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Semaglutide:
Safety, Efficacy, and Delivery Approaches

Whitepaper

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Executive Summary

Semaglutide is a glucagon-like peptide-1 (GLP-1) receptor agonist, designed to target key pathways involved in glucose metabolism and appetite regulation. Clinical studies demonstrate that semaglutide is a well-tolerated obesity intervention associated with significant reductions in body weight, often approaching 15% reductions, as well as improvements in waist circumference, body composition, appetite suppression, quality of life, and cardiometabolic risk profiles. At Fridays, our semaglutide products leverage the GLP-1 mechanism to support appetite control through both subcutaneous injection and our liposomal delivery methods that make oral use possible, improving convenience and consistency. The StatRX delivery system, in particular, enables a needle-free option that allows for reliable absorption. Overall, Fridays' semaglutide products provide a safe and effective way to support appetite regulation, metabolic efficiency, healthy weight management, and overall wellness.

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1 Introduction

Recent advancements in metabolic science are reshaping our understanding of weight regulation and transforming the treatment landscape for obesity. Breakthrough therapies such as glucagon-like peptide-1 (GLP-1) receptor agonists demonstrate that targeting hormonal pathways involved in appetite, satiety, and glucose regulation results in significant weight loss[1]. These innovations represent a shift away from traditional weight-loss methods towards biology-driven interventions supported by clinical research.

For many individuals, standard weight management strategies such as diet and behavior changes and increased physical activity are not sufficient or sustainable on their own. Metabolic adaptation, increased hunger signals, and reduced energy expenditure frequently limit long-term success[2]. As a result, many who attempt lifestyle-only approaches struggle to achieve long-lasting improvements in weight and metabolic health[2,3]. More than 40% of U.S. adults met the criteria for obesity in 2022[1,4], a condition associated with serious comorbidities, such as type 2 diabetes, hypertension, dyslipidemia, cardiovascular disease, nonalcoholic fatty liver disease, osteoarthritis, sleep apnea, and increased risk of several cancers, contributing to reduced quality of life and increased mortality[5].

Semaglutide has emerged as one of the most well-studied and promising GLP-1 receptor agonists for weight management. By targeting key pathways involved in appetite regulation and glucose metabolism, semaglutide enables significant and sustained weight loss for many individuals. At Fridays, we translate these scientific advances into accessible solutions through innovative delivery systems, physician-guided dosing, and personalized care, designed for individuals seeking sustainable improvements in health and wellness.

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2 Background and History of GLP-1 and Semaglutide

Human and animal experiments beginning in the 1960s showed that oral glucose triggers a stronger insulin response than the same amount of glucose given intravenously, confirming that gut-derived hormones enhance insulin secretion, which is known as the incretin effect[6]. In the 1980s, GLP-1 was identified as an incretin hormone produced from the proglucagon gene[7]. It is secreted by L cells found mainly in the lower part of the small intestine (ileum) and colon after eating and helps the body manage blood sugar levels by stimulating insulin release, reducing glucagon (a hormone that raises blood sugar), slowing how quickly the stomach empties, and increasing satiety[7]. Together, these actions make GLP-1 a powerful regulator of appetite and glucose control[8].

Natural GLP-1 is broken down rapidly by the enzyme dipeptidyl peptidase-4 (DPP-4) and cleared from the body by the kidneys. Recognizing this limitation led to the development of GLP-1-based therapeutics that can remain active for longer, including GLP-1 receptor agonists and DPP-4 inhibitors[8]. An agonist is a compound that mimics a natural hormone by binding to the same receptor and activating it to produce a biological response. GLP-1 exerts many of its metabolic benefits by binding to GLP-1 receptors, which can be found on insulin-producing pancreatic β-cells, triggering internal signals that promote insulin release when blood glucose levels are elevated9.

Semaglutide is a long-acting GLP-1 receptor agonist developed to mimic these natural effects while remaining active in the body for much longer. It was first approved for type 2 diabetes and is now widely used for obesity due to its robust effects on appetite, satiety, and weight reduction.

2.1. Semaglutide Mechanism of Action

Semaglutide is a 31-amino acid synthetic peptide that mimics the body's natural GLP-1 hormone and acts as a GLP-1 receptor agonist[10]. It is engineered to last much longer in the body compared to natural GLP-1, with small structural changes that make it more resistant to breakdown by DPP-4 and enhance reversible binding to albumin (a common blood protein)[10,11]. This slows the clearance of semaglutide, supporting once-weekly dosing.

