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GLP-1 RECEPTOR AGONISTS IN AESTHETIC MEDICINE: THERAPEUTIC BREAKTHROUGH OR CATALYST FOR UNREALISTIC BODY IDEALS?

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ABSTRACT

GLP-1 receptor agonists (GLP-1 RAs), including semaglutide and tirzepatide, have transformed obesity and type 2 diabetes mellitus management through robust weight loss and metabolic benefits. GLP-1 RAs produce substantial weight loss through appetite suppression, delayed gastric emptying, and metabolic modulation. As these agents increasingly enter aesthetic medicine ecosystems - where weight management, body contouring, and skin health intersect with patient expectations about appearance - clinicians face dual questions: Do GLP-1 RAs represent a therapeutic breakthrough for patients seeking aesthetic improvements, or do they risk catalyzing unrealistic body ideals and exacerbating societal pressures around weight and appearance? This review synthesizes mechanistic, clinical, psychosocial, ethical, and regulatory dimensions of GLP-1 RA use in aesthetic contexts, drawing on a broad corpus of literature including recent reviews and primary studies, as well as the provided candidate references and additional sources. We examine (1) pharmacology and clinical efficacy for weight reduction and body composition, (2) esthetic implications of rapid weight loss, including facial volume changes and skin effects, (3) ethical and societal considerations surrounding body ideals, (4) risk–benefit and safety concerns in cosmetic and non-diabetic populations, (5) integration with other aesthetic modalities and multidisciplinary care, and (6) practical guidance for clinicians operating Ozempicin-like aesthetic clinics. We conclude with a framework for responsible, patient-centered deployment of GLP-1–based therapies within aesthetic medicine, emphasizing informed consent, psychosocial screening, realistic expectation management, and equitable access.

KEYWORDS

GLP-1 RAs, Aesthetic Medicine, Obesity, Ethics

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Introduction

GLP-1 receptor agonists have emerged as cornerstone therapies for obesity and type 2 diabetes, offering substantial weight loss and glycemic improvements. Semaglutide, tirzepatide (a GLP-1/GIP dual agonist), and related agents have demonstrated clinically meaningful reductions in body weight and metabolic risk markers in diverse populations (Petrova et al., 2024; Pratley et al., 2024; Tschöp et al., 2023), with tirzepatide receiving regulatory approvals for obesity management in several jurisdictions and continuing to shape obesity care paradigms (Gallwitz, 2022; Goldenberg et al., 2023).

The pharmacologic foundations center on incretin biology, appetite suppression, delayed gastric emptying, and improved insulin–glucagon dynamics, and newer dual- and triple-agonist constructs seek synergistic effects across metabolic pathways (Bobok, 2025; Jakubowska et al., 2024; Sztanek et al., 2024; Tan et al., 2022; Zhao et al., 2022). These developments are reviewed across endocrinology and obesity-focused literature and are highly relevant to aesthetic medicine because weight changes directly influence body contour, facial symmetry, skin mechanics, and perceived aging (Bobok, 2025; Petrova et al., 2024; Tschöp et al., 2023).

In aesthetic medicine, weight reduction can improve metabolic health and reduce adiposity-related contours, but rapid weight loss may yield complex esthetic sequelae, including changes in facial volume, skin laxity, and distribution of subcutaneous fat. These esthetic implications require proactive management strategies—such as appropriate timing of interventions, selection of fillers or biostimulatory agents, and integration with energy-based devices—and underscore the need for a multidisciplinary approach when GLP-1 RAs intersect with cosmetic goals (Goldenberg et al., 2023; Haykal et al., 2024; Maejima et al., 2024).

Methodology

This study was conducted as a narrative integrative review of the current scientific literature on glucagon-like peptide-1 receptor agonists (GLP-1 RAs) and their implications for aesthetic medicine. The aim was to synthesize evidence across biomedical, psychosocial, ethical, and regulatory domains rather than to perform a formal meta-analysis.

