

# Practical strategies to manage obesity in type 2 diabetes



## REVIEW ARTICLE

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# Outlines



- **Introduction**

- Obesity and its link to type 2 diabetes
- Importance of comprehensive management strategies

- **Conclusion**

- Summary of key recommendations
- Importance of integrated approaches in managing obesity and type 2 diabetes

- **References**



**FIGURE 1** Obesity is the result of a complex interplay of genetic, environmental, neurometabolic and psychological factors. The impact of these various factors on risk of obesity development can vary from person to person, but each of them can make successful and sustained weight loss significantly more difficult, particularly in people with type 2 diabetes.

# Psychological approach



## ***Impact of HCP Support on Motivation***

*Positive influence of frequent contacts between patients and HCPs on weight loss outcomes*

*Meta-analysis findings on primary care-based interventions*

*Recommended frequency of counselling sessions ( $\geq 14$ -16 sessions in 6 months)*

## ***Interdisciplinary Approach to Weight Management***

*Importance of interdisciplinary collaboration in achieving sustainable results*

*Roles of dietitians, psychologists, and exercise physiologists in comprehensive care*

*Integration of medical and behavioral interventions for holistic treatment*



## ***Sustainable Results through Continuous and Interdisciplinary Support***

*Importance of professional support and supervision in weight-loss interventions*

*Drivers of sustained motivation and adherence to interventions*

*Insights from participant experiences in clinical trials (e.g., DiRECT trial)*

## ***Professional Support and Supervision***

*High-level professional supervision as a primary driver of weight loss*

*Evidence from lifestyle intervention programs*

*Role of healthcare providers (HCPs) in providing support and accountability*



## ***Ensuring Continuity of Care***

*Importance of continuity in care transitions and follow-up*

*Post-intervention support: strategies for weight maintenance and relapse prevention*

*Long-term health benefits associated with sustained weight loss and improved diabetes management*

# Interventional recommendations



## ***Nutritional Interventions in Type 2 Diabetes***

*Role of dietary approaches in managing obesity and T2D*

*TDR (DiRECT & DIADEM-I)*

*Low-carb vs higher-carbohydrate/low-fat*

*Comparison of high-protein vs. higher-carbohydrate diets in T2D*



## ***Macronutrient Quality and Health Effects***

*Considerations in nutritional counseling: quality of carbohydrates and fats*

*Impact of fiber, micronutrients, and satiety on maintaining caloric limits*

*Emerging research in precision nutrition and individualized dietary recommendations*

## ***Intermittent Fasting and Dietary Approaches***

*Popularity and efficacy of intermittent fasting in weight loss*

*Combination of calorie restriction with intermittent fasting for diabetes remission*

*Recommendations for balanced and sustainable dietary practices*





## ***Conclusion on Nutritional Interventions***

*Summary of effective strategies for weight loss and T2D remission*

*Guidelines for daily caloric deficit and healthy diet composition*

*Importance of personalized dietary recommendations based on individual needs*

## ***Physical Activity in Weight Management***

*Importance of physical activity in energy balance and appetite control*

*Role of physical activity in weight-loss maintenance and T2D risk reduction*



## ***Types and Benefits of Physical Activity***

*Suitable exercises for individuals with obesity and T2D*

*Combined approach of aerobic and resistance exercises for improved outcomes*

*Guidelines on weekly physical activity goals for glycemic control and weight management*

## ***Timing and Preferences in Physical Activity***

*Impact of exercise timing on glycemic control in people with T2D*

*Encouragement of finding enjoyable activities for sustained engagement*

*Benefits of group activities for social support and integration into daily life*



