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GLP-1s and Eating Disorders:

Potential Roles and Risks

Presented by: Bernadette Wharton-Hawthorne, MD

Agenda

- GLP-1s in the current cultural landscape
- Potential benefits: What does the evidence show?
- Potential risks: Restrictive eating and vulnerable populations
- Clinical practice: Assessing and mitigating risk

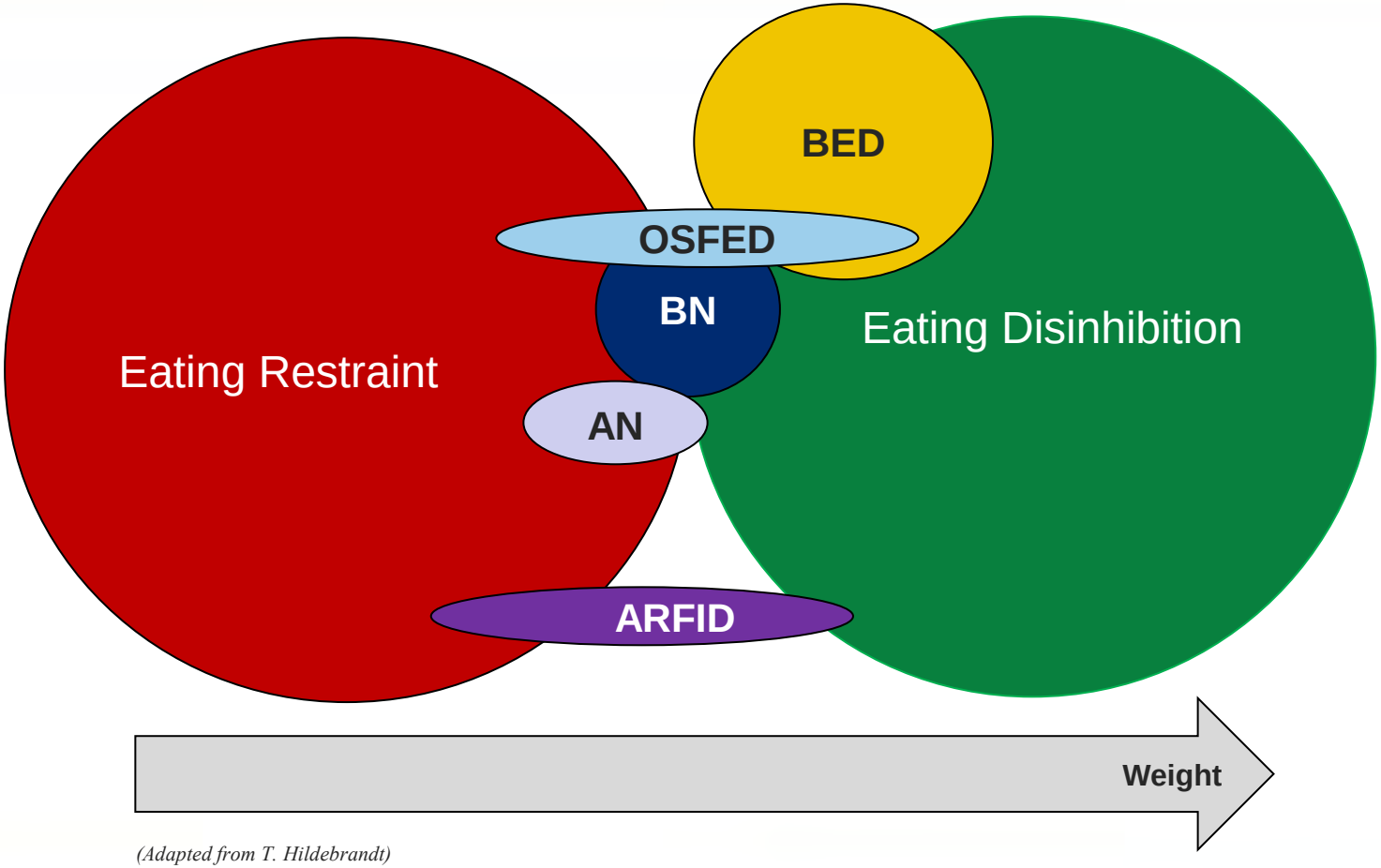
Disclosures

- None

Two patient scenarios

Patient 1	Patient 2
20, Student athlete	43F, Retail worker
History of MDD, OCD, anorexia nervosa	History of MDD, GAD, obesity
BMI 21	BMI 26
Recently weight restored, in early stages of recovery. Asks, "Could Ozempic be a safe way for me to lose weight? And quiet my food noise?"	Lost 150 lb after starting GLP-1 therapy. Experiencing increased distress related to weight/shape, with difficulty increasing intake above 1 meal/day. Afraid to stop GLP-1.