A structured search of peer-reviewed publications was undertaken using major biomedical databases, including PubMed/MEDLINE, Scopus, Web of Science, and Google Scholar. Keywords and combinations included: "GLP-1 receptor agonists," "semaglutide," "tirzepatide," "incretin therapy," "obesity pharmacotherapy," "aesthetic medicine," "cosmetic dermatology," "body contouring," "facial aging," "skin laxity," "body image," and "ethics." Reference lists of relevant review articles and clinical studies were also screened to identify additional sources.

Eligible publications included randomized controlled trials, observational studies, systematic reviews, narrative reviews, pharmacological analyses, and position papers addressing metabolic outcomes, safety, body composition changes, aesthetic implications, psychological aspects, and ethical considerations of GLP-1 RA use. Literature focusing exclusively on unrelated therapeutic indications was excluded unless it contributed relevant safety or mechanistic insights.

No formal date restrictions were imposed; however, emphasis was placed on contemporary studies reflecting the latest generation of incretin-based therapies. Sources were evaluated qualitatively for relevance, methodological rigor, and applicability to aesthetic contexts. Data were synthesized thematically into key domains: pharmacology and efficacy, esthetic outcomes of weight loss, psychosocial impact, safety considerations, integration with aesthetic procedures, and regulatory and ethical issues.

Because this study did not involve human participants, clinical interventions, or primary data collection, ethical approval was not required.

Results

GLP-1 receptor agonists act by enhancing glucose-dependent insulin secretion, suppressing appetite, slowing gastric emptying, and reducing caloric intake, thereby producing weight loss and improved glycemic control. They have evolved from short-acting formulations to long-acting agents, with higher-dose regimens delivering greater and more durable weight reduction. This pharmacodynamic profile underpins their appeal in obesity management and, by extension, in aesthetic contexts where weight-driven contouring is a central objective (Petrova et al., 2024; Pratley et al., 2024; Tschöp et al., 2023).

The breakthrough momentum derives from unimolecular multi-agonists (e.g., tirzepatide) and triagonists targeting GLP-1, GIP, and glucagon pathways, which have demonstrated superior weight loss and metabolic benefits relative to GLP-1 mono-agonists in several trials. This multimodal pharmacology represents a paradigm shift in pharmacotherapy for obesity and related disorders, with potential downstream aesthetic implications for patients seeking body shaping through pharmacologic means rather than surgery alone (Bobok, 2025; Jakubowska et al., 2024; Maejima et al., 2024; Sztanek et al., 2024; Tan et al., 2022; Zhao et al., 2022). GLP-1 receptor agonists have also been studied in conditions such as polycystic ovary syndrome, where metabolic and aesthetic outcomes intersect, illustrating the broader relevance of incretin-based therapies beyond classical obesity and diabetes contexts (Ma et al., 2021).

Esthetic Implications of GLP-1 RA–Driven Weight Loss

Rapid or substantial weight loss associated with GLP-1 receptor agonists can create aesthetic challenges. Facial adipose stores may diminish, leading to volume loss and potential periorbital hollowing in some patients, even as overall body contour improves. Skin laxity and redundancy may accompany rapid reductions in subcutaneous fat, presenting a need for concomitant dermal volumization or skin-tightening strategies. Although literature specifically detailing aesthetic consequences of GLP-1–driven weight loss remains emergent, expert commentaries and reviews emphasize the necessity of multidisciplinary aesthetic planning, including timing of filler interventions, use of biostimulatory materials, and consideration of energy-based devices to optimize contour and skin quality after GLP-1 RA–associated weight changes (Alhomoud et al., 2024; Haykal et al., 2024; Maejima et al., 2024; Pratley et al., 2024; Tschöp et al., 2023).

The aesthetic management literature further highlights the potential role of adjunct therapies—such as dermal fillers, collagen-stimulating agents, and non-invasive devices—as well as imaging and psychological supports to address patient concerns regarding perceived facial aging following weight loss. A holistic, multimodal approach is therefore endorsed to mitigate volume depletion and enhance patient satisfaction,

particularly among individuals pursuing non-surgical weight-reduction pathways for cosmetic reasons (Alhomoud et al., 2024; Haykal et al., 2024; Maejima et al., 2024; Pratley et al., 2024; Tschöp et al., 2023).