## ***Integrative Approaches to Weight Management***

*Overview of pharmacological and non-pharmacological options*

*Effectiveness of behavioral approaches in long-term weight management*

*Introduction to GLP-1 receptor agonists for comprehensive T2D management*

## ***GLP-1 Receptor Agonists in Obesity and T2D Management***

*Role of GLP-1 receptor agonists (GLP-1 RA) in weight management*

*Overview of semaglutide and tirzepatide: efficacy and cardiovascular benefits*

*Common gastrointestinal side effects and management considerations*



## ***Tirzepatide: Dual GIP/GLP-1 RA***

*Mechanism and benefits of tirzepatide in obesity and T2D*

*Comparison with high-dose GLP-1 RA in weight loss and glycemic control*

*Findings from SURMOUNT-2 trial on weight reduction and adverse effects*

## ***Long-term Efficacy and Considerations***

*Importance of continuous treatment with GLP-1 RA and GIP/GLP-1 RA*

*Impact of drug withdrawal on weight regain*

*Integration of lifestyle interventions to enhance pharmacological efficacy*



## ***Combination Therapy and Lifestyle Interventions***

*Benefits of combining GLP-1 RA or GIP/GLP-1 RA with intensive lifestyle modifications*  
*Results from STEP 3 and tirzepatide trials with enhanced weight loss*  
*Comparison with surgical interventions like sleeve gastrectomy*



## ***Integrated Approach to Diabetes Medications***

*Comprehensive review of GLP-1 RA and other glucose-lowering therapies*  
*Impact on body weight and glycemic control in obesity and T2D management*  
*Recommendations on selecting therapies to avoid weight gain and promote weight loss*

## ***Choosing Pharmacological Interventions***

*Overview of approved medications and their weight loss efficacy*  
*Considerations for individual benefit-risk assessment and side effects*  
*Role of cost-effectiveness in treatment decisions for obesity and T2D*



## ***Emerging Pharmacological Options***

*Overview of upcoming medications for weight management*

*Characteristics of orforglipron, cagrilintide, retatrutide, and survodutide*

## ***Advanced Therapeutic Devices***

*Introduction to weight-loss devices: hydrogels and endoscopic procedures*

*Expected weight loss outcomes and associated risks*

*Comparison with pharmacological interventions and suitability for different patient profiles*



**TABLE 2** Overview of current FDA and EMA approved pharmaceutical options for long-term weight management.

INN	Pharmacological class	Maximal dose/ administration	Mean reduction in body weight from baseline (%), placebo/treatment
Orlistat <sup>a,b</sup>	Lipase inhibitor	120 mg, 3× daily, oral	1.2/3.8 (with T2D) <sup>197</sup> 6.1/10.2 (without T2D) <sup>198</sup>
Phentermine/topiramate ER <sup>a</sup>	Sympathomimetic/anticonvulsant	15 mg/92 mg, 1× daily, oral	2.7/9.4 (with T2D) <sup>199</sup> 1.2/9.8 (with ≥2 comorbidities) <sup>200</sup>
Naltrexone SR/bupropion SR <sup>a,b</sup>	Opioid receptor antagonist/dopamine and noradrenaline reuptake inhibitor	32 mg/360 mg, 2× daily, oral	1.8/5.0 (with T2D) <sup>201</sup> 1.3/6.1 (without T2D) <sup>202</sup>
Liraglutide <sup>a,b</sup>	GLP-1 RA	3.0 mg, 1× daily, s.c. injection	2.0/6.0 (with T2D) <sup>203</sup> 2.6/8.0 (without T2D) <sup>204</sup>
Semaglutide <sup>a,b</sup>	GLP-1 RA	2.4 mg, 1× weekly, s.c. injection	3.4/9.6 (with T2D) <sup>182</sup> 2.4/14.9 (without T2D) <sup>184</sup>
Tirzepatide <sup>a,b</sup>	Dual GIP/GLP-1 RA	15 mg, 1× weekly, s.c. injection	3.2/14.7 (with T2D) <sup>186</sup> 3.1/20.9 (without T2D) <sup>205</sup>

Abbreviations: ER, extended release; s.c., subcutaneous; SR, sustained release.

