley-Moffitt C. Examining Patient Perspectives on Weight Management Support in the Primary Care Setting. *J Prim Prev*. 2018 Aug;39(4):387-399. PMID: 30008041
- Bruening M, Perkins S, Udarbe A. Academy of Nutrition and Dietetics: Revised 2022 Standards of Practice and Standards of Professional Performance for Registered Dietitian Nutritionists (Competent, Proficient, and Expert) in Public Health and Community Nutrition. *J Acad Nutr Diet*. 2022 Sep;122(9):1744-1763.e1749. PMID: 35988945
- Cawley J, Price JA. A case study of a workplace wellness program that offers financial incentives for weight loss. *J Health Econ*. 2013 Sep;32(5):794-803. PMID: 23787373
- Cochrane A, Dick JB, King NA, Hills AP, Kavanagh DJ. Developing dimensions for a multicomponent multidisciplinary approach to obesity management: a qualitative study. *BMC Public Health* 2017 Oct 16;17(1):814. PMID: 29037238

- Domel SB, Alford BB, Cattlett HN, Gench BE. Weight control for black women. *J Am Diet Assoc.* 1992 Mar;92(3):346-348. PMID: 1552136
- Domel SB, Alford BB, Cattlett HN, Rodriguez ML, Gench BE. A pilot weight control program for Hispanic women. *J Am Diet Assoc.* 1992 Oct;92(10):1270-1271. PMID: 1401669
- Fitzgerald A, Murphy A, Kirby A, Geaney F, Perry IJ. Cost-effectiveness of a complex workplace dietary intervention: an economic evaluation of the Food Choice at Work study. *BMJ Open.* 2018 Mar 3;8(3):e019182. PMID: 29502090
- Food Research & Action Center. Hunger Vital Sign. https://www.eatrightpro.org/practice/quality-management/scope-of-practice?rdType=short_url&rdInfo=scope. Accessed August 31, 2022.
- Glauser TA, Roepke N, Stevenin B, Dubois AM, Ahn SM. Physician knowledge about and perceptions of obesity management. *Obes Res Clin Pract.* 2015 Nov-Dec;9(6):573-583. PMID: 25791741
- Hernandez DC, Reesor LM, Murillo R. Food insecurity and adult overweight/obesity: Gender and race/ethnic disparities. *Appetite* 2017 Oct;117:373-378. PMID: 28739148
- Jacobs JC, Yaquian E, Burke SM, Rouse M, Zaric G. The economic impact of workplace wellness programmes in Canada. *Occup Med (Lond)* 2017 Aug 1;67(6):429-434. PMID: 28898961
- Kaplan LM, Golden A, Jinnett K, Kolotkin RL, Kyle TK, Look M, Nadgrowski J, O'Neil PM, Parry T, Tomaszewski KJ, Stevenin B, Lilleøre SK, Dhurandhar NV. Perceptions of Barriers to Effective Obesity Care: Results from the National ACTION Study. *Obesity (Silver Spring)* 2018 Jan;26(1):61-69. PMID: 29086529
- Makelarski JA, Abramsohn E, Benjamin JH, Du S, Lindau ST. Diagnostic Accuracy of Two Food Insecurity Screeners Recommended for Use in Health Care Settings. *Am J Public Health* 2017 Nov;107(11):1812-1817. PMID: 28933929
- Morgan-Bathke M, Baxter SD, Halliday TM, Lynch A, Malik N, Raynor HA, Garay JL, Rozga M, Weight Management Interventions Provided by a Dietitian for Adults with Overweight or Obesity: An Evidence Analysis Center Systematic Review and Meta-Analysis. *J Acad Nutr Diet.* 2022 Mar;S2212-2672(22)00170-8 In Press. PMID: 35788061
- Patel MS, Asch DA, Troxel AB, Fletcher M, Osman-Koss R, Brady J, Wesby L, Hilbert V, Zhu J, Wang W, Volpp KG. Premium-Based Financial Incentives Did Not Promote Workplace Weight Loss In A 2013-15 Study. *Health Aff (Millwood)* 2016 Jan;35(1):71-79. PMID: 26733703
- Simon R, Lahiri SW. Provider Practice Habits and Barriers to Care in Obesity Management in a Large Multicenter Health System. *Endocr Pract.* 2018 Apr;24(4):321-328. PMID: 29561192
- Tewksbury C, Nwankwo R, Peterson J. Academy of Nutrition and Dietetics: Revised 2022 Standards of Practice and Standards of Professional Performance for Registered Dietitian Nutritionists (Competent, Proficient, and Expert) in Adult Weight Management. *J Acad Nutr Diet.* 2022 Oct;122(10):1940-1954.e45. PMID: 35738538
- Tucker S, Bramante C, Conroy M, Fitch A, Gilden A, Wittleder S, Jay M. The Most Undertreated Chronic Disease: Addressing Obesity in Primary Care Settings. *Current Obes Rep.* 2021 Sep;10(3):396-408. PMID: 34297343
- VanWormer JJ, Linde JA, Harnack LJ, Stovitz SD, Jeffery RW. Weight change and workplace absenteeism in the HealthWorks study. *Obes Facts* 2012;5(5):745-752. PMID: 23108493

- [Adult Weight Management](#)
- [Adult Weight Management \(AWM\) Guideline \(2021-22\)](#)

Quick Links

Recommendations Summary

AWM: Coordination of Care 2022

[Click here](#) to see the explanation of recommendation ratings (Strong, Fair, Weak, Consensus, Insufficient Evidence) and labels (Imperative or Conditional). To see more detail on the evidence from which the following recommendations were drawn, use the hyperlinks in the [Supporting Evidence Section](#) below.

- [Recommendation\(s\)](#)

AWM: Collaborate with Interprofessional Healthcare Team

Registered dietitian nutritionists or international equivalents should collaborate with an interprofessional healthcare team to provide comprehensive, multi-component care for adults with overweight or obesity, as appropriate for and desired by each client.

Rating: Level 1(C)

Imperative

AWM: Coordinate Care in a Variety of Settings

Registered dietitian nutritionists or international equivalents providing medical nutrition therapy interventions for adults with overweight and obesity should coordinate care in a variety of settings, including primary care/outpatient, community and workplace settings, to access and support each client with resources in the environment that best suits individualized needs.

Rating: Level 1(B)

Imperative

- [Risks/Harms of Implementing This Recommendation](#)

Interventions involving physical activity with an exercise practitioner may carry an additional risk of adverse events, but evidence certainty was VERY LOW (Academy of Nutrition and Dietetics' Evidence Analysis Center 2021, Morgan-Bathke M 2022) and risk of harm may not be greater than if individual clients attempted a physical activity intervention on their own (i.e., not under supervision).

Data from the systematic review supporting this evidence-based practice guideline suggests that a blended format of one-on-one and group counseling may be most efficacious (Academy of Nutrition and Dietetics' Evidence Analysis Center 2021). Thus, if only primarily group counseling is available in community and workplace settings, outcomes may not be as robust. Depending on the workplace culture, employees may not feel comfortable engaging in discussions about their personal eating habits with co-workers and/or supervisors. There may be distrust regarding how information obtained from a workplace wellness program could be used negatively against them for health insurance costs.

- [Conditions of Application](#)

Interprofessional Healthcare Team

Use of an interprofessional healthcare team is considered when working with adults with specialized needs that are not within the scope of practice of the dietitian, such as working with an exercise practitioner for clients with specialized physical needs or a mental health professional for clients with specialized psychological needs.(Tewksbury, Nwankwo et al. 2022) Adults with a variety of life stressors (e.g., work-life balance, family caretaking responsibilities) may also benefit from inclusion of both mental health and physical activity professionals along with dietitian services to address overweight and obesity.(Cochrane, Dick et al. 2017) Referrals to other health professionals are standard practice, (Tewksbury, Nwankwo et al. 2022) and can increase client engagement and success.(Bloom, Adler et al. 2018) Potential members of the interprofessional healthcare team serving adults with overweight and obesity are described in [Interprofessional Team Figure](#). To determine if an aspect of an intervention is within one's scope of practice, dietitians can consult the Academy's Scope of Practice Decision Algorithm tool (Academy of Nutrition and Dietetics 2021, Scope of Practice Decision Algorithm).

Dietitians should maintain regular communication with other members of the healthcare team regarding client progress. Development of a joint care plan may be appropriate to ensure consistent strategies and messages are delivered by each member of the healthcare team working with the client. Dietitians can be key advocates for adults with overweight or obesity by providing education to other healthcare practitioners regarding the complex contributors to weight status. This collaboration may facilitate an improved physician perspective regarding client circumstances and motivation and improve empathy with the client (Ananthakumar, Jones et al. 2020).

Primary Care Interventions

Dietitians in private practice should seek to establish a relationship with primary care/outpatient providers in their local area who can provide MNT referrals for adult clients with overweight or obesity (Academy of Nutrition and Dietetics 2017). To the extent possible, the dietitian should have a physical presence in the primary care/outpatient setting to facilitate contact with adult clients and lessen client

burden to attend separate appointments for MNT. This will also lead to improved communication between the dietitian and the primary care/outpatient provider and increase the likelihood that the dietitians will have access to the client's medical records. The Intensive Behavioral Therapy for Obesity toolkit provides a detailed description of how to establish healthy partnerships with primary care/outpatient providers to treat obesity.(Academy of Nutrition and Dietetics 2017) Public and private payer reimbursement for overweight and obesity management is needed to ensure individuals have access to interventions.

Community Interventions

When developing adult overweight and obesity management interventions for community and public settings, dietitians should reach out to various community stakeholders (either individuals or organizations) to better understand the needs of the community and both challenges and opportunities in delivering such interventions.(Bruening, Perkins et al. 2022) Examples of community stakeholders may be a local government official, the county Cooperative Extension staff, a staff member or administrator from the local school district, or clergy from local places of worship. In addition, dietitians should stay updated on the availability of related programs and resources within the community that can support overweight and obesity management interventions (e.g., community gardens, exercise classes, etc.).

When it is time to enroll participants in interventions in community and public settings, dietitians should network with community leaders and peer influencers to help with recruitment and encourage participation. Depending on the target population for the intervention, individuals who desire weight loss but who do not have overweight or obesity may seek to enroll. Dietitians should be aware of the baseline status of all participants in the intervention to tailor messages and goals appropriately. Dietitians working in community and public settings should consider standards of practice that can contribute to intervention efficacy (Bruening, Perkins et al. 2022).

Adult clients encountered in community and public settings may be more likely to have food insecurity, which may be associated with overweight and obesity.(Hernandez, Reesor et al. 2017) Understanding the prevalence of food insecurity, availability of cooking equipment, and the existing food assistance programs available (e.g., the Supplemental Nutrition Assistance Program, food pantries), can improve rapport with clients and facilitate their ability to access and prepare healthy food.(Bruening, Perkins et al. 2022) The two-item Hunger Vital Sign tool has been validated for accuracy in identifying food insecurity (Makelarski, Abramsohn et al. 2017), and can be found on the Food Research & Action Center website (Food Research & Action Center 2022).

Workplace Interventions

Prior to beginning an intervention in the workplace setting, the dietitian should observe the workplace environment to better understand dynamics between employees. This knowledge can be used to design a custom intervention that factors in the unique barriers and/or facilitators to effective programs for that specific workplace. Conducting a baseline survey of employees may also yield insights regarding past attempts at weight loss as well as what employees are looking for in such a program. The dietitian should also consider a blended format of individual- and group-level counseling as well as in-person and telehealth contacts in the workplace setting to allow for the most robust outcomes (Academy of Nutrition and Dietetics' Evidence Analysis Center 2021, Morgan-Bathke M 2022).

Past research has demonstrated mixed results when providing incentives to increase participation in overweight and obesity management programs within the workplace (Cawley and Price 2013, Patel, Asch et al. 2016). However, depending on the employee population, incentives may be an effective way to encourage continued participation. The dietitian may wish to develop a unique, creative incentive program for each workplace, keeping in mind that incentives may become less appealing over time, and individuals may resort to unhealthy tactics to achieve designated weight-loss goals. Dietitians can collaborate with supervisors and human resource representatives in the workplace to devise a program whereby participant attendance/completion can contribute to a reduction in health care premiums.

- [Potential Costs Associated with Application](#)

Costs may ultimately be higher for an interprofessional approach, but cost-efficacy, in relation to improved outcomes, is not known. Public and private payers may not be willing to cover overweight and obesity management interventions, particularly those provided by an interprofessional healthcare team.

If dietitians are located within a primary care/outpatient setting, few additional resources, aside from additional payments to the dietitian, would be needed. It would likely be cost-effective as dietitian visits are not as expensive as visits to primary care providers.(Academy of Nutrition and Dietetics 2021) While increased reimbursement may increase costs for public and private payers in the short- term, if weight loss can be maintained, interventions may be cost-effective. Implementing dietary interventions in community and public settings is generally less expensive than individual-level contacts and allows dietitians to reach a broader population, making them feasible to implement. Interventions provided in the workplace will most likely vary in cost to the organization and the employees, depending on the scale and type of intervention. However, the potential health benefits as well as the return on investment seen in productivity will likely outweigh the costs associated with any intervention, making it a potentially feasible investment for organizations.

- [Recommendation Narrative](#)

Dietitians systematically assess, diagnose, intervene with, monitor and evaluate each individual client within the Nutrition Care Process (NCP) framework to ensure consistent, high-quality nutrition care (Swan, Vivanti et al. 2017). Interventions delivered by a team of health professionals, such as qualified exercise practitioners, mental health professionals, obesity medicine specialists, or primary care providers, may provide solutions to address complex etiologies of overweight and obesity.Improving public health through addressing the high prevalence of adult overweight and obesity will require approaches in multiple settings. In the systematic review supporting this EBPG, successful interventions were delivered in a range of settings, including primary care/outpatient, community and workplace settings (Academy of Nutrition and Dietetics' Evidence Analysis Center 2021).

Primary care/outpatient providers may not provide adult weight loss counseling for a variety of reasons including lack of time, perception that clients with obesity are not motivated, and lack of training and expertise (Glauser, Roepke et al. 2015, Kaplan, Golden et al. 2018,

Simon and Lahiri 2018, Ananthakumar, Jones et al. 2020). Therefore, primary care/outpatient providers would likely utilize a dietitian if they had an established system for referrals and knew services could be covered by public and private payers. Individuals always have the option of not participating when offered dietitian services in the primary care/outpatient setting. The primary care/outpatient setting may be more accessible than other types of specialized healthcare settings, as adults may already have an established relationship with a primary care/outpatient provider (Tucker, Bramante et al. 2021). Including dietitians in primary/outpatient care would likely improve coordination of care and compliance with attending multiple sessions with the dietitian. In addition, billing for services is already a part of standard medical practice.

Interventions provided in community and workplace settings allow a broader population to receive nutrition interventions to improve weight outcomes, and thus could potentially reduce the impact on health inequities in disadvantaged groups. Literature demonstrates that community interventions are acceptable to adult participants (Domel, Alford et al. 1992, Domel, Alford et al. 1992). Overweight and obesity management interventions provided by dietitians in a variety of community and public settings (such as places of worship, neighborhood centers, community centers, beauty shops, barber shops, schools, public libraries) and in the workplace may be more accessible and viewed as less threatening and more convenient than medical settings, and possibly help provide “ready-made” support groups to help with weight management during and after interventions. Negative effects of obesity on overall health may have important implications for employers, such as higher rates of absenteeism (VanWormer, Linde et al. 2012). Therefore, employers may benefit by providing employees access to overweight and obesity management interventions. While more evidence is needed on the impacts of interventions in the workplace setting, current evidence demonstrates positive impacts on health while being cost-effective for organizations (Jacobs, Yaquian et al. 2017, Fitzgerald, Murphy et al. 2018, Academy of Nutrition and Dietetics' Evidence Analysis Center 2021).

More information on the evidence supporting these recommendations can be found in the [Summary of Findings Table](#) and [Relationships between Recommendation Statements and Evidence Table](#).

- [Recommendation Strength Rationale](#)

The recommendation of the interprofessional team was based on LOW level evidence from sub-group analysis of interventions utilizing interprofessional teams with dietitians or dietitians alone.

The recommendation for providing care in a variety of settings is from LOW-HIGH evidence that dietitians are efficacious at improving client outcomes in the settings indicated.

- [Minority Opinions](#)

No minority opinions.

- [Supporting Evidence](#)

The recommendations were created from the evidence analysis on the following questions. To see detail of the evidence analysis, click the blue hyperlinks below (recommendations rated consensus will not have supporting evidence linked).

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent, compared to usual care or no intervention from an RDN, on body mass index?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent, compared to usual care or no intervention from an RDN, on percent weight loss?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent, compared to usual care or no intervention from an RDN, on waist circumference?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent, compared to usual care or no intervention from an RDN, on blood pressure?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent, compared to usual care or no intervention from an RDN, on fasting blood glucose?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent, compared to usual care or no intervention from an RDN, on quality of life?](#)

[In adults with overweight or obesity, what is the cost-effectiveness of weight management interventions provided by an RDN or international equivalent, compared to usual care or no intervention from an RDN?](#)

[In adults with overweight or obesity, what is the adverse events of weight management interventions provided by an RDN or international equivalent, compared to usual care or no intervention from an RDN?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent in the community setting, compared to usual care or no intervention from an RDN, on BMI?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent in the community setting, compared to usual care or no intervention from an RDN, on percent weight loss?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent in the](#)

[community setting, compared to usual care or no intervention from an RDN, on waist circumference?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent in the community setting, compared to usual care or no intervention from an RDN, on blood pressure?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent in the community setting, compared to usual care or no intervention from an RDN, on fasting blood glucose?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent in the community setting, compared to usual care or no intervention from an RDN, on quality of life?](#)

[In adults with overweight or obesity, what is the cost-effectiveness of weight management interventions provided by an RDN or international equivalent in the community setting, compared to usual care or no intervention from an RDN?](#)

[In adults with overweight or obesity, what are the adverse events of weight management interventions provided by an RDN or international equivalent in the community setting, compared to usual care or no intervention from an RDN?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent in the workplace setting, compared to usual care or no intervention from an RDN, on BMI?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent in the workplace setting, compared to usual care or no intervention from an RDN, on percent weight loss?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent in the workplace setting, compared to usual care or no intervention from an RDN, on waist circumference?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent in the workplace setting, compared to usual care or no intervention from an RDN, on blood pressure?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent in the workplace setting, compared to usual care or no intervention from an RDN, on fasting blood glucose?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent in the workplace setting, compared to usual care or no intervention from an RDN, on quality of life, cost-effectiveness and adverse events?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent in the primary care or outpatient setting, compared to usual care or no intervention from an RDN, on BMI?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent in the primary care or outpatient setting, compared to usual care or no intervention from an RDN, on percent weight loss?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent in the primary care or outpatient setting, compared to usual care or no intervention from an RDN, on waist circumference?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent in the primary care or outpatient setting, compared to usual care or no intervention from an RDN, on blood pressure?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent in the primary care or outpatient setting, compared to usual care or no intervention from an RDN, on fasting blood glucose?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent in the primary care or outpatient setting, compared to usual care or no intervention from an RDN, on quality of life?](#)

[In adults with overweight or obesity, what is the cost-effectiveness of weight management interventions provided by an RDN or international equivalent in the primary care or outpatient setting, compared to usual care or no intervention from an RDN?](#)

[In adults with overweight or obesity, what are adverse events of weight management interventions provided by an RDN or international equivalent in the primary care or outpatient setting, compared to usual care or no intervention from an RDN?](#)

- [References](#)

[Beleigoli A, Andrade A, Diniz M, Ribeiro A. Personalized web-based weight loss behavior change program with and without dietitian online coaching for adults with overweight and obesity: randomized controlled trial. *Journal of Medical Internet Research* 2020; 22:e17494](#)

[Bertz F, Brekke H, Ellegård L, Rasmussen K, Wennergren M, Winkvist A. Diet and exercise weight-loss trial in lactating overweight and obese women. *The American journal of clinical nutrition* 2012; 96:698-705](#)

[Chambliss H, Huber R, Finley C, McDoniel S, Kitzman-Ulrich H, Wilkinson W. Computerized self-monitoring and technology-assisted feedback for weight loss with and without an enhanced behavioral component. *Patient Education and Counseling* 2011; 85:375-382](#)

Colleluori G, Aguirre L, Phadnis U, Fowler K, Armamento-Villareal R, Sun Z, Brunetti L, Hyoung Park J, Kaiparettu B, Putluri N, Auetumrongsawat V, Yarasheski K, Qualls C, Villareal D. Aerobic plus resistance exercise in obese older adults improves muscle protein synthesis and preserves myocellular quality despite weight loss. *Cell Metabolism* 2019; 30:261-273.e6

Foster-Schubert K, Alfano C, Duggan C, Xiao L, Campbell K, Kong A, Bain C, Wang C, Blackburn G, McTiernan A. Effect of diet and exercise, alone or combined, on weight and body composition in overweight-to-obese postmenopausal women. *Obesity* 2012; 20:1628-1638

Johnson K, Alencar M, Coakley K, Swift D, Cole N, Mermier C, Kravitz L, Amorim F, Gibson A. Telemedicine-based health coaching is effective for inducing weight loss and improving metabolic markers. *Telemedicine Journal and e-Health* 2019; 25:85-92

Thomas J, Bond D, Raynor H, Papandonatos G, Wing R. Comparison of smartphone-based behavioral obesity treatment with gold standard group treatment and control: a randomized trial. *Obesity* 2019; 27:572-580

Duncan MJ, Fenton S, Brown WJ, Collins CE, Glozier N, Kolt GS, Holliday EG, Morgan PJ, Murawski B, Plotnikoff RC, Rayward AT, Stamatakis E, Vandelanotte C, Burrows TL. Efficacy of a multi-component m-health weight-loss intervention in overweight and obese adults: a randomised controlled trial. *International Journal of Environmental Research and Public Health* 2020; 17:6200

Tanaka N, Murakami H, Aiba N, Morita A, Watanabe S, Miyachi M. Effects of 1-year weight loss intervention on abdominal skeletal muscle mass in Japanese overweight men and women. *Asia Pacific Journal of Clinical Nutrition* 2019; 28:72-78

Alencar M, Johnson K, Muller R, Gray V, Gutierrez E, Korosteleva O. The efficacy of a telemedicine-based weight loss program with video conference health coaching support. *Journal of Telemedicine and Telecare* 2017; 25:151-157

Almanza-Aguilera E, Brunius C, Bernal-Lopez M, Garcia-Aloy M, Madrid-Gambin F, Tinahones F, Gómez-Huelgas R, Landberg R, Andres-Lacueva C. Impact in plasma metabolome as effect of lifestyle intervention for weight-loss reveals metabolic benefits in metabolically healthy obese women. *Journal of Proteome Research* 2018; 17:2600-2610

Georgoulis M, Yiannakouris N, Kechribari I, Lamprou K, Perraki E, Vagiakis E, Kontogianni M. Cardiometabolic Benefits of a Weight Loss Mediterranean Diet/Lifestyle Intervention in Patients with Obstructive Sleep Apnea: The "MIMOSA" Randomized Clinical Trial. *Nutrients* 2020; 12:

Mason C, Foster-Schubert K, Imayama I, Kong A, Xiao L, Bain C, Campbell K, Wang C, Duggan C, Ulrich C, Alfano C, Blackburn G, McTiernan A. Dietary weight loss and exercise effects on insulin resistance in postmenopausal women. *American Journal of Preventive Medicine* 2011; 41:366-375

Parker A, Byham-Gray L, Denmark R, Winkle P. The effect of medical nutrition therapy by a registered dietitian nutritionist in patients with prediabetes participating in a randomized controlled clinical research trial. *Journal of the Academy of Nutrition and Dietetics* 2014; 114:1739-48

Trepanowski J, Kroeger C, Barnosky A, Klempel M, Bhutani S, Hoddy K, Gabel K, Freels S, Rigdon J, Rood J, Ravussin E, Varady K. Effect of alternate-day fasting on weight loss, weight maintenance, and cardioprotection among metabolically healthy obese adults: a randomized clinical trial. *JAMA* 2017; 177:930-938

Vissers D, Verrijken A, Mertens I, Van Gils C, Van de Sompel A, Truijzen S, Van Gaal L. Effect of long-term whole body vibration training on visceral adipose tissue: a preliminary report. *Obesity Facts* 2010; 3:93-100

Rollo ME, Baldwin JN, Hutchesson M, Aguiar EJ, Wynne K, Young A, Callister R, Haslam R, Collins CE. The feasibility and preliminary efficacy of an ehealth lifestyle program in women with recent gestational diabetes mellitus: a pilot study. *International Journal of Environmental Research and Public Health* 2020; 17:7115

van Gemert W, van der Palen J, Monnikhof E, Rozeboom A, Peters R, Wittink H, Schuit A, Peeters P. Quality of life after diet or exercise-induced weight loss in overweight to obese postmenopausal women: the SHAPE-2 randomised controlled trial. *PLoS One* 2015; 10:e0127520