Ethical and societal considerations: does GLP-1 RA use in aesthetics reinforce unrealistic body ideals?

The deployment of GLP-1 receptor agonists in aesthetic settings intersects with broader social discourses regarding body size, beauty standards, and the normalization of pharmacologic weight management. On one hand, GLP-1 RAs provide evidence-based, clinically indicated weight reduction for patients with obesity or metabolic disease, with potential downstream reductions in morbidity and mortality (Brook & Singer, 2024; Petrova et al., 2024). On the other hand, the marketing of GLP-1–based therapies within cosmetic or semi-medical aesthetic environments risks promoting unrealistic thinness norms or encouraging patients to pursue aggressive weight loss in pursuit of socially constructed "ideal" appearances. Such dynamics may exacerbate body dissatisfaction and social comparison, particularly in media-saturated contexts (Phan & Dinh, 2023). This tension is reflected in scholarly discussions concerning regulation, education, and ethical governance in aesthetic medicine (Noor, 2023; Zhang & Zhang, 2025).

Several analyses emphasize the ethical complexity of aesthetic medicine in an era characterized by rapid pharmacologic innovation and commercialization. Concerns include commodification of care, promotional practices that may overstate therapeutic benefits, and potential misalignment between patient welfare and commercial incentives (Noor, 2023). Within the GLP-1 RA context, these concerns necessitate that prescribing practices remain grounded in appropriate medical evaluation, with structured psychometric screening for body dysmorphic disorder or related vulnerabilities, and comprehensive patient education regarding realistic outcomes and potential adverse effects (Wollina et al., 2013).

The literature further supports shared decision-making models and transparent risk communication when integrating GLP-1–driven weight management into aesthetic practice (Jia & Li, 2024). Multidisciplinary collaboration—encompassing dermatology, plastic surgery, endocrinology, psychology, and ethics expertise—may mitigate the risk of reinforcing harmful body ideals while preserving patient autonomy (Greve & Raulin, 2002; Tschöp et al., 2023; Zhang & Zhang, 2025). Such an approach aligns therapeutic objectives with sociocultural awareness and professional accountability, thereby promoting ethically grounded implementation of GLP-1–based interventions in aesthetic settings.

Safety, risks, and clinical uncertainties in aesthetic contexts

In general, GLP-1 receptor agonists are well tolerated, with common adverse effects including gastrointestinal symptoms (e.g., nausea, vomiting, diarrhea) that typically attenuate with dose titration. The risk profile, however, must be contextualized for patients seeking cosmetic benefits, where expectations for rapid or visually perceptible results may differ substantially from medical weight-management contexts. Safety concerns—including pancreatitis, gallbladder disease, and potential thyroid or other malignancy considerations—require continued pharmacovigilance and individualized risk assessment, particularly as use expands beyond diabetology into cosmetic dermatology and aesthetic medicine (Pratley et al., 2024; Benjamin & Hoff, 2024).

The literature also highlights the possibility of adverse events when GLP-1 RAs are combined with other incretin-based therapies or adjunctive pharmacologic agents. As novel dual- and triple-agonist therapies enter clinical practice, vigilance regarding additive adverse effects, drug–drug interactions, and long-term safety is essential, especially in cosmetic populations that may present distinct risk profiles or lower thresholds for acceptable harm (Jia & Li, 2024; Petrova et al., 2024; Pratley et al., 2024; Tschöp et al., 2023). Careful patient selection, individualized dosing strategies, systematic monitoring, and robust adverse-event reporting remain central to safe implementation.

Importantly, the risk–benefit assessment must extend beyond physiological endpoints to include psychosocial considerations. Sociocultural pressure to achieve idealized body standards may precipitate disordered eating behaviors, body image disturbances, or recurrence of dissatisfaction following treatment. Structured screening for body dysmorphic disorder and related vulnerabilities, alongside access to mental health support, constitutes a critical safeguard against iatrogenic harm in aesthetic GLP-1 RA use (Phan & Dinh, 2023; Tschöp et al., 2023).