By activating GLP-1 receptors, semaglutide lowers blood glucose in a glucose-dependent manner by stimulating insulin secretion from pancreatic β-cells and reducing glucagon secretion from α-cells, thereby improving fasting and after-meal glucose control[10]. When glucose is low, these effects are reduced, which helps limit inappropriate insulin stimulation[10].

Semaglutide also supports weight loss by affecting the gut and brain[1,10]. It can cause a delay in gastric emptying and reduce appetite by increasing satiety and decreasing hunger, cravings, and overall energy intake, leading to reduced food consumption and weight loss over time[1,10] (Fig. 1).

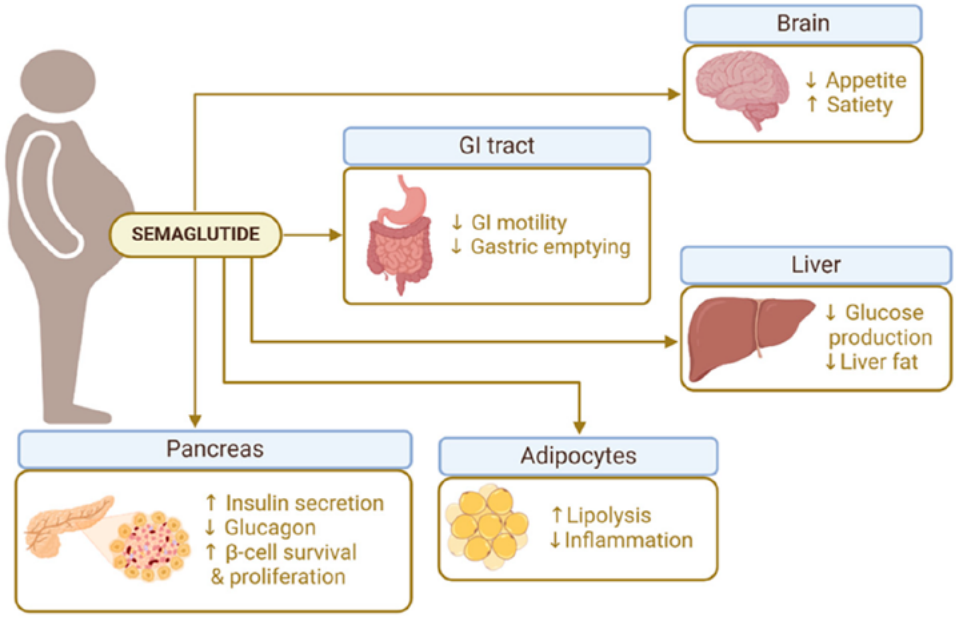

Figure 1. Mechanism of semaglutide for the management of obesity. Image from Salvador et al, 2025[1]. Image used under Creative Commons License.

2.2. Pharmacokinetics of Semaglutide

When semaglutide is delivered via subcutaneous injection, it is absorbed slowly into the bloodstream and reaches its peak levels over the first few days[12]. As semaglutide binds strongly to blood proteins, it remains in circulation for long periods, allowing for steady exposure and convenient once-weekly dosing[13]. It typically takes four to five weeks of weekly injections to reach stable, steady-state levels in the body[12].

Semaglutide can also be taken orally, although natural GLP-1-based molecules are usually broken down quickly and absorbed poorly. To overcome this, oral semaglutide is combined with an absorption enhancer that helps it pass through the stomach lining[12]. Even with this support, only a small amount of the oral dose is absorbed, and food or large amounts of water can reduce how well it enters the bloodstream[13].

Once absorbed, semaglutide has a relatively small volume of distribution and stays mostly within the bloodstream. Semaglutide has a long half-life of about one week, meaning it stays in the body for several weeks after the last dose. It is eliminated slowly as metabolites through both urine and feces[13].

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3 Clinical Data Supporting Semaglutide

Semaglutide supplementation is one of the most well-researched GLP-1 agonists to date, with numerous randomized controlled trials and meta-analyses in populations with obesity and type 2 diabetes. Clinical research is ongoing; however, current evidence suggests that semaglutide can produce significant reductions in body weight, enhance body composition, reduce waist circumference, suppress appetite and food cravings, improve eating behavior, and improve quality of life and key cardiometabolic markers[14–26].