The spectrum of eating disorders



(Adapted from T. Hildebrandt)

GLP-1s are now a part of the food and diet cultural landscape



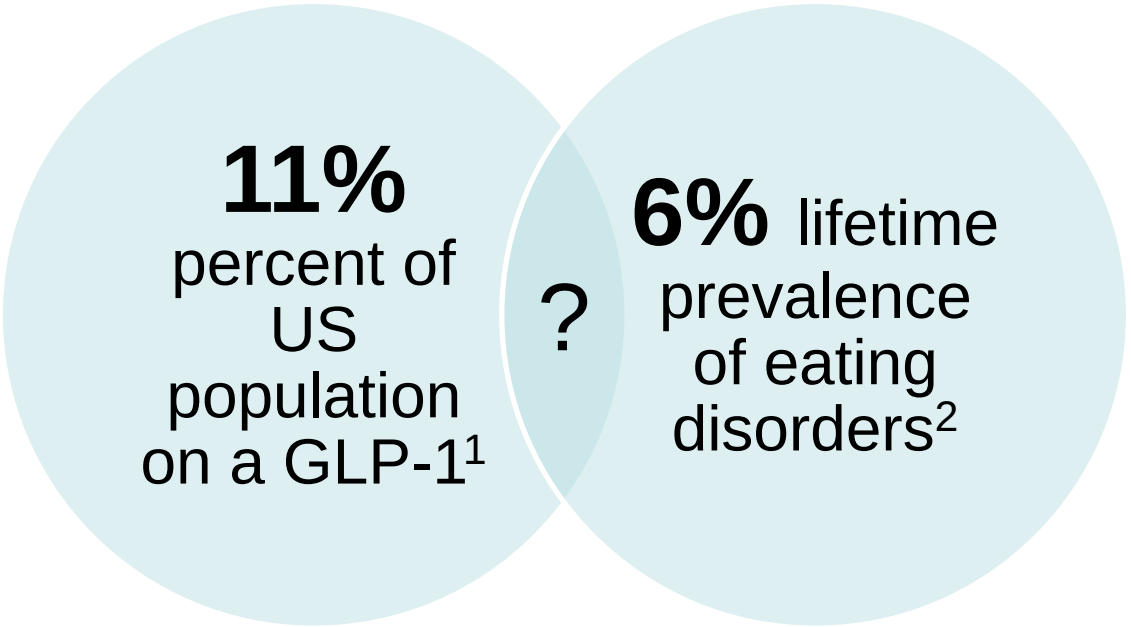








Likelihood of overlap between GLP-1 and ED populations



1. https://news.gallup.com/poll/712157/glp-usage-reaches-new-high.aspx; 2. Deloitte Access Economics. The Social and Economic Cost of Eating Disorders in the United States of America: A Report for the Strategic Training Initiative for the Prevention of Eating Disorders and the Academy for Eating Disorders. June 2020. Available at: https://www.hsph.harvard.edu/striped/report-economic-costs-of-eating-disorders/.

The Amazon Prime-ification of GLP-1s

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Traditional	Increasingly popular
Patient	TikTok, Instagram, advertising
Clinician	Telehealth platform/website
Assessment	Online questionnaire
Prescription	Prescription
Pharmacy	Home delivery



Online prescribing raises a psychiatric screening problem


JAMA

Research Letter

Online Prescribing of GLP-1 Receptor Agonists

Ashwin K. Chetty, BS[1]; Alissa S. Chen, MD, MPH, MHS[2]; Joseph S. Ross, MD, MHS[2,3,4,5]; et al

Author Affiliations | Article Information

49
Online GLP-1 prescribing websites

- **92%** Prescribed a GLP-1
- **90%** Sold compounded GLP-1s
- **69%** Mailed medication
- **55%** Asked about eating disorders
- **33%** Required meeting with a clinician

Clinical concerns

- Online prescriptions may not appear in PDMPs
- Product/source may be unclear
- Monitoring may be fragmented

Chetty AK, Chen AS, Ross JS, Ramachandran R. Online Prescribing of GLP-1 Receptor Agonists. *JAMA*. 2026;336(5):428–431. doi:10.1001/jama.2026.9131

The concern: People with eating disorders are using GLP-1s

ABC News - Breaking News, Latest News and Videos

GLP-1 weight loss drugs may be misused by patients with eating disorders: Study



GLP-1 weight loss drugs may be misused by patients with eating disorders: Study. GLP-1s significantly reduce

The Washington Post

People with eating disorders are taking GLP-1s, and doctors are alarmed



Providers said some patients with anorexia, bulimia and binge eating disorders are

Yahoo Health

GLP-1s Are Praised for Silencing Food Noise. That's Not Always a Good Thing, According to Experts



"Hearst Magazines and Yahoo may earn co
these links." Alongside the GLP-1 boom, on

2 days ago

MedPage Today

Are People With Eating Disorders Misusing GLP-1 Drugs?



