



Pharmacologic Treatment of Obesity in Adults: Standards of Care in Overweight and Obesity

American Diabetes Association Professional Practice Committee for Obesity*

<https://doi.org/10.2337/doci25-0008>

Obesity medications may be part of a comprehensive care plan for adults with obesity. The Obesity Association, a division of the American Diabetes Association (ADA), developed comprehensive, evidence-based guidelines on the pharmacologic treatment of obesity in adults. When used in conjunction with lifestyle modifications, obesity medications have demonstrated efficacy in inducing and sustaining weight reduction while concurrently improving clinical outcomes of obesity and obesity-related diseases and complications. Health care professionals should engage people with obesity in a person-centered, shared decision-making approach when selecting an obesity medication to optimize health outcomes while emphasizing individual needs and preferences. The ADA's Obesity Association encourages health care professionals to adopt these guidelines for treatment of obesity in adults.

Obesity medications are an essential component of a comprehensive approach to obesity management, offering significant benefits beyond lifestyle interventions alone for many people. Research indicates that pharmacotherapy can lead to greater weight reduction and improved weight maintenance than placebo in adults with obesity (1). Of note, randomized controlled trials (RCTs) of obesity medications include lifestyle intervention in both placebo and study drug arms, which most typically comprises a 500-calorie deficit meal plan and behavioral intervention that usually produces 2.6% weight reduction in the placebo group (2), and the placebo group receives a placebo pill or injection, as appropriate. In meta-analyses of RCTs, people treated with obesity medications experienced substantial weight reduction compared with placebo (2,3). Participants

treated with obesity medications also had improvements in cardiometabolic markers, such as glycemia and lipid profiles (2,3), and some obesity medications demonstrated improvements in cardiovascular outcomes and other obesity-related diseases (4–7). When used appropriately, obesity medications offer a favorable risk-benefit profile in many cases, making them a viable option for many people with obesity.

Multiple weight-regulating hormones change in response to weight reduction, creating a physiologic environment conducive to the body returning to its higher prior weight (8,9). Weight reduction also negatively affects energy expenditure and basal metabolic rate, which makes weight-loss maintenance challenging for individuals with obesity (10,11). However, obesity medications enhance the ability to reduce weight and maintain weight reduction over extended periods (12), and many target the dysregulated neurohormonal systems that cause weight gain and prevent sustained weight reduction (13). Over the past few decades, substantial progress has been made regarding the efficacy and safety of obesity medications (14), and multiple obesity medications are now available that result in sustained weight reduction and improvements in multiple obesity-related diseases and complications. By discussing and considering obesity medications for adults with obesity, health care professionals can offer an effective treatment strategy that addresses overall health where treatment goals extend beyond weight reduction to include improving obesity-related diseases and complications, physical function, and well-being.

Corresponding author: Elizabeth J. Pekas, epekas@diabetes.org

*A complete list of members of the American Diabetes Association Professional Practice Committee for Obesity can be found in the appendix at the end of the article.

This section has been reviewed and approved by the ADA Board of Directors.

This section has received endorsement from The Obesity Society, Obesity Action Coalition, Obesity Medical Association, and American Board of Obesity Medicine Foundation.

This article is being simultaneously published in *Diabetes, Obesity, and Cardiometabolic CARE* and *BMJ Open Diabetes Research & Care*.

©2026, American Diabetes Association, Inc., and BMJ Publishing Group Limited. Readers may use this work for educational, noncommercial purposes if properly cited and unaltered. This publication and its contents may not be reproduced, distributed, or used for text or data mining, machine learning, or other similar technologies without prior written permission. More information is available at <https://diabetesjournals.org/journals/pages/license>.

lean mass. A meta-analysis (47 RCTs) concluded that a protein intake exceeding 1.3 g/kg/day is beneficial in maintaining muscle mass during weight reduction among adults with obesity (203). However, other studies have found that its benefit on muscle strength is observed only when enhanced protein intake is combined with resistance training (204). A meta-analysis (114 RCTs) concluded that lean mass was maintained in interventions involving resistance training and caloric restriction, providing evidence that resistance-based exercise programs should be considered within multicomponent obesity treatment (205). Health care professionals should assess baseline activity levels and tailor recommendations to individual needs and context. Aerobic activity should also be included in a comprehensive treatment plan, given its cardiometabolic benefits. In a 1-year RCT, the combination of moderate-to-vigorous-intensity aerobic exercise and liraglutide was most beneficial in total body weight and percent fat loss relative to either treatment alone after an initial 8-week low calorie meal plan (21), and this combination also slowed weight recurrence and preserved bone health over an additional 1-year observational period (206,207).