Villareal D, Chode S, Parimi N, Sinacore D, Hilton T, Armamento-Villareal R, Napoli N, Qualls C, Shah K. Weight loss, exercise, or both and physical function in obese older adults. *The New England Journal of Medicine* 2011; 364:1218-1229

Padwal R, Klarenbach S, Sharma A, Fradette M, Jelinski S, Edwards A, Majumdar S. The evaluating self-management and educational support in severely obese patients awaiting multidisciplinary bariatric care (EVOLUTION) trial: principal results. *BMC Medicine* 2017; 15:46

Campbell K, Foster-Schubert K, Alfano C, Wang C, Wang C, Duggan C, Mason C, Imayama I, Kong A, Xiao L, Bain C, Blackburn G, Stanczyk F, McTiernan A. Reduced-calorie dietary weight loss, exercise, and sex hormones in postmenopausal women: randomized controlled trial. *Journal of Clinical Oncology* 2012; 30:2314-2326

O'Neil P, Miller-Kovach K, Tuerk P, Becker L, Wadden T, Fujioka K, Hollander P, Kushner R, Timothy Garvey W, Rubino D, Malcolm R, Weiss D, Raum W, Salyer J, Hermayer K, Rost S, Veliko J, Sora N. Randomized controlled trial of a nationally available weight control program tailored for adults with type 2 diabetes. *Obesity* 2016; 24:2269-2277

[Svetkey L, Batch B, Lin P, Intille S, Corsino L, Tyson C, Bosworth H, Grambow S, Voils C, Loria C, Gallis J, Schwager J, Bennett G, Bennett G. Cell phone intervention for you \(CITY\): A randomized, controlled trial of behavioral weight loss intervention for young adults using mobile technology. *Obesity* 2015; 23:2133-2141](#)

[Villareal D, Aguirre L, Gurney A, Waters D, Sinacore D, Colombo E, Armamento-Villareal R, Qualls C. Aerobic or resistance exercise, or both, in dieting obese older adults. *New England Journal of Medicine* 2017; 376:1943-1955](#)

[Annesi J, Whitaker A. Weight loss and psychologic gain in obese women-participants in a supported exercise intervention. *The Permanente Journal* 2008; 12:36-45](#)

[Hassapidou M, Tziomalos K, Lazaridou S, Pagkalos I, Papadimitriou K, Kokkinopoulou A, Tzotzas T. The Nutrition Health Alliance \(NutriHeAl\) study: a randomized, controlled, nutritional intervention based on Mediterranean diet in Greek municipalities. *Journal of the American College of Nutrition* 2020; 39:338-344](#)

[Cai R, Chao J, Li D, Zhang M, Kong L, Wang Y. Effect of community-based lifestyle interventions on weight loss and cardiometabolic risk factors in obese elderly in China: A randomized controlled trial. *Experimental Gerontology* 2019; 128:110749](#)

[Hageman P, Pullen C, Hertzog M, Pozehl B, Eisenhauer C, Boeckner L. Web-based interventions alone or supplemented with peer-led support or professional email counseling for weight loss and weight maintenance in women from rural communities: results of a clinical trial. *Journal of Obesity* 2017; 2017:1602627](#)

[Tapsell L, Lonergan M, Batterham M, Neale E, Martin A, Thorne R, Deane F, Peoples G. Effect of interdisciplinary care on weight loss: a randomised controlled trial. *BMJ Open* 2017; 7:e014533](#)

[Gilmore L, Klempel M, Martin C, Myers C, Burton J, Sutton E, Redman L. Personalized Mobile Health Intervention for Health and Weight Loss in Postpartum Women Receiving Women, Infants, and Children Benefit: A Randomized Controlled Pilot Study. *Journal of Women's Health* 2017; 26:719-727](#)

[Tapsell L, Lonergan M, Batterham M, Neale E, Martin A, Thorne R, Deane F, Peoples G. Effect of interdisciplinary care on weight loss: a randomised controlled trial. *BMJ Open* 2017; 7:e014533](#)

[Anton S, Manini T, Milsom V, Dubyak P, Cesari M, Cheng J, Daniels M, Marsiske M, Pahor M, Leeuwenburgh C, Perri M. Effects of a weight loss plus exercise program on physical function in overweight, older women: a randomized controlled trial. *Clinical Interventions in Aging* 2011; 6:141-149](#)

[Salinardi T, Batra P, Roberts S, Urban L, Robinson L, Pittas A, Lichtenstein A, Deckersbach T, Saltzman E, Das S. Lifestyle intervention reduces body weight and improves cardiometabolic risk factors in worksites. *American Journal of Clinical Nutrition* 2013; 97:667-76](#)

[Weinhold K, Miller C, Marrero D, Nagaraja H, Focht B, Gascon G. A randomized controlled trial translating the diabetes prevention program to a university worksite, Ohio, 2012-2014. *Preventing Chronic Disease* 2015; 12:E210](#)

[Shrivastava U, Fatma M, Mohan S, Singh P, Misra A. Randomized control trial for reduction of body weight, body fat patterning, and cardiometabolic risk factors in overweight worksite employees in Delhi, India. *Journal of Diabetes Research* 2017; 2017:1-12](#)

[Salinardi T, Batra P, Roberts S, Urban L, Robinson L, Pittas A, Lichtenstein A, Deckersbach T, Saltzman E, Das S. Lifestyle intervention reduces body weight and improves cardiometabolic risk factors in worksites. *American Journal of Clinical Nutrition* 2013; 97:667-76](#)

[Al-Hamdan R, Avery A, Salter A, Al-Disi D, Al-Daghri NM, McCullough F. Identification of Education Models to Improve Health Outcomes in Arab Women with Pre-Diabetes. *Nutrients* 2019; 11:1113](#)

[Assunção M, Gigante D, Cardoso M, Sartorelli D, Santos I. Randomized, controlled trial promotes physical activity and reduces consumption of sweets and sodium among overweight and obese adults. *Nutrition Research* 2010; 30:541-549](#)

[Barratt R, Frost G, Millward D, Truby H. A randomised controlled trial investigating the effect of an intensive lifestyle intervention v. standard care in adults with type 2 diabetes immediately after initiating insulin therapy. *The British Journal of Nutrition* 2008; 99:1025-1031](#)

[Bennett G, Herring S, Puleo E, Stein E, Emmons K, Gillman M. Web-based weight loss in primary care: a randomized controlled trial. *Obesity* 2010; 18:308-313](#)

[Bennett G, Steinberg D, Askew S, Levine E, Foley P, Batch B, Svetkey L, Bosworth H, Puleo E, Brewer A, DeVries A, Miranda H. Effectiveness of an app and provider counseling for obesity treatment in primary care. *American Journal of Preventive Medicine* 2018; 55:777-786](#)

[de Freitas P, de Menezes M, Dos Santos L, Pimenta A, Ferreira A, Lopes A. The transtheoretical model is an effective weight management intervention: a randomized controlled trial. *BMC Public Health* 2020; 20:652](#)

[de Vos B, Runhaar J, Bierma-Zeinstra S. Effectiveness of a tailor-made weight loss intervention in primary care. *European Journal of Nutrition* 2014; 53:95-104](#)

- Abd El-Kader SM ,Al-jiffri OH, Neamatallah ZA ,AlKhateeb AF ,AlFawaz SS. Weight reduction ameliorates inflammatory cytokines, adipocytokines and endothelial dysfunction biomarkers among Saudi patients with type 2 diabetes. *African Health Sciences* 2020; 20:1329-1336
- Gallagher R, Kirkness A, Zelestis E, Hollams D, Kneale C, Armari E, Bennett T, Daly J, Tofler G. A randomised trial of a weight loss intervention for overweight and obese people diagnosed with coronary heart disease and/or type 2 diabetes. *Annals of Behavioral Medicine* 2012; 44:119-128
- Gandler N, Simmance N, Keenan J, Choong P, Dowsey M. A pilot study investigating dietetic weight loss interventions and 12 month functional outcomes of patients undergoing total joint replacement. *Obesity Research & Clinical Practice* 2016; 10:220-223
- Hardcastle S, Taylor A, Bailey M, Harley R, Hagger M. Effectiveness of a motivational interviewing intervention on weight loss, physical activity and cardiovascular disease risk factors: a randomised controlled trial with a 12-month post-intervention follow-up. *The International Journal of Behavioral Nutrition and Physical Activity* 2013; 10:40
- Huseinovic E, Bertz F, Brekke H, Winkvist A. Two-year follow-up of a postpartum weight loss intervention: Results from a randomized controlled trial. *Maternal & Child Nutrition* 2018; 14:e12539
- Jiang X, Fan X, Wu R, Geng F, Hu C. The effect of care intervention for obese patients with type II diabetes. *Medicine* 2017; 96:e7524
- Karintrakul S, Angkatavanich J. A randomized controlled trial of an individualized nutrition counseling program matched with a transtheoretical model for overweight and obese females in Thailand. *Nutrition Research and Practice* 2017; 11:319-326
- Liljensøe A, Laursen J, Bliddal H, Søballe K, Mechlenburg I. Weight loss intervention before total knee replacement: a 12-month randomized controlled trial. *Scandinavian Journal of Surgery* 2021; 110:3-12
- Ma J, Yank V, Xiao L, Lavori P, Wilson S, Rosas L, Stafford R. Translating the Diabetes Prevention Program lifestyle intervention for weight loss into primary care: a randomized trial. *JAMA Internal Medicine* 2013; 173:113-121
- Nilsen V, Bakke P, Gallefoss F. Effects of lifestyle intervention in persons at risk for type 2 diabetes mellitus - results from a randomised, controlled trial. *BMC Public Health* 2011; 11:893
- Kesman R, Ebbert J, Harris K, Schroeder D. Portion control for the treatment of obesity in the primary care setting. *BMC Research Notes* 2011; 4:346
- Ventura Marra M, Lilly C, Nelson K, Woofter D, Malone J. . A pilot randomized controlled trial of a telenutrition weight loss intervention in middle-aged and older men with multiple risk factors for cardiovascular disease. *Nutrients* 2019; 11:
- Bove K, Nilsson M, Pedersen L, Mikkelsen N, Suhrs H, Astrup A, Prescott E. Comprehensive treatment of microvascular angina in overweight women - a randomized controlled pilot trial. *PLoS One* 2020; 15:e0240722
- Hollis G, Franz R, Bauer J, Bell J. Implementation of a very low calorie diet program into the pre-operative model of care for obese general elective surgery patients: outcomes of a feasibility randomised control trial. *Nutrition & Dietetics* 2020; 77:490-498
- Hagberg L, Winkvist A, Brekke H, Bertz F, Hellebø Johansson E, Huseinovic E. Cost-effectiveness and quality of life of a diet intervention postpartum: 2-year results from a randomized controlled trial. *BMC Public Health* 2019; 19:38

○ References not graded in Academy of Nutrition and Dietetics Evidence Analysis Process

- Adult Weight Management Systematic Review 2021. Academy of Nutrition and Dietetics' Evidence Analysis Center. <https://andeal.org/awm>. Published July 2021. Accessed July 27, 2021.
- Academy of Nutrition and Dietetics. Intensive Behavioral Therapy for Obesity. <https://www.eatrightstore.org/product-type/toolkits/intensive-behavioral-therapy-for-obesity-putting-it-into-practice>. Published 2017. Accessed September 17, 2021.
- Academy of Nutrition and Dietetics. Medicare Fee Schedule for RDs- MNT and G-Codes. <https://www.eatrightpro.org/payment/medicare/providing-service-and-billing/medicare-physician-fee-schedule>. Accessed July 2022.
- Academy of Nutrition and Dietetics. Scope of Practice Decision Algorithm. https://www.eatrightpro.org/practice/quality-management/scope-of-practice?rdType=short_url&rdInfo=scope. Published 2021. Accessed September 17, 2021.
- Ananthakumar T, Jones NR, Hinton L, Aveyard P. Clinical encounters about obesity: Systematic review of patients' perspectives. *Clin Obes*. 2020 Feb;10(1): e12347. PMID: 31793217
- Bloom K, Adler J, Bridges C, Bernstein J, Rini C, Goldstein AO, Ripley-Moffitt C. Examining Patient Perspectives on Weight Management Support in the Primary Care Setting. *J Prim Prev*. 2018 Aug;39(4):387-399. PMID: 30008041
- Bruening M, Perkins S, , Udarbe A. Academy of Nutrition and Dietetics: Revised 2022 Standards of Practice and Standards of Professional Performance for Registered Dietitian Nutritionists (Competent, Proficient, and Expert) in Public Health and Community Nutrition. *J Acad Nutr Diet*. 2022 Sep;122(9):1744-1763.e1749. PMID: 35988945
- Cawley J, Price JA. A case study of a workplace wellness program that offers financial incentives for weight loss. *J Health Econ*. 2013 Sep;32(5):794-803. PMID: 23787373
- Cochrane A, Dick JB, King NA, Hills AP, Kavanagh DJ. Developing dimensions for a multicomponent multidisciplinary approach to obesity management: a qualitative study. *BMC Public Health* 2017 Oct 16;17(1):814. PMID: 29037238

- Domel SB, Alford BB, Cattlett HN, Gench BE. Weight control for black women. *J Am Diet Assoc.* 1992 Mar;92(3):346-348. PMID: 1552136
- Domel SB, Alford BB, Cattlett HN, Rodriguez ML, Gench BE. A pilot weight control program for Hispanic women. *J Am Diet Assoc.* 1992 Oct;92(10):1270-1271. PMID: 1401669
- Fitzgerald A, Murphy A, Kirby A, Geaney F, Perry IJ. Cost-effectiveness of a complex workplace dietary intervention: an economic evaluation of the Food Choice at Work study. *BMJ Open.* 2018 Mar 3;8(3):e019182. PMID: 29502090
- Food Research & Action Center. Hunger Vital Sign. https://www.eatrightpro.org/practice/quality-management/scope-of-practice?rdType=short_url&rdInfo=scope. Accessed August 31, 2022.
- Glauser TA, Roepke N, Stevenin B, Dubois AM, Ahn SM. Physician knowledge about and perceptions of obesity management. *Obes Res Clin Pract.* 2015 Nov-Dec;9(6):573-583. PMID: 25791741
- Hernandez DC, Reesor LM, Murillo R. Food insecurity and adult overweight/obesity: Gender and race/ethnic disparities. *Appetite* 2017 Oct;117:373-378. PMID: 28739148
- Jacobs JC, Yaquian E, Burke SM, Rouse M, Zaric G. The economic impact of workplace wellness programmes in Canada. *Occup Med (Lond)* 2017 Aug 1;67(6):429-434. PMID: 28898961
- Kaplan LM, Golden A, Jinnett K, Kolotkin RL, Kyle TK, Look M, Nadglowski J, O'Neil PM, Parry T, Tomaszewski KJ, Stevenin B, Lilleøre SK, Dhurandhar NV. Perceptions of Barriers to Effective Obesity Care: Results from the National ACTION Study. *Obesity (Silver Spring)* 2018 Jan;26(1):61-69. PMID: 29086529
- Makelarski JA, Abramsohn E, Benjamin JH, Du S, Lindau ST. Diagnostic Accuracy of Two Food Insecurity Screeners Recommended for Use in Health Care Settings. *Am J Public Health* 2017 Nov;107(11):1812-1817. PMID: 28933929
- Morgan-Bathke M, Baxter SD, Halliday TM, Lynch A, Malik N, Raynor HA, Garay JL, Rozga M, Weight Management Interventions Provided by a Dietitian for Adults with Overweight or Obesity: An Evidence Analysis Center Systematic Review and Meta-Analysis. *J Acad Nutr Diet.* 2022 Mar;S2212-2672(22)00170-8 In Press. PMID: 35788061
- Patel MS, Asch DA, Troxel AB, Fletcher M, Osman-Koss R, Brady J, Wesby L, Hilbert V, Zhu J, Wang W, Volpp KG. Premium-Based Financial Incentives Did Not Promote Workplace Weight Loss In A 2013-15 Study. *Health Aff (Millwood)* 2016 Jan;35(1):71-79. PMID: 26733703
- Simon R, Lahiri SW. Provider Practice Habits and Barriers to Care in Obesity Management in a Large Multicenter Health System. *Endocr Pract.* 2018 Apr;24(4):321-328. PMID: 29561192
- Tewksbury C, Nwankwo R, Peterson J. Academy of Nutrition and Dietetics: Revised 2022 Standards of Practice and Standards of Professional Performance for Registered Dietitian Nutritionists (Competent, Proficient, and Expert) in Adult Weight Management. *J Acad Nutr Diet.* 2022 Oct;122(10):1940-1954.e45. PMID: 35738538
- Tucker S, Bramante C, Conroy M, Fitch A, Gilden A, Wittleder S, Jay M. The Most Undertreated Chronic Disease: Addressing Obesity in Primary Care Settings. *Current Obes Rep.* 2021 Sep;10(3):396-408. PMID: 34297343
- VanWormer JJ, Linde JA, Harnack LJ, Stovitz SD, Jeffery RW. Weight change and workplace absenteeism in the HealthWorks study. *Obes Facts* 2012;5(5):745-752. PMID: 23108493

- [Adult Weight Management](#)
- [Adult Weight Management \(AWM\) Guideline \(2021-22\)](#)

Quick Links

Recommendations Summary

AWM: Delivery of Medical Nutrition Therapy 2022

[Click here](#) to see the explanation of recommendation ratings (Strong, Fair, Weak, Consensus, Insufficient Evidence) and labels (Imperative or Conditional). To see more detail on the evidence from which the following recommendations were drawn, use the hyperlinks in the [Supporting Evidence Section](#) below.

- [Recommendation\(s\)](#)

AWM: Telehealth and In-Person Care

Registered dietitian nutritionists or international equivalents may use telehealth, in-person contacts, or a blend of these delivery methods when providing MNT interventions to adults with overweight or obesity. Outcomes may be optimized by including in-person contacts.

Rating: Level 2(C)

Conditional

AWM: Group and Individual Contacts

Registered dietitian nutritionists or international equivalents may use both individual and group delivery methods when providing MNT interventions to adults with overweight or obesity, as feasible and appropriate for each client.

Rating: Level 2(C)

Conditional

- [Risks/Harms of Implementing This Recommendation](#)

Providing care via telehealth exclusively does not allow for in-person nutrition assessment and presents challenges with ensuring clients have adequate internet or phone access, communications are compliant with the Health Insurance Portability and Accountability Act (HIPAA), and services can be covered by public and private payers. The recommendation of a blended format appears to have no apparent harmful effects and would be important to provide the benefit of flexibility to clients and practitioners alike. For some adult clients, the expectation to share details of their weight loss in a group with other adults may be a barrier to participation, and delivery methods should be tailored to client preferences.

- [Conditions of Application](#)

An adult client's ability to meet in person, their internet and/or phone access, and their preferences for in-person vs. telehealth MNT delivery methods are taken into consideration when determining types of contacts. The Academy provides tools and resources for providing nutrition care with telehealth (Academy of Nutrition and Dietetics 2021). Ensuring that MNT occurs at regularly prescribed intervals may need to take priority over the delivery method to continue providing adequate client support. If a variety of contact types are offered, dietitians may wish to solicit feedback from adult clients regarding their impressions of each type, and/or compare outcomes data based on delivery method.

A significant challenge of telehealth interventions is the reduced ability to collect standardized anthropometric measurements. Adult clients can be trained to track weight or waist circumference using standardized methods, to document measures with digital images, and/or clients can be provided with a scale that can automatically sync electronically (i.e., Bluetooth capacity) with a database utilized by the dietitian. However, at least periodic in-person contacts (i.e., every three months) are desirable to confirm weight status. Dietitians can utilize telehealth to improve insight into the clients' home eating environment and can interact with clients while in their kitchens.

Dietitians currently utilizing solely individual or solely group delivery methods can transition to a blended format that includes both individual and group delivery methods by either seeing clients on a one-to-one basis occasionally or creating groups with clients that are currently being counseled individually. When creating the client group, it may be ideal to have adult clients with similar experiences or backgrounds (e.g., parents, adults with type 2 diabetes mellitus) in the same group. Adults with overweight or obesity may value inclusion in a group of adults with similar issues and who have similar body types or personalities (Skea, Aceves-Martins et al. 2019). It is important for the dietitian to be flexible and to accommodate adult clients' needs and their potentially changing levels of comfort with the group delivery method. Individual and/or group delivery methods can occur in-person, virtually, or with a blend of these delivery methods. For example, dietitians may find success using an in-person individual-level delivery method but then utilize telehealth for a group delivery method. Telehealth group delivery could happen via video conferencing platforms or in a discussion forum. The discussion forum may allow adult clients to have more freedom as they would have the ability to post on their own schedule.

For dietitians providing MNT via telehealth, a variety of technologies and platforms are available. However, it is important that any medium for delivering MNT adheres to HIPAA standards to protect client privacy. Telehealth can take place via phone calls or video conferencing platforms that are HIPAA compliant (Center for Connected Health Policy 2021). When conducting sessions one-on-one via telehealth, dietitians should ensure they are in a private location, utilize a headset to limit noise interference and to ensure others can't

hear the client, and keep all records within a HIPAA compliant electronic health record. Client privacy can be more difficult when conducting sessions for groups, and dietitians should consider using informed consent with clients to outline confidentiality and behavior expectations within the group setting and potential risks.

- o [Potential Costs Associated with Application](#)

Lack of internet access may be a potential barrier to using telehealth for clients with low socio-economic status (Rozga, Handu et al. 2021), or living rurally. To reduce the barrier associated with internet access, traditional phone calls instead of or in addition to video conferencing may be effective for overweight and obesity management interventions. There was no evidence identified that examined the difference in cost-effectiveness between delivery methods for adults with overweight or obesity. Typically, a group delivery method is less time- and resource-intensive compared to an individual-level delivery method.

- o [Recommendation Narrative](#)

Understanding effective techniques to deliver MNT is important to optimize care. The aim of telehealth is to facilitate access to care, and the motivation to increase telehealth options is becoming more prevalent among healthcare providers (Dorsey and Topol 2016). The COVID-19 pandemic accelerated the need for dietitians to deliver telehealth interventions (Rozga, Handu et al. 2021). In addition, telehealth technology has improved and become more accessible to clients. Telehealth interventions address major barriers to participation in overweight and obesity management, including time, cost and travel for appointments (Skea, Aceves-Martins et al. 2019), and exposure to others who may be ill. Offering telehealth as an option for MNT delivery may address health inequities by facilitating access to and feasibility of nutrition care. In the sub-group analysis of the systematic review supporting this EBPG, the influence of interventions on outcomes was similar for those with in-person delivery methods and those using a blend of delivery methods (i.e., a blend of in-person and telehealth contacts) for most outcomes examined (Academy of Nutrition and Dietetics' Evidence Analysis Center 2021, Morgan-Bathke M 2022). However, for the outcome of systolic blood pressure, interventions using in-person delivery methods resulted in significant improvement, while the effect of interventions using telehealth or blended delivery methods was not significantly different than to the control groups. Thus, telehealth can be an effective tool in providing overweight and obesity management, but in-person contacts may offer additional benefits.

Interventions delivered via individual-level and/or group delivery methods are important considerations due to the impact on resources (e.g., space, time, staff) required. While the individual delivery method can focus attention on each adult client's specific circumstances, developing relationships in groups with other adults who face similar circumstances and/or have similar physiques is also valued by adult clients (Skea, Aceves-Martins et al. 2019). Adult clients may value social interactivity of in-person, individual and group counseling to improve sense of support (Skea, Aceves-Martins et al. 2019). In the systematic review supporting this EBPG, only interventions that used both individual and group delivery methods demonstrated that including both individual and group delivery methods may result in the most optimal outcomes. The recommendation of a blended format that includes both individual and group delivery methods will benefit practitioners and clients alike and allow for cost savings when using a group delivery method when appropriate.

More information on the evidence supporting these recommendations can be found in the [Summary of Findings Table](#) and [Relationships between Recommendation Statements and Evidence Table](#).

- o [Recommendation Strength Rationale](#)

The recommendation of the interprofessional team was based on LOW level evidence from sub-group analyses examining efficacy of different intervention approaches.

- o [Minority Opinions](#)

No minority opinion.

- [Supporting Evidence](#)

The recommendations were created from the evidence analysis on the following questions. To see detail of the evidence analysis, click the blue hyperlinks below (recommendations rated consensus will not have supporting evidence linked).