Note: <sup>a</sup>FDA- and <sup>b</sup>EMA-approved pharmaceutical options for long-term weight management. Adapted from Blüher et al.<sup>16</sup> and Müller et al.<sup>32</sup>





## ***Bariatric Surgery as an Advanced Intervention***

*Role of bariatric surgery in severe obesity and T2D management*

*Comparison of Roux-en-Y gastric bypass and sleeve gastrectomy*

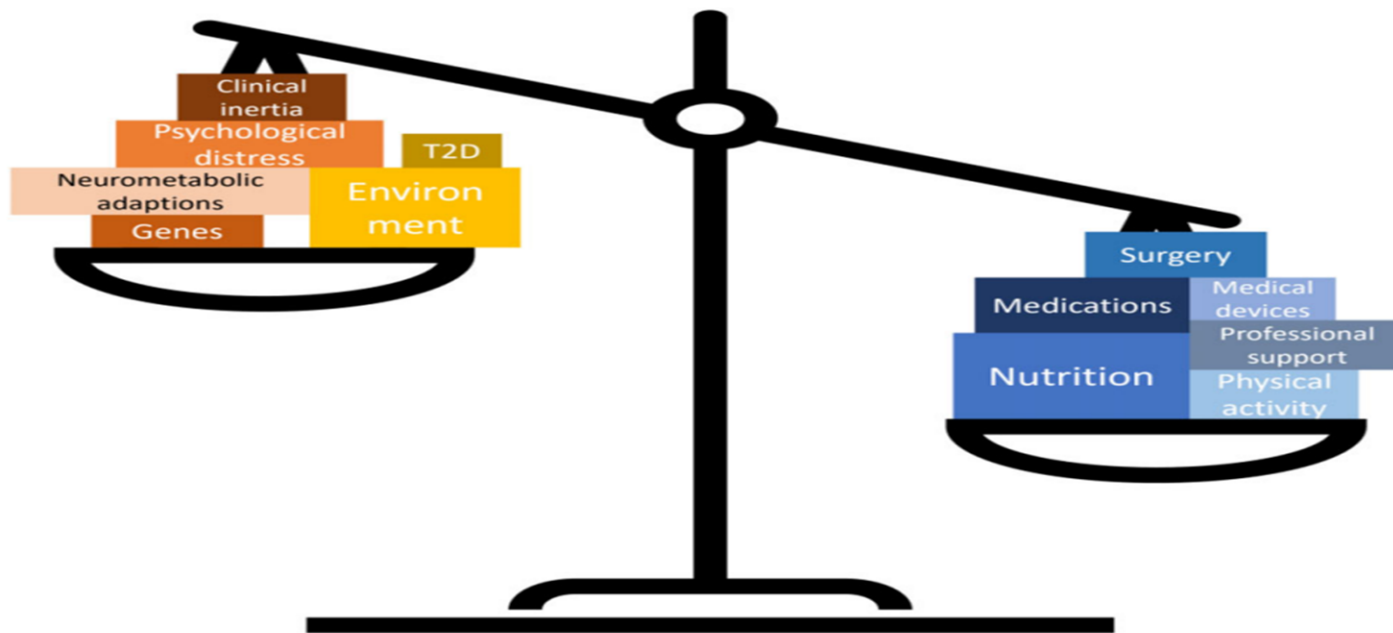
*Criteria for patient selection and outcomes in weight loss and T2D improvement*

## ***Integrated Approach to Obesity Management***

*Importance of combining pharmacological, device-based, and surgical interventions*

*Integration with lifestyle modifications: nutrition, physical activity, and psychological support*

*Personalized treatment strategies and their role in achieving sustainable weight loss and T2D control*



**FIGURE 3** Factors influencing body weight in people with obesity and type 2 diabetes (T2D).



## ***Barriers and Challenges in Obesity Management***

*Discussion on multifactorial barriers: genetic, environmental, metabolic, and psychosocial*