Special Populations and Circumstances

Recommendations

2.21 Obesity medications should not be used during pregnancy, in individuals actively trying to become pregnant, or during lactation **E**.

2.22 Individuals of childbearing potential with obesity being considered for obesity medication should be counseled on contraception options **A** and the impact of some obesity medications on contraception efficacy **C** (Table 2.3).

2.23 Preconception planning should address the time frame for discontinuing obesity medications, and optimal treatment of obesity and related diseases and complications in preparation for pregnancy **E**.

2.24a Use of compounded products that are not approved by the FDA is not recommended due to uncertainty about their content and resulting concerns about safety, quality, and effectiveness **C**.

2.24b If an obesity medication is unavailable (e.g., in shortage), a switch to a different FDA-approved obesity medication is recommended, as clinically appropriate **E**. Upon resolution of the unavailability, reassess the appropriateness of resuming the original FDA-approved obesity medication **E**.

People of Childbearing Potential

All obesity medications are contraindicated in individuals who are pregnant or actively trying to conceive and are not recommended for use in individuals who are breastfeeding. Some obesity medications have been linked with fetal harm (208–210); notably, topiramate use during pregnancy is associated with major congenital malformations (e.g., cleft lip/palate) and being small for gestational age in the fetus. Health care professionals should be aware of the FDA risk

evaluation and mitigation strategy (REMS) for phentermine-topiramate. It is typically recommended that individuals of childbearing potential considering pregnancy stop obesity medications at least 2 months before a planned pregnancy, and intensification of lifestyle behavioral therapy may be needed to maintain weight.

While taking obesity medications, individuals of childbearing potential should receive counseling regarding the use of reliable methods of contraception (211,212). Health care professionals should be aware that weight reduction may increase fertility (213,214), so discussing a plan for reliable contraception should be performed in all people of childbearing potential. Some obesity medications may affect oral contraceptive medications (OCP) (Table 2.3), and individuals using OCPs should be advised of these risks. Tirzepatide has a clinically significant interaction with OCPs (215); therefore, it is recommended that individuals be advised to switch to a nonoral contraceptive method or add a barrier method of contraception for 4 weeks after tirzepatide initiation and for 4 weeks after each dose escalation (216). While bioavailability of OCPs has not been affected in studies with semaglutide and liraglutide (217,218), the delayed gastric emptying effect of these medications has been raised as a potential concern, although this effect typically diminishes over time. OCP bioavailability decreases with phentermine-topiramate; however, the degree of impact is not typically associated with increased risk of pregnancy with topiramate doses contained in this combination (219). Individuals taking OCPs and phentermine-topiramate may experience irregular bleeding (spotting) more frequently. Individuals should be advised to continue their OCP if spotting occurs and notify their health care professional if it is troubling (220). Bioavailability of OCPs is not affected by naltrexone-bupropion or orlistat (221,222).

Compounded Medications

Compounded medications do not undergo FDA review for safety, effectiveness, and quality before they are marketed (223). Recent studies have raised concerns about compounded obesity medications regarding impurities and adverse effects (224–228). The FDA considers the use of compounded obesity medications as risky, and the ADA discourages use of compounded GLP-1RA and dual GIP/GLP-1RA products due to safety, quality, and effectiveness concerns (229).

Clinical Practice Considerations With Obesity Medications

Recommendations

2.25 Clinical practices that are unable to implement the recommended infrastructure to support the pharmacologic treatment of obesity should consider referring people to

Bennett,** Sathyavathi ChallaSivaKanaka,** Nuha A. ElSayed, Angela Fitch, Stephanie L. Fitzpatrick, W. Timothy Garvey, Samar Hafida,** Scott Kahan, Kamlesh Khunti, Robert F. Kushner, Joshua J. Neumiller, John W. Ostrominski,* Elizabeth J. Pekas,** Leigh Perreault, Alpana P. Shukla,* Fatima Cody Stanford, and Raveendhara R. Bannuru. ||PPC Chair.