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent, compared to usual care or no intervention from an RDN, on body mass index?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent, compared to usual care or no intervention from an RDN, on percent weight loss?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent, compared to usual care or no intervention from an RDN, on waist circumference?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent, compared to usual care or no intervention from an RDN, on blood pressure?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent, compared to usual care or no intervention from an RDN, on fasting blood glucose?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent, compared to usual care or no intervention from an RDN, on quality of life?](#)

[In adults with overweight or obesity, what is the cost-effectiveness of weight management interventions provided by an RDN or international equivalent, compared to usual care or no intervention from an RDN?](#)

[In adults with overweight or obesity, what is the adverse events of weight management interventions provided by an RDN or international equivalent, compared to usual care or no intervention from an RDN?](#)

- [References](#)

[Al-Hamdan R, Avery A, Salter A, Al-Disi D, Al-Daghri NM, McCullough F. Identification of Education Models to Improve Health Outcomes in Arab Women with Pre-Diabetes. *Nutrients* 2019; 11:1113](#)

[Almanza-Aguilera E, Brunius C, Bernal-Lopez M, Garcia-Aloy M, Madrid-Gambin F, Tinahones F, Gómez-Huelgas R, Landberg R, Andres-Lacueva C. Impact in plasma metabolome as effect of lifestyle intervention for weight-loss reveals metabolic benefits in metabolically healthy obese women. *Journal of Proteome Research* 2018; 17:2600-2610](#)

[Annesi J, Whitaker A. Weight loss and psychologic gain in obese women-participants in a supported exercise intervention. *The Permanente Journal* 2008; 12:36-45](#)

[Assunção M, Gigante D, Cardoso M, Sartorelli D, Santos I. Randomized, controlled trial promotes physical activity and reduces consumption of sweets and sodium among overweight and obese adults. *Nutrition Research* 2010; 30:541-549](#)

[Barratt R, Frost G, Millward D, Truby H. A randomised controlled trial investigating the effect of an intensive lifestyle intervention v. standard care in adults with type 2 diabetes immediately after initiating insulin therapy. *The British Journal of Nutrition* 2008; 99:1025-1031](#)

[Beleigoli A, Andrade A, Diniz M, Ribeiro A. Personalized web-based weight loss behavior change program with and without dietitian online coaching for adults with overweight and obesity: randomized controlled trial. *Journal of Medical Internet Research* 2020; 22:e17494](#)

[Bennett G, Herring S, Puleo E, Stein E, Emmons K, Gillman M. Web-based weight loss in primary care: a randomized controlled trial. *Obesity* 2010; 18:308-313](#)

[Bennett G, Steinberg D, Askew S, Levine E, Foley P, Batch B, Svetkey L, Bosworth H, Puleo E, Brewer A, DeVries A, Miranda H. Effectiveness of an app and provider counseling for obesity treatment in primary care. *American Journal of Preventive Medicine* 2018; 55:777-786](#)

[Bertz F, Brekke H, Ellegård L, Rasmussen K, Wennergren M, Winkvist A. Diet and exercise weight-loss trial in lactating overweight and obese women. *The American journal of clinical nutrition* 2012; 96:698-705](#)

[Chambliss H, Huber R, Finley C, McDaniel S, Kitzman-Ulrich H, Wilkinson W. Computerized self-monitoring and technology-assisted feedback for weight loss with and without an enhanced behavioral component. *Patient Education and Counseling* 2011; 85:375-382](#)

[Colleran H, Lovelady C. Use of MyPyramid menu planner for moms in a weight-loss intervention during lactation. *Journal of the Academy of Nutrition and Dietetics* 2012; 112:553-558](#)

[de Freitas P, de Menezes M, Dos Santos L, Pimenta A, Ferreira A, Lopes A. The transtheoretical model is an effective weight management intervention: a randomized controlled trial. *BMC Public Health* 2020; 20:652](#)

[de Vos B, Runhaar J, Bierma-Zeinstra S. Effectiveness of a tailor-made weight loss intervention in primary care. *European Journal of Nutrition* 2014; 53:95-104](#)

[Abd El-Kader SM, Saiem Al-Dahr MH. Weight loss improves biomarkers endothelial function and systemic inflammation in obese postmenopausal Saudi women. *African Health Sciences* 2016; 16:533-541](#)

[Abd El-Kader SM, Al-Jiffri OH, Neamatallah ZA, AlKhateeb AF, AlFawaz SS. Weight reduction ameliorates inflammatory cytokines, adipocytokines and endothelial dysfunction biomarkers among Saudi patients with type 2 diabetes. *African Health Sciences* 2020; 20:1329-1336](#)

[Foster-Schubert K, Alfano C, Duggan C, Xiao L, Campbell K, Kong A, Bain C, Wang C, Blackburn G, McTiernan A. Effect of diet and exercise, alone or combined, on weight and body composition in overweight-to-obese postmenopausal women. *Obesity* 2012; 20:1628-1638](#)

[Gallagher R, Kirkness A, Zelestis E, Hollams D, Kneale C, Armari E, Bennett T, Daly J, Tofler G. A randomised trial of a weight loss intervention for overweight and obese people diagnosed with coronary heart disease and/or type 2 diabetes. *Annals of Behavioral Medicine* 2012; 44:119-128](#)

[Gandler N, Simmance N, Keenan J, Choong P, Dowsey M. A pilot study investigating dietetic weight loss interventions and 12 month functional outcomes of patients undergoing total joint replacement. *Obesity Research & Clinical Practice* 2016; 10:220-223](#)

[Georgoulis M, Yiannakouris N, Kechribari I, Lamprou K, Perraki E, Vagiakis E, Kontogianni M. Cardiometabolic Benefits of a Weight Loss Mediterranean Diet/Lifestyle Intervention in Patients with Obstructive Sleep Apnea: The "MIMOSA" Randomized Clinical Trial. *Nutrients* 2020; 12:](#)

[Hardcastle S, Taylor A, Bailey M, Harley R, Hagger M. Effectiveness of a motivational interviewing intervention on weight loss, physical activity and cardiovascular disease risk factors: a randomised controlled trial with a 12-month post-intervention follow-up. *The International Journal of Behavioral Nutrition and Physical Activity* 2013; 10:40](#)

[Hassapidou M, Tziomalos K, Lazaridou S, Pagkalos I, Papadimitriou K, Kokkinopoulou A, Tzotzas T. The Nutrition Health Alliance \(NutriHeAl\) study: a randomized, controlled, nutritional intervention based on Mediterranean diet in Greek municipalities. *Journal of the American College of Nutrition* 2020; 39:338-344](#)

[Haste A, Adamson A, McColl E, Araujo-Soares V, Bell R. Web-based weight loss intervention for men with type 2 diabetes: pilot randomized controlled trial. *JMIR Diabetes* 2017; 2:e14](#)

[Hurkmans E, Matthys C, Bogaerts A, Scheys L, Devloo K, Seghers J. Face-to-face versus mobile versus blended weight loss program: randomized clinical trial. *JMIR mHealth and uHealth* 2018; 6:e14](#)

[Huseinovic E, Bertz F, Brekke H, Winkvist A. Two-year follow-up of a postpartum weight loss intervention: Results from a randomized controlled trial. *Maternal & Child Nutrition* 2018; 14:e12539](#)

[Innes A, Thomson G, Cotter M, King J, Volvaard N, Kelly B. Evaluating differences in the clinical impact of a free online weight loss programme, a resource-intensive commercial weight loss programme and an active control condition: a parallel randomised controlled trial. *BMC Public Health* 2019; 19:1732](#)

[Jiang X, Fan X, Wu R, Geng F, Hu C. The effect of care intervention for obese patients with type II diabetes. *Medicine* 2017; 96:e7524](#)

[Johnson K, Alencar M, Coakley K, Swift D, Cole N, Mermier C, Kravitz L, Amorim F, Gibson A. Telemedicine-based health coaching is effective for inducing weight loss and improving metabolic markers. *Telemedicine Journal and e-Health* 2019; 25:85-92](#)

[Karintrakul S, Angkatavanich J. A randomized controlled trial of an individualized nutrition counseling program matched with a transtheoretical model for overweight and obese females in Thailand. *Nutrition Research and Practice* 2017; 11:319-326](#)

[Liljensøe A, Laursen J, Bliddal H, Søballe K, Mechlenburg I. Weight loss intervention before total knee replacement: a 12-month randomized controlled trial. *Scandinavian Journal of Surgery* 2021; 110:3-12](#)

[Ma J, Yank V, Xiao L, Lavori P, Wilson S, Rosas L, Stafford R. Translating the Diabetes Prevention Program lifestyle intervention for weight loss into primary care: a randomized trial. *JAMA Internal Medicine* 2013; 173:113-121](#)

[Nilsen V, Bakke P, Gallefoss F. Effects of lifestyle intervention in persons at risk for type 2 diabetes mellitus - results from a randomised, controlled trial. *BMC Public Health* 2011; 11:893](#)

[Pablos A, Drehmer E, Ceca D, Garcia-Esteve A, Lopez-Hernandez L, Fargueta M, Romero FJ, Pablos C. Effects of a lifestyle intervention program for treating obesity in lower socioeconomic status adults: a randomized controlled trial. *Gazzetta Medica Italiana* 2017; 1776:467-477](#)

[Rollo ME, Baldwin JN, Hutchesson M, Aguiar EJ, Wynne K, Young A, Callister R, Haslam R, Collins CE. The feasibility and preliminary efficacy of an ehealth lifestyle program in women with recent gestational diabetes mellitus: a pilot study. *International Journal of Environmental Research and Public Health* 2020; 17:7115](#)

[Salinardi T, Batra P, Roberts S, Urban L, Robinson L, Pittas A, Lichtenstein A, Deckersbach T, Saltzman E, Das S. Lifestyle intervention reduces body weight and improves cardiometabolic risk factors in worksites. *American Journal of Clinical Nutrition* 2013; 97:667-76](#)

[Shrivastava U, Fatma M, Mohan S, Singh P, Misra A. Randomized control trial for reduction of body weight, body fat patterning, and cardiometabolic risk factors in overweight worksite employees in Delhi, India. *Journal of Diabetes Research* 2017; 2017:1-12](#)

[Tanaka N, Murakami H, Aiba N, Morita A, Watanabe S, Miyachi M. Effects of 1-year weight loss intervention on abdominal skeletal muscle mass in Japanese overweight men and women. *Asia Pacific Journal of Clinical Nutrition* 2019; 28:72-78](#)

[Uemura M, Hayashi F, Ishioka K, Ihara K, Yasuda K, Okazaki K, Omata J, Suzutani T, Hirakawa Y, Chiang C, Aoyama A, Ohira T. Obesity and mental health improvement following nutritional education focusing on gut microbiota composition in Japanese women: a randomised controlled trial. *European Journal of Nutrition* 2019; 58:3291-3302](#)

[van Gemert W, Schuit A, van der Palen J, May A, Iestra J, Wittink H, Peeters P, Monnikhof E. Effect of weight loss, with or without exercise, on body composition and sex hormones in postmenopausal women: the SHAPE-2 trial. *Breast Cancer Research* 2015; 17:120](#)

[Vissers D, Verrijken A, Mertens I, Van Gils C, Van de Sompel A, Truijien S, Van Gaal L. Effect of long-term whole body vibration training on visceral adipose tissue: a preliminary report. *Obesity Facts* 2010; 3:93-100](#)

[Weinhold K, Miller C, Marrero D, Nagaraja H, Focht B, Gascon G. A randomized controlled trial translating the diabetes prevention program to a university worksite, Ohio, 2012-2014. *Preventing Chronic Disease* 2015; 12:E210](#)

- [Alencar M, Johnson K, Mullur R, Gray V, Gutierrez E, Korosteleva O. The efficacy of a telemedicine-based weight loss program with video conference health coaching support. *Journal of Telemedicine and Telecare* 2017; 25:151-157](#)
- [Cai R, Chao J, Li D, Zhang M, Kong L, Wang Y. Effect of community-based lifestyle interventions on weight loss and cardiometabolic risk factors in obese elderly in China: A randomized controlled trial. *Experimental Gerontology* 2019; 128:110749](#)
- [Carnie A, Lin J, Aicher B, Leon B, Courville A, Sebring N, de Jesus J, Dellavalle D, Fitzpatrick B, Zalos G, Powell-Wiley T, Chen K, Cannon R. Randomized trial of nutrition education added to internet-based information and exercise at the work place for weight loss in a racially diverse population of overweight women. *Nutrition & Diabetes* 2013; 3:e98](#)
- [Colleluori G, Aguirre L, Phadnis U, Fowler K, Armamento-Villareal R, Sun Z, Brunetti L, Hyoung Park J, Kaipparettu B, Putluri N, Auetumrongsawat V, Yarasheski K, Qualls C, Villareal D. Aerobic plus resistance exercise in obese older adults improves muscle protein synthesis and preserves myocellular quality despite weight loss. *Cell Metabolism* 2019; 30:261-273.e6](#)
- [de Vos B, Runhaar J, Bierma-Zeinstra S. Effectiveness of a tailor-made weight loss intervention in primary care. *European Journal of Nutrition* 2014; 53:95-104](#)
- [Johnson K, Alencar M, Coakley K, Swift D, Cole N, Mermier C, Kravitz L, Amorim F, Gibson A. Telemedicine-based health coaching Is effective for inducing weight loss and improving metabolic markers. *Telemedicine Journal and e-Health* 2019; 25:85-92](#)
- [Kesman R, Ebbert J, Harris K, Schroeder D. Portion control for the treatment of obesity in the primary care setting. *BMC Research Notes* 2011; 4:346](#)
- [O'Neil P, Miller-Kovach K, Tuerk P, Becker L, Wadden T, Fujioka K, Hollander P, Kushner R, Timothy Garvey W, Rubino D, Malcolm R, Weiss D, Raum W, Salyer J, Hermayer K, Rost S, Veliko J, Sora N. Randomized controlled trial of a nationally available weight control program tailored for adults with type 2 diabetes. *Obesity* 2016; 24:2269-2277](#)
- [Svetkey L, Batch B, Lin P, Intille S, Corsino L, Tyson C, Bosworth H, Grambow S, Voils C, Loria C, Gallis J, Schwager J, Bennett G, Bennett G. Cell phone intervention for you \(CITY\): A randomized, controlled trial of behavioral weight loss intervention for young adults using mobile technology. *Obesity* 2015; 23:2133-2141](#)
- [Tapsell L, Loneragan M, Batterham M, Neale E, Martin A, Thorne R, Deane F, Peoples G. Effect of interdisciplinary care on weight loss: a randomised controlled trial. *BMJ Open* 2017; 7:e014533](#)
- [Teeriniemi A, Salonurmi T, Jokelainen T, Vähänikkilä H, Alahäivälä T, Karppinen P, Enwald H, Huotari M, Laitinen J, Oinas-Kukkonen H, Savolainen M. A randomized clinical trial of the effectiveness of a web-based health behaviour change support system and group lifestyle counselling on body weight loss in overweight and obese subjects: 2-year outcomes. *Journal of Internal Medicine* 2018; 284:534-545](#)
- [Thomas J, Bond D, Raynor H, Papandonatos G, Wing R. Comparison of smartphone-based behavioral obesity treatment with gold standard group treatment and control: a randomized trial. *Obesity* 2019; 27:572-580](#)
- [Trepanowski J, Kroeger C, Barnosky A, Klempel M, Bhutani S, Hoddy K, Gabel K, Freels S, Rigdon J, Rood J, Ravussin E, Varady K. Effect of alternate-day fasting on weight loss, weight maintenance, and cardioprotection among metabolically healthy obese adults: a randomized clinical trial. *JAMA* 2017; 177:930-938](#)
- [Ventura Marra M, Lilly C, Nelson K, Woofter D, Malone J. . A pilot randomized controlled trial of a telenutrition weight loss intervention in middle-aged and older men with multiple risk factors for cardiovascular disease. *Nutrients* 2019; 11:](#)
- [Villareal D, Chode S, Parimi N, Sinacore D, Hilton T, Armamento-Villareal R, Napoli N, Qualls C, Shah K. Weight loss, exercise, or both and physical function in obese older adults. *The New England Journal of Medicine* 2011; 364:1218-1229](#)
- [Parker A, Byham-Gray L, Denmark R, Winkle P. The effect of medical nutrition therapy by a registered dietitian nutritionist in patients with prediabetes participating in a randomized controlled clinical research trial. *Journal of the Academy of Nutrition and Dietetics* 2014; 114:1739-48](#)
- [Hollis G, Franz R, Bauer J, Bell J. Implementation of a very low calorie diet program into the pre-operative model of care for obese general elective surgery patients: outcomes of a feasibility randomised control trial. *Nutrition & Dietetics* 2020; 77:490-498](#)
- [Hagberg L, Winkvist A, Brekke H, Bertz F, Hellebø Johansson E, Huseinovic E. Cost-effectiveness and quality of life of a diet intervention postpartum: 2-year results from a randomized controlled trial. *BMC Public Health* 2019; 19:38](#)
- [Padwal R, Klarenbach S, Sharma A, Fradette M, Jelinski S, Edwards A, Majumdar S. The evaluating self-management and educational support in severely obese patients awaiting multidisciplinary bariatric care \(EVOLUTION\) trial: principal results. *BMC Medicine* 2017; 15:46](#)
- [Anton S, Manini T, Milsom V, Dubyak P, Cesari M, Cheng J, Daniels M, Marsiske M, Pahor M, Leeuwenburgh C, Perri M. Effects of a weight loss plus exercise program on physical function in overweight, older women: a randomized controlled trial. *Clinical Interventions in Aging* 2011; 6:141-149](#)

Campbell K, Foster-Schubert K, Alfano C, Wang C, Wang C, Duggan C, Mason C, Imayama I, Kong A, Xiao L, Bain C, Blackburn G, Stanczyk F, McTiernan A. Reduced-calorie dietary weight loss, exercise, and sex hormones in postmenopausal women: randomized controlled trial. *Journal of Clinical Oncology* 2012; 30:2314-2326

Villareal D, Aguirre L, Gurney A, Waters D, Sinacore D, Colombo E, Armamento-Villareal R, Qualls C. Aerobic or resistance exercise, or both, in dieting obese older adults. *New England Journal of Medicine* 2017; 376:1943-1955

○ References not graded in Academy of Nutrition and Dietetics Evidence Analysis Process

- Academy of Nutrition and Dietetics' Evidence Analysis Center. Adult Weight Management Systematic Review (2021, July 2021). <https://andeal.org/awm>. Accessed July 27, 2021.
- Academy of Nutrition and Dietetics. Telehealth (2021). <https://www.eatrightpro.org/practice/practice-resources/telehealth>. Accessed November 4, 2021.
- Center for Connected Health Policy. HIPAA and Telehealth (2021). <https://cdn.cchpca.org/files/2018-09/HIPAA%20and%20Telehealth.pdf>. Accessed November 5, 2021.
- Dorsey ER, Topol EJ. State of Telehealth. *N Engl J Med*. 2016 Jul 14;375(2):154-161. PMID: 27410924
- Morgan-Bathke M, Baxter SD, Halliday TM, Lynch A, Malik N, Raynor HA, Garay JL, Rozga M. Weight Management Interventions Provided by a Dietitian for Adults with Overweight or Obesity: An Evidence Analysis Center Systematic Review and Meta-Analysis. *J Acad Nutr Diet*. 2022 Mar 25:S2212-2672(22)00170-8. PMID: 35788061
- Rozga, M., Handu D, Kelley K, Jimenez EY, Martin H, Schofield M, Steiber A. Telehealth During the COVID-19 Pandemic: A Cross-Sectional Survey of Registered Dietitian Nutritionists. *J Acad Nutr Diet*. 2021 Dec;121(12):2524-2535 PMID: 33612436
- Skea ZC, Aceves-Martins M, Robertson C, De Bruin M, Avenell A. Acceptability and feasibility of weight management programmes for adults with severe obesity: a qualitative systematic review. *BMJ Open*. 2019 Sep 11;9(9): e029473. PMID: 31511284

- [Adult Weight Management](#)
- [Adult Weight Management \(AWM\) Guideline \(2021-22\)](#)

Quick Links

Recommendations Summary

AWM: Payment for Services 2022

[Click here](#) to see the explanation of recommendation ratings (Strong, Fair, Weak, Consensus, Insufficient Evidence) and labels (Imperative or Conditional). To see more detail on the evidence from which the following recommendations were drawn, use the hyperlinks in the [Supporting Evidence Section](#) below.

- [Recommendation\(s\)](#)

AWM: Payment for Services

It is reasonable and necessary for registered dietitian nutritionists or international equivalents to be aware of and utilize existing channels of payment for services for adults with overweight or obesity to improve client access to care.

Rating: Consensus

Conditional

- [Risks/Harms of Implementing This Recommendation](#)

There are no known risks or harms of implementing this recommendation.

- [Conditions of Application](#)

Dietitians should be aware of appropriate billing practices and codes to receive payment for adult overweight and obesity interventions when possible (Tewksbury, Nwankwo et al. 2022). Dietitians working in private practice or contracting with a primary care provider enroll as providers through the public and private payers common to clients in their area. To facilitate payment for services, dietitians obtain a National Provider Identifier (NPI) (Academy of Nutrition and Dietetics 2021). Dietitians can take advantage of resources available through the Academy to inform billing practices (Academy of Nutrition and Dietetics 2021). The *Intensive Behavioral Therapy for Obesity* toolkit gives detailed guidance on billing for obesity services (Academy of Nutrition and Dietetics 2017). Management for obesity may be more likely to be covered by public and private payers than management for overweight (Centers for Medicare and Medicaid Services 2015). For up-to-date best practices regarding public and private payer reimbursement for overweight and obesity management services, dietitians can contact their Academy Affiliate or their local association's Nutrition Services Payment Specialist. Dietitians leverage demonstrated clinical and cost benefits to advocate for payment of services for adults with overweight or obesity under public and private payers' fee-for-service and alternative payment models (Academy of Nutrition and Dietetics 2017).

Payers may or may not cover telehealth visits as they would in-person contacts, and dietitians work with clients and public and private payers to understand what services will be covered to ensure telehealth visits are covered when possible. MNT using a group delivery is unlikely to be eligible for public or private payer reimbursement, so clients will likely have to pay for these sessions out-of-pocket. Dietitians may wish to create a bundle of services related to overweight and obesity management intervention using a group delivery method for adult clients to purchase to increase usability and participation.

Dietitians play an important role in advocating for the efficacy of the profession and the importance of payment for overweight and obesity management services. Dietitians can utilize the Academy's Action Alerts to take action on current legislation for better food, nutrition and health policies (Academy of Nutrition and Dietetics 2022).

- [Potential Costs Associated with Application](#)

Potential costs of implementing this recommendation are time for the dietitian to access payment for services and/or outsourcing billing responsibilities to a medical billing specialist. Clients who have public or private payer reimbursement for MNT appointment costs must pay for services up-front and wait for reimbursement.

- [Recommendation Narrative](#)

Payment of nutrition care services remains a major barrier to care for clients with overweight or obesity and the dietitians serving them. Accessing payment options, when possible, can improve access to care. LOW certainty of evidence demonstrated that overweight and obesity management interventions provided by dietitians may be cost-effective (Academy of Nutrition and Dietetics' Evidence Analysis Center 2021, Morgan-Bathke M 2022). Prevention of serious adverse health outcomes from dietitian services may allow for substantial cost savings over time. More information on the evidence supporting these recommendations can be found in the [Summary of Findings Table](#) and [Relationships between Recommendation Statements and Evidence Table](#).

- [Recommendation Strength Rationale](#)

Consensus recommendations are "best practice" recommendations. Effects of these practices are not easily or typically examined in research. However, expert panel members determined, based on clinical experience and related evidence, that these recommendations

are important to consider when delivering weight management interventions.

- [Minority Opinions](#)

No minority opinions.

- [Supporting Evidence](#)

The recommendations were created from the evidence analysis on the following questions. To see detail of the evidence analysis, click the blue hyperlinks below (recommendations rated consensus will not have supporting evidence linked).

[In adults with overweight or obesity, what is the cost-effectiveness of weight management interventions provided by an RDN or international equivalent, compared to usual care or no intervention from an RDN?](#)

- [References](#)

[Hagberg L, Winkvist A, Brekke H, Bertz F, Hellebø Johansson E, Huseinovic E. Cost-effectiveness and quality of life of a diet intervention postpartum: 2-year results from a randomized controlled trial. BMC Public Health 2019; 19:38](#)

[Padwal R, Klarenbach S, Sharma A, Fradette M, Jelinski S, Edwards A, Majumdar S. The evaluating self-management and educational support in severely obese patients awaiting multidisciplinary bariatric care \(EVOLUTION\) trial: principal results. BMC Medicine 2017; 15:46](#)

- [References not graded in Academy of Nutrition and Dietetics Evidence Analysis Process](#)

- Academy of Nutrition and Dietetics' Evidence Analysis Center. (2021, July 2021). Adult Weight Management Systematic Review. 2021. <https://andeal.org/awm>. Accessed on July 27, 2021.
- Academy of Nutrition and Dietetics. Action Center 2022. <https://www.eatrightpro.org/advocacy/take-action/action-center>. Accessed August 31, 2022.
- Academy of Nutrition and Dietetics. Intensive Behavioral Therapy for Obesity 2017. <https://www.eatrightstore.org/product-type/toolkits/intensive-behavioral-therapy-for-obesity-putting-it-into-practice>. Accessed September 17, 2021.
- Academy of Nutrition and Dietetics. Obtaining an NPI or EIN 2021. <https://www.eatrightpro.org/payment/getting-started/becoming-a-provider/obtaining-an-npi-or-ein>. Accessed November 4, 2021.
- Academy of Nutrition and Dietetics. Payment 2021 <https://www.eatrightpro.org/payment>. Accessed September 17, 2021.
- Centers for Medicare and Medicaid Services. Intensive Behavioral Therapy for Obesity 2015. <https://www.cms.gov/medicare-coverage-database/view/ncacal-decision-memo.aspx?proposed=N&NCALd=253>. Accessed October 11, 2021.
- Morgan-Bathke M, Baxter SD, Halliday TM, Lynch A, Malik N, Raynor HA, Garay JL, Rozga M, Weight Management Interventions Provided by a Dietitian for Adults with Overweight or Obesity: An Evidence Analysis Center Systematic Review and Meta-Analysis. *J Acad Nutr Diet*. 2022 Mar 25;S2212-2672(22)00170-8. PMID: 35788061
- Tewksbury C, Nwankwo R, Peterson J. Academy of Nutrition and Dietetics: Revised 2022 Standards of Practice and Standards of Professional Performance for Registered Dietitian Nutritionists (Competent, Proficient, and Expert) in Adult Weight Management. *J Acad Nutr Diet*. 2022 Oct;122(10):1940-1954.e45. PMID: 35738538

- [Adult Weight Management](#)
- [Adult Weight Management \(AWM\) Guideline \(2021-22\)](#)

Quick Links

Recommendations Summary

AWM: Dietary and Lifestyle Intervention Approaches 2022

[Click here](#) to see the explanation of recommendation ratings (Strong, Fair, Weak, Consensus, Insufficient Evidence) and labels (Imperative or Conditional). To see more detail on the evidence from which the following recommendations were drawn, use the hyperlinks in the [Supporting Evidence Section](#) below.