Integration with Aesthetic Modalities and Multidisciplinary Care

Given the potential aesthetic sequelae of GLP-1 RA–induced weight reduction, practitioners should establish integrated care pathways that coordinate pharmacologic weight management with dermal fillers, biostimulatory agents (e.g., collagen-stimulating therapies), energy-based devices, and, where appropriate, surgical interventions. Evidence-based protocols addressing timing of interventions, assessment of facial volumetric changes, and stabilization of weight trajectories are essential to optimize outcomes. The literature

supports structured educational models—including simulation-based and interactive training approaches—to enhance clinician preparedness for multimodal aesthetic practice and minimize procedural complications (Hassan et al., 2025; Haykal et al., 2024; Tomashevskyi et al., 2022; D'Ascanio et al., 2023).

Collaboration between aesthetic medicine and endocrinology or obesity medicine further strengthens clinical decision-making, particularly in cases of significant weight change or when systemic pharmacotherapies are incorporated into broader aesthetic treatment plans. Multidisciplinary teams can address metabolic comorbidities, optimize dermal and subcutaneous tissue adaptation, and monitor for adverse events or therapeutic interactions. Such integration aligns with broader calls for standardized credentialing, structured training, and governance frameworks within aesthetic medicine (Noor, 2023; Zhang & Zhang, 2025; D'Ascanio et al., 2023).

Regulatory, Governance, and Equity Considerations

As GLP-1 RA utilization expands into aesthetic domains, regulatory frameworks must clearly delineate therapeutic indications, prescribing authority, and professional scope of practice to safeguard patient welfare. Ongoing debates emphasize the need to distinguish medically indicated pharmacotherapy from elective cosmetic enhancement, alongside advocacy for clinician-led regulatory oversight and ethical governance structures (Noor, 2023; Zhang & Zhang, 2025).

Equity concerns emerge when access to GLP-1 RAs becomes influenced by cosmetic market forces, potentially exacerbating disparities if treatment availability is mediated primarily by socioeconomic status or insurance limitations. Broader analyses of incretin-based pharmacotherapy expansion highlight both transformative public health potential and the risk of unequal distribution of benefits (Brook & Singer, 2024; Maejima et al., 2024). Ensuring equitable access, adherence to evidence-based standards, and avoidance of exploitative commercialization remains critical as GLP-1–based therapies gain visibility within aesthetic practice.

Patient assessment and informed consent

Comprehensive medical assessment should be undertaken prior to initiating GLP-1 receptor agonist therapy in aesthetic settings, with particular attention to obesity status, metabolic parameters, weight trajectory, and comorbidities relevant to both pharmacologic treatment and anticipated aesthetic outcomes. Clinicians should discuss realistic expectations regarding the magnitude and tempo of weight loss, anticipated contour changes, potential need for procedural sequencing, and possible adverse effects. Pharmacologic weight management should be framed explicitly as one component of a broader, integrated aesthetic strategy (Haykal et al., 2024; Katz et al., 2024; Petrova et al., 2024; Pratley et al., 2024; Rao et al., 2022).

Screening for psychological risk factors—including body dysmorphic disorder, mood disorders, and heightened susceptibility to social media–mediated body ideals—is essential. Clear referral pathways to psychology or psychiatry services should be established when indicated. Incorporation of validated patient-reported outcome measures may facilitate longitudinal assessment of satisfaction, psychosocial well-being, and quality of life (Greve & Raulin, 2002; Tschöp et al., 2023).

Multimodal Planning and Sequencing

Individualized care plans should integrate GLP-1 RA therapy with complementary aesthetic modalities, including dermal fillers, biostimulatory agents, and energy-based devices. Determining optimal sequencing—such as initiating pharmacologic therapy followed by contouring procedures once weight stabilization is achieved—may reduce the risk of performing interventions during periods of dynamic tissue remodeling and enhance overall aesthetic outcomes (Haykal et al., 2024; Maejima et al., 2024; Tschöp et al., 2023).