*Addressing barriers through evidence-based strategies*

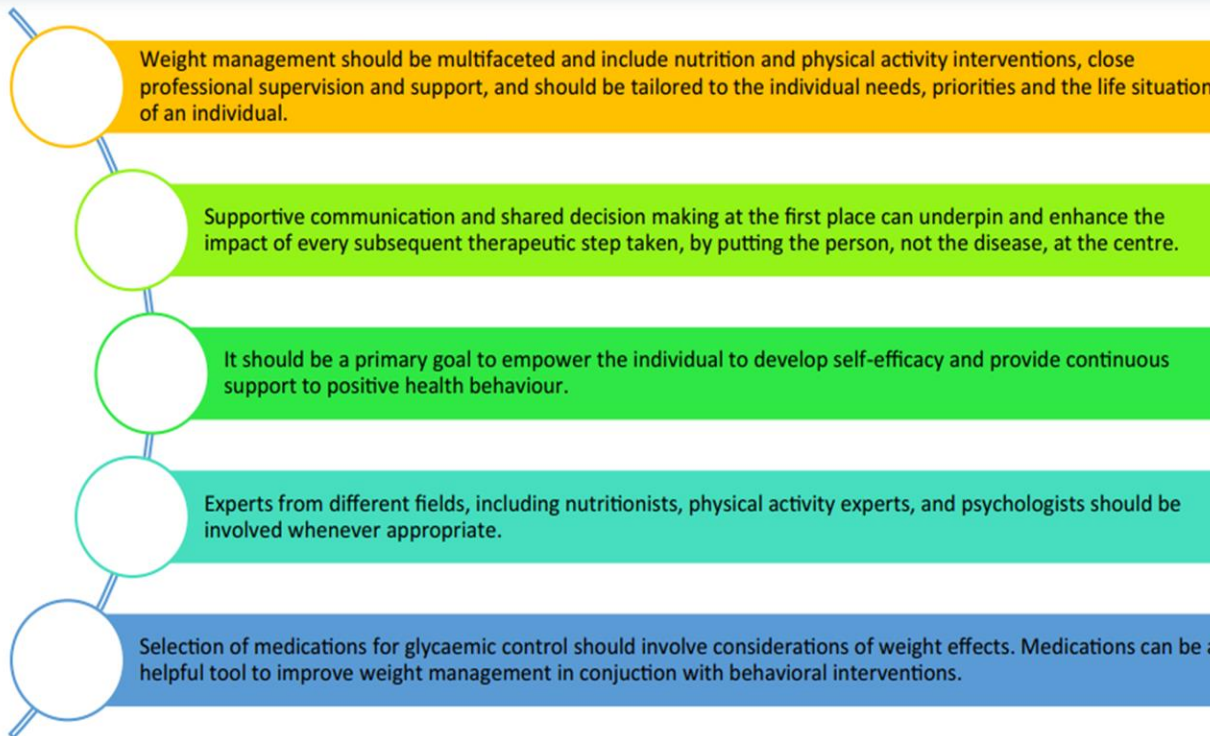
*Importance of early intervention and comprehensive healthcare provider training*

## ***Public Health Perspective and Prevention Strategies***

*Emphasis on prevention as the cornerstone of effective obesity management*

*Role of societal and public health efforts in preventing obesity and T2D*

*Recommendations for protecting children and promoting lifelong health*



**FIGURE 4** Overview of practical strategies and recommendations for obesity management in people with type 2 diabetes.

# Conclusion



- Holistic Approach to Weight Management in T2D
- Summary of holistic approach: nutrition, lifestyle changes, psychology, and pharmacology
- Tailoring treatment strategies to individual needs and preferences
- Vision for comprehensive care to achieve long-term weight management and prevent complications



- **Key points:**
- The importance of a holistic approach combining nutrition, lifestyle changes, psychological support, and pharmacology.
- Tailoring strategies to individual needs for sustainable weight management and T2D control
- The critical role of early intervention and prevention

# Questions?



- Thank you for your attention. Now, I'd like to open the floor for any questions or thoughts you might have about our discussion today. How do you think we can best integrate these strategies into everyday clinical practice?
- Remember, successful weight management is a journey that requires a comprehensive and personalized approach. Let's work together to make a positive impact on the lives of those affected by obesity and T2D.

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