- [Recommendation\(s\)](#)

AWM: Dietary Patterns

Registered dietitian nutritionists or international equivalents should advise adult clients with overweight or obesity that many different dietary patterns can be individualized to support client-centered goals. Prescribed dietary approaches should achieve and maintain nutrient adequacy and be realistic for client adherence. Prescribed calorie levels should be tailored based on estimated or measured needs and should be adjusted to improve weight outcomes, as appropriate for and desired by each client.

Rating: Level 1(C)

Imperative

AWM: Components of a Comprehensive Intervention

Registered dietitian nutritionists or international equivalents should advise the following components as part of a comprehensive adult overweight and obesity management intervention to improve cardiometabolic outcomes, quality of life, and weight outcomes, as appropriate for and desired by each client:

- Nutritionally adequate diet with adjusted calories to improve weight outcomes and a nutritionally adequate, energy-balanced diet for weight maintenance;
- Behavioral strategies, including self-monitoring (diet, physical activity, weight);
- Appropriate physical activity to meet client goals (within the RDN's scope of practice or referral to an exercise practitioner).

Rating: Level 1(C)

Imperative

- [Risks/Harms of Implementing This Recommendation](#)

Overweight and obesity management interventions provided by a dietitian are efficacious in improving cardiometabolic outcomes and reducing weight outcomes (MODERATE to HIGH certainty evidence), with few adverse events reported (VERY LOW certainty evidence). Thus, the benefits of these recommended interventions likely outweigh the potential risks. However, in some cases, the mean intervention effect was small and, in comparison to the resources used for the intervention, this level of reduction may not be as beneficial for some adults with overweight or obesity as for others.

When weight loss occurs, up to 25% of the weight lost may come from lean body tissue (i.e. muscle) rather than fat tissue.(Willoughby, Hewlings et al. 2018) This is of greatest concern among older adults who are already at increased risk of sarcopenia due to age-accelerated muscle wasting, and weight loss may be contraindicated for this population. Weight loss may also not be indicated for adults with conditions for which weight loss may result in adverse outcomes, such as for adults who are pregnant, those with eating disorders or those with conditions such as chronic kidney disease or cancer.

Some individuals may object to focusing on weight loss and caloric restriction to improve overall health. Current evidence does not suggest that supervised weight management interventions result in eating disorders (Curry, Krist et al. 2018, Stewart, Martin et al. 2022). While research is not clear, for clients with current eating disorders, overweight or obesity management interventions may not be appropriate. Similarly, there is some controversy regarding the negative effects of overweight and obesity management interventions on psychological outcomes (National Task Force on the Prevention and Treatment of Obesity 2000). However, a recent systematic review examining the psychological effects of weight loss interventions found improvements in depression, mental health related quality of life (QoL) and self-efficacy after 12 months of weight loss interventions. There was no effect on anxiety, binge eating, body image, emotional eating, life satisfaction, self-esteem or stress at the intervention's end (Jones, Lawlor et al. 2021). Another recent systematic review found that interventions resulted in improved QoL with or without weight loss, but that improvements in body image and health-related QoL were closely related to weight loss (Lasikiewicz, Myrissa et al. 2014). There is discussion that self-directed dieting may increase disordered eating behaviors, but supervised, evidence-based treatment can result in sustainable improvements in health outcomes and self-worth (Cardel, Newsome et al. 2022). There is some speculation that a sub-set of individuals may be biologically vulnerable to negative effects from dietary restriction (Stewart, Martin et al. 2022). More research on long-term psychological effects of weight-loss interventions is needed.

- [Conditions of Application](#)

Counseling Approach

Dietitians are skilled in the use of advanced behavior change techniques to assist clients in meeting their goals. When working with healthcare providers, adults with overweight or obesity value positive, friendly and non-judgmental encouragement (Skea, Aceves-Martins et al. 2019). It is important for dietitians to meet their adult clients where they are at, assess their readiness to change, and encourage changes that are small and acceptable to the clients. Effective listening skills and motivational interviewing techniques should be employed during MNT sessions to help ensure that the adult client's experiences and preferences are properly considered when developing goals and strategies (Jortberg, Myers et al. 2015, Tewksbury, Nwankwo et al. 2022). During the initial session, the dietitian and client identify the adult client's goals as they relate to weight loss, blood pressure and other outcomes, and establish and prioritize goals that are Specific, Measurable, Attainable, Relevant and Time-Based (S.M.A.R.T.).

In adults with overweight or obesity, dietitians include behavior modifying strategies in interventions, such as collaborative goal setting, accountability, meal planning, stimulus control (ex: altering environment) and problem solving/troubleshooting. Evidence indicates that successful overweight and obesity management interventions include behavior modifying therapies (Academy of Nutrition and Dietetics' Evidence Analysis Center 2021). Self-monitoring of diet and physical activity is supportive of weight loss in adults with overweight or obesity, particularly if participants receive tailored advice (Berry, Kassavou et al. 2021). Dietitians use advanced behavior change techniques to facilitate client self-management (Tewksbury, Nwankwo et al. 2022).

Dietary Intake

Adult clients value flexibility and variety in dietary intake when undergoing overweight and obesity management (Skea, Aceves-Martins et al. 2019). A flexible approach to eating may help stabilize dietary intake for individuals with past negative experiences with or relationships to dieting (Skea, Aceves-Martins et al. 2019). However, some adult clients may value more prescriptive or structured eating plans (Skea, Aceves-Martins et al. 2019). During an initial appointment with an adult client, dietitians discuss any specific dietary preferences, including cultural or religious food traditions, cooking skills and access to cooking equipment, to provide more customized recommendations. In addition, dietitians assess an adult client's food access to facilitate realistic and implementable dietary recommendations. More resources on overweight and obesity management, including client education materials and sample menus, can be found in the Nutrition Care Manual (NCM) (Academy of Nutrition and Dietetics 2021).

The dietitian may consider providing education on MyPlate at one of the first sessions with an adult client. The MyPlate method is an appropriate way for clients to reduce calorie intake as it allows for appropriate proportions of intake from each of the food groups (U.S. Department of Agriculture 2021). However, MyPlate should be adapted to individuals from cultures that primarily use bowls or eat from shared dishes. An overview of dietary approaches that may be effective for improving outcomes, including weight loss if accompanied by caloric reduction, can be found in the [Dietary Approaches Table](#). All diets described have potential pros and cons, and dietary approaches are tailored to the needs and preferences of each client. Generally, dietitians will suggest that clients focus on consumption of foods that are nutrient-dense but not energy-dense (e.g., fruits and vegetables and other high fiber foods) while limiting foods that are energy-dense but not nutrient dense (e.g., foods with high amounts of added sugar). It is important to remain up to date on current literature regarding the efficacy of dietary approaches to manage overweight and obesity.

The RDN individualizes the meal pattern to distribute calories at meals and snacks throughout the day (Academy of Nutrition and Dietetics' Evidence Analysis Center 2014). 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 (Canuto, da Silva Garcez et al. 2017). The role of advising on breakfast in overweight and obesity management is unclear and should be individualized to each client (Sievert, Hussain et al. 2019).

For weight loss goals and energy prescription, dietitians individualize care based on each client's preferences and needs. Weight loss as little as 3-5% may result in cardiometabolic health benefits, while a weight loss goal of 10% may be appropriate for adults with obesity or co-morbidities (Jensen, Ryan et al. 2014, Wharton, Lau et al. 2020). Prescribed energy intake ranges should be realistic for adherence during the intervention. The dietitian may want to precede an intervention by having an adult client track their food intake and monitor portion sizes, which can increase client awareness of dietary intake. Use of energy estimating equations such as Mifflin St. Jeor (Mifflin, St Jeor et al. 1990) can be used to understand the energy needs for the adult client's current body weight and activity level. The dietitian can then use the usual dietary intake information and the results of the equations or indirect calorimetry to determine an appropriate calorie range that will result in weight loss through a reduction in intake relative to needs. While caloric reduction is recommended for weight loss, methods of communicating this principle will be dependent on the clinician and client. For example, dietitians may recommend a meal plan that describes portion sizes of specific foods, but not calorie content.

For all clients, and older adults in particular, body composition should be monitored to ensure that the adult client is not experiencing a significant loss of muscle mass with weight loss. Dietitians use valid methods of body composition analysis to track changes in the client's body composition. Dietitians understand the limitations of different body composition analysis tools when selecting an appropriate method. Physical activity and/or resistance training may help reduce muscle loss, as can consuming protein regularly throughout the day (instead of primarily at one meal) (Cava, Yeat et al. 2017). In addition, education is provided to the adult client about body composition and the physiology of weight loss to help them create an appropriate goal related to weekly or overall weight loss.

Dietitians working with adult clients who have a history of disordered eating or history of an eating disorder may suggest clients are assessed by a mental health professional prior to initiating a weight loss program. In addition, dietitians may want to weigh the clients in such a way so they do not see the actual weight number (Wiedemann, Ivezaj et al. 2020, Hahn, Bauer et al. 2021). Care should also be taken not to overly emphasize the amount of weight lost relative to other improvements related to overweight and obesity management, such as cardiometabolic outcomes, body composition, and QoL.

Dietitians wishing to pursue non-diet approaches for adult clients with overweight or obesity work with the client to establish goals other than weight loss that reflect progress towards healthy eating habits. Strategies such as promoting mindful eating may be used to help the client in lieu of prescribing caloric restrictions. However, little evidence is available that supports the premise that mindful eating reduces energy intake or enhances dietary quality (Grider, Douglas et al. 2021). The dietitian should be transparent with the adult client regarding the strength of the evidence for non-diet approaches as a treatment for overweight and obesity compared with the evidence for traditional MNT for adult overweight and obesity management.

Physical Activity

Dietitians consider their professional scope of practice when providing education and recommendations related to physical activity (Academy of Nutrition and Dietetics 2018, Tewksbury, Nwankwo et al. 2022). Dietitians can utilize general physical activity recommendations from guidelines, such as the Physical Activity Guidelines for Americans, when appropriate (J Piercy, Troiano et al. 2018, Tewksbury, Nwankwo et al. 2022). Individualized recommendations should only be made if the dietitian is also a credentialed fitness professional. Dietitians should develop a network of fitness professionals in their vicinity to whom they can refer clients. To determine if an aspect of an intervention is within one's scope of practice, dietitians can consult the Academy's Scope of Practice Decision Algorithm (Academy of Nutrition and Dietetics 2021). Academy members can also access a free case study, "Recommendations by RDN for Physical Activity" from the EatRightStore (Dietetics 2020). Dietitians can find tips, tools and resources in "Physical Activity Toolkit for RDs: Exercise is Medicine", which was recently updated by several Dietetic Practice Groups (Weight Management, Cardiovascular Health and Well-Being, Sports and Human Performance Nutrition) in partnership with the American College of Sports Medicine's Exercise is Medicine program (Kruskall L 2020).

Weight Maintenance

As described in the section on MNT Amount, dietitians regularly follow-up with and monitor and evaluate clients following a behavioral intervention to help them reprioritize goals and identify barriers and facilitators to achieving goals. Results of monitoring and evaluation may be to adjust the intervention intensity (e.g., frequency and types of contacts with the dietitian), focus of the dietary intervention, physical activity-related goals and which behavioral strategies to implement, as needed based on client needs and preferences. During follow-up contacts, dietitians can address client tensions around changing habits, addressing needs and conflicts with beliefs (Greaves, Poltawski et al. 2017). Adult clients may find value in discussing insights from their overweight and obesity management journeys, working to establish self-regulation, developing strategies to address internal and external influences of dietary intake, and identifying new sources of motivation (Greaves, Poltawski et al. 2017). Adult clients may also benefit from developing new patterns of thinking, meeting needs previously addressed by obesogenic behaviors with more healthy behaviors, and by changing beliefs and self-concepts (Greaves, Poltawski et al. 2017). Methods for troubleshooting common challenges in overweight and obesity management interventions are discussed in the NCM (Academy of Nutrition and Dietetics 2021).

- o [Potential Costs Associated with Application](#)

Few trials have been conducted that test implementation of specific intervention components and their associated costs. However, the interventions described in the recommendations above require no special costs to the client beyond dietitian services and the regular cost of food.

Costs to a practitioner include training and tools to monitor body composition which may be relatively inexpensive, such as bioelectrical impedance analysis, or may be very costly, such as dual-energy x-ray absorptiometry. Overweight and obesity management interventions provided by a dietitian may be cost-effective (LOW certainty evidence) (Academy of Nutrition and Dietetics' Evidence Analysis Center 2021).

- o [Recommendation Narrative](#)

Contributors to overweight and obesity are complex and healthcare providers recognize and address the multi-factorial etiologies of overweight and obesity when possible. This section is focused specifically on the lifestyle behaviors of dietary intake and physical activity. Modifying dietary intake is a key component of overweight and obesity management, and a healthy dietary pattern can improve metabolic health and risk of inflammation and non-communicable disease risk (Vilela, Fonseca et al. 2021).

Those adults valuing and seeking overweight and obesity management interventions will benefit from an integrated approach that includes nutrition, physical activity, and behavior change (Bloom, Adler et al. 2018, Skea, Aceves-Martins et al. 2019, Ananthakumar, Jones et al. 2020). Effective interventions included in the supporting systematic review were examined for common intervention components. Current research describing overweight and obesity management interventions typically include caloric reduction as a means to weight loss (Academy of Nutrition and Dietetics' Evidence Analysis Center 2021, Morgan-Bathke M 2022). This approach is based on extensive literature describing that excess weight, typically assessed with BMI, is prospectively associated with mortality, cardiovascular disease risk, pre-diabetes, and type 2 diabetes mellitus, and weight loss is prospectively associated with beneficial health outcomes including quality of life, even in adults who are metabolically healthy (Kritchevsky, Beavers et al. 2015, Peckmezian and Hay 2017, Jayedi, Rashidy-Pour et al. 2018, Yeh, Chen et al. 2019, Opio, Croker et al. 2020, Yu, Ho et al. 2022). However, weight outcomes are only one measure of health and dietitians work with clients to improve other health and well-being outcomes by advising an individualized diet that is nutritious, culturally acceptable and feasible for long-term adherence (Academy of Nutrition and Dietetics' Evidence Analysis Center 2021, Morgan-Bathke M 2022). Behavior tracking and modification strategies and physical activity are also common components of overweight and obesity management interventions (Academy of Nutrition and Dietetics' Evidence Analysis Center 2021, Morgan-Bathke M 2022). These components have been tested extensively, with little uncertainty in beneficial influence on outcomes. These recommendations provide feasible and sustainable options to achieve and maintain positive health outcomes that are flexible according to the needs of each adult client.

Weight Maintenance

A major challenge for clients who participate in overweight and obesity management interventions is maintaining weight loss following behavioral interventions (Nordmo, Danielsen et al. 2020). Maintaining lifestyle changes following an intervention can be difficult as adult clients navigate the co-existence of new behaviors with old habits. Without extended care interventions, weight lost during behavioral interventions is often gained back in the follow-up period (Nordmo, Danielsen et al. 2020, Academy of Nutrition and Dietetics' Evidence Analysis Center 2021). Behavior-based weight maintenance interventions result in less weight regain than control conditions (LeBlanc, Patnode et al. 2018). Several studies support the long-term effect of behavioral interventions, including weight loss, on long-term health outcomes (Knowler, Fowler et al. 2009, Lindström, Peltonen et al. 2013, 2014, 2015, Willis, Huang et al. 2020). Recent systematic reviews have examined determinants to weight maintenance following behavioral interventions. Consistent evidence suggests sociodemographic characteristics such as age, gender and socioeconomic status are not associated with weight loss maintenance (Varkevisser, van Stralen et al. 2019). Among behavioral determinants, self-monitoring of dietary intake and weight were strong determinants of weight loss maintenance and self-monitoring of physical activity was a moderate determinant (Varkevisser, van Stralen et al. 2019, Spreckley, Seidell et al. 2021). Other strong behavioral determinants of weight maintenance include eating behaviors such as portion control, limiting intake of energy-dense foods including sugar-sweetened beverages and increasing fruit and vegetables intake (Varkevisser, van Stralen et al. 2019, Paixão, Dias et al. 2020, Spreckley, Seidell et al. 2021). Self-efficacy for exercise, weight management and dietary intake and having high physical self-worth were strong and moderate predictors of weight loss maintenance (Varkevisser, van Stralen et al. 2019).

Non-Diet Approaches

Most research examining interventions for adults with overweight or obesity has been focused on calorie reduction with a goal of weight loss (Cheng, Garay et al. 2020). However, non-diet approaches that do not focus on caloric restriction have been proposed as methods to improve health and well-being without specifically targeting weight loss. Practitioners following these approaches describe that standards of care for the management of overweight and obesity may be harmful and lead to adverse health outcomes (Penney and Kirk 2015). On the other hand, obesity is a serious medical condition, and those seeking management deserve compassionate, evidence-based care. For the systematic review supporting this EBP, the EBP team attempted to identify non-diet interventions provided by dietitians for adults with overweight or obesity, and four RCTs were identified (Academy of Nutrition and Dietetics' Evidence Analysis Center 2021). In line with the intended framework, study authors reported no effect of interventions on BMI, percent weight loss, or waist circumference, but evidence certainty was LOW or VERY LOW (Hawley, Horwath et al. 2008, Katzer, Bradshaw et al. 2008, Provencher, Bégin et al. 2009, Gagnon-Girouard, Bégin et al. 2010, Carroll, Marshall et al. 2012, Leblanc, Provencher et al. 2012, Academy of Nutrition and Dietetics' Evidence Analysis Center 2021). Additionally, two RCTs each described there was no effect of the interventions on BP, or QoL, and certainty of evidence was LOW or VERY LOW (Hawley, Horwath et al. 2008, Katzer, Bradshaw et al. 2008, Provencher, Bégin et al. 2009, Gagnon-Girouard, Bégin et al. 2010, Ingraham, Harbatkin et al. 2017, Academy of Nutrition and Dietetics' Evidence Analysis Center 2021). No evidence was identified for the outcome of fasting blood glucose (Academy of Nutrition and Dietetics' Evidence Analysis Center 2021). Other recent systematic reviews examined the effect of non-diet approaches and were more inclusive regarding the interventionists delivering the interventions (e.g., included mental health professionals) and the outcomes reported (e.g., included food behavior and psychological outcomes). Results of these systematic reviews agreed that interventions that did not include dietary restriction did not result in improved CVD risk factors or results were inconsistent. Ulian, Aburad et al. 2018, Khasteganan, Lycett et al. 2019). However, both of these systematic reviews concluded that these approaches may be associated with body satisfaction as well as psychological and physical activity outcomes (Ulian, Aburad et al. 2018, Khasteganan, Lycett et al. 2019). The question of how to approach weight loss most effectively and compassionately is challenging, and dietetics practice will depend on client needs and values and the practitioner's perspective. Many other behavioral changes can improve health beyond weight loss, such as increases in physical activity; increased consumption of whole grains, low-fat dairy, and fruits and vegetables; and improvements in sleep and stress management (Cardel, Newsome et al. 2022).

More information on components of interventions that supported this guideline can be found in the supporting systematic review ((Academy of Nutrition and Dietetics' Evidence Analysis Center 2021, Morgan-Bathke et al. 2022). Results of interventions supporting these recommendations can be found in the [Summary of Findings Table](#) and [Relationships between Recommendation Statements and Evidence Table](#).

- o [Recommendation Strength Rationale](#)

Dietary and lifestyle intervention recommendations were based on characteristics of successful interventions included in the systematic review supporting this guideline (Academy of Nutrition and Dietetics' Evidence Analysis Center 2021, Morgan-Bathke M 2022). Evidence was translated into practice recommendations by expert panel members translating research through an evidence-to-decision framework that includes patient values, feasibility, resources used, equity, and other factors (please see Methods section for more information). More information on components of interventions that supported this guideline can be found in the supporting systematic review ((Academy of Nutrition and Dietetics' Evidence Analysis Center 2021, Morgan-Bathke et al. 2022). Results of interventions supporting these recommendations can be found in the [Summary of Findings Table](#) and [Relationships between Recommendation Statements and Evidence Table](#).

- o [Minority Opinions](#)

No minority opinions.

- [Supporting Evidence](#)

The recommendations were created from the evidence analysis on the following questions. To see detail of the evidence analysis, click the blue hyperlinks below (recommendations rated consensus will not have supporting evidence linked).