3.1. Significant Reduction in Body Weight

Multiple meta-analyses and systematic reviews have evaluated the clinical efficacy of semaglutide for weight reduction in overweight or obese populations. In one systematic review and meta-analysis of eight studies involving 4,567 overweight/obese individuals, it was found that compared to placebo, semaglutide induced significant body weight loss, with an average reduction of approximately 10%, in addition to a significant reduction in body mass index (BMI)[14].

An additional systematic review and meta-analysis included six randomized controlled trials involving 3,962 overweight/obese participants who took once-weekly subcutaneous semaglutide (2.4 mg)[15]. Compared to placebo, semaglutide produced significant and sustained reductions in body weight, with an average decrease of almost 12% in percentage body weight and significant reductions in absolute body weight and BMI[15].

In terms of the long-term effectiveness of once-weekly subcutaneous semaglutide (2.4 mg) for weight loss in overweight or obese populations, a systematic review and meta-analysis examined four randomized controlled trials involving 3,087 participants with a follow-up of at least 68 weeks[16]. Compared with placebo, semaglutide produced a significant and sustained reduction in body weight in the long term[16]. On average, participants receiving semaglutide lost 12.1% of body weight, corresponding to approximately 12.3 kg more weight loss than placebo[16]. In addition, a much higher proportion of individuals treated with semaglutide achieved a body-weight reduction of at least 20% compared with those receiving placebo[16].

Included in these analyses are the phase III double-blind randomized controlled trials (STEP trials), which provide pivotal evidence for the safety and efficacy of semaglutide in non-diabetic individuals who are overweight or obese. The STEP 1 trial, involving 1,961 participants with a BMI ≥30 kg/m² or ≥27 kg/m² with at least one weight-related complication, excluding diabetes, evaluated once-weekly subcutaneous semaglutide (dose-escalated to 2.4 mg) versus placebo over 68 weeks with lifestyle alterations[17]. Participants treated with semaglutide experienced a mean body-weight reduction of 14.9%, compared with a 2.4% reduction in the placebo group[17]. In absolute terms, the change in body weight from baseline to week 68 was -15.3 kg in the semaglutide group, compared with -2.6 kg in the placebo group[17].

The STEP 5 trial, involving 304 participants with a BMI ≥30 kg/m², or ≥27 kg/m² with at least one weight-related complication, excluding diabetes, evaluated once-weekly subcutaneous semaglutide (dose-escalated 2.4 mg) versus placebo over 104 weeks with lifestyle alterations[18]. Participants receiving semaglutide achieved substantial and sustained weight loss, with a mean reduction in body weight of approximately 15%, compared with a 2.6% reduction in the placebo group[18] (Fig. 2).

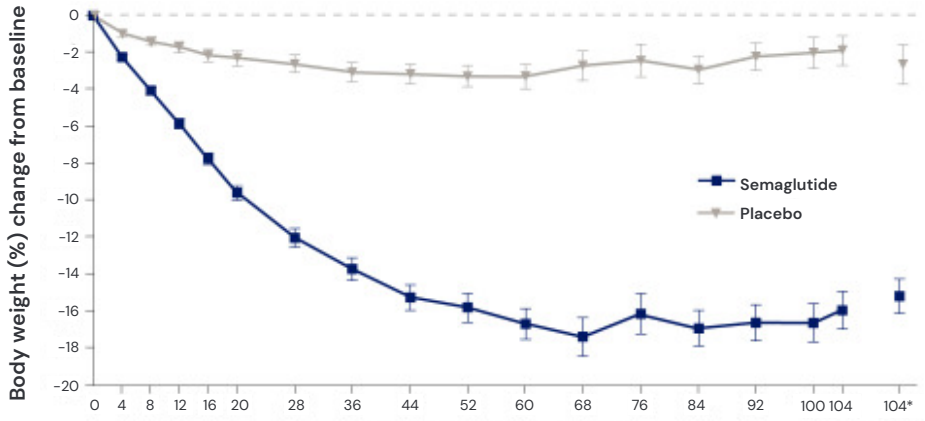
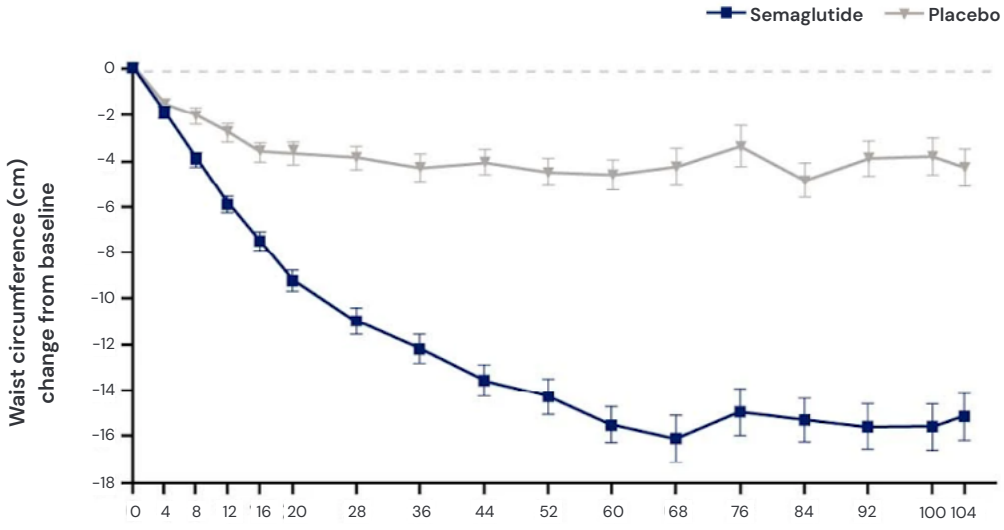