*Additional experts who are not part of PPC. **Scientific team. ***Subcommittee lead.

ACKNOWLEDGMENTS

The ADA thanks Michael Bonar and Charlie Franklin for figure design.

FUNDING

The Standards of Care guideline is funded by ADA general revenue. No other entity, including industry, provides financial support for the guideline. Committee members received no remuneration for their participation in development of this guideline.

DUALITY OF INTEREST

All authors have completed the required disclosures in accordance with the guidelines of the ADA and its subdivision, The Obesity Association. Competing interests, where applicable, have been transparently disclosed and assessed by the ADA's duality of interest review panel. Authors with relevant conflicts of interest were excluded from discussions or decisions related to specific recommendations to maintain the integrity of the guideline development process. Full disclosure statements for all contributors are available upon request.

AUTHOR CONTRIBUTIONS

The development of these clinical guidelines involved contributions from all listed individuals of the American Diabetes Association Professional Practice Committee for Obesity (K.A.G., C.M.A., V.R.A., L.J.A., K.B., A.K.B., S.C., N.A.E., A.F., S.L.F., W.T.G., S.H., S.K., K.K., R.F.K., J.J.N., J.W.O., E.J.P., L.P., A.P.S., F.C.S., and R.R.B.) in the planning, conduct, and reporting of the work. All subcommittee members contributed to conception and design, conduct, acquisition of data or analysis, and interpretation of data and contributed to planning and drafting of the manuscript. All committee members contributed to conception, planning, and data interpretation and reviewed the manuscript and provided critical feedback. The American Diabetes Association Professional Practice Committee for Obesity collaboratively reviewed and approved the final guidelines. R.R.B. is the guarantor of this work and, as such, had full access to all the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis. All contributors have provided their consent for inclusion in this statement.

REFERENCES

1. LeBlanc ES, Patnode CD, Webber EM, Redmond N, Rushkin M, O'Connor EA. Behavioral and pharmacotherapy weight loss interventions to prevent obesity-related morbidity and mortality in adults: updated evidence report and systematic review for the US Preventive Services Task Force. *JAMA* 2018;320:1172–1191
2. Shi Q, Wang Y, Hao Q, et al. Pharmacotherapy for adults with overweight and obesity: a systematic review and network meta-analysis of randomised controlled trials. *Lancet* 2024;403:e21–e31