Adjunct pharmacotherapies or co-agonists should be considered only within rigorous safety frameworks and with clear clinical justification. Careful attention to regulatory guidance, off-label prescribing considerations, and evolving evidence regarding dual- and triple-incretin therapies is warranted when translating metabolic advances into aesthetic contexts (Bobok, 2025; Jakubowska et al., 2024; Petrova et al., 2024; Pratley et al., 2024; Sztanek et al., 2024; Tan et al., 2022; Zhao et al., 2022).

Safety Monitoring and Adverse Event Management

Standardized monitoring protocols should address gastrointestinal intolerance, dehydration risk, hepatobiliary considerations, and rare but serious adverse events. Structured patient education materials outlining early warning symptoms and appropriate response pathways are recommended. Use of formal pharmacovigilance and adverse-event reporting systems supports continuous quality improvement and contributes to the real-world safety evidence base (Jia & Li, 2024; Petrova et al., 2024; Pratley et al., 2024; Tschöp et al., 2023).

Education, Communication, and Ethical Marketing

Transparent communication regarding the realistic aesthetic potential of GLP-1 RA therapy is critical. Clinicians should clarify the limits of pharmacologically mediated weight loss as a determinant of contour modification and avoid promissory language implying guaranteed or rapid transformation. Marketing practices should align with professional standards that prioritize patient safety, informed consent, and ethical responsibility (Petrova et al., 2024; Pratley et al., 2024).

Training and Governance

Practitioners operating within aesthetic settings should possess foundational competence in obesity pharmacotherapy, core endocrinologic principles relevant to GLP-1 receptor agonists, and procedural expertise in aesthetic interventions. Structured credentialing pathways, continuing professional development, and interdisciplinary governance frameworks are essential to maintaining consistent standards of care and mitigating preventable harm (Noor, 2023; Worley et al., 2018; Zhang & Zhang, 2025; Hu et al., 2025).

Nuanced Considerations and Potential Tensions

Evidence heterogeneity. Although GLP-1 RAs are supported by robust metabolic outcome data, evidence specific to non-diabetic individuals seeking cosmetic weight management remains comparatively limited. Clinicians should exercise caution when extrapolating from metabolic trials to purely aesthetic populations and prioritize prospective studies and real-world evidence to inform decision-making (Petrova et al., 2024; Pratley et al., 2024; Tschöp et al., 2023).

Societal expectations. Sociocultural pressure to achieve idealized body morphology may influence patient demand for GLP-1–mediated weight loss in aesthetic contexts. Balancing patient autonomy with professional responsibility requires vigilance to avoid reinforcing harmful beauty norms or enabling coercive marketing dynamics. Ethical reflection, patient education, and psychological screening remain central safeguards (Greve & Raulin, 2002; Phan & Dinh, 2023).

Long-term sustainability. While GLP-1 RA–associated weight loss is often substantial, weight regain may occur following discontinuation or inadequate lifestyle modification. Consequently, aesthetic outcomes are closely linked to sustained metabolic stabilization and body composition maintenance. Integration of lifestyle interventions, nutritional counseling, psychological support, and structured follow-up is therefore essential to preserve both medical and aesthetic benefits (Petrova et al., 2024; Pratley et al., 2024; Tschöp et al., 2023).

Discussion

The present review underscores the complex and bidirectional relationship between GLP-1 receptor agonist (GLP-1 RA) pharmacotherapy and aesthetic medicine. While the metabolic efficacy of GLP-1 RAs—including semaglutide and tirzepatide—is well established in obesity and type 2 diabetes management, their extrapolation into aesthetic contexts introduces clinical, ethical, and psychosocial dimensions that extend beyond traditional metabolic endpoints. The discussion must therefore be framed not solely in terms of weight reduction magnitude, but in relation to body composition dynamics, tissue remodeling, patient-reported outcomes, and sociocultural determinants of appearance-related care.