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent, compared to usual care or no intervention from an RDN, on body mass index?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent, compared to usual care or no intervention from an RDN, on percent weight loss?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent, compared to usual care or no intervention from an RDN, on waist circumference?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent, compared to usual care or no intervention from an RDN, on blood pressure?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent, compared to usual care or no intervention from an RDN, on fasting blood glucose?](#)

[In adults with overweight or obesity, what is the effect of weight management interventions provided by an RDN or international equivalent, compared to usual care or no intervention from an RDN, on quality of life?](#)

[In adults with overweight or obesity, what is the cost-effectiveness of weight management interventions provided by an RDN or international equivalent, compared to usual care or no intervention from an RDN?](#)

[In adults with overweight or obesity, what is the adverse events of weight management interventions provided by an RDN or international equivalent, compared to usual care or no intervention from an RDN?](#)

[In adults with overweight or obesity, what is the efficacy of Health at Every Size/Non-Diet interventions provided by RDNs, compared to usual care or no intervention from an RDN on BMI?](#)

[In adults with overweight or obesity, what is the efficacy of Health at Every Size/Non-Diet interventions provided by RDNs, compared to usual care or no intervention from an RDN on percent weight loss?](#)

[In adults with overweight or obesity, what is the efficacy of Health at Every Size/Non-Diet interventions provided by RDNs, compared to usual care or no intervention from an RDN on waist circumference?](#)

[In adults with overweight or obesity, what is the efficacy of Health at Every Size/Non-Diet interventions provided by RDNs, compared to usual care or no intervention from an RDN on blood pressure?](#)

[In adults with overweight or obesity, what is the efficacy of Health at Every Size/Non-Diet interventions provided by RDNs, compared to usual care or no intervention from an RDN on quality of life?](#)

[In adults with overweight or obesity, what is the efficacy of Health at Every Size/Non-Diet interventions provided by RDNs, compared to usual care or no intervention from an RDN on fasting blood glucose, cost-effectiveness and adverse events?](#)

- [References](#)

[Al-Hamdan R, Avery A, Salter A, Al-Disi D, Al-Daghri NM, McCullough F. Identification of Education Models to Improve Health Outcomes in Arab Women with Pre-Diabetes. *Nutrients* 2019; 11:1113](#)

[Almanza-Aguilera E, Brunius C, Bernal-Lopez M, Garcia-Aloy M, Madrid-Gambin F, Tinahones F, Gómez-Huelgas R, Landberg R, Andres-Lacueva C. Impact in plasma metabolome as effect of lifestyle intervention for weight-loss reveals metabolic benefits in metabolically healthy obese women. *Journal of Proteome Research* 2018; 17:2600-2610](#)

[Annesi J, Whitaker A. Weight loss and psychologic gain in obese women-participants in a supported exercise intervention. *The Permanente Journal* 2008; 12:36-45](#)

[Assunção M, Gigante D, Cardoso M, Sartorelli D, Santos I. Randomized, controlled trial promotes physical activity and reduces consumption of sweets and sodium among overweight and obese adults. *Nutrition Research* 2010; 30:541-549](#)

[Barratt R, Frost G, Millward D, Truby H. A randomised controlled trial investigating the effect of an intensive lifestyle intervention v. standard care in adults with type 2 diabetes immediately after initiating insulin therapy. *The British Journal of Nutrition* 2008; 99:1025-1031](#)

[Beleigoli A, Andrade A, Diniz M, Ribeiro A. Personalized web-based weight loss behavior change program with and without dietitian online coaching for adults with overweight and obesity: randomized controlled trial. *Journal of Medical Internet Research* 2020; 22:e17494](#)

[Bennett G, Herring S, Puleo E, Stein E, Emmons K, Gillman M. Web-based weight loss in primary care: a randomized controlled trial. *Obesity* 2010; 18:308-313](#)

[Bennett G, Steinberg D, Askew S, Levine E, Foley P, Batch B, Svetkey L, Bosworth H, Puleo E, Brewer A, DeVries A, Miranda H. Effectiveness of an app and provider counseling for obesity treatment in primary care. *American Journal of Preventive Medicine* 2018; 55:777-786](#)

[Bertz F, Brekke H, Ellegård L, Rasmussen K, Wennergren M, Winkvist A. Diet and exercise weight-loss trial in lactating overweight and obese women. *The American journal of clinical nutrition* 2012; 96:698-705](#)

[Chambliss H, Huber R, Finley C, McDoniel S, Kitzman-Ulrich H, Wilkinson W. Computerized self-monitoring and technology-assisted feedback for weight loss with and without an enhanced behavioral component. *Patient Education and Counseling* 2011; 85:375-382](#)

[Colleran H, Lovelady C. Use of MyPyramid menu planner for moms in a weight-loss intervention during lactation. *Journal of the Academy of Nutrition and Dietetics* 2012; 112:553-558](#)

[de Freitas P, de Menezes M, Dos Santos L, Pimenta A, Ferreira A, Lopes A. The transtheoretical model is an effective weight management intervention: a randomized controlled trial. *BMC Public Health* 2020; 20:652](#)

[de Vos B, Runhaar J, Bierma-Zeinstra S. Effectiveness of a tailor-made weight loss intervention in primary care. *European Journal of Nutrition* 2014; 53:95-104](#)

[Abd El-Kader SM, Saiem Al-Dahr MH. Weight loss improves biomarkers endothelial function and systemic inflammation in obese postmenopausal Saudi women. *African Health Sciences* 2016; 16:533-541](#)

[Abd El-Kader SM, Al-Jiffri OH, Neamatallah ZA, AlKhateeb AF, AlFawaz SS. Weight reduction ameliorates inflammatory cytokines, adipocytokines and endothelial dysfunction biomarkers among Saudi patients with type 2 diabetes. *African Health Sciences* 2020; 20:1329-1336](#)

[Foster-Schubert K, Alfano C, Duggan C, Xiao L, Campbell K, Kong A, Bain C, Wang C, Blackburn G, McTiernan A. Effect of diet and exercise, alone or combined, on weight and body composition in overweight-to-obese postmenopausal women. *Obesity* 2012; 20:1628-1638](#)

[Gallagher R, Kirkness A, Zelestis E, Hollams D, Kneale C, Armari E, Bennett T, Daly J, Tofler G. A randomised trial of a weight loss intervention for overweight and obese people diagnosed with coronary heart disease and/or type 2 diabetes. *Annals of Behavioral Medicine* 2012; 44:119-128](#)

[Gandler N, Simmance N, Keenan J, Choong P, Dowsey M. A pilot study investigating dietetic weight loss interventions and 12 month functional outcomes of patients undergoing total joint replacement. *Obesity Research & Clinical Practice* 2016; 10:220-223](#)

[Georgoulis M, Yiannakouris N, Kechribari I, Lamprou K, Perraki E, Vagiakis E, Kontogianni M. Cardiometabolic Benefits of a Weight Loss Mediterranean Diet/Lifestyle Intervention in Patients with Obstructive Sleep Apnea: The "MIMOSA" Randomized Clinical Trial. *Nutrients* 2020; 12:](#)

[Hardcastle S, Taylor A, Bailey M, Harley R, Hagger M. Effectiveness of a motivational interviewing intervention on weight loss, physical activity and cardiovascular disease risk factors: a randomised controlled trial with a 12-month post-intervention follow-up. *The International Journal of Behavioral Nutrition and Physical Activity* 2013; 10:40](#)

[Hassapidou M, Tziomalos K, Lazaridou S, Pagkalos I, Papadimitriou K, Kokkinopoulou A, Tzotzas T. The Nutrition Health Alliance \(NutriHeAl\) study: a randomized, controlled, nutritional intervention based on Mediterranean diet in Greek municipalities. *Journal of the American College of Nutrition* 2020; 39:338-344](#)

[Haste A, Adamson A, McColl E, Araujo-Soares V, Bell R. Web-based weight loss intervention for men with type 2 diabetes: pilot randomized controlled trial. *JMIR Diabetes* 2017; 2:e14](#)

[Hurkmans E, Matthys C, Bogaerts A, Scheys L, Devloo K, Seghers J. Face-to-face versus mobile versus blended weight loss program: randomized clinical trial. *JMIR mHealth and uHealth* 2018; 6:e14](#)

[Huseinovic E, Bertz F, Brekke H, Winkvist A. Two-year follow-up of a postpartum weight loss intervention: Results from a randomized controlled trial. *Maternal & Child Nutrition* 2018; 14:e12539](#)

[Innes A, Thomson G, Cotter M, King J, Volvaard N, Kelly B. Evaluating differences in the clinical impact of a free online weight loss programme, a resource-intensive commercial weight loss programme and an active control condition: a parallel randomised controlled trial. *BMC Public Health* 2019; 19:1732](#)

[Jiang X, Fan X, Wu R, Geng F, Hu C. The effect of care intervention for obese patients with type II diabetes. *Medicine* 2017; 96:e7524](#)

[Johnson K, Alencar M, Coakley K, Swift D, Cole N, Mermier C, Kravitz L, Amorim F, Gibson A. Telemedicine-based health coaching is effective for inducing weight loss and improving metabolic markers. *Telemedicine Journal and e-Health* 2019; 25:85-92](#)

[Karintrakul S, Angkatavanich J. A randomized controlled trial of an individualized nutrition counseling program matched with a transtheoretical model for overweight and obese females in Thailand. *Nutrition Research and Practice* 2017; 11:319-326](#)

[Liljensøe A, Laursen J, Bliddal H, Søballe K, Mechlenburg I. Weight loss intervention before total knee replacement: a 12-month randomized controlled trial. *Scandinavian Journal of Surgery* 2021; 110:3-12](#)

[Ma J, Yank V, Xiao L, Lavori P, Wilson S, Rosas L, Stafford R. Translating the Diabetes Prevention Program lifestyle intervention for weight loss into primary care: a randomized trial. *JAMA Internal Medicine* 2013; 173:113-121](#)

- Nilsen V, Bakke P, Gallefoss F. Effects of lifestyle intervention in persons at risk for type 2 diabetes mellitus - results from a randomised controlled trial. *BMC Public Health* 2011; 11:893
- Pablos A, Drehmer E, Ceca D, Garcia-Esteve A, Lopez-Hernandez L, Fargueta M, Romero FJ, Pablos C. Effects of a lifestyle intervention program for treating obesity in lower socioeconomic status adults: a randomized controlled trial. *Gazzetta Medica Italiana* 2017; 1776:467-477
- Rollo ME, Baldwin JN, Hutchesson M, Aguiar EJ, Wynne K, Young A, Callister R, Haslam R, Collins CE. The feasibility and preliminary efficacy of an ehealth lifestyle program in women with recent gestational diabetes mellitus: a pilot study. *International Journal of Environmental Research and Public Health* 2020; 17:7115
- Salinardi T, Batra P, Roberts S, Urban L, Robinson L, Pittas A, Lichtenstein A, Deckersbach T, Saltzman E, Das S. Lifestyle intervention reduces body weight and improves cardiometabolic risk factors in worksites. *American Journal of Clinical Nutrition* 2013; 97:667-76
- Shrivastava U, Fatma M, Mohan S, Singh P, Misra A. Randomized control trial for reduction of body weight, body fat patterning, and cardiometabolic risk factors in overweight worksite employees in Delhi, India. *Journal of Diabetes Research* 2017; 2017:1-12
- Tanaka N, Murakami H, Aiba N, Morita A, Watanabe S, Miyachi M. Effects of 1-year weight loss intervention on abdominal skeletal muscle mass in Japanese overweight men and women. *Asia Pacific Journal of Clinical Nutrition* 2019; 28:72-78
- Uemura M, Hayashi F, Ishioka K, Ihara K, Yasuda K, Okazaki K, Omata J, Suzutani T, Hirakawa Y, Chiang C, Aoyama A, Ohira T. Obesity and mental health improvement following nutritional education focusing on gut microbiota composition in Japanese women: a randomised controlled trial. *European Journal of Nutrition* 2019; 58:3291-3302
- van Gemert W, Schuit A, van der Palen J, May A, Iestra J, Wittink H, Peeters P, Monninkhof E. Effect of weight loss, with or without exercise, on body composition and sex hormones in postmenopausal women: the SHAPE-2 trial. *Breast Cancer Research* 2015; 17:120
- Vissers D, Verrijken A, Mertens I, Van Gils C, Van de Sompel A, Truijens S, Van Gaal L. Effect of long-term whole body vibration training on visceral adipose tissue: a preliminary report. *Obesity Facts* 2010; 3:93-100
- Weinhold K, Miller C, Marrero D, Nagaraja H, Focht B, Gascon G. A randomized controlled trial translating the diabetes prevention program to a university worksite, Ohio, 2012-2014. *Preventing Chronic Disease* 2015; 12:E210
- Alencar M, Johnson K, Mullur R, Gray V, Gutierrez E, Korosteleva O. The efficacy of a telemedicine-based weight loss program with video conference health coaching support. *Journal of Telemedicine and Telecare* 2017; 25:151-157
- Cai R, Chao J, Li D, Zhang M, Kong L, Wang Y. Effect of community-based lifestyle interventions on weight loss and cardiometabolic risk factors in obese elderly in China: A randomized controlled trial. *Experimental Gerontology* 2019; 128:110749
- Carnie A, Lin J, Aicher B, Leon B, Courville A, Sebring N, de Jesus J, Dellavalle D, Fitzpatrick B, Zalos G, Powell-Wiley T, Chen K, Cannon R. Randomized trial of nutrition education added to internet-based information and exercise at the work place for weight loss in a racially diverse population of overweight women. *Nutrition & Diabetes* 2013; 3:e98
- Hageman P, Pullen C, Hertzog M, Pozehl B, Eisenhauer C, Boeckner L. Web-based interventions alone or supplemented with peer-led support or professional email counseling for weight loss and weight maintenance in women from rural communities: results of a clinical trial. *Journal of Obesity* 2017; 2017:1602627
- Kesman R, Ebbert J, Harris K, Schroeder D. Portion control for the treatment of obesity in the primary care setting. *BMC Research Notes* 2011; 4:346
- O'Neil P, Miller-Kovach K, Tuerk P, Becker L, Wadden T, Fujioka K, Hollander P, Kushner R, Timothy Garvey W, Rubino D, Malcolm R, Weiss D, Raum W, Salyer J, Hermayer K, Rost S, Veliko J, Sora N. Randomized controlled trial of a nationally available weight control program tailored for adults with type 2 diabetes. *Obesity* 2016; 24:2269-2277
- Svetkey L, Batch B, Lin P, Intille S, Corsino L, Tyson C, Bosworth H, Grambow S, Voils C, Loria C, Gallis J, Schwager J, Bennett G, Bennett G. Cell phone intervention for you (CITY): A randomized, controlled trial of behavioral weight loss intervention for young adults using mobile technology. *Obesity* 2015; 23:2133-2141
- Tapsell L, Lonergan M, Batterham M, Neale E, Martin A, Thorne R, Deane F, Peoples G. Effect of interdisciplinary care on weight loss: a randomised controlled trial. *BMJ Open* 2017; 7:e014533
- Teerinemi A, Salonurmi T, Jokelainen T, Vähänikkilä H, Alahäivälä T, Karppinen P, Enwald H, Huotari M, Laitinen J, Oinas-Kukkonen H, Savolainen M. A randomized clinical trial of the effectiveness of a web-based health behaviour change support system and group lifestyle counselling on body weight loss in overweight and obese subjects: 2-year outcomes. *Journal of Internal Medicine* 2018; 284:534-545
- Thomas J, Bond D, Raynor H, Papandonatos G, Wing R. Comparison of smartphone-based behavioral obesity treatment with gold standard group treatment and control: a randomized trial. *Obesity* 2019; 27:572-580

[Trepanowski J, Kroeger C, Barnosky A, Klempel M, Bhutani S, Hoddy K, Gabel K, Freels S, Rigdon J, Rood J, Ravussin E, Varady K. Effect of alternate-day fasting on weight loss, weight maintenance, and cardioprotection among metabolically healthy obese adults: a randomized clinical trial. *JAMA* 2017; 177:930-938](#)

[Ventura Marra M, Lilly C, Nelson K, Woofers D, Malone J. . A pilot randomized controlled trial of a telenutrition weight loss intervention in middle-aged and older men with multiple risk factors for cardiovascular disease. *Nutrients* 2019; 11:](#)

[Villareal D, Chode S, Parimi N, Sinacore D, Hilton T, Armamento-Villareal R, Napoli N, Qualls C, Shah K. Weight loss, exercise, or both and physical function in obese older adults. *The New England Journal of Medicine* 2011; 364:1218-1229](#)

[Weinhold K, Miller C, Marrero D, Nagaraja H, Focht B, Gascon G. A randomized controlled trial translating the diabetes prevention program to a university worksite, Ohio, 2012-2014. *Preventing Chronic Disease* 2015; 12:E210](#)

[Bove K, Nilsson M, Pedersen L, Mikkelsen N, Suhrs H, Astrup A, Prescott E. Comprehensive treatment of microvascular angina in overweight women - a randomized controlled pilot trial. *PloS One* 2020; 15:e0240722](#)

[Duncan MJ, Fenton S, Brown WJ, Collins CE, Glozier N, Kolt GS, Holliday EG, Morgan PJ, Murawski B, Plotnikoff RC, Rayward AT, Stamatakis E, Vandelandotte C, Burrows TL. Efficacy of a multi-component m-health weight-loss intervention in overweight and obese adults: a randomised controlled trial. *International Journal of Environmental Research and Public Health* 2020; 17:6200](#)

[Pablos A, Drehmer E, Ceca D, Garcia-Esteve A, Lopez-Hernandez L, Fargueta M, Romero FJ, Pablos C. Effects of a lifestyle intervention program for treating obesity in lower socioeconomic status adults: a randomized controlled trial. *Gazzetta Medica Italiana* 2017; 1776:467-477](#)

[Parker A, Byham-Gray L, Denmark R, Winkle P. The effect of medical nutrition therapy by a registered dietitian nutritionist in patients with prediabetes participating in a randomized controlled clinical research trial. *Journal of the Academy of Nutrition and Dietetics* 2014; 114:1739-48](#)

[Hagberg L, Winkvist A, Brekke H, Bertz F, Hellebø Johansson E, Huseinovic E. Cost-effectiveness and quality of life of a diet intervention postpartum: 2-year results from a randomized controlled trial. *BMC Public Health* 2019; 19:38](#)

[Padwal R, Klarenbach S, Sharma A, Fradette M, Jelinski S, Edwards A, Majumdar S. The evaluating self-management and educational support in severely obese patients awaiting multidisciplinary bariatric care \(EVOLUTION\) trial: principal results. *BMC Medicine* 2017; 15:46](#)

[Anton S, Manini T, Milsom V, Dubyak P, Cesari M, Cheng J, Daniels M, Marsiske M, Pahor M, Leeuwenburgh C, Perri M. Effects of a weight loss plus exercise program on physical function in overweight, older women: a randomized controlled trial. *Clinical Interventions in Aging* 2011; 6:141-149](#)

[Carroll S, Marshall P, Ingle L, Borkoles E. Cardiorespiratory fitness and heart rate recovery in obese premenopausal women. *Scandinavian Journal of Medicine & Science in Sports* 2012; 22:e133-139](#)

[Hawley G, Horwath C, Gray A, Bradshaw A, Katzer L, Joyce J, O'Brien S. Sustainability of health and lifestyle improvements following a non-dieting randomised trial in overweight women. *Preventive Medicine* 2008; 47:593-599](#)

[Katzer L, Bradshaw A, Horwath C, Gray A, O'Brien S, Joyce J. Evaluation of a "nondieting" stress reduction program for overweight women: a randomized trial. *American Journal of Health Promotion* 2008; 22:264-274](#)

[Provencher V, Bégin C, Tremblay A, Mongeau L, Corneau L, Dodin S, Boivin S, Lemieux S. Health-at-every-size and eating behaviors: 1-year follow-up results of a size acceptance intervention. *Journal of the American Dietetic Association* 2009; 109:1854-1861](#)

[Gagnon-Girouard, Bégin, Provencher et al. Psychological Impact of a "Health-at-Every-Size" Intervention on Weight-Preoccupied Overweight/Obese Women. *Journal of Obesity* 2010; 2010:](#)

[Leblanc V, Provencher V, Bégin C, Corneau L, Tremblay A, Lemieux S. Impact of a Health-At-Every-Size intervention on changes in dietary intakes and eating patterns in premenopausal overweight women: results of a randomized trial. *Clinical Nutrition* 2012; 31:481-488](#)

[Ingraham N, Harbatkin D, Lorvick J, Plumb M, Minnis A. Women's Health and Mindfulness \(WHAM\): A Randomized Intervention Among Older Lesbian/Bisexual Women. *Health Promotion Practice* 2017; 18:348-357](#)

○ [References not graded in Academy of Nutrition and Dietetics Evidence Analysis Process](#)

- Academy of Nutrition and Dietetics' Evidence Analysis Center. Adult Weight Management Systematic Review 2021. <https://andeal.org/awm>. Accessed on July 27, 2021.
- Academy of Nutrition and Dietetics' Evidence Analysis Center. Adult Weight Management (AWM) Guideline 2014. <https://www.andeal.org/topic.cfm?menu=5276&cat=4688>. Accessed August 23, 2021.
- Academy of Nutrition and Dietetics. Academy of Nutrition and Dietetics: Revised 2017 Scope of Practice for the Registered Dietitian Nutritionist. *J Acad Nutr Diet*. 2018 Jan;118(1):141-165. PMID: 29173834
- Academy of Nutrition and Dietetics. Case Study: Recommendations by RDN for Physical Activity 2020. <https://www.eatrightstore.org/product-type/case-studies-and-practice-tips/case-study-recommendations-by-rd-for-physical-activity?>

- [_ga=2.210837461.191163423.1630346537-846066603.1628527687](https://doi.org/10.21083/7461.191163423.1630346537-846066603.1628527687). Accessed September 17, 2021.
- Academy of Nutrition and Dietetics. Nutrition Care Manual. <https://www.nutritioncaremanual.org>. Accessed April 18, 2021.
 - Academy of Nutrition and Dietetics. Scope of Practice Decision Algorithm 2021 https://www.eatrightpro.org/practice/quality-management/scope-of-practice?rdType=short_url&rdInfo=scope. Accessed September 17, 2021.
 - Ananthakumar T, Jones NR, Hinton L, Aveyard P. Clinical encounters about obesity: Systematic review of patients' perspectives. *Clin Obes*. 2020 Feb;10(1):e12347 PMID: 31793217
 - Berry R, Kassavou A, Sutton S. Does self-monitoring diet and physical activity behaviors using digital technology support adults with obesity or overweight to lose weight? A systematic literature review with meta-analysis. *Obes Rev*. 2021 Oct;22(10):e13306 PMID: 34192411
 - Bloom K, Adler J, Bridges C, Bernstein J, Rini C, Goldstein AO, Ripley-Moffitt C. Examining Patient Perspectives on Weight Management Support in the Primary Care Setting. *J Prim Prev*. 2018 Aug;39(4):387-399 PMID: 30008041
 - Canuto R, da Silva Garcez A, Kac G, de Lira PIC, Olinto MTA. Eating frequency and weight and body composition: a systematic review of observational studies. *Public Health Nutr*. 2017 Aug;20(12):2079-2095 PMID: 28578730
 - Cardel MI, Newsome FA, Pearl RI, Ross KM, Dillard JR, Miller DR, et al. Patient-Centered Care for Obesity: How Health Care Providers Can Treat Obesity While Actively Addressing Weight Stigma and Eating Disorder Risk. *J Acad Nutr Diet*. 2022 Jun;122(6):1089-1098 PMID: 35033698
 - Carroll S, Marshall P, Ingle L, Borkoles E. Cardiorespiratory fitness and heart rate recovery in obese premenopausal women. *Scand J Med Sci Sports* 2012 Dec;22(6):e133-139 PMID: 22998554.
 - Cava E, Yeat NC, Mittendorfer B. Preserving Healthy Muscle during Weight Loss. *Adv Nutr*. 2017 May 15;8(3):511-519 PMID: 28507015
 - Cheng F, Garay JL, Handu D. Weight Management Interventions for Adults With Overweight or Obesity: An Evidence Analysis Center Scoping Review. *J Acad Nutr Diet*. 2021 Sep;121(9):1855-1865. PMID: 33069660
 - Curry SJ, Krist AH, Owens DK, Barry MJ, Caughey AB, Davidson KW, et al. Behavioral Weight Loss Interventions to Prevent Obesity-Related Morbidity and Mortality in Adults: US Preventive Services Task Force Recommendation Statement. *JAMA* 218 Sep 18;320(11):1163-1171 PMID: 30326502
 - Diabetes Prevention Program Research Group. Long-term effects of lifestyle intervention or metformin on diabetes development and microvascular complications over 15-year follow-up: the Diabetes Prevention Program Outcomes Study. *Lancet Diabetes Endocrinol*. 2015 Nov;3(11):866-875. PMID: 26377054
 - Gagnon-Girouard MP, Bégin C, Provencher V, Tremblay A, Mongeau L, Boivin S, Lemieux S. Psychological Impact of a "Health-at-Every-Size" Intervention on Weight-Preoccupied Overweight/Obese Women. *J Obes*. 2010;2010:928097 Epub 2010 Jun 29. PMID: 20798861
 - Greaves C, Poltawski L, Garside R, Briscoe S. Understanding the challenge of weight loss maintenance: a systematic review and synthesis of qualitative research on weight loss maintenance. *Health Psychol Rev*. 2017 Jun;11(2):145-163 PMID: 28281891
 - Grider HS, Douglas SM, Raynor HA. The Influence of Mindful Eating and/or Intuitive Eating Approaches on Dietary Intake: A Systematic Review. *J Acad Nutr Diet*. 2021 Apr;121(4):709-727.e1 PMID: 33279464
 - Hahn SL, Bauer KW, Kaciroti N, Eisenberg D, Lipson SK, Sonnevile KR. Relationships between patterns of weight-related self-monitoring and eating disorder symptomology among undergraduate and graduate students. *Int J Eat Disord*. 2021 Apr;54(4):595-605 PMID: 33399230
 - Hawley G, Horwath C, Gray A, Bradshaw A, Katzer L, Joyce J, O'Brien S. Sustainability of health and lifestyle improvements following a non-dieting randomised trial in overweight women. *Prev Med*. 2008 Dec;47(6):593-599. PMID: 18817809
 - Ingraham N, Harbatkin D, Lorvick J, Plumb M, Minnis AM. Women's Health and Mindfulness (WHAM): A Randomized Intervention Among Older Lesbian/Bisexual Women. *Health Promot Pract*. 2017 May;18(3):348-357. PMID: 27698102
 - Jayedi A, Rashidy-Pour A, Khorshidi M, Shab-Bidar S. Body mass index, abdominal adiposity, weight gain and risk of developing hypertension: a systematic review and dose-response meta-analysis of more than 2.3 million participants. *Obes Rev*. 2018 May;19(5):654-657. PMID: 29334692
 - Jensen MD, Ryan DH, Apovian CM, Ard JD, Comuzzie AG, Donato KA, et al. 2013 AHA/ACC/TOS guideline for the management of overweight and obesity in adults: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines and The Obesity Society. *Circulation*. 2014 Jun 24;129(25 Suppl 2):S102-138. PMID: 24222017
 - Jones RA, Lawlor ER, Birch JM, Patel MI, Werneck AO, Hoare E, Griffin SJ, van Sluijs EMF, Sharp SJ, Ahern AL. The impact of adult behavioural weight management interventions on mental health: A systematic review and meta-analysis. *Obes Rev*. 2021 Apr;22(4):e13150. PMID: 33103340
 - Katzer L, Bradshaw AJ, Horwath CC, Gray AR, O'Brien S, Joyce J. Evaluation of a "nondieting" stress reduction program for overweight women: a randomized trial. *Am J Health Promot*. 2008 Mar-Apr;22(4):264-274. PMID: 18421891
 - Khasteganan N, Lycett D, Furze G, Turner AP. Health, not weight loss, focused programmes versus conventional weight loss programmes for cardiovascular risk factors: a systematic review and meta-analysis. *Syst Rev*. 2019 Aug 10;8(1):200. PMID: 31400767
 - Knowler WC, Fowler SE, Hamman RF, Christophi CA, Hoffman HJ, Brenneman AT, et al. 10-year follow-up of diabetes incidence and weight loss in the Diabetes Prevention Program Outcomes Study. *Lancet*. 2009 Nov 14;374(9702):1677-1686. PMID: 19878986
 - Kritchevsky SB, Beavers KM, Miller ME, Shea MK, Houston DK, Kitzman DW, Nicklas BJ. Intentional weight loss and all-cause mortality: a meta-analysis of randomized clinical trials. *PLoS One* 2015 Mar 20;10(3):e0121993. PMID: 25794148
 - Kruskal L, Schwartz J, Stuhr R, Manore MM. A Physical Activity Toolkit for Registered Dietitians: Exercise is Medicine. American College of Sports Medicine, Academy of Nutrition and Dietetics. www.exerciseismedicine.org/wp-content/uploads/2021/08/ExerciseIsMedicine_v8.pdf
 - Lasikiewicz N, Myrissa K, Hoyland A, Lawton CL. Psychological benefits of weight loss following behavioural and/or dietary weight loss interventions. A systematic research review. *Appetite*. 2014 Jan;72:123-137. PMID: 24075862
 - LeBlanc EL, Patnode CD, Webber EM, Redmond N, Rushkin M, O'Connor EA. U.S. Preventive Services Task Force Evidence Syntheses, formerly Systematic Evidence Reviews. Behavioral and Pharmacotherapy Weight Loss Interventions to Prevent Obesity-Related Morbidity and Mortality in Adults: An Updated Systematic Review for the U.S. Preventive Services Task Force (Internet). Rockville (MD), Agency for Healthcare Research and Quality (US). 2018 Sept Report No.: 18-05239-EF-1. PMID: 30354042.