3. Qin W, Yang J, Ni Y, et al. Efficacy and safety of once-weekly tirzepatide for weight management compared to placebo: an updated systematic review and meta-analysis including the latest SURMOUNT-2 trial. *Endocrine* 2024;86:70–84
4. Lincoff AM, Brown-Frandsen K, Colhoun HM, et al.; SELECT Trial Investigators. Semaglutide and cardiovascular outcomes in obesity without diabetes. *N Engl J Med* 2023;389:2221–2232
5. Marso SP, Daniels GH, Brown-Frandsen K, et al.; LEADER Trial Investigators. Liraglutide and cardiovascular outcomes in type 2 diabetes. *N Engl J Med* 2016;375:311–322
6. Malhotra A, Grunstein RR, Fietze I, et al.; SURMOUNT-OSA Investigators. Tirzepatide for the treatment of obstructive sleep apnea and obesity. *N Engl J Med* 2024;391:1193–1205
7. Sanyal AJ, Newsome PN, Kliers I, et al.; ESSENCE Study Group. Phase 3 trial of semaglutide in metabolic dysfunction-associated steatohepatitis. *N Engl J Med* 2025;392:2089–2099
8. Korner J, Aronne LJ. The emerging science of body weight regulation and its impact on obesity treatment. *J Clin Invest* 2003;111:565–570
9. Lowe MR. Self-regulation of energy intake in the prevention and treatment of obesity: is it feasible? *Obes Res* 2003;11(Suppl.):44s–59s
10. Sumithran P, Prendergast LA, Delbridge E, et al. Long-term persistence of hormonal adaptations to weight loss. *N Engl J Med* 2011;365:1597–1604
11. Fothergill E, Guo J, Howard L, et al. Persistent metabolic adaptation 6 years after “The Biggest Loser” competition. *Obesity (Silver Spring)* 2016;24:1612–1619
12. Moiz A, Filion KB, Toutouchi H, et al. Efficacy and safety of glucagon-like peptide-1 receptor agonists for weight loss among adults without diabetes: a systematic review of randomized controlled trials. *Ann Intern Med* 2025;178:199–217
13. Roh E, Choi KM. Hormonal gut-brain signaling for the treatment of obesity. *Int J Mol Sci* 2023;24:3384
14. Bray GA, Purnell JQ. An historical review of steps and missteps in the discovery of anti-obesity drugs. In: *Endotext*. Feingold KR, Ahmed SF, Anawalt B, et al., Eds. South Dartmouth, MA, 2000. Accessed 9 July 2025. Available from <https://www.ncbi.nlm.nih.gov/pubmed/35834619>
15. Bannuru RR; ADA Professional Practice Committee (PPC). Introduction and methodology: Standards of Care in Overweight and Obesity—2025. *BMJ Open Diabetes Res Care* 2025;13:e004928
16. Mitropoulou P, Grüner-Hegge N, Reinhold J, Papadopoulou C. Shared decision making in cardiology: a systematic review and meta-analysis. *Heart* 2022;109:34–39
17. Elias S, Chen Y, Liu X, et al. Shared decision-making in cardiovascular risk factor management: a systematic review and meta-analysis. *JAMA Netw Open* 2024;7:e243779
18. Jastreboff AM, Aronne LJ, Ahmad NN, et al.; SURMOUNT-1 Investigators. Tirzepatide once weekly for the treatment of obesity. *N Engl J Med* 2022;387:205–216
19. Franz MJ, VanWormer JJ, Crain AL, et al. Weight-loss outcomes: a systematic review and meta-analysis of weight-loss clinical trials with a minimum 1-year follow-up. *J Am Diet Assoc* 2007;107:1755–1767
20. Recchia F, Leung CK, Yu AP, et al. Dose-response effects of exercise and caloric restriction on visceral adiposity in overweight and obese adults: a systematic review and meta-

decades of published randomized clinical trials. *Int J Obes Relat Metab Disord* 2002;26:262–273

53. Tronieri JS, Ghanbari E, Chevinsky J, et al. Anti-obesity medication for weight loss in early nonresponders to behavioral treatment: a randomized controlled trial. *Nat Med* 2025;31:1653–1660

54. Hollander P, Bays HE, Rosenstock J, et al. Coadministration of canagliflozin and phentermine for weight management in overweight and obese individuals without diabetes: a randomized clinical trial. *Diabetes Care* 2017;40:632–639

55. Lewis KH, Fischer H, Ard J, et al. Safety and effectiveness of longer-term phentermine use: clinical outcomes from an electronic health record cohort. *Obesity (Silver Spring)* 2019;27:591–602

56. Bays HE, Lazarus E, Primack C, Fitch A. Obesity pillars roundtable: phentermine – past, present, and future. *Obes Pillars* 2022;3:100024

57. Grunvald E, Shah R, Hernaez R, et al.; AGA Clinical Guidelines Committee. AGA clinical practice guideline on pharmacological interventions for adults with obesity. *Gastroenterology* 2022;163:1198–1225

58. Berning P, Adhikari R, Schroer AE, et al. Longitudinal analysis of obesity drug use and public awareness. *JAMA Netw Open* 2025;8:e2457232

59. Rodriguez PJ, Zhang V, Gratzl S, et al. Discontinuation and reinitiation of dual-labeled GLP-1 receptor agonists among US adults with overweight or obesity. *JAMA Netw Open* 2025;8:e2457349

60. Wharton S, Calanna S, Davies M, et al. Gastrointestinal tolerability of once-weekly semaglutide 2.4 mg in adults with overweight or obesity, and the relationship between gastrointestinal adverse events and weight loss. *Diabetes Obes Metab* 2022;24:94–105

61. Rubino DM, Pedersen SD, Connery L, et al. Gastrointestinal tolerability and weight reduction associated with tirzepatide in adults with obesity or overweight with and without type 2 diabetes in the SURMOUNT-1 to -4 trials. *Diabetes Obes Metab* 2025;27:1826–1835