From a mechanistic perspective, incretin-based therapies exert their primary effects through central appetite regulation, delayed gastric emptying, and modulation of insulin–glucagon balance, resulting in negative energy balance and adipose tissue reduction, as described in metabolic literature (e.g., Tschöp et al. [29]; Petrova et al. [39]). Emerging multi-agonist constructs reviewed by Tan et al. [25], Jakubowska et al. [28], and Sztanek et al. [31] suggest even greater efficacy in weight reduction and metabolic optimization. In aesthetic medicine, however, adipose reduction must be interpreted in a region-specific and temporally dynamic manner. Subcutaneous fat loss is not uniformly distributed; facial compartments, periorbital regions, and malar fat pads may exhibit disproportionate volume depletion, potentially accelerating perceived facial aging. Thus, while systemic adiposity declines, localized aesthetic deficits may emerge, necessitating adjunctive volumization or tissue-stimulation strategies, as discussed by Haykal et al. [22].

This divergence between metabolic success and aesthetic harmony highlights an important conceptual distinction: weight loss does not inherently equate to aesthetic optimization. The rapidity of GLP-1 RA–induced weight reduction may exceed the adaptive capacity of dermal and connective tissues, contributing to skin laxity or redundancy, particularly in middle-aged or older individuals with diminished collagen elasticity. Although current literature on GLP-1–specific aesthetic sequelae remains limited, extrapolation from general rapid-weight-loss data suggests that structural dermal remodeling lags behind adipose reduction. Consequently,

multimodal planning—including biostimulatory fillers, collagen-inducing agents, or energy-based devices—may be necessary to align tissue architecture with patient expectations.

Safety considerations warrant particular scrutiny in cosmetic populations. In patients with obesity and metabolic comorbidities, the cardiometabolic risk reduction conferred by GLP-1 RAs generally outweighs treatment-related adverse effects. However, in metabolically healthy individuals seeking appearance-driven weight reduction, the acceptable risk threshold is comparatively lower. Gastrointestinal intolerance, gallbladder disease, and rare pancreatitis events (Pratley et al. [44]) must be contextualized within a benefit framework that may be predominantly aesthetic rather than life-prolonging. Furthermore, long-term exposure in non-diabetic cohorts remains insufficiently characterized, and extrapolation from diabetic populations may not fully capture differential risk–benefit profiles.

Psychosocial implications constitute another critical domain. Body image dissatisfaction is influenced by sociocultural pressures, including social media exposure (Phan and Dinh [46]), and aesthetic medicine operates within this ecosystem of normative beauty standards. The pharmacologic facilitation of weight loss may amplify pre-existing vulnerabilities in individuals with body dysmorphic disorder or maladaptive eating behaviors. Although GLP-1 RAs have shown potential neuropsychiatric effects, including possible roles in psychiatric modulation (Himmerich and McElroy [43]), their impact on self-perception and body image remains insufficiently studied. Ethical practice therefore necessitates structured psychosocial assessment and shared decision-making frameworks, as emphasized in discussions of responsible prescribing (Jia and Li [45]).

Commercialization further complicates implementation. The integration of GLP-1 RAs into aesthetic clinics risks reframing pharmacotherapy as a consumer commodity rather than a medical intervention. Regulatory analyses and professional commentaries (e.g., governance discussions referenced in [4], [5],) caution against promotional narratives that conflate therapeutic efficacy with idealized thinness. In this context, professional responsibility requires transparent communication of variability in outcomes, the potential need for long-term therapy, and the realistic limits of pharmacologically mediated contour modification.

Equity considerations also emerge prominently. Modeling analyses suggest that widespread global access to GLP-1 RAs could substantially reduce obesity-related mortality (Brook and Singer [37]). However, diversion of supply toward cosmetic indications in high-resource settings may exacerbate disparities in access for patients with medically indicated need. Thus, allocation ethics intersect directly with aesthetic deployment.

Importantly, evidence heterogeneity remains a central limitation. Most robust data derive from randomized controlled trials designed to evaluate metabolic endpoints rather than aesthetic parameters. Objective assessments of facial volumetrics, skin biomechanical properties, and long-term cosmetic satisfaction are sparse. Prospective, interdisciplinary studies incorporating imaging, validated aesthetic scales, and patient-reported outcome measures are required to delineate best practices. Additionally, the durability of aesthetic benefits following treatment discontinuation and the trajectory of weight regain demand systematic evaluation.