Figure 2. Mean percentage body weight change from baseline over time since randomization for participants in the STEP 5 trial. Adapted from Garvey et al., 2022. Image used under Creative Commons License[18].

3.2. Improved Body Composition and Waist Circumference

In the STEP 1 trial, by the end of the study, semaglutide-treated participants saw significant reductions in waist circumference of -13.54 cm compared to -4.13 cm in the placebo-treated group[17]. Additionally, in the STEP 5 trial, by week 104, participants who received semaglutide had significant reductions in waist circumference of 14.4 cm compared to 5.2 cm in the placebo group (Fig. 3).

A sub-study of the STEP 1 trial evaluated changes in body composition in a subset of 140 participants (semaglutide, n = 95; placebo, n = 45) selected from the original cohort of 1,961 individuals[19]. Participants underwent dual-energy X-ray absorptiometry (DEXA) scans at baseline and at week 68 to assess changes in body composition[19]. From baseline to week 68, participants treated with once-weekly subcutaneous semaglutide (2.4 mg) experienced a mean reduction in body weight of -15.0%, total fat mass of -19.3%, and lean body mass of -9.7%, compared with reductions of -3.6% in body weight, with minimal changes in body composition in the placebo group[19]. Semaglutide treatment also resulted in a marked reduction in regional visceral fat mass (-27.4%) and an improvement in the lean body mass-to-fat mass ratio[19].



Number of participants														
Semaglutide	152 150 151 151 151 152	152	149	146	149	136	101	87	139	137	134 143
Placebo	152 149 146 146 143 141	152	132	131	129	118	88	71	116	117	107-126

Figure 3. Mean change in waist circumference from baseline over time since randomization for participants in the STEP 5 trial. Adapted from Garvey et al., 2022. Image used under Creative Commons License[18].

3.3. Appetite Suppression and Improved Eating Behavior

Clinical studies have shown that semaglutide significantly reduces appetite and energy intake and improves eating behaviors, which are key mechanisms underlying its weight-loss effects. In a randomized controlled trial involving participants with obesity, 30 individuals who received once-weekly semaglutide (1 mg) for 12 weeks exhibited a 24% reduction in total ad libitum daily energy intake compared with the placebo group[20]. Semaglutide was also associated with less hunger and food cravings, better control of eating, and a low preference for high-fat foods[20].

Additionally, a double-blind, parallel-group trial was conducted in 72 adults with obesity, which examined the effects of once-weekly subcutaneous semaglutide (dose-escalated to 2.4 mg) over 20 weeks[21]. Compared to placebo, semaglutide resulted in a 35% reduction in ad libitum energy intake during a standardized meal[21]. Participants who received semaglutide also reported reduced hunger and prospective food consumption, in addition to increased feelings of fullness and satiety[21]. Questionnaire assessments indicated improved control of eating and fewer or weaker food cravings in the semaglutide group[21].

In an analysis from the STEP 5 trial, a subgroup of 174 participants completed a questionnaire assessing appetite, cravings, and eating behavior[22]. Compared to the placebo-treated group, those who received semaglutide had significant improvements in craving control, reduced cravings for savory and sweet foods, increased positive mood, and improved control of eating[22].