62. Aronne LJ, Horn DB, le Roux CW, et al.; SURMOUNT-5 Trial Investigators. Tirzepatide as compared with semaglutide for the treatment of obesity. *N Engl J Med* 2025;393:26–36

63. Almandoz JP, Wadden TA, Tewksbury C, et al. Nutritional considerations with antiobesity medications. *Obesity (Silver Spring)* 2024;32:1613–1631

64. Mozaffarian D, Agarwal M, Aggarwal M, et al. Nutritional priorities to support GLP-1 therapy for obesity: a joint advisory from the American College of Lifestyle Medicine, the American Society for Nutrition, the Obesity Medicine Association, and The Obesity Society. *Am J Clin Nutr* 2025;122:344–367

65. Hamman RF, Wing RR, Edelstein SL, et al. Effect of weight loss with lifestyle intervention on risk of diabetes. *Diabetes Care* 2006;29:2102–2107

66. Garvey WT, Ryan DH, Henry R, et al. Prevention of type 2 diabetes in subjects with prediabetes and metabolic syndrome treated with phentermine and topiramate extended release. *Diabetes Care* 2014;37:912–921

67. Carlsson LM, Peltonen M, Ahlin S, et al. Bariatric surgery and prevention of type 2 diabetes in Swedish obese subjects. *N Engl J Med* 2012;367:695–704

68. Booth H, Khan O, Prevost T, et al. Incidence of type 2 diabetes after bariatric surgery: population-based matched cohort study. *Lancet Diabetes Endocrinol* 2014;2:963–968

69. Torgerson JS, Hauptman J, Boldrin MN, Sjöström L. XENICAL in the prevention of diabetes in obese subjects (XENDOS) study: a randomized study of orlistat as an adjunct to lifestyle changes for the prevention of type 2 diabetes in obese patients. *Diabetes Care* 2004;27:155–161

70. Le Roux CW, Astrup A, Fujioka K, et al.; SCALE Obesity Prediabetes NN8022-1839 Study Group. 3 years of liraglutide versus placebo for type 2 diabetes risk reduction and weight management in individuals with prediabetes: a randomised, double-blind trial. *Lancet* 2017;389:1399–1409

71. McGowan BM, Bruun JM, Capehorn M, et al.; STEP 10 Study Group. Efficacy and safety of once-weekly semaglutide 2.4 mg versus placebo in people with obesity and prediabetes (STEP 10): a randomised, double-blind, placebo-controlled, multicentre phase 3 trial. *Lancet Diabetes Endocrinol* 2024;12:631–642

72. Kahn SE, Deanfield JE, Jeppesen OK, et al.; SELECT Trial Investigators. Effect of semaglutide on regression and progression of glycemia in people with overweight or obesity but without diabetes in the SELECT trial. *Diabetes Care* 2024;47:1350–1359

73. Jastreboff AM, le Roux CW, Stefanski A, et al.; SURMOUNT-1 Investigators. Tirzepatide for obesity treatment and diabetes prevention. *N Engl J Med* 2025;392:958–971

74. Nauck MA, Quast DR, Wefers J, Pfeiffer AFH. The evolving story of incretins (GIP and GLP-1) in metabolic and cardiovascular disease: a pathophysiological update. *Diabetes Obes Metab* 2021;23(Suppl. 3):5–29

75. Liu QK. Mechanisms of action and therapeutic applications of GLP-1 and dual GIP/GLP-1 receptor agonists. *Front Endocrinol (Lausanne)* 2024;15:1431292

76. American Diabetes Association Professional Practice Committee for Diabetes. 8. Obesity and weight management for the prevention and treatment of diabetes: Standards of Care in Diabetes—2026. *Diabetes Care* 2026;49:S166–S182

77. Bays HE. Why does type 2 diabetes mellitus impair weight reduction in patients with obesity? A review. *Obes Pillars* 2023;7:100076

78. Garvey WT, Frias JP, Jastreboff AM, et al.; SURMOUNT-2 investigators. Tirzepatide once weekly for the treatment of obesity in people with type 2 diabetes (SURMOUNT-2): a double-blind, randomised, multicentre, placebo-controlled, phase 3 trial. *Lancet* 2023;402:613–626