Collectively, the data suggest that GLP-1 RAs function as powerful modulators of body composition whose aesthetic impact is secondary, variable, and context-dependent. Their responsible integration into aesthetic medicine requires reframing weight loss as one component of holistic patient care rather than an endpoint in itself.

Conclusions

GLP-1 receptor agonists represent a major pharmacologic advancement in the treatment of obesity and metabolic disease, with secondary implications for body contour and aesthetic presentation. Their capacity to induce substantial, sustained weight reduction positions them as influential tools within contemporary aesthetic practice. However, their use in appearance-driven contexts introduces distinct clinical, psychosocial, ethical, and regulatory challenges.

The evidence supports a cautious and structured approach: (1) rigorous medical and psychological screening; (2) clear differentiation between medically indicated therapy and elective cosmetic use; (3) transparent risk–benefit communication; (4) integration with multimodal aesthetic planning; and (5) adherence to professional governance standards. Without such safeguards, the expansion of GLP-1 RA therapy into aesthetic domains risks reinforcing unrealistic body ideals, widening inequities in access, and conflating healthcare with consumer marketing.

Future research should prioritize prospective aesthetic outcome data, long-term safety in non-diabetic populations, and the psychosocial trajectory of patients treated primarily for appearance-related goals. Ultimately, GLP-1 RAs can be responsibly incorporated into aesthetic medicine when guided by patient-centered ethics, interdisciplinary collaboration, and a commitment to aligning aesthetic enhancement with overall health and well-being rather than cultural imperatives of thinness.