Notably, in a double-blind randomized controlled study involving 61 participants with obesity, oral semaglutide (dose-escalated to 50 mg) administered over 20 weeks significantly reduced hunger, increased feelings of fullness and satiety, and was associated with fewer food cravings and improved control of eating compared to placebo[23].

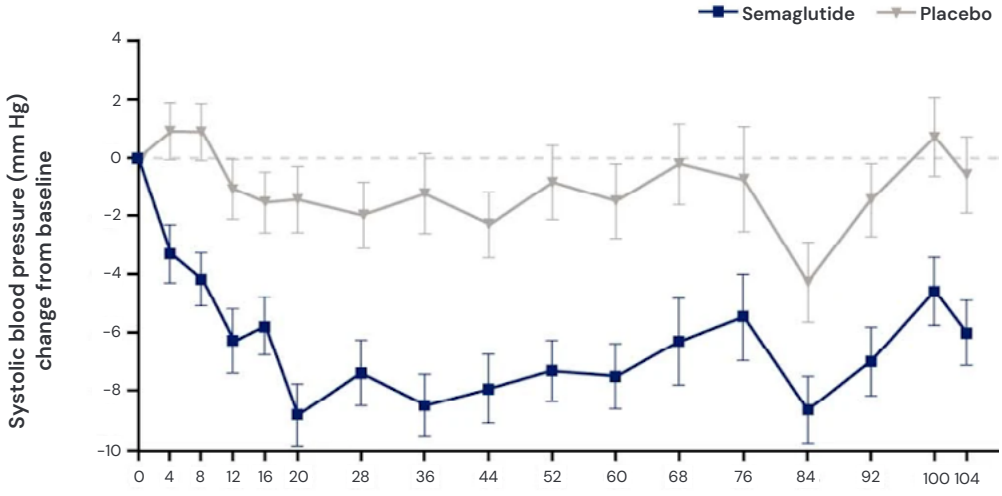
3.4. Enhanced Metabolic and Overall Health

In an analysis of weight-related and health-related quality of life, with a focus on physical functioning, using data from the STEP 1-4 trials, semaglutide demonstrated significant improvements in physical functioning compared to placebo, particularly in the STEP 1, 2, and 4 trials[24].

Additionally, the large, multicenter randomized controlled trial (SELECT trial) evaluated whether once-weekly subcutaneous semaglutide (2.4 mg) could reduce cardiovascular risk in 17,604 overweight/obese participants without diabetes who had preexisting cardiovascular disease[25]. Cardiovascular events occurred in 6.5% of participants receiving semaglutide and 8.0% of those receiving placebo, with a reduced risk of a composite of death from cardiovascular causes, nonfatal myocardial infarction, or nonfatal stroke by 20%[25].

An additional analysis of data from the STEP 1 and STEP 4 trials examining cardiometabolic risk factors found that semaglutide was associated with greater reductions in systolic and diastolic blood pressure, fasting plasma glucose, fasting insulin, and lipid levels compared to placebo[26]. Participants treated with semaglutide also demonstrated reduced use of antihypertensive and lipid-lowering medications relative to those receiving the placebo[26].

Notably, in the STEP 5 trial, by week 104, participants who received semaglutide demonstrated significant reductions in systolic blood pressure compared to placebo[18] (Fig. 4). In addition, semaglutide demonstrated improvements in diastolic blood pressure, glycated hemoglobin (HbA1c), fasting glucose, fasting serum insulin, C-reactive protein, total cholesterol, low-density lipoprotein cholesterol, very-low-density lipoprotein cholesterol, and triglycerides compared to placebo[18].



Number of participants												
Semaglutide	152 150 151 151 151 152	152	149	146	149	136	101	92	140	137	134 142
Placebo	152 149 146 146 143 141	152	132	131	129	118	88	74	116	117	107-125

Figure 4. Mean change in systolic blood pressure from baseline over time since randomization for participants in the STEP 5 trial. Adapted from Garvey et al., 2022. Image used under Creative Commons License[18].

4 Safety and Dosing

For weight management, semaglutide is typically administered between 0.25 mg and 2.4 mg as a once-weekly subcutaneous injection, usually with gradual dose escalation to improve tolerability[18]. Oral semaglutide is typically administered at 3 mg once daily, then escalating to 7 mg to 14 mg[12]. Clinical trial data indicate that semaglutide is generally well-tolerated, with most adverse events being mild to moderate and occurring during the initial dose escalation period[27].