- Leblanc V, Provencher V, Bégin C, Corneau L, Tremblay A, Lemieux S. Impact of a Health-At-Every-Size intervention on changes in dietary intakes and eating patterns in premenopausal overweight women: results of a randomized trial. *Clin Nutr*. 2012 Aug;31(4):481-488. PMID: 22296874
- Lindström J, Peltonen M, Eriksson JG, Ilanne-Parikka P, Aunola S, Keinänen-Kiukaanniemi S, et al. Improved lifestyle and decreased diabetes risk over 13 years: long-term follow-up of the randomised Finnish Diabetes Prevention Study (DPS). *Diabetologia*. 2013 Feb;56(2):284-293. PMID: 23093136
- 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. PMID: 24307184
- Mifflin MD, St Jeor ST, Hill LA, Scott BJ, Daugherty SA, Koh YO. A new predictive equation for resting energy expenditure in healthy individuals. *Am J Clin Nutr*. 1990 Feb;51(2):241-247. PMID: 2305711
- Morgan-Bathke M, Baxter SD, Halliday TM, Lynch A, Malik N, Raynor HA, Garay JL, Rozga M, Weight Management Interventions Provided by a Dietitian for Adults with Overweight or Obesity: An Evidence Analysis Center Systematic Review and Meta-Analysis. *J Acad Nutr Diet*. 2022 Mar 25;S2212-2672(22)00170-8. Online ahead of print. PMID: 35788061
- National Task Force on the Prevention and Treatment of Obesity. Dieting and the development of eating disorders in overweight and obese adults. *Arch Intern Med*. 2000 Sep 25;160(17):2581-2589. PMID: 10999971
- Nordmo M, Danielsen YS, Nordmo M. The challenge of keeping it off, a descriptive systematic review of high-quality, follow-up studies of obesity treatments. *Obes Rev*. 2020 Jan;21(1):e12949. PMID: 31675146
- Opio J, Croker E, Odongo GS, Attia J, Wynne K, McEvoy M. Metabolically healthy overweight/obesity are associated with increased risk of cardiovascular disease in adults, even in the absence of metabolic risk factors: A systematic review and meta-analysis of prospective cohort studies. *Obes Rev*. 2020 Dec;21(12):e13127. PMID: 32869512
- Paixão C, Dias CM, Jorge R, Carraça EV, Yannakoulia M, de Zwaan M, et al. Successful weight loss maintenance: A systematic review of weight control registries. *Obes Rev* 2020 May;21(5):e13003. PMID: 32048787
- Peckmezian T, Hay P. A systematic review and narrative synthesis of interventions for uncomplicated obesity: weight loss, well-being and impact on eating disorders. *J Eat Disord*. 2017 May 1;5:15. PMID: 28469914
- Penney TL, Kirk SF. The Health at Every Size paradigm and obesity: missing empirical evidence may help push the reframing obesity debate forward. *Am J Public Health*. 2015 May;105(5):e38-42. PMID: 25790393
- Piercy KL, Troiano RP, Ballard RM, Carlson SA, Fulton JE, Galuska DA, George SM, Olson RD. The Physical Activity Guidelines for Americans. *JAMA*. 2018 Nov 20;320(19):2020-2028. PMID: 30418471
- Provencher V, Bégin C, Tremblay A, Mongeau L, Corneau L, Dodin S, et al. Health-At-Every-Size and eating behaviors: 1-year follow-up results of a size acceptance intervention. *J Am Diet Assoc*. 2009 Nov;109(11):1854-1856. PMID: 19857626
- Sievert K, Hussain SM, Page MJ, Wang Y, Hughes HJ, Malek M, et al. Effect of breakfast on weight and energy intake: systematic review and meta-analysis of randomised controlled trials. *BMJ*. 2019 Jan 30;364:l42. PMID: 30700403
- Skea ZC, Aceves-Martins M, Robertson C, De Bruin M, Avenell A. Acceptability and feasibility of weight management programmes for adults with severe obesity: a qualitative systematic review. *BMJ Open*. 2019 Sep 11;9(9):e029473. PMID: 31511284
- Spreckley M, Seidell J, Halberstadt J. Perspectives into the experience of successful, substantial long-term weight-loss maintenance: a systematic review. *Int J Qual Stud Health Well-being*. 2021 Dec;16(1):1862481. PMID: 33455563
- Stewart TM, Martin CK, Williamson DA. The Complicated Relationship between Dieting, Dietary Restraint, Caloric Restriction, and Eating Disorders: Is a Shift in Public Health Messaging Warranted? *Int J Environ Res Public Health*. 2022 Jan 3;19(1):491. PMID: 35010751
- Tewksbury C, Nwankwo R, Peterson J. Academy of Nutrition and Dietetics: Revised 2022 Standards of Practice and Standards of Professional Performance for Registered Dietitian Nutritionists (Competent, Proficient, and Expert) in Adult Weight Management. *J Acad Nutr Diet*. 2022 Oct;122(10):1940-1954.e45. PMID: 35738538
- U.S. Department of Agriculture. MyPlate Kids. 2021. www.myplate.gov/life-stages/kids. Accessed September 9, 2021.
- Ulian MD, Aburad L, da Silva Oliveira MS, Poppe ACM, Sabatini F, Perez I, Gualano B, Benatti FB, Pinto AJ, Roble OJ, Vessoni A, de Moraes Sato P, Unsain RF, Baeza Scagliusi F. Effects of health at every size® interventions on health-related outcomes of people with overweight and obesity: a systematic review. *Obes Rev*. 2018 Dec;19(12):1659-1666. PMID: 30261553
- Varkevisser RDM, van Stralen MM, Kroeze W, Ket JCF, Steenhuis IMH. Determinants of weight loss maintenance: a systematic review. *Obes Rev*. 2019 Feb;20(2):171-211. PMID: 30324651
- Vilela DLS, Fonseca PG, Pinto SL, Bressan J. Influence of dietary patterns on the metabolically healthy obesity phenotype: A systematic review. *Nutr Metab Cardiovasc Dis*. 2021 Epub 2021 May 26. Sep 22;31(10):2279-2791. PMID: 3430900
- Wharton SD, Lau DCW, Vallis M, Sharma AM, Biertho L, Campbell-Scherer D, Adamo K, et al. Obesity in adults: a clinical practice guideline. *CMAJ*. 2020 Aug 4;192(31):e875-e891. PMID: 32753461
- Wiedemann AA, Ivezaj V, Gueorguieva R, Potenza RN, Grilo CM. Examining Self-Weighing Behaviors and Associated Features and Treatment Outcomes in Patients with Binge-Eating Disorder and Obesity with and without Food Addiction. *Nutrients*. 2020 Dec 23;13(1):29. PMID: 33374870
- Willis EA, Huang WI, Saint-Maurice PF, Leitzmann MF, Salerno EA, Matthews CE, Berndt SI. Increased frequency of intentional weight loss associated with reduced mortality: a prospective cohort analysis. *BMC Med*. 2020 Sep 17;18(1):248. PMID: 32938465
- Willoughby D, Hewlings S, Kalman D. Body Composition Changes in Weight Loss: Strategies and Supplementation for Maintaining Lean Body Mass, a Brief Review. *Nutrients*. 2018 Dec 3;10(12):1876. PMID: 30513859.
- Yeh TL, Chen HH, Tsai SY, Lin CY, Liu SJ, Chien KL. The Relationship between Metabolically Healthy Obesity and the Risk of Cardiovascular Disease: A Systematic Review and Meta-Analysis. *J Clin Med*. 2019 Aug 15;8(8):1228. PMID: 31443279
- Yu HJ, Ho M, Liu X, Yang J, Chau PH, Fong DYT. Association of weight status and the risks of diabetes in adults: a systematic review and meta-analysis of prospective cohort studies. *Int J Obes (Lond)*. 2022 Jun;46(6):1101-1113. PMID: 35197569

- [Adult Weight Management](#)
- [Adult Weight Management \(AWM\) Guideline \(2021-22\)](#)

Quick Links

Recommendations Summary

AWM: Special Populations 2022

[Click here](#) to see the explanation of recommendation ratings (Strong, Fair, Weak, Consensus, Insufficient Evidence) and labels (Imperative or Conditional). To see more detail on the evidence from which the following recommendations were drawn, use the hyperlinks in the [Supporting Evidence Section](#) below.

- [Recommendation\(s\)](#)

AWM: Co-Morbidities

Registered dietitian nutritionists or international equivalents should collaborate with clients and healthcare teams to manage co-morbidities such as type 2 diabetes mellitus, cardiovascular disease, dyslipidemia and other potential complications associated with overweight or obesity by tailoring MNT to each client's specific health care needs, including medications, while supporting weight loss.

Rating: Level 1(B)

Imperative

AWM: Pharmacotherapy and Metabolic and Bariatric Surgery

Adults with obesity who receive pharmacotherapy or metabolic and bariatric surgery should collaborate with registered dietitian nutritionists or international equivalents, as part of an interprofessional healthcare team, to improve and maintain a healthy diet that meets nutritional needs and advances weight-loss efforts to improve cardiometabolic outcomes.

Rating: Level 1(B)

Imperative

AWM: Members of Groups Disproportionately Affected by Overweight or Obesity and Under-Resourced Communities

For adults who are members of groups disproportionately affected by overweight or obesity, or under-resourced communities (e.g., adults with low socioeconomic status, adults from racial or ethnic minority groups, older adults, adults with disabilities), registered dietitian nutritionists or international equivalents should provide culturally appropriate interventions that are tailored to each client's values, beliefs and barriers regarding excess weight, and food and physical activity behaviors.

Rating: Level 1(C)

Imperative

- [Risks/Harms of Implementing This Recommendation](#)

Co-Morbidities

For adults with T2DM administering exogenous insulin, there is a risk for severe hypoglycemia if dietary adjustments are made alone without adjustments to insulin regimens. Dietitians should be in contact with clients and their endocrinologists, especially early in the diet/weight loss phase.

For adults with class I-III obesity (Centers for Disease Control and Prevention 2021), the amount of weight loss demonstrated by interventions may not be sufficient to change most obesity-related risk factors and may be less than what is desired by clients. Evidence from the meta-analysis suggests the mean percent weight loss was less than 5% (Academy of Nutrition and Dietetics' Evidence Analysis Center 2021), though any weight loss is beneficial. However, there are few harms reported with dietitian-led interventions and other benefits (e.g., improved quality of life (Academy of Nutrition and Dietetics' Evidence Analysis Center 2021, Morgan-Bathke M 2022) or healthier eating patterns (Mitchell, Ball et al. 2017)). It is also possible that interventions provided by a dietitian may prevent excessive weight gain, which might have occurred without the intervention.

Pharmacotherapy and Metabolic and Bariatric Surgery

There are no risks and harms reported from providing MNT from a dietitian to clients undergoing metabolic and bariatric surgery beyond the risks for the surgery itself.

Members of Groups Disproportionately Affected by Overweight or Obesity and Under-Resourced Communities

Adults with low socioeconomic status may be less likely to have adequate healthcare coverage and thus may not have access to interventions. Aside from cost, barriers may be time, transportation and child care costs.

When weight loss occurs, up to 25% of the weight lost may come from lean body tissue (i.e., muscle) rather than fat tissue (Willoughby, Hewlings et al. 2018). This is of greatest concern among older adults who are already at increased risk of sarcopenia due to age-

accelerated muscle wasting.

- o [Conditions of Application](#)

Co-Morbidities

Dietitians prioritize nutrition diagnoses and interventions based on the most significant problems at the time of meeting, safety, client needs, likelihood of the intervention influencing the problem, and client values (Tewksbury, Nwankwo et al. 2022). The dietitian regularly communicates with the other health care providers working with the client to ensure consistent messaging and care plans are being delivered. Coordination of outcome measurements between the dietitian and other members of the healthcare team needs to occur to ensure that client progress is consistently documented. Realistic goals and expectations pertaining to the amount and rate of weight loss are discussed during an initial MNT appointment to ensure that the dietitian and the client are aligned. The dietitian also emphasizes the benefits of following a healthy, balanced diet for gradual weight loss versus the risks of attempting a fad diet or using supplements to rapidly lose weight. When working with adult clients who have obesity or co-morbidities, dietitians should utilize the PAR-Q form (Thomas, Reading et al. 1992), which aims to assess if a client can safely engage in physical activity or requires medical clearance, prior to encouraging physical activity.

Type 2 Diabetes Mellitus

This guideline does not include detailed guidance on comprehensive nutrition care for adults with T2DM. Practitioners should refer to EBPgs (Academy of Nutrition and Dietetics 2015), SOP/SOPs (Davidson, Ross et al. 2018), and standard of care American Diabetes Association 2021), focused on diabetes for specific nutrition care recommendations. When providing dietary recommendations to adult clients with overweight or obesity and T2DM, dietitians consider the carbohydrate content of specific foods relative to the total calorie content for that eating occasion. The dietitian should be in regular contact with the adult client's diabetes healthcare team and/or have access to the client's medical records to ensure that any changes to lab values or medications are communicated in a timely fashion. Furthermore, recommendations for engagement in physical activity should be provided to clients with overweight or obesity and T2DM, being mindful of the dietitian's scope of practice (Davidson, Ross et al. 2018). Dietitians may find the carbohydrate-controlled dietary approach of the MyPlate method to be helpful. (United States Department of Agriculture 2021) Dietitians treating adults with overweight or obesity and T2DM follow standards of practice and EBPgs (MacLeod, Franz et al. 2017, Tewksbury, Nwankwo et al. 2022) for both conditions, and should be adequately trained to treat T2DM. Dietitians provide education on monitoring blood glucose and consuming consistent carbohydrates to ensure blood glucose values are maintained within goal levels. Adults with T2DM who experience weight loss because of the intervention should have their blood glucose and hemoglobin A1c levels re-assessed, along with their insulin (or other medication) dosage.

Cardiovascular Disease and Dyslipidemia

In accordance with recent systematic reviews, the dietitian may consider use of dietary approaches such as the Dietary Approaches to Stop Hypertension (DASH) Diet or the Mediterranean Diet to improve health outcomes related to CVD, such as blood pressure and cholesterol levels, in addition to body weight (Dos Reis Padilha, Sanches Machado d'Almeida et al. 2018, Filippou, Tsioufis et al. 2020). Guidelines for dietitians working with adult clients with heart failure or hypertension are available on the EAL website (Academy of Nutrition and Dietetics' Evidence Analysis Center 2015, Academy of Nutrition and Dietetics' Evidence Analysis Center 2017).

Obesity, Classes I-III

Many adults with obesity may prefer intensive overweight and obesity management programs (Skea, Aceves-Martins et al. 2019). In these cases, adult clients will likely benefit from multi-disciplinary interventions including physical activity, mental health and medical care, in addition to nutrition interventions (Tewksbury, Nwankwo et al. 2022). Dietitians practice within their scope, and refer to colleagues in other disciplines and/or expand their own training to adequately address the complex needs of adults with obesity. The healthcare team may need to include a therapist or mental health professional, particularly if the client is dealing with binge eating or food addiction issues. The amount of calorie reduction needed to achieve weight loss should allow for inclusion of light to moderate physical activity to the extent that the adult client can tolerate exercise. Dietitians should also be aware of issues that may limit physical activity for adult clients with obesity, such as chaffing or orthopedic issues. Dietitians may find it useful to collaborate with physical therapists, personal trainers or other fitness professionals who specialize in activities for individuals with obesity.

Pharmacotherapy and Metabolic and Bariatric Surgery

Individuals who are candidates for metabolic and bariatric surgery are often required to meet with a dietitian to evaluate past attempts at weight loss. Pre-surgery dietary counseling may also include modest weight-loss efforts, dietary behavior change, and preparation for post-operative eating behaviors and food choices. However, there is an opportunity during these visits to develop a rapport with the individual to encourage them to continue working with the dietitian post-surgery. In general, adult clients who undergo metabolic and bariatric surgery or are using pharmacotherapy for weight loss may be less interested in working with a dietitian while they "wait and see" if the management is successful on its own. By using principles of motivational interviewing, the dietitian may increase the "buy-in" from these adult clients. Based on past research, dietitians may wish to focus on adult clients who have had bariatric surgery in the last 6-12 months to help them achieve appropriate weight loss using MNT. (Andromalos, Crowley et al. 2019) Please see Academy resources on MNT for individuals who have had bariatric surgery for more information. (Academy of Nutrition and Dietetics' Evidence Analysis Center 2017)

Adults with Low SES, who are members of Racial or Ethnic Minority Groups, who have Disabilities or are members of other Under-Represented Groups

When conducting MNT sessions, dietitians should strive to use inclusive, non-stigmatizing language and use a people-first approach (Ananthakumar, Jones et al. 2020, Howes, Harden et al. 2021), particularly when working with individuals who have low SES, are members of

racial or ethnic minority groups or who have a disability. The U.S. Department of Health and Human Services Office on Minority Health and the Centers for Disease Control and Prevention both provide practitioners with tools for communicating in a way that promotes diversity, inclusion, equity and access (Centers for Disease Control and Prevention 2021, U.S. Department of Health and Human Services Office on Minority Health 2022, U.S. Department of Health and Human Services Office on Minority Health 2022). Overweight and obesity management interventions that address the moderators of social and demographic factors are limited (Academy of Nutrition and Dietetics' Evidence Analysis Center 2021). Thus, through assessment of the myriad contributors to overweight and obesity, it should be discussed during nutrition assessment to ensure interventions are individualized to each client's specific needs and are adjusted as needed over time. Dietitians work with adult clients to individualize dietary recommendations to meet client needs including, but not limited to, dietary preferences, daily schedule, food access, food preparation skills and availability of cooking equipment. For example, dietitians should always ask about a typical day for adult clients, including sleep, meals, work, activity, etc. This will allow the dietitian to gain insights into a variety of factors that can play a role in client success.

Clients may benefit from resources tailored to their population group. The Academy has several Member Interest Groups (MIGs) which have developed or identified various materials that are useful for overweight and obesity weight management for adults from under-represented groups. For example, the National Organization of Blacks in Dietetics and Nutrition (NOBIDAN) MIG (National Organization of Blacks in Dietetics and Nutrition 2022) has a Library of Resources (National Organization of Blacks in Dietetics and Nutrition 2022) authored by the NOBIDAN First Resources Committee of October 2021-2022. This electronic Library of Resources is available to NOBIDAN members and includes books, cookbooks, blogs, and websites by Black dietitians that are applicable to overweight/obesity weight management in adults. Also, a new MIG, the Disabilities in Nutrition and Dietetics ("Disabilities") MIG- for nutrition and dietetics practitioners, students, and interns who have disabilities and/or who work with clients who have disabilities – will begin membership in the 2023-2024 fiscal year. There are also free resources available that are tailored to adults who are transgender or gender diverse.(Linsmeyer 2020)

For clients with low SES, routine screening for food insecurity (Makela, et al. 2017) and understanding the existing federal food assistance programs along with localized food help initiatives (i.e., food pantries, produce giveaways), can improve rapport with clients and facilitate their ability to access healthy food (Bruening, Perkins et al. 2022). The U.S. Department of Agriculture provided resources for eating healthily on a budget (U.S. Department of Agriculture 2022). Beyond utilizing traditional methods of payment (see Payment for Services section), dietitians can collaborate with affected adults and stakeholders to brainstorm methods of improving access to care. For example, dietitians could consider using a sliding scale to make visits more accessible to clients with low SES. Another innovative solution includes establishing "Pay It Forward" scholarships which are funded by other clients or individuals who have financial resources and awarded to clients who may find eating healthier to be unaffordable or otherwise inaccessible (Academy of Nutrition and Dietetics 2021). Dietetics programs, particularly those initiating a Future Education Model curriculum, may want to consider developing a reduced fee model for providing MNT to the public using a team of graduate students/dietetic interns with a dietitian supervisor. An example of this structure is in place at Bastyr University, where MNT appointments cost a flat rate of \$25 for individuals (Bastyr Center for Natural Health 2021). It will be important to advocate for improved reimbursement and public and private payer coverage for dietitian interventions for adults from diverse and underrepresented groups (Dietetics 2021).

RDNs are encouraged to incorporate IDEA (inclusion, diversity, equity, and access) in their practices and research regarding overweight and obesity management for adults. The [IDEA Table](#) defines each word in the IDEA acronym and provides specific examples. Addressing health inequities extends beyond providing individualized advice that considers SDoH and other barriers to healthy lifestyle behaviors. Increasing collective consideration for IDEA principles requires a conceptual framework for action, including assessing determinants of health, formulating and implementing solutions and evaluating impacts from an individual to policy level (Tagtow, Herman et al. 2022). The Academy's website for dietitians, [eatrightPRO.org](#), hosts an IDEA Hub (Academy of Nutrition and Dietetics 2022) to provide networks among and resources for dietitians aiming to advance IDEA principles in their practices and professions. Dietitians can learn more about implicit bias in regards to race, gender, weight and other factors, (Project Implicit 2011, [eatrightSTORE](#) 2022) and from education opportunities for improving diversity and inclusion (Dietetics 2022).

Older Adults

Dietitians should consider whether a restrictive diet is appropriate for adults ≥75 years of age, because weight loss may be accompanied by loss of lean muscle mass and sarcopenia. Dietitians may consider not recommending weight loss in some cases (e.g., for adults at-risk for or experiencing malnutrition or chronic dehydration (Volkert, Beck et al. 2019)). The level of overweight or obesity may help guide decision making about whether weight loss is appropriate for an older client. Older adults with overweight might be better off maintaining weight if there are no co-morbidities given the risks of lean body mass loss from low-calorie diets. When weight loss is not indicated, dietitians can focus on wellness and healthy dietary intake instead of weight loss (Gill, Bartels et al. 2015, U.S. Department of Agriculture and U.S. Department of Health and Human Services 2020). For adults receiving overweight and obesity interventions, body composition is monitored regularly to ensure that the older adult client is not experiencing muscle loss. Assessment of body composition should include a nutrition-focused physical exam to assess skeletal muscle.

When working with older adults, dietitians consider protein needs to maintain lean body mass and encourage adequate high-quality protein intake throughout the day. In addition, older adults may have reduced absorption of some micronutrients such as iron and vitamin B12. Nutrition guidance for older adults is available in the 2020-25 Dietary Guidelines for Americans (DGAs) and describes considerations for protein and vitamin B12 intake (U.S. Department of Agriculture and U.S. Department of Health and Human Services 2020). The DGAs highlight the importance of enjoying food, considering the ability to chew and swallow, mobility and strength to procure and prepare food, practicing food safety and referrals to food assistance services (U.S. Department of Agriculture and U.S. Department of Health and Human Services 2020).

For adults ≥75 years of age, dietitians should consider requesting primary care provider approval for physical activity due to risk of falls and injuries in older adults with frailty. Dietitians consider mobility and functional status when discussing physical activity with older adults. Dietitians should be aware of polypharmacy, drug-nutrient interactions, and medication side effects when providing MNT to older adults. When designing interventions for older adults, dietitians should consider potential challenges with transportation to and from

appointments, walking distance from parking areas for older adults with limited mobility, and potential challenges utilizing technology for telehealth appointments.

- o [Potential Costs Associated with Application](#)

The cost of MNT interventions is primarily due to dietitian time (Padwal, Klarenbach et al. 2017). Given the benefits demonstrated, the cost is likely to be appropriate for adults with co-morbidities and overweight or obesity. Interventions provided by dietitians for adults with obesity may be more cost-effective compared to medications which may not yield better responses and are unlikely to impact eating behaviors or food choices the way a dietitian may. Resources needed for the intervention would include access to a dietitian, time, transportation costs, and dietitian fees and/or health insurance.