79. Davies M, Færch L, Jeppesen OK, et al.; STEP 2 Study Group. Semaglutide 2.4 mg once a week in adults with overweight or obesity, and type 2 diabetes (STEP 2): a randomised, double-blind, double-dummy, placebo-controlled, phase 3 trial. *Lancet* 2021;397:971–984

80. Davies MJ, Bergenstal R, Bode B, et al.; NN8022-1922 Study Group. Efficacy of liraglutide for weight loss among patients with type 2 diabetes: the SCALE diabetes randomized clinical trial. *JAMA* 2015;314:687–699

81. Garvey WT, Ryan DH, Bohannon NJ, et al. Weight-loss therapy in type 2 diabetes: effects of phentermine and topiramate extended release. *Diabetes Care* 2014;37:3309–3316

82. Hollander P, Gupta AK, Plodkowski R, et al.; COR-Diabetes Study Group. Effects of naltrexone sustained-release/bupropion sustained-release combination therapy on body weight and

- events in obstructive sleep apnea. *N Engl J Med* 2016;375:919–931
142. Loffler KA, Heeley E, Freed R, et al.; SAVE Substudy Investigators. Continuous positive airway pressure treatment, glycemia, and diabetes risk in obstructive sleep apnea and comorbid cardiovascular disease. *Diabetes Care* 2020;43:1859–1867
143. Coggon D, Reading I, Croft P, McLaren M, Barrett D, Cooper C. Knee osteoarthritis and obesity. *Int J Obes Relat Metab Disord* 2001;25:622–627
144. Blagojevic M, Jinks C, Jeffery A, Jordan KP. Risk factors for onset of osteoarthritis of the knee in older adults: a systematic review and meta-analysis. *Osteoarthritis Cartilage* 2010;18:24–33
145. Riddle DL, Stratford PW. Body weight changes and corresponding changes in pain and function in persons with symptomatic knee osteoarthritis: a cohort study. *Arthritis Care Res (Hoboken)* 2013;65:15–22
146. Bliddal H, Leeds AR, Christensen R. Osteoarthritis, obesity and weight loss: evidence, hypotheses and horizons - a scoping review. *Obes Rev* 2014;15:578–586
147. Bartholdy C, Overgaard A, Gudbergensen H, Bliddal H, Kristensen LE, Henriksen M. Changes in physical activity during a one-year weight loss trial with liraglutide vs placebo in participants with knee osteoarthritis: secondary analyses of a randomised controlled trial. *Osteoarthr Cartil Open* 2022;4:100255
148. Baser O, Rodchenko K, Vivier E, Baser I, Lu Y, Mohamed M. The impact of approved anti-obesity medications on osteoarthritis. *Expert Opin Pharmacother* 2024;25:1565–1573
149. Hankosky ER, Chinthammit C, Meeks A, et al. Real-world use and effectiveness of tirzepatide among individuals without type 2 diabetes: results from the Optum Market Clarity database. *Diabetes Obes Metab* 2025;27:2810–2821
150. Weintraub MA, D'Angelo D, Tchang BG, et al. Five-year weight loss maintenance with obesity pharmacotherapy. *J Clin Endocrinol Metab* 2023;108:e832–e841
151. Wilding JPH, Batterham RL, Davies M, et al.; STEP 1 Study Group. Weight regain and cardiometabolic effects after withdrawal of semaglutide: the STEP 1 trial extension. *Diabetes Obes Metab* 2022;24:1553–1564
152. Rubino D, Abrahamsson N, Davies M, et al.; STEP 4 Investigators. Effect of continued weekly subcutaneous semaglutide vs placebo on weight loss maintenance in adults with overweight or obesity: the STEP 4 randomized clinical trial. *JAMA* 2021;325:1414–1425
153. Garvey WT, Batterham RL, Bhatta M, et al.; STEP 5 Study Group. Two-year effects of semaglutide in adults with overweight or obesity: the STEP 5 trial. *Nat Med* 2022;28:2083–2091
154. Almohaileb FI, le Roux CW, Crotty M. Why do patients with obesity discontinue glucagon-like peptide 1 analogues? *Diabetes Obes Metab* 2025;27:5342–5345