The most commonly reported side effects are gastrointestinal, including nausea, diarrhea, vomiting, and constipation[27]. In a phase IIIb randomized controlled study, the safety and efficacy of higher-dose semaglutide (7.2 mg) were evaluated, demonstrating that increased doses may be more efficacious in terms of weight loss but are associated with a higher incidence of gastrointestinal adverse events[28]. Gastrointestinal events were reported in 70.8% of participants receiving semaglutide 7.2 mg, compared with 61.2% of those receiving the 2.4 mg dose[28].

Other side effects include injection-site reactions and a low risk of mild hypoglycemia, particularly when semaglutide is used in combination with other glucose-lowering agents[29]. Rare adverse effects include pancreatitis and gallbladder-related disorders such as cholelithiasis and cholecystitis[29]. Concurrent use of semaglutide with other GLP-1 receptor agonists is not recommended due to overlapping mechanisms of action and an increased risk of adverse effects.

5 Fridays' Semaglutide

Fridays focuses on safety, education, and accessibility, helping individuals explore physician-guided wellness options that may support healthy weight management. With transparent pricing and personalized care, Fridays makes advanced therapies approachable and convenient from home.

Semaglutide Subcutaneous Injection: Direct delivery of semaglutide into adipose tissue, where it is gradually absorbed into systemic circulation, providing steady exposure and reducing the need for clinical supervision.

Semaglutide StatRX Sublingual Delivery: A cutting-edge delivery system now enables semaglutide to be taken sublingually, encapsulating semaglutide for potentially enhanced absorption and therapeutic effects. The StatRX delivery system, available exclusively at Fridays, enables easy and reliable delivery of semaglutide through the sublingual pathway, without the need for needles.

5.1. Semaglutide Microdosing

Standard clinical administration of subcutaneous semaglutide typically starts with 0.25 mg weekly, gradually escalating to a maintenance dose. This approach highlights the value of lower-dose exposure in supporting tolerability and long-term adherence. Clinical trial data indicate that semaglutide is generally well-tolerated at 0.25 mg to 2.4 mg, with most adverse events usually occurring during the primary period of dose escalation. Therefore, maintaining treatment at lower doses for longer periods may be beneficial in reducing the likelihood of adverse events.

In a randomized, double-blind phase II trial in individuals with obesity without diabetes, participants who received low daily doses of 0.05 mg or 0.1 mg of semaglutide achieved significant weight reductions of 6.0% to 8.6% over 52 weeks compared to placebo, despite receiving substantially lower doses than those used in other clinical studies[30]. All semaglutide doses were generally well tolerated, with the most common adverse events being dose-related gastrointestinal symptoms, primarily nausea[30]. These findings suggest that microdosed semaglutide retains biological efficacy and may represent a viable strategy for individuals who are sensitive to higher doses or who prioritize tolerability over maximal weight loss. Further clinical trials are currently underway to establish the safety and efficacy of microdosed semaglutide through oral and subcutaneous delivery[31].

Microdosing strategies may also offer several other potential benefits. In individuals undergoing multiple treatment or lifestyle changes, initiating therapy at lower doses may improve tolerability and allow for closer monitoring of treatment response[32]. Microdosing may also be useful during planned treatment interruptions, where gradual and controlled reintroduction of semaglutide could minimize adverse effects while maintaining therapeutic momentum[32].

While formal clinical evidence specific to semaglutide microdosing is still emerging, its potential applications highlight a promising area for further research and clinical innovation, particularly within personalized weight-management strategies.

6 Conclusion

Semaglutide represents a scientifically grounded and clinically supported approach to the management of obesity and related metabolic conditions. By activating the GLP-1 receptor, semaglutide targets key physiological drivers of weight gain, including appetite dysregulation, impaired glucose control, and reduced satiety signaling[1]. Extensive clinical evidence demonstrates that semaglutide produces clinically meaningful and sustained reductions in body weight, often approaching 15%, alongside improvements in waist circumference, body composition, appetite control, eating behavior, quality of life, and cardiometabolic risk factors[14–26]. These studies highlight semaglutide as a potential solution for weight management and also broader metabolic health support.

Across clinical studies, semaglutide has shown a generally well-tolerated safety profile, with most adverse events being mild to moderate and primarily gastrointestinal, occurring most commonly during dose escalation[29]. Emerging evidence also suggests that lower-dose strategies may retain biological efficacy, highlighting opportunities for more personalized dosing approaches as clinical research continues to evolve[32].