The main issue with the feasibility of this recommendation is cost and public and private payer coverage or reimbursement. Consistent coverage for weight loss counseling provided by dietitians would facilitate participation, cost effectiveness, and efficacy for clients. Dietitian services should be covered by the Centers for Medicare & Medicaid services (CMS) and by other public and private payers. There is a need for a high limit or no limit to the number of MNT appointments covered for adults with co-morbidities and/or obesity. While barriers to implementation exist, financial barriers are reduced in the T2DM population and for those with obesity given the ability to reimburse for dietitian (or Certified Diabetes Educator) visits for adults with this disease.

Pharmacotherapy and Metabolic and Bariatric Surgery

Invasive overweight and obesity management interventions may be expensive but result in improved health outcomes (Khera, Pandey et al. 2018, Biobaku, Ghanim et al. 2020). In comparison to the more invasive interventions of metabolic and bariatric surgery and pharmacotherapy, MNT provided by a dietitian is inexpensive. Obesity counseling for adults with a BMI ≥ 30 kg/m² is covered by Medicare Part B when billed to a primary care provider (Centers for Medicare and Medicaid Services 2015). Services covered include weekly face-to-face visits for the first month and visits every other week for months 2 to 6. Additional services can be covered when weight loss is successful. However, payment is not available for RDs working on their own or with overweight and obesity specialists other than primary care providers.

Members of Groups Disproportionately Affected by Overweight or Obesity and Under-Resourced Communities

Low SES populations and members of racial or ethnic minority groups have a higher prevalence of obesity (Centers for Disease Control and Prevention 2021) and related comorbidities (Bell, Thorpe et al. 2018) but may also be less likely to have adequate health care coverage or the time to attend multiple appointments. However, successful overweight and obesity management can reduce the burden of disease overall. Adequate health care coverage is essential to implementing this recommendation.

In the systematic review supporting this EBP, there were no intervention studies targeting adults with low SES, who were members of racial or ethnic minority groups, or who had disabilities that reported the outcome of cost-effectiveness. (Academy of Nutrition and Dietetics' Evidence Analysis Center 2021) However, the negative effects of obesity on overall health have important implications for adults in these groups. Providing interventions to these groups is likely cost-effective for public and private payers; however, adults with low SES may not have access to coverage for dietitian services. Older clients with obesity can utilize services coverage from Medicare Part B. However, older adults with overweight may not receive nutrition services coverage. This is problematic because many older adults have low SES.

- o [Recommendation Narrative](#)

Co-Morbidities

Type 2 diabetes mellitus (T2DM), cardiovascular disease, dyslipidemia and other co-morbidities are common in adults with overweight and obesity, and management recommendations often overlap (Caleyachetty, Thomas et al. 2017, 2021, American Diabetes Association 2021, Lichtenstein, Appel et al. 2021). In the systematic review supporting this EBP, the strength of evidence varied across outcomes for adults with overweight or obesity and co-morbidities (Academy of Nutrition and Dietetics' Evidence Analysis Center 2021). There is consensus that the management of T2DM is critical to prevent serious adverse health outcomes (American Diabetes Association 2021), and the systematic review supporting this EBP described that interventions provided by a dietitian reduced fasting blood glucose (FBG), blood pressure (BP), and waist circumference (WC) (MODERATE to HIGH evidence certainty) in addition to improving weight outcomes in adults with overweight or obesity and T2DM (LOW or VERY LOW certainty evidence). (Morgan-Bathke M 2022). Evidence for the outcome of adverse events including hypoglycemia was graded as VERY LOW. In adults with overweight or obesity and CVD, interventions provided by a dietitian reduced BP (MODERATE certainty evidence) in addition to improving WC, weight and FBG (MODERATE and LOW evidence certainty) (Morgan-Bathke M 2022). In adults with overweight or obesity and dyslipidemia, interventions provided by a dietitian decreased BMI (MODERATE certainty evidence) (Hardcastle, Taylor et al. 2013, Bennett, Steinberg et al. 2018) and WC (Bennett, Steinberg et al. 2018, Ventura Marra, Lilly et al. 2019) and increased the likelihood of achieving 5% weight loss (both LOW certainty evidence) (Bennett, Steinberg et al. 2018, Ventura Marra, Lilly et al. 2019). Two RCTs reported the effect of interventions on BP in this population (Hardcastle, Taylor et al. 2013, Bennett, Steinberg et al. 2018), and there was not a significant reduction in BP compared to control groups (MODERATE certainty evidence). (Hardcastle, Taylor et al. 2013, Bennett, Steinberg et al. 2018). While the lipid profile was not identified as an outcome of interest in the systematic review supporting this guideline, recent systematic reviews have demonstrated the efficacy of dietitian interventions in modifying blood lipid profile, including adults with dyslipidemia (Sikand, Cole et al. 2018, Ross, Barnes et al. 2019, Mohr, Hatem et al. 2022). Dietitians are an established part of healthcare teams providing management for adults with cardiometabolic diseases (Briggs Early and Stanley 2018), so, the recommendation is likely acceptable to clients, their caregivers, and healthcare providers.

Pharmacotherapy and Metabolic and Bariatric Surgery

Physicians may recommend pharmacotherapy or metabolic and bariatric surgery for adults with obesity. Metabolic and bariatric surgery is common in adult clients with obesity, is fairly safe and can lead to clinically significant weight loss (Kang and Le 2017). The systematic review supporting this EBPG did not specifically investigate the effects of pharmacotherapy or metabolic and bariatric surgery to treat obesity. However, this systematic review did demonstrate improvement of cardiometabolic outcomes (LOW to HIGH evidence certainty) with interventions provided by a dietitian for adults with obesity (Academy of Nutrition and Dietetics' Evidence Analysis Center 2021). Healthy dietary intake is crucial for adults with obesity undergoing more intensive therapies to assist in and advance weight loss and improvement in cardiometabolic risk factors. A prior systematic review by the Evidence Analysis Center reported the effect of MNT in adult clients post-bariatric surgery. Fair/Moderate evidence describes the following:

"Four studies [including gastric bypass, gastric band, sleeve gastrectomy and biliopancreatic diversion patients (with the majority of patients having undergone gastric bypass)] reported that patients receiving medical nutrition therapy (MNT) from a registered dietitian nutritionist (RDN) for two to six visits during the first year post-surgery had a significant excess weight loss ranging from 60% to 80% and significant reduction in body mass index (BMI) ranging from 5% to 31% at 12 months. An MNT session duration of 90 minutes was reported in one study, which also demonstrated that a higher frequency and duration of MNT visits resulted in the greatest weight loss (80% vs. 64% excess body weight loss at one year post-surgery), compared to those receiving standard care." (Academy of Nutrition and Dietetics' Evidence Analysis Center 2017)

A 2020 guideline for obesity in adults from the Canadian Medical Association provided a recommendation with evidence category and recommendation strength Level 2a, grade B that: "Pharmacotherapy for weight loss can be used for persons with BMI ≥ 30 kg/m² or BMI ≥ 27 kg/m² with adiposity-related complications, in conjunction with medical nutrition therapy, physical activity and psychological interventions (liraglutide 3.0 mg, naltrexone-bupropion combination, orlistat)" (Wharton, Lau et al. 2020). In addition, the 2020 guideline for obesity in adults from the Canadian Medical Association reported it is important for adults with obesity who use pharmacotherapy or metabolic and bariatric surgery to receive MNT from a dietitian at pre- and post-surgery (Wharton, Lau et al. 2020).

Adults with Low SES, who are members of Specific Racial or Ethnic Minority Groups, who have Disabilities or are members of other Under-Represented Groups

Overweight and obesity are more prevalent among adults who are members of specific racial or ethnic minority groups compared to white adults, among adults with low SES compared to adults with high SES, and among adults with disabilities compared to adults without disabilities (Centers for Disease Control and Prevention 2021). Perceptions of ideal body weight may vary between adults according to racial or ethnic member group and/or SES (Paeratakul, White et al. 2002, Bennett and Wolin 2006). There was not enough evidence to provide, with any certainty, expected weight loss from interventions provided by dietitians for adults in these populations (Academy of Nutrition and Dietetics' Evidence Analysis Center 2021). In addition, there is little evidence available on overweight and obesity management interventions delivered to adults who are members of gender minority groups (Rozga, Linsenmeyer et al. 2020). As with other groups, it is likely that there is uncertainty and variability about how much adults in these specific groups value weight loss, which may vary depending on baseline weight/BMI as well as cultural and personal values (Bloom, Adler et al. 2018). If overweight and obesity interventions were targeted towards adults with low SES, who are members of specific racial or ethnic minority groups, or who have disabilities, health inequities would likely be reduced. Increasing the number of dietitians who identify as members of under-represented groups is needed to implement successful overweight and obesity interventions for diverse populations of adults.

Older Adults

In the U.S., 42.8% of older adults ≥ 60 years of age have obesity (Centers for Disease Control and Prevention 2021), which may contribute to or exacerbate co-morbidities such as sleep apnea, osteoarthritis, cancer, cognitive dysfunction, metabolic abnormalities, pulmonary abnormalities, urinary incontinence, physical dysfunction and increased frailty (Villareal, Apovian et al. 2005, Gill, Bartels et al. 2015). However, the risk-benefit ratio of providing overweight and obesity management interventions in this population is less straightforward than for younger or middle-aged adults. Weight loss may have unintended consequences such as loss of muscle and bone mass, which is already a concern in older adults and may increase the risk for sarcopenia. In the systematic review supporting this EBPG, overweight and obesity management interventions from a dietitian for older adults with overweight or obesity likely improve weight outcomes and WC (MODERATE certainty evidence) and may improve FBG, BP and QoL (LOW certainty evidence) (Academy of Nutrition and Dietetics' Evidence Analysis Center 2021). More research is needed on overweight and obesity management interventions provided by a dietitian for adults ≥ 75 years of age.

More information on the evidence supporting these recommendations can be found in the [Summary of Findings Table](#) and [Relationships between Recommendation Statements and Evidence Table](#).

- [Recommendation Strength Rationale](#)

The recommendation was based on analysis of interventions targeting population sub-groups in the systematic review supporting this EBPG.

- [Minority Opinions](#)

No minority opinions.

- [Supporting Evidence](#)

The recommendations were created from the evidence analysis on the following questions. To see detail of the evidence analysis, click the blue hyperlinks below (recommendations rated consensus will not have supporting evidence linked).

[provided by an RDN or international equivalent, compared to usual care or no intervention from an RDN, on percent weight loss, quality of life, cost-effectiveness and adverse events?](#)

[In adults with overweight or obesity and low socioeconomic status, what is the effect of weight management interventions provided by an RDN or international equivalent, compared to usual care or no intervention from an RDN, on body mass index?](#)

[In adults with overweight or obesity and low socioeconomic status, what is the effect of weight management interventions provided by an RDN or international equivalent, compared to usual care or no intervention from an RDN, on percent weight loss?](#)

[In adults with overweight or obesity and low socioeconomic status, what is the effect of weight management interventions provided by an RDN or international equivalent, compared to usual care or no intervention from an RDN, on waist circumference?](#)

[In adults with overweight or obesity and low socioeconomic status, what is the effect of weight management interventions provided by an RDN or international equivalent, compared to usual care or no intervention from an RDN, on fasting blood glucose?](#)

[In adults with overweight or obesity and low socioeconomic status, what is the effect of weight management interventions provided by an RDN or international equivalent, compared to usual care or no intervention from an RDN, on blood pressure?](#)

[In adults with overweight or obesity and low socioeconomic status, what is the effect of weight management interventions provided by an RDN or international equivalent, compared to usual care or no intervention from an RDN, on quality of life, cost-effectiveness and adverse events?](#)

[In older adults with overweight or obesity, what is the effect of weight management interventions provided by a dietitian or international equivalent, compared to usual care or no intervention from a dietitian, on body mass index?](#)

[In older adults with overweight or obesity, what is the effect of weight management interventions provided by a dietitian or international equivalent, compared to usual care or no intervention from a dietitian, on percent weight loss?](#)

[In older adults with overweight or obesity, what is the effect of weight management interventions provided by a dietitian or international equivalent, compared to usual care or no intervention from a dietitian, on waist circumference?](#)

[In older adults with overweight or obesity, what is the effect of weight management interventions provided by a dietitian or international equivalent, compared to usual care or no intervention from a dietitian, on fasting blood glucose?](#)

[In older adults with overweight or obesity, what is the effect of weight management interventions provided by a dietitian or international equivalent, compared to usual care or no intervention from a dietitian, on blood pressure?](#)

[In older adults with overweight or obesity, what is the effect of weight management interventions provided by a dietitian or international equivalent, compared to usual care or no intervention from a dietitian, on quality of life?](#)

[In older adults with overweight or obesity, what is the effect of weight management interventions provided by a dietitian or international equivalent, compared to usual care or no intervention from a dietitian, on adverse events?](#)

- [References](#)

[Almanza-Aguilera E, Brunius C, Bernal-Lopez M, Garcia-Aloy M, Madrid-Gambin F, Tinahones F, Gómez-Huelgas R, Landberg R, Andres-Lacueva C. Impact in plasma metabolome as effect of lifestyle intervention for weight-loss reveals metabolic benefits in metabolically healthy obese women. *Journal of Proteome Research* 2018; 17:2600-2610](#)

[Annesi J, Whitaker A. Weight loss and psychologic gain in obese women-participants in a supported exercise intervention. *The Permanente Journal* 2008; 12:36-45](#)

[Beleigoli A, Andrade A, Diniz M, Ribeiro A. Personalized web-based weight loss behavior change program with and without dietitian online coaching for adults with overweight and obesity: randomized controlled trial. *Journal of Medical Internet Research* 2020; 22:e17494](#)

[Bennett G, Herring S, Puleo E, Stein E, Emmons K, Gillman M. Web-based weight loss in primary care: a randomized controlled trial. *Obesity* 2010; 18:308-313](#)

[Bennett G, Steinberg D, Askew S, Levine E, Foley P, Batch B, Svetkey L, Bosworth H, Puleo E, Brewer A, DeVries A, Miranda H. Effectiveness of an app and provider counseling for obesity treatment in primary care. *American Journal of Preventive Medicine* 2018; 55:777-786](#)

[Abd El-Kader SM, Saiem Al-Dahr MH. Weight loss improves biomarkers endothelial function and systemic inflammation in obese postmenopausal Saudi women. *African Health Sciences* 2016; 16:533-541](#)

[Abd El-Kader SM, Al-Jiffri OH. Impact of weight reduction on insulin resistance, adhesive molecules and adipokines dysregulation among obese type 2 diabetic patients. *African Health Sciences* 2018; 18:873-883](#)

[Foster-Schubert K, Alfano C, Duggan C, Xiao L, Campbell K, Kong A, Bain C, Wang C, Blackburn G, McTiernan A. Effect of diet and exercise, alone or combined, on weight and body composition in overweight-to-obese postmenopausal women. *Obesity* 2012; 20:1628-1638](#)

- Gandler N, Simmance N, Keenan J, Choong P, Dowsey M. A pilot study investigating dietetic weight loss interventions and 12 month functional outcomes of patients undergoing total joint replacement. *Obesity Research & Clinical Practice* 2016; 10:220-223
- Hardcastle S, Taylor A, Bailey M, Harley R, Hagger M. Effectiveness of a motivational interviewing intervention on weight loss, physical activity and cardiovascular disease risk factors: a randomised controlled trial with a 12-month post-intervention follow-up. *The International Journal of Behavioral Nutrition and Physical Activity* 2013; 10:40
- Haste A, Adamson A, McColl E, Araujo-Soares V, Bell R. Web-based weight loss intervention for men with type 2 diabetes: pilot randomized controlled trial. *JMIR Diabetes* 2017; 2:e14
- Innes A, Thomson G, Cotter M, King J, Volvaard N, Kelly B. Evaluating differences in the clinical impact of a free online weight loss programme, a resource-intensive commercial weight loss programme and an active control condition: a parallel randomised controlled trial. *BMC Public Health* 2019; 19:1732
- Jiang X, Fan X, Wu R, Geng F, Hu C. The effect of care intervention for obese patients with type II diabetes. *Medicine* 2017; 96:e7524
- Johnson K, Alencar M, Coakley K, Swift D, Cole N, Mermier C, Kravitz L, Amorim F, Gibson A. Telemedicine-based health coaching is effective for inducing weight loss and improving metabolic markers. *Telemedicine Journal and e-Health* 2019; 25:85-92
- Liljensøe A, Laursen J, Bliddal H, Søballe K, Mechlenburg I. Weight loss intervention before total knee replacement: a 12-month randomized controlled trial. *Scandinavian Journal of Surgery* 2021; 110:3-12
- Uemura M, Hayashi F, Ishioka K, Ihara K, Yasuda K, Okazaki K, Omata J, Suzutani T, Hirakawa Y, Chiang C, Aoyama A, Ohira T. Obesity and mental health improvement following nutritional education focusing on gut microbiota composition in Japanese women: a randomised controlled trial. *European Journal of Nutrition* 2019; 58:3291-3302
- Alencar M, Johnson K, Gray V, Mullur R, Gutierrez E, Dionicio P. Telehealth-based health coaching increases m-health device adherence and rate of weight loss in obese participants. *Telemedicine Journal and e-Health* 2020; 26:365-368
- Cai R, Chao J, Li D, Zhang M, Kong L, Wang Y. Effect of community-based lifestyle interventions on weight loss and cardiometabolic risk factors in obese elderly in China: A randomized controlled trial. *Experimental Gerontology* 2019; 128:110749
- Colleluori G, Aguirre L, Phadnis U, Fowler K, Armamento-Villareal R, Sun Z, Brunetti L, Hyoung Park J, Kaiparettu B, Putluri N, Auetumrongsawat V, Yarasheski K, Qualls C, Villareal D. Aerobic plus resistance exercise in obese older adults improves muscle protein synthesis and preserves myocellular quality despite weight loss. *Cell Metabolism* 2019; 30:261-273.e6
- Kesman R, Ebbert J, Harris K, Schroeder D. Portion control for the treatment of obesity in the primary care setting. *BMC Research Notes* 2011; 4:346
- Teeriniemi A, Salonurmi T, Jokelainen T, Vähäniikkilä H, Alahäivälä T, Karppinen P, Enwald H, Huotari M, Laitinen J, Oinas-Kukkonen H, Savolainen M. A randomized clinical trial of the effectiveness of a web-based health behaviour change support system and group lifestyle counselling on body weight loss in overweight and obese subjects: 2-year outcomes. *Journal of Internal Medicine* 2018; 284:534-545
- Trepanowski J, Kroeger C, Barnosky A, Klempel M, Bhutani S, Hodge K, Gabel K, Freels S, Rigdon J, Rood J, Ravussin E, Varady K. Effect of alternate-day fasting on weight loss, weight maintenance, and cardioprotection among metabolically healthy obese adults: a randomized clinical trial. *JAMA* 2017; 317:930-938
- Villareal D, Chode S, Parimi N, Sinacore D, Hilton T, Armamento-Villareal R, Napoli N, Qualls C, Shah K. Weight loss, exercise, or both and physical function in obese older adults. *The New England Journal of Medicine* 2011; 364:1218-1229
- Hollis G, Franz R, Bauer J, Bell J. Implementation of a very low calorie diet program into the pre-operative model of care for obese general elective surgery patients: outcomes of a feasibility randomised control trial. *Nutrition & Dietetics* 2020; 77:490-498
- Ventura Marra M, Lilly C, Nelson K, Woofert D, Malone J. . A pilot randomized controlled trial of a telenutrition weight loss intervention in middle-aged and older men with multiple risk factors for cardiovascular disease. *Nutrients* 2019; 11:
- Villareal D, Aguirre L, Gurney A, Waters D, Sinacore D, Colombo E, Armamento-Villareal R, Qualls C. Aerobic or resistance exercise, or both, in dieting obese older adults. *New England Journal of Medicine* 2017; 376:1943-1955
- Barratt R, Frost G, Millward D, Truby H. A randomised controlled trial investigating the effect of an intensive lifestyle intervention v. standard care in adults with type 2 diabetes immediately after initiating insulin therapy. *The British Journal of Nutrition* 2008; 99:1025-1031
- Abd El-Kader SM, Al-Jiffri OH, Neamatallah ZA, AlKhateeb AF, AlFawaz SS. Weight reduction ameliorates inflammatory cytokines, adipocytokines and endothelial dysfunction biomarkers among Saudi patients with type 2 diabetes. *African Health Sciences* 2020; 20:1329-1336
- O'Neil P, Miller-Kovach K, Tuerk P, Becker L, Wadden T, Fujioka K, Hollander P, Kushner R, Timothy Garvey W, Rubino D, Malcolm R, Weiss D, Raum W, Salyer J, Hermayer K, Rost S, Veliko J, Sora N. Randomized controlled trial of a nationally available weight control program tailored

[for adults with type 2 diabetes. *Obesity* 2016; 24:2269-2277](#)

[Bove K, Nilsson M, Pedersen L, Mikkelsen N, Suhrs H, Astrup A, Prescott E. Comprehensive treatment of microvascular angina in overweight women - a randomized controlled pilot trial. *PLoS One* 2020; 15:e0240722](#)

[Ard J, Cox T, Zunker C, Wingo B, Jefferson W, Brakhage C. A study of a culturally enhanced EatRight dietary intervention in a predominately African American workplace. *Journal of Public Health Management and Practice* 2010; 16:E1-8](#)

[Anton S, Manini T, Milsom V, Dubyak P, Cesari M, Cheng J, Daniels M, Marsiske M, Pahor M, Leeuwenburgh C, Perri M. Effects of a weight loss plus exercise program on physical function in overweight, older women: a randomized controlled trial. *Clinical Interventions in Aging* 2011; 6:141-149](#)

[Ahn S, Lee J, Bartlett-Prescott J, Carson L, Post L, Ward K. Evaluation of a behavioral intervention with multiple components among low-income and uninsured adults with obesity and diabetes. *American Journal of Health Promotion* 2018; 32:409-422](#)

[Pablos A, Drehmer E, Ceca D, Garcia-Esteve A, Lopez-Hernandez L, Fargueta M, Romero FJ, Pablos C. Effects of a lifestyle intervention program for treating obesity in lower socioeconomic status adults: a randomized controlled trial. *Gazzetta Medica Italiana* 2017; 1776:467-477](#)

[Jordan K, Freeland-Graves J, Klohe-Lehman D, Cai G, Voruganti V, Proffitt J, Nuss H, Milani T, Bohman T. A nutrition and physical activity intervention promotes weight loss and enhances diet attitudes in low-income mothers of young children. *Nutrition Research* 2008; 28:13-20](#)

[Gilmore L, Klempel M, Martin C, Myers C, Burton J, Sutton E, Redman L. Personalized Mobile Health Intervention for Health and Weight Loss in Postpartum Women Receiving Women, Infants, and Children Benefit: A Randomized Controlled Pilot Study. *Journal of Women's Health* 2017; 26:719-727](#)

[van Gemert W, Schuit A, van der Palen J, May A, Iestra J, Wittink H, Peeters P, Monnikhof E. Effect of weight loss, with or without exercise, on body composition and sex hormones in postmenopausal women: the SHAPE-2 trial. *Breast Cancer Research* 2015; 17:120](#)

[Mason C, Foster-Schubert K, Imayama I, Kong A, Xiao L, Bain C, Campbell K, Wang C, Duggan C, Ulrich C, Alfano C, Blackburn G, McTiernan A. Dietary weight loss and exercise effects on insulin resistance in postmenopausal women. *American Journal of Preventive Medicine* 2011; 41:366-375](#)

[Campbell K, Foster-Schubert K, Alfano C, Wang C, Wang C, Duggan C, Mason C, Imayama I, Kong A, Xiao L, Bain C, Blackburn G, Stanczyk F, McTiernan A. Reduced-calorie dietary weight loss, exercise, and sex hormones in postmenopausal women: randomized controlled trial. *Journal of Clinical Oncology* 2012; 30:2314-2326](#)

o [References not graded in Academy of Nutrition and Dietetics Evidence Analysis Process](#)