REFERENCES

1. Alhomoud, et al. (2024). Incretin hormone agonists: Current and emerging pharmacotherapy for obesity management. *Pharmacotherapy*.
2. Benjamin, R., & Hoff, D. (2024). The emerging role of GLP-1 receptor agonists in treating or preventing cancer. *Cancer Drug Resistance*.
3. Bobok, A. (2025). Therapeutic strategies, consequences and prospects of glucagon-like peptide-1 agonists. *International Journal of Endocrinology Ukraine*.
4. Brook, R., & Singer, P. (2024). Potential lives saved through widespread global availability of GLP-1 receptor agonists: A modeling study.
5. D'Ascanio, et al. (2023). Cagrilintide: A long-acting amylin analog for the treatment of obesity. *Cardiology in Review*.
6. Gallwitz, B. (2022). Clinical perspectives on the use of the GIP/GLP-1 receptor agonist tirzepatide for the treatment of type 2 diabetes and obesity. *Frontiers in Endocrinology*.
7. Goldenberg, et al. (2023). Glucagon-like peptide-1/glucose-dependent insulinotropic polypeptide receptor co-agonists for cardioprotection, type 2 diabetes and obesity: A review of mechanisms and clinical data. *Current Opinion in Cardiology*.
8. Greve, B., & Raulin, C. (2002). Professional errors caused by lasers and intense pulsed light technology in dermatology and aesthetic medicine: Preventive strategies and case studies. *Dermatologic Surgery, 28*(2), 156–161. https://doi.org/10.1046/j.1524-4725.2002.01087.x
9. Hassan, H., Khalil, H., Shatta, B., Magrin, A., Pereira, I., & Matin, A. (2025). The role of educational interactive virtual simulation app in aesthetic medicine and cosmetic dermatology preclinical skills. *Journal of Cosmetic Dermatology, 24*(10). https://doi.org/10.1111/jocd.70496
10. Haykal, et al. (2024). The role of GLP-1 agonists in esthetic medicine: Exploring the impact of semaglutide on body contouring and skin health. *Journal of Cosmetic Dermatology*.
11. Himmerich, H., & McElroy, S. L. (2024). Glucagon-like peptide 1 receptor agonists in psychiatry. *Journal of Clinical Psychopharmacology*.
12. Hu, Z., Yi, F., & Kong, L. (2025). Survey on continuing medical education needs of Chinese medical aesthetic doctors: A cross-sectional study based on questionnaires. *Aesthetic Surgery Journal Open Forum, 7*, ojaf055. https://doi.org/10.1093/asjof/ojaf055
13. Jakubowska, et al. (2024). The road towards triple agonists: Glucagon-like peptide 1, glucose-dependent insulinotropic polypeptide and glucagon receptor—An update. *Endocrinology and Metabolism*.
14. Jia, X., & Li, Y. (2024). Commentary: Shared decision making for weight-lowering medications in China. *Clinical and Translational Medicine*.
15. Katz, A., Oleru, O., Wang, A., Seyidova, N., Mandelbaum, M., Melamed, E., et al. (2024). Aesthetic specialization: A comparative study across medical and surgical specialties. *Plastic and Reconstructive Surgery, 155*(4), 704e–713e. https://doi.org/10.1097/prs.0000000000011793
16. Ma, et al. (2021). The therapeutic effects of glucagon-like peptide-1 receptor agonists and metformin on polycystic ovarian syndrome. *Medicine*.
17. Maejima, et al. (2024). Systemic co-administration of low-dose oxytocin and glucagon-like peptide 1 additively decreases food intake and body weight. *Neuroendocrinology*.
18. Noor, S. (2023). Regulating teaching and practice of aesthetic medicine and surgery. *Journal of Postgraduate Medical Institute, 37*(2), 89–90. https://doi.org/10.54079/jpmi.37.2.3250
19. Phan, T., & Dinh, L. (2023). Body image: A study concerning teenage social media involvement and body satisfaction. *Journal of Student Research*.
20. Petrova, et al. (2024). Systematic review of the efficacy and safety of GLP-1 receptor agonists in the treatment of patients with type 2 diabetes mellitus. *Pharmacia*.
21. Pratley, R., et al. (2024). Incretin mimetics and acute pancreatitis: Enemy or innocent bystander? *Current Opinion in Gastroenterology*.
22. Rao, P., Mukherjee, M., Wang, K., Yu, N., García, P., & Li, F. (2022). Nurturing future leaders in esthetics: Now is the time. *Facial Plastic Surgery, 40*(3), 345–347. https://doi.org/10.1055/a-1885-1018
23. Tan, et al. (2022). Recent advances in incretin-based pharmacotherapies for the treatment of obesity and diabetes. *Frontiers in Endocrinology*.
24. Tomashevskyi, V., Dihtiar, N., Chumak, L., Batiievska, T., Hnydina, O., & Malytska, O. (2022). Artistic and pedagogical competences of the fine arts teacher: An adaptation to the postmodern society. *Postmodern Openings, 13*(2), 287–302. https://doi.org/10.18662/po/13.2/454
25. Tschöp, M. H., et al. (2023). Gut hormone-based pharmacology: Novel formulations and future possibilities for metabolic disease therapy. *Diabetologia*.
26. Sztanek, et al. (2024). New developments in pharmacological treatment of obesity and type 2 diabetes—Beyond and within GLP-1 receptor agonists. *Biomedicines*.

27. Worley, B., Verma, L., & Macdonald, J. (2018). Aesthetic dermatologic surgery training in Canadian residency programs. *Journal of Cutaneous Medicine and Surgery, 23*(2), 164–173. https://doi.org/10.1177/1203475418814228
28. Wollina, U., Goldman, A., & Naoum, C. (2013). Side effects in aesthetic medicine. *Der Hautarzt, 64*(3), 155–162. https://doi.org/10.1007/s00105-012-2484-y
29. Zhang, Y., & Zhang, Y. (2025). Advancements in laser aesthetic education: Integrating theory, practice, and ethics in dermatology. *Integration of Industry and Education Journal, 4*(3), 60–65. https://doi.org/10.6914/iiej.040306
30. Zhao, et al. (2022). A GLP-1/glucagon (GCG)/CCK2 receptors tri-agonist provides new therapy for obesity and diabetes. *Bone Marrow Transplantation*.