As peptide-based therapies traditionally face challenges in delivery and convenience, innovative delivery technologies play a critical role in expanding access and use. Fridays' semaglutide offerings, including subcutaneous injection and the StatRX sublingual delivery system, are designed to support reliable absorption while reducing barriers associated with needles and complex dosing. Combined with physician-guided care and individualized treatment plans, these approaches aim to enhance adherence, flexibility, and patient experience.

Taken together, the current body of evidence supports semaglutide as a safe and effective option for supporting appetite regulation and weight management. With the integration of advanced delivery systems and personalized clinical oversight, Fridays provides a science-backed, patient-centered solution for individuals seeking meaningful improvements in weight management and overall wellness.

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7 References

1. Salvador R, Moutinho CG, Sousa C, Vinha AF, Carvalho M, Matos C. Semaglutide as a GLP-1 Agonist: A Breakthrough in Obesity Treatment. Pharmaceuticals. 2025;18(3):399. doi:10.3390/ph18030399
2. Greenway FL. Physiological adaptations to weight loss and factors favouring weight regain. Int J Obes. 2015;39(8):1188-1196. doi:10.1038/ijo.2015.59
3. Binsaeed B, Aljohani FG, Alsobiai FF, et al. Barriers and Motivators to Weight Loss in People With Obesity. Cureus. Published online November 19, 2023. doi:10.7759/cureus.49040
4. McEwan P, Faurby M, Lübker C, Padgett T, Toliver JC. The evolving burden of obesity in the US: a novel population-level system dynamics approach. J Med Econ. 2025;28(1):1512-1525. doi:10.1080/13696998.2025.2554518
5. Fruh SM. Obesity: Risk factors, complications, and strategies for sustainable long-term weight management. J Am Assoc Nurse Pract. 2017;29(S1):S3-S14. doi:10.1002/2327-6924.12510
6. Creutzfeldt W. The [pre-] history of the incretin concept. Regul Pept. 2005;128(2):87-91. doi:10.1016/j.regpep.2004.08.004
7. Sokary S, Bawadi H. The promise of tirzepatide: A narrative review of metabolic benefits. Prim Care Diabetes. 2025;19(3):229-237. doi:10.1016/j.pcd.2025.03.008
8. Zheng Z, Zong Y, Ma Y, et al. Glucagon-like peptide-1 receptor: mechanisms and advances in therapy. Signal Transduct Target Ther. 2024;9(1):234. doi:10.1038/s41392-024-01931-z
9. Seino Y, Fukushima M, Yabe D. GIP and GLP-1, the two incretin hormones: Similarities and differences. J Diabetes Investig. 2010;1(1-2):8-23. doi:10.1111/j.2040-1124.2010.00022.x
10. Mahapatra MK, Karuppasamy M, Sahoo BM. Semaglutide, a glucagon like peptide-1 receptor agonist with cardiovascular benefits for management of type 2 diabetes. Rev Endocr Metab Disord. 2022;23(3):521-539. doi:10.1007/s11154-021-09699-1
11. Knudsen LB, Lau J. The Discovery and Development of Liraglutide and Semaglutide. Front Endocrinol. 2019;10:155. doi:10.3389/fendo.2019.00155
12. Pillarisetti L, K. Agrawal D. Semaglutide: Double-edged Sword with Risks and Benefits. Arch Intern Med Res. 2025;8(1). doi:10.26502/aimr.0189
13. Yang XD, Yang YY. Clinical Pharmacokinetics of Semaglutide: A Systematic Review. Drug Des Devel Ther. 2024;Volume 18:2555-2570. doi:10.2147/DDDT.S470826
14. Gao X, Hua X, Wang X, et al. Efficacy and safety of semaglutide on weight loss in obese or overweight patients without diabetes: A systematic review and meta-analysis of randomized controlled trials. Front Pharmacol. 2022;13:935823. doi:10.3389/fphar.2022.935823

15. Qin W, Yang J, Deng C, Ruan Q, Duan K. Efficacy and safety of semaglutide 2.4 mg for weight loss in overweight or obese adults without diabetes: An updated systematic review and meta-analysis including the 2-year STEP 5 trial. Diabetes Obes Metab. 2024;26(3):911-923. doi:10.1111/dom.15386