- American Diabetes Association. 8. Obesity Management for the Treatment of Type 2 Diabetes: Standards of Medical Care in Diabetes-2021. *Diabetes Care*. 2021 Jan;44(Suppl 1):S100-S110. PMID: 33298419
- Academy of Nutrition and Dietetics Evidence Analysis Library. Adult Weight Management Systematic Review 2021. <https://andeal.org/awm>. Accessed on July 27, 2021.
- Academy of Nutrition and Dietetics Evidence Analysis Library. Diabetes Type 1 and 2 Evidence-Based Nutrition Practice Guideline 2015. www.andeal.org/dm. Accessed May 16, 2022.
- Academy of Nutrition and Dietetics. Privilege and Implicit Biases in the Nutrition Profession. <https://www.eatrightstore.org/dpg-products/aapi/privilege-and-implicit-biases-in-the-nutrition-profession>. Accessed June 13, 2022.
- Academy of Nutrition and Dietetics. IDEA Hub. 2022. <https://www.eatrightpro.org/practice/practice-resources/diversity-and-inclusion>. Accessed May 13, 2022.
- Academy of Nutrition and Dietetics. Inclusion and Diversity: How YOU Can Increase Diversity and Inclusion in the Field of Nutrition and Dietetics: Virtual Webinar. 2021. <https://www.eatrightpro.org/practice/practice-resources/diversity-and-inclusion>. Accessed September 20, 2021.
- Academy of Nutrition and Dietetics Evidence Analysis Library. Hypertension Evidence-Based Nutrition Practice Guideline 2015. <https://andeal.org/htn>. Accessed November 4, 2021.
- Academy of Nutrition and Dietetics Evidence Analysis Library. (2017). Heart Failure Evidence Based Nutrition Practice Guideline 2017. <https://andeal.org/hf>. Accessed November 5, 2021.
- Academy of Nutrition and Dietetics Evidence Analysis Library. (2017). Nutrition Care in Bariatric Surgery Systematic Review 2017. <https://www.andeal.org/topic.cfm?menu=5308>. Accessed August 23, 2021.
- Academy of Nutrition and Dietetics. Diversity and Inclusion 2021. <https://www.eatrightpro.org/practice/practice-resources/diversity-and-inclusion>. Accessed September 20, 2021.
- American Diabetes Association. Standards of Medical Care in Diabetes-2021. *Diabetes Care*. Dec 202 (44):S1-S2. doi: <https://doi.org/10.2337/dc21-Sint>
- American Diabetes Association. 8. Obesity Management for the Treatment of Type 2 Diabetes: Standards of Medical Care in Diabetes-2021. *Diabetes Care* 2021;44(Supplement 1):S100-S110. doi: <https://doi.org/10.2337/dc21-S008>
- Ananthakumar T, Jones NR, Hinton L, Aveyard P. Clinical encounters about obesity: Systematic review of patients' perspectives. *Clin Obes*. 2020 Feb;10(1):e12347 PMID: 31793217
- Andromalos L, Crowley N, Brown J, Craggs-Dino L, Handu D, Isom K, Lynch A, DellaValle D. Nutrition Care in Bariatric Surgery: An Academy Evidence Analysis Center Systematic Review. *J Acad Nutr Diet*. 2019 Apr;119(4):678-686. PMID: 30391396

- Bastyr Center for Natural Health. Health Care Services 2021. <https://bastyrcenter.org/services/nutrition>. Accessed September 29, 2021.
- Bell CN, Thorpe RJ, Jr, Bowie JV, LaVeist TA. Race disparities in cardiovascular disease risk factors within socioeconomic status strata. *Ann Epidemiol*. 2018 Mar;28(3):147-152. PMID: 29317176
- Bennett GG, Steinberg D, Askew S, Levine E, Foley P, Batch BC, et al. Effectiveness of an App and Provider Counseling for Obesity Treatment in Primary Care. *Am J Prev Med*. 2018 Dec;55(6):777-786. PMID: 30361140
- Bennett GG, Wolin KY. Satisfied or unaware? Racial differences in perceived weight status. *Int J Behav Nutr Phys Act*. 2006 Nov 12;3:40. PMID: 17096859
- Biobaku F, Ghanim H, Monte SV, Caruana JA, Dandona P. Bariatric Surgery: Remission of Inflammation, Cardiometabolic Benefits, and Common Adverse Effects. *J. Endocr Soc*. 2020 Aug 4;4(9):bvaa049. PMID: 32775937
- Bloom K, Adler J, Bridges C, Bernstein J, Rini C, Goldstein AO, Ripley-Moffitt C. Examining Patient Perspectives on Weight Management Support in the Primary Care Setting. *J Prim Prev*. 2018 Aug;39(4):387-399. PMID: 30008041
- Briggs Early K, Stanley K. Position of the Academy of Nutrition and Dietetics: The Role of Medical Nutrition Therapy and Registered Dietitian Nutritionists in the Prevention and Treatment of Prediabetes and Type 2 Diabetes. *J Acad Nutr Diet*. 2018 Feb;118(2):343-353. PMID: 29389511
- Bruening M, Perkins S, Udarbe A. Academy of Nutrition and Dietetics: Revised 2022 Standards of Practice and Standards of Professional Performance for Registered Dietitian Nutritionists (Competent, Proficient, and Expert) in Public Health and Community Nutrition. *J Acad Nutr Diet* 2022 Sep; 122(9):1744-1763 e49. PMID: 35988945
- Caleyachetty R, Thomas GN, Toulis KA, Mohammed N, Gokhale KM, Balachandran K, et al. Metabolically Healthy Obese and Incident Cardiovascular Disease Events Among 3.5 Million Men and Women. *J Am Coll Cardiol*. 2017 Sep 19;70(12):1429-1437. PMID: 28911506
- Centers for Disease Control and Prevention. Adult Obesity Facts 2021. <https://www.cdc.gov/obesity/data/adult.html>. Accessed June 30, 2021.
- Centers for Disease Control and Prevention. Health Communication Gateway. December 9, 2021. <https://www.cdc.gov/HealthCommunication/>. Accessed May 9, 2022.
- Centers for Medicare and Medicaid Services. Intensive Behavioral Therapy for Obesity. 2015. <https://www.cms.gov/medicare-coverage-database/view/ncacal-decision-memo.aspx?proposed=N&NCAId=253>. Accessed October 11, 2021.
- Davidson P, Ross T, Castor C. Academy of Nutrition and Dietetics: Revised 2017 Standards of Practice and Standards of Professional Performance for Registered Dietitian Nutritionists (Competent, Proficient, and Expert) in Diabetes Care. *J Acad Nutr Diet*. 2018 May; 118(5):932-946 e48. PMID: 29703344
- Dos Reis Padilha G, Sanches Machado d'Almeida K, Ronchi Spillere S, Corrêa Souza G. Dietary Patterns in Secondary Prevention of Heart Failure: A Systematic Review. *Nutrients*. 2018 Jun 26; 10(7):828 PMID: 29949894
- Filippou C D, Tsioufis CP, Thomopoulos CG, Mihos CC, Dimitriadis KS, Sotiropoulou LI, et al. Dietary Approaches to Stop Hypertension (DASH) Diet and Blood Pressure Reduction in Adults with and without Hypertension: A Systematic Review and Meta-Analysis of Randomized Controlled Trials. *Adv Nutr*. 2020 Sep 1;11(5):1150-1160. PMID: 32330233
- Gill LE, Bartels SJ, Batsis JA. Weight Management in Older Adults. *Curr Obes Rep*. 2015 Sep;4(3):379-388. PMID: 26627496
- Hardcastle SJ, Taylor AH, Bailey MP, Harley RA, Hagger MS. Effectiveness of a motivational interviewing intervention on weight loss, physical activity and cardiovascular disease risk factors: a randomised controlled trial with a 12-month post-intervention follow-up. *Int J Behav Nutr Phys Act*. 2013 Mar 28;10:40. PMID: 23537492
- Howes EM, Harden SM, Cox HK, Hedrick VE. Communicating About Weight in Dietetics Practice: Recommendations for Reduction of Weight Bias and Stigma. *J Acad Nutr Diet*. 2021 Sep;121(9):1669-1674. PMID: 33589383
- Kang JH, Le QA. Effectiveness of bariatric surgical procedures: A systematic review and network meta-analysis of randomized controlled trials. *Medicine (Baltimore)*. 2017 Nov;96(46):e8632. PMID: 29145284
- Khera R, Pandey A, Chandar AK, Murad MH, Prokop LJ, Neeland IJ, et al. Effects of Weight-Loss Medications on Cardiometabolic Risk Profiles: A Systematic Review and Network Meta-analysis. *Gastroenterology* 2018 Apr;154(5):1309-1319.e7 PMID: 29305933
- Lichtenstein AH, Appel LJ, Vadiveloo M, Hu FB, Kris-Etherton PM, Rebholz CM, et al. 2021 Dietary Guidance to Improve Cardiovascular Health: A Scientific Statement From the American Heart Association. *Circulation* 2021 Dec 7;144(23):e472-e487. PMID: 34724806
- Linsenmeyer W. Nutrition Guidance for Transgender and Gender Diverse Individuals. 2020. <https://sites.google.com/slu.edu/transgendernutrition/home>. Accessed May 16, 2022.
- MacLeod J, Franz MF, Handu D, Gradwell E, Brown E, Evert A, et al. Academy of Nutrition and Dietetics Nutrition Practice Guideline for Type 1 and Type 2 Diabetes in Adults: Nutrition Intervention Evidence Reviews and Recommendations. *J Acad Nutr Diet*. 2017 Oct;117(10):1637-1658. PMID: 28527747
- Makelarski JA, Abramsohn E, Benjamin JH, Du S, Lindau ST. Diagnostic Accuracy of Two Food Insecurity Screeners Recommended for Use in Health Care Settings. *Am J Public Health*. 2017 Nov;107(11):1812-1817. PMID: 28933929
- Mitchell LJ, Ball LE, Ross LJ, Barnes KA, Williams LT. Effectiveness of Dietetic Consultations in Primary Health Care: A Systematic Review of Randomized Controlled Trials. *J Acad Nutr Diet*. 2017 Dec;117(12):1941-1962. PMID: 28826840
- Mohr AE, Hatem C, Sikand G, Rozga M, Moloney L, Sullivan J, et al. Effectiveness of medical nutrition therapy in the management of adult dyslipidemia: A systematic review and meta-analysis. *J Clin Lipidol*. 2022 Jun 25;S1933-S2874(22)00182-9. Online ahead of print. PMID: 35821005
- Morgan-Bathke M, Baxter SD, Halliday TM, Lynch A, Malik N, Raynor HA, Garay JL, Rozga M, Weight Management Interventions Provided by a Dietitian for Adults with Overweight or Obesity: An Evidence Analysis Center Systematic Review and Meta-Analysis. *J Acad Nutr Diet*. 2022 Mar 25;S2212-S2672(22)00170-8. Online ahead of print. PMID: 35799061.
- National Organization of Blacks in Dietetics and Nutrition. Home Page. 2022 <https://www.nobidan.org/home>. Accessed ay 13, 2022
- National Organization of Blacks in Dietetics and Nutrition. Member Resource Library. 2022. <https://www.nobidan.org/nobidan/get-connected/nobidan-resource-library>. Accessed June 13, 2022.

- Padwal RS, Klarenbach S, Sharma AM, Fradette M, Jelinski SE, Edwards A, Majumdar SR. The evaluating self-management and educational support in severely obese patients awaiting multidisciplinary bariatric care (EVOLUTION) trial: principal results. *BMC Med.* 2017 Mar 2;15(1):46. PMID: 28249576
- Paeratakul S, White MA, Williamson DA, Ryan DH, Bray GA. Sex, race/ethnicity, socioeconomic status, and BMI in relation to self-perception of overweight. *Obes Res.* 2002 May;10(5):345-350. PMID: 12006633
- Project Implicit. Project Implicit, Take a Test 2011. <https://implicit.harvard.edu/implicit/selectatest.html>. Accessed June 13, 2022.
- Ross LJ, Barnes KA, Ball LE, Mitchell LJ, Sladdin I, Lee P, LT Williams. Effectiveness of dietetic consultation for lowering blood lipid levels in the management of cardiovascular disease risk: A systematic review and meta-analysis of randomised controlled trials. *Nutr Diet.* 2019 Apr;76(2):199-210. PMID: 30714668
- Rozga M, Linsenmeyer ze, Cantwell Wood JC, Darst V, Gradwell EK. Hormone therapy, health outcomes and the role of nutrition in transgender individuals: A scoping review. *Clin Nutr ESPEN.* 2020 Dec;40:42-56. PMID: 33183572.
- Sikand G, Cole RE, Handu D, deWaal D, Christaldi J, Johnson EQ, et al. Clinical and cost benefits of medical nutrition therapy by registered dietitian nutritionists for management of dyslipidemia: A systematic review and meta-analysis. *J Clin Lipidol.* 2018 Sep-Oct; 12(5):1113-1122. Epub 2018 Jul 3. PMID: 30055973
- Skea ZC, Aceves-Martins M, Robertson C, De Bruin M, Avenell A. Acceptability and feasibility of weight management programmes for adults with severe obesity: a qualitative systematic review. *BMJ Open.* 2019 Sep 11;9(9):e029473. PMID: 31511284
- South Carolina Academy of Nutrition and Dietetics IDEA (Inclusion, Diversity, Equity, and Access). <https://www.eatrightsc.org/idea-inclusion-diversity-equity-and-access->. Accessed June 13, 2022.
- Tagtow A, Herman D, Cunningham-Sabo L. Next-Generation Solutions to Address Adaptive Challenges in Dietetics Practice: The I+PSE Conceptual Framework for Action. *J Acad Nutr Diet.* 2022 Jan;122(1):15-24. PMID: 33715975
- Tewksbury C, Nwankwo R, Peterson J. Academy of Nutrition and Dietetics: Revised 2022 Standards of Practice and Standards of Professional Performance for Registered Dietitian Nutritionists (Competent, Proficient, and Expert) in Adult Weight Management. *J Acad Nutr Diet.* 2022 Oct;122(10):1940-1954.e45. PMID: 35738538
- Thomas S, Reading J, Shephard RJ. Revision of the Physical Activity Readiness Questionnaire (PAR-Q). *Can J Sport Sci* 1992 Dec;17(4):338-345. PMID: 1330274
- U.S. Department of Agriculture. Healthy Eating on a Budget. 2022. <https://www.myplate.gov/eat-healthy/healthy-eating-budget>. Accessed May 13, 2022.
- U.S. Department of Agriculture and U.S. Department of Health and Human Services. 2020, Dietary Guidelines for Americans, 2020-2025, 9th edition. www.dietaryguidelines.gov Accessed October 11, 2021.
- U.S. Department of Health and Human Services Office on Minority Health. Providing CLAS. Think Cultural Health 2022 <https://thinkculturalhealth.hhs.gov/assets/pdfs/resource-library/providing-clas.pdf>. Accessed May 9, 2022.
- U.S. Department of Health and Human Services Office on Minority Health. Think Cultural Health. 2022. <https://thinkculturalhealth.hhs.gov/>. Accessed May 9, 2022.
- United States Department of Agriculture. MyPlate Adults. 2021. <https://www.myplate.gov/life-stages/adults>. Accessed September 28, 2021.
- Ventura Marra M, Lilly LK, Nelson KR, Woofert DR, Malone J. A Pilot Randomized Controlled Trial of a Telenutrition Weight Loss Intervention in Middle-Aged and Older Men with Multiple Risk Factors for Cardiovascular Disease. *Nutrients.* 2019 Jan 22;11(2):229. PMID: 30678197
- Villareal DT, Apovian CM, Kushner RF, Klein S. Obesity in older adults: technical review and position statement of the American Society for Nutrition and NAAO, The Obesity Society. *Am J Clin Nutr.* 2005 Nov;82(5):923-934. PMID: 16280421
- Volkert D, Beck AM, Cederholm T, Cruz-Jentoft A, Goisser S, Hooper L, et al. ESPEN guideline on clinical nutrition and hydration in geriatrics. *Clin Nutr.* 2019 Feb;38(1):10-47. PMID: 30005900
- Wharton S, Lau DCW, Vallis M, Sharma AM, Biertho L, Campbell-Scherer D, et al. Obesity in adults: a clinical practice guideline. *CMAJ.* 2020 Aug 4, 192(31):E875-E891. PMID: 32753461
- Willoughby D, Hewlings S, Kalman D. Body Composition Changes in Weight Loss: Strategies and Supplementation for Maintaining Lean Body Mass, a Brief Review. *Nutrients.* 2018. Dec 3;10(12):1876. PMID: 30513859

- [Adult Weight Management](#)
- [Adult Weight Management \(AWM\) Guideline \(2021-22\)](#)

Adult Weight Management

AWM: Benefits and Risks/Harms of Guideline Recommendation Implementation (2022)

Various factors should be considered prior to implementation of recommendations. Every recommendation includes benefits and risks/harms specific to that recommendation. Access the recommendations from the **Guideline Recommendations and Supporting Evidence** tab.

When using these recommendations, please consider the following:

- The primary goal of implementing these recommendations is improving client outcomes while individualizing care to your clients' preferences and health status.
- Although costs of Medical Nutrition Therapy (MNT) sessions and reimbursement vary, MNT is essential for improved outcomes.
- MNT can be considered cost-effective when considering the benefits of nutrition interventions on the onset and progression of comorbidities vs cost of the interventions.

Please consider the following when determining the best methods of implementing recommendations:

- Client's age, socio-economic status, cultural membership, psychological and mental health status, health history and other individual and health conditions.
- Use clinical judgement in determining the appropriateness of each recommendation for each client.

Disclaimer

Academy of Nutrition and Dietetics Evidence-based Nutrition Practice Guidelines are intended to serve as a synthesis of the best evidence available to inform registered dietitian nutritionists as they individualize nutrition care for their clients. Guidelines are provided with the express understanding that they do not establish or specify particular standards of care, whether legal, medical or other.

Evidence-based Nutrition Practice Guidelines are intended to summarize the best available research as a decision tool for Academy members.

No endorsement by the Academy of Nutrition and Dietetics of any brand-name product or service is intended or should be inferred from a Guideline or from any of its components (including Questions, Evidence Summary, Conclusion Statement, Conclusion Statement Grade, Recommendation or Recommendation Rating).

[Proceed to Guideline Limitations and Future Research](#)

[Return to AWM Home](#)

- [Adult Weight Management](#)
- [Adult Weight Management \(AWM\) Guideline \(2021-22\)](#)

Adult Weight Management

AWM: Guideline Limitations, Future Research, and Conclusion (2022)

Guideline Strengths and Limitations

The recommendations outlined in this evidence-based practice guideline (EBPG) are primarily based on a supporting systematic review including 66 randomized controlled trials (RCTs) and three non-RCTs examining interventions for adults with overweight or obesity. The systematic review demonstrated a significant impact of overweight and obesity management on most of the outcomes examined, and MODERATE to HIGH certainty of evidence ratings supported many of the updated recommendations. Cardiometabolic outcomes, quality of life (QoL), and weight outcomes have important impacts on health. In addition, most of these outcomes are regularly collected in dietetics practice. The systematic review followed rigorous methods supported by the Academy and GRADE methods and the supporting systematic review adhered to GRADE methods and PRISMA standards.¹⁻³ There is a paucity of intervention trials that specifically address each individual's complex contributors to weight status and associated outcomes. Most current research with interventions provided by dietitians targets cardiometabolic and anthropometric outcomes.⁴ Though there is increasing focus on client-centered outcomes such as QoL and mental health/psychological outcomes, there is still a lack of evidence examining these outcomes.⁴

This EBPG was created using the Evidence-to-Decision framework,² a gold standard for creating client-centered evidence-based recommendations. This updated EBPG aligns with current standards of practice^{5,6} and as such will be acceptable to most practitioners and feasible for most dietitians to implement. Recommendations supporting telehealth, group counseling and a variety of contact settings may facilitate improved access to nutrition care for clients. This EBPG includes several suggestions regarding diets that can be adapted for weight management but does not give specific dietary recommendations for any group of individuals (e.g., those with T2DM or dyslipidemia) due to the multitude of factors that must be considered when designing individualized diet interventions. Dietitians can utilize other EBPGs and/or the Academy's Nutrition Care Manual⁷ to guide treatment of conditions associated with overweight and obesity.

The systematic review supporting this updated EBPG utilized sub-group analyses to examine the influence of different intervention components, but the results had overlapping confidence intervals for many outcomes, indicating the need for further research to examine optimal components of medical nutrition therapy (MNT) interventions for adults with overweight or obesity. Heterogeneity of results was high for most outcomes, implying variable effects according to individual adult participants. In addition, there was little data on return on investment or cost-effectiveness, highlighting the significant need for future studies to examine these outcomes, as this could also improve reimbursement for dietitian services for adults with overweight or obesity. There was little research available that focused on interventions tailored to specific groups that may be at increased risk of overweight or obesity, such as adults with low socio-economic status (SES), those who were members of racial or ethnic minority groups, and those with disabilities. There was significant risk of bias due to randomization throughout the studies analyzed, primarily from lack of description of group allocation concealment from investigators until adult participants were assigned to groups. Many studies also demonstrated bias due to deviations from the intended interventions.

This EBPG panel consisted exclusively of dietitians. This EBPG is directed at dietitians, but input from professional organizations from other disciplines who work in the field of adult overweight and obesity during the development phase of the EBPG would have been beneficial. A significant limitation of this EBPG was that the Academy was not able to secure a trained patient advocate to provide input during guideline development. However, input was sought by providing the opportunity for the public to comment on recommendations during an external review (see [methods](#) section above).

Future Research

There was little data on cost effectiveness or return on investment for MNT for adults with overweight or obesity. Therefore, there is a significant need for additional studies in this area to strengthen dietitian advocacy for reimbursement of services specifically for adults with overweight or obesity. Indeed, this updated EBPG outlines the need for at least five contacts with the dietitian over at least one year to improve outcomes as well as follow-up contacts every three months to maintain improvements in outcomes. Currently, very few clients have public or private payer coverage, which would allow for such extensive contact and therefore, studies outlining the return on investment for these services are essential. Recommendations for a blend of group and individual-level delivery methods plus a blend of telehealth and in-person delivery methods may significantly improve the cost burden for payers as well and deserve further study.

There is a great need for research examining how to address environmental factors, genetic factors, and weight stigma in health care. Randomized controlled trials on adult overweight and obesity management are needed that are tailored to specific groups who may be at increased risk of overweight or obesity, such as adults with low SES, those who are members of racial or ethnic minority groups, adults who have disabilities and older adults. Future research concerning adult overweight and obesity management requires a lens more focused on inclusion, diversity, equity and access (IDEA). Most current research on adults with overweight or obesity has focused on weight loss, and there is a need for more research on the effect of client-centered outcomes beyond weight, including quality of life and mental health. More research is needed on the efficacy of non-diet intervention approaches provided by dietitians on health outcomes associated with overweight and obesity. In addition, research is needed that examines outcomes from interventions, extended care and follow-up for greater than two years.

It will also be important for dietitians in practice to participate in implementation studies, utilizing the EBPG outlined above. These implementation studies will allow assessment of the feasibility of the recommendations, their effectiveness in the real-world, and can help determine if the recommendations are effective and sustainable long-term.

Conclusion

This updated EBPG describes evidence-based strategies for providing effective, individualized, inclusive MNT for adults managing overweight and obesity. Recommendations in this EBPG highlight the importance of considering complex contributors to overweight and obesity and individualizing interventions to client-centered goals based on specific needs and preferences and shared decision-making. Dietitians can utilize behavioral modification strategies to help clients set small, acceptable goals that encourage adherence and are flexible to meet the changing needs of each client. This guideline shows that overweight and obesity management is a continual, long-term process that requires extended care and follow-up with monitoring and evaluation to adjust interventions to client needs and circumstances as they change over time. The recommendations in this EBPG have the potential to increase access to care for many adults through utilization of telehealth and group counseling as effective delivery methods to foster health improvements, decrease costs, and to address other barriers to overweight and obesity management interventions. It is essential for dietitians to collaborate with clients and interprofessional healthcare teams to provide high-quality MNT interventions using the NCP to promote attainment of client-centered outcomes for adult clients with overweight or obesity.

References

1. Handu D, Moloney L, Wolfram T, Ziegler P, Acosta A, Steiber A. Academy of Nutrition and Dietetics Methodology for Conducting Systematic Reviews for the Evidence Analysis Library. [J Acad Nutr Diet. 2016;116\(2\):311-318.](#)
2. The GRADE Working Group. GRADE handbook for grading quality of evidence and strength of recommendations. Cochrane Collaboration. <https://gdt.gradeapro.org/app/handbook/handbook.html>. Published 2013. Updated October 2013. Accessed April 22, 2021.
3. Page MJ, McKenzie JE, Bossuyt PM, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. [Bmj. 2021;372:n71.](#)
4. Cheng FW, Garay JL, Handu D. Weight Management Interventions for Adults With Overweight or Obesity: An Evidence Analysis Center Scoping Review. *J Acad Nutr Diet.* October 2020. DOI: <https://doi.org/10.1016/j.jand.2020.07.022>
5. Academy of Nutrition and Dietetics. Academy of Nutrition and Dietetics: Revised 2017 Scope of Practice for the Registered Dietitian Nutritionist. [J Acad Nutr Diet. 2018;118\(1\):141-165.](#)
6. Tewksbury C, Nwankwo R, Peterson J. Academy of Nutrition and Dietetics: Revised 2022 Standards of Practice and Standards of Professional Performance for Registered Dietitian Nutritionists (Competent, Proficient, and Expert) in Adult Weight Management. [J Acad Nutr Diet. 2022;122\(10\):1940-1954.e45.](#)
7. Academy of Nutrition and Dietetics. Nutrition Care Manual. <https://www.nutritioncaremanual.org>. Published 2021. Accessed April 18, 2021.

[Proceed to Dissemination and Implementation](#)

[Return to AWM Home](#)