155. Haggerty T, Dekeseredy P, Bailey J, Cowher A, Baus A, Davisson L. Navigating coverage: a qualitative study exploring the perceived impact of an insurance company policy to discontinue coverage of antiobesity medication. *Obes Pillars* 2024;11:100120
156. Tchang BG, Aras M, Wu A, Aronne LJ, Shukla AP. Long-term weight loss maintenance with obesity pharmacotherapy: a retrospective cohort study. *Obes Sci Pract* 2022;8:320–327
157. Look AHEAD Research Group. Eight-year weight losses with an intensive lifestyle intervention: the look AHEAD study. *Obesity (Silver Spring)* 2014;22:5–13
158. Khera R, Murad MH, Chandar AK, et al. Association of pharmacological treatments for obesity with weight loss and adverse events: a systematic review and meta-analysis. *JAMA* 2016;315:2424–2434
159. Ryder JR, Kaizer AM, Jenkins TM, Kelly AS, Inge TH, Shaibi GQ. Heterogeneity in response to treatment of adolescents with severe obesity: the need for precision obesity medicine. *Obesity (Silver Spring)* 2019;27:288–294
160. Overgaard RV, Lindberg S, Thielke D. Impact on HbA1c and body weight of switching from other GLP-1 receptor agonists to semaglutide: a model-based approach. *Diabetes Obes Metab* 2019;21:43–51
161. Urva S, Levine JA, Schneck K, Tang CC. Model-based simulation of glycaemic effect and body weight loss when switching from semaglutide or dulaglutide to once weekly tirzepatide. *Curr Med Res Opin* 2024;40:567–574
162. Barakat S, Ramdeen S, Khaimova R. Safety and efficacy of switching patients with type 2 diabetes from glucagon-like peptide-1 receptor agonists to tirzepatide: a case series. *Hosp Pharm* 2024;59:614–619
163. Jabbour S, Paik JS, Aleppo G, Sharma P, Gomez Valderas E, Benneyworth BD. Switching to tirzepatide 5 mg from glucagon-like peptide-1 receptor agonists: clinical expectations in the first 12 weeks of treatment. *Endocr Pract* 2024;30:701–709
164. Billings LK, Winne L, Sharma P, Gomez-Valderas E, Chivukula KK, Kwan AYM. Comparison of dose escalation versus switching to tirzepatide among people with type 2 diabetes inadequately controlled on lower doses of dulaglutide: a randomized clinical trial. *Ann Intern Med* 2025;178:609–619
165. Pantalone KM, Smolarz BG, Ramasamy A, et al. Effectiveness of combining antiobesity medication with an employer-based weight management program for treatment of obesity: a randomized clinical trial. *JAMA Netw Open* 2021;4:e2116595
166. Garvey WT, Cheng M, Ramasamy A, et al. Clinical and cost benefits of anti-obesity medication for US veterans participating in the MOVE! weight management program. *Popul Health Manag* 2023;26:72–82
167. Wadden TA, Tronieri JS, Sugimoto D, et al. Liraglutide 3.0 mg and intensive behavioral therapy (IBT) for obesity in primary care: the SCALE IBT randomized controlled trial. *Obesity (Silver Spring)* 2020;28:529–536
168. Wharton Sean, Yin Peter, Burrows Melonie, et al. Extended-release naltrexone/bupropion is safe and effective among subjects with type 2 diabetes already taking incretin agents: a post-hoc analysis of the LIGHT trial. *Int J Obes (Lond)* 2021;45:1687–1695
169. Tronieri JS, Wadden TA, Walsh OA, et al. Effects of liraglutide plus phentermine in adults with obesity following 1 year of treatment by liraglutide alone: a randomized placebo-controlled pilot trial. *Metabolism* 2019;96:83–91
170. Schiavon CA, Cavalcanti AB, Oliveira JD, et al. Randomized trial of effect of bariatric surgery on blood pressure after 5 years. *J Am Coll Cardiol* 2024;83:637–648
171. Courcoulas AP, Patti ME, Hu B, et al. Long-term outcomes of medical management vs bariatric surgery in type 2 diabetes. *JAMA* 2024;331:654–664