16. Moiz A, Levett JY, Filion KB, Peri K, Reynier P, Eisenberg MJ. Long-Term Efficacy and Safety of Once-Weekly Semaglutide for Weight Loss in Patients Without Diabetes: A Systematic Review and Meta-Analysis of Randomized Controlled Trials. Am J Cardiol. 2024;222:121-130. doi:10.1016/j.amjcard.2024.04.041

17. Wilding JPH, Batterham RL, Calanna S, et al. Once-Weekly Semaglutide in Adults with Overweight or Obesity. N Engl J Med. 2021;384(11):989-1002. doi:10.1056/NEJMoa2032183

18. Garvey WT, Batterham RL, Bhatta M, et al. Two-year effects of semaglutide in adults with overweight or obesity: the STEP 5 trial. Nat Med. 2022;28(10):2083-2091. doi:10.1038/s41591-022-02026-4

19. Wilding JPH, Batterham RL, Calanna S, et al. Impact of Semaglutide on Body Composition in Adults With Overweight or Obesity: Exploratory Analysis of the STEP 1 Study. J Endocr Soc. 2021;5(Supplement_1):A16-A17. doi:10.1210/jendso/bvab048.030

20. Blundell J, Finlayson G, Axelsen M, et al. Effects of once-weekly semaglutide on appetite, energy intake, control of eating, food preference and body weight in subjects with obesity. Diabetes Obes Metab. 2017;19(9):1242-1251. doi:10.1111/dom.12932

21. Friedrichsen M, Breitschaft A, Tadayon S, Wizert A, Skovgaard D. The effect of semaglutide 2.4 mg once weekly on energy intake, appetite, control of eating, and gastric emptying in adults with obesity. Diabetes Obes Metab. 2021;23(3):754-762. doi:10.1111/dom.14280

22. Wharton S, Batterham RL, Bhatta M, et al. Two-year effect of semaglutide 2.4 mg on control of eating in adults with overweight/obesity: STEP 5. Obesity. 2023;31(3):703-715. doi:10.1002/oby.23673

23. Gabe MBN, Breitschaft A, Knop FK, et al. Effect of oral semaglutide on energy intake, appetite, control of eating and gastric emptying in adults living with obesity: A randomized controlled trial. Diabetes Obes Metab. 2024;26(10):4480-4489. doi:10.1111/dom.15802

24. Rubino D, Bjorner JB, Rathor N, et al. Effect of semaglutide 2.4 mg on physical functioning and weight- and health-related quality of life in adults with overweight or obesity: Patient-reported outcomes from the STEP 1–4 trials. Diabetes Obes Metab. 2024;26(7):2945-2955. doi:10.1111/dom.15620

25. Lincoff AM, Brown-Frandsen K, Colhoun HM, et al. Semaglutide and Cardiovascular Outcomes in Obesity without Diabetes. N Engl J Med. 2023;389(24):2221-2232. doi:10.1056/NEJMoa2307563

26. Kosiborod MN, Bhatta M, Davies M, et al. Semaglutide improves cardiometabolic risk factors in adults with overweight or obesity: STEP 1 and 4 exploratory analyses. Diabetes Obes Metab. 2023;25(2):468-478. doi:10.1111/dom.14890

27. 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(1):94-105. doi:10.1111/dom.14551

28. Wharton S, Freitas P, Hjelmesæth J, et al. Once-weekly semaglutide 7·2 mg in adults with obesity (STEP UP): a randomised, controlled, phase 3b trial. Lancet Diabetes Endocrinol. 2025;13(11):949-963. doi:10.1016/S2213-8587(25)00226-8

29. Smits MM, Van Raalte DH. Safety of Semaglutide. Front Endocrinol. 2021;12:645563. doi:10.3389/fendo.2021.645563

30. O'Neil PM, Birkenfeld AL, McGowan B, et al. Efficacy and safety of semaglutide compared with liraglutide and placebo for weight loss in patients with obesity: a randomised, double-blind, placebo and active controlled, dose-ranging, phase 2 trial. The Lancet. 2018;392(10148):637-649. doi:10.1016/S0140-6736(18)31773-2

31. ClinicalTrials.gov. Effectiveness of Microdosed GLP-1 in Improving Health, Quality of Life, and Longevity Measures. Accessed November 21, 2025. https://clinicaltrials.gov/study/NCT07092605

32. Tejera-Pérez C. Comment on Komé et al. One Size Does Not Fit All: Understanding Microdosing Semaglutide for Diabetes in Multidose Pens. Diabetes Care. 2025;48(7):e93-e93. doi:10.2337/dc25-0566