Key Takeaways · Among over 400 people with eating disorders in an interim analysis of an ongoing cross-sectional study, 32.1% said they have...

Jun 24, 2026

GLP-1 use and misuse is already happening in ED populations

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JAMA Psychiatry

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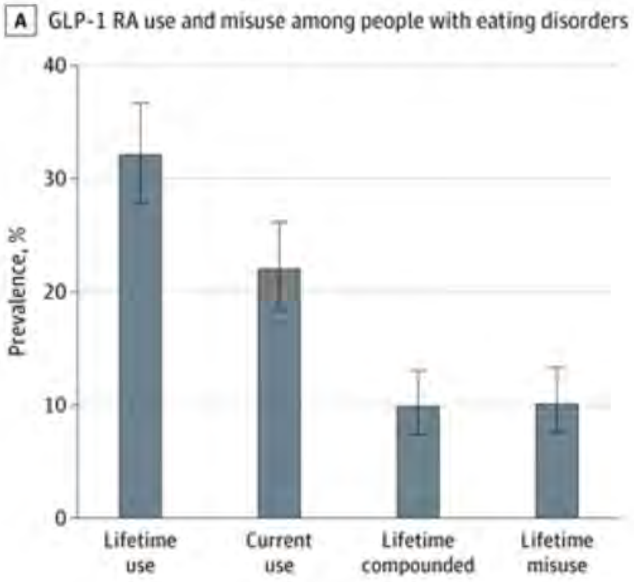
Research Letter

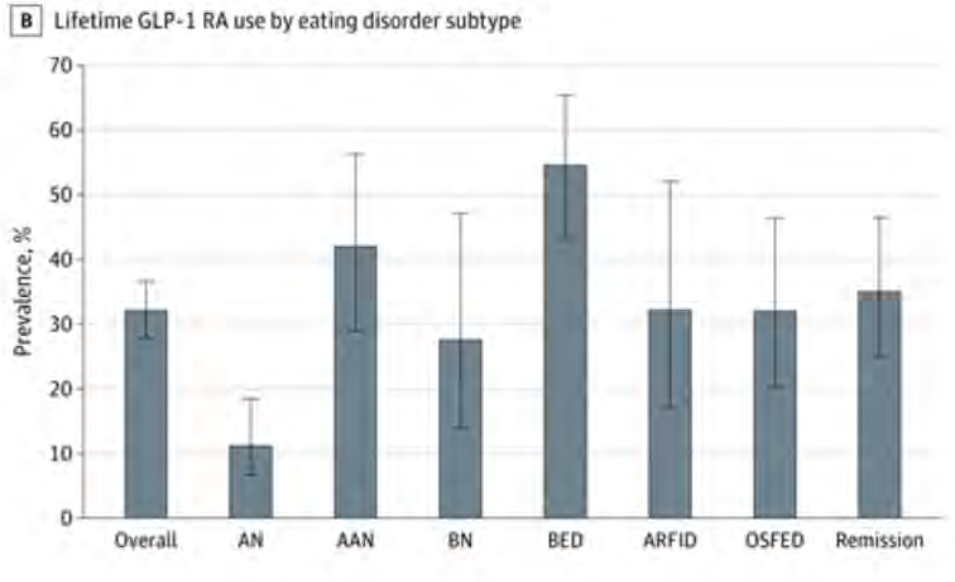
Use and Misuse of GLP-1 Receptor Agonists Among People With Eating Disorders

Nicholas C. Peiper, PhD, MPH[1]; Jon E. Zibbell, PhD[2]; Andrew S. LaJoie, PhD[3]; et al

Peiper et al., 2026—N=436 adults with eating disorders

Cross sectional, nonprobability sample approach, self-report





The central paradox

The same pharmacology can point in opposite clinical directions

GLP-1 effects

↓ hunger
↑ satiety
↓ food reward
↓ food intake

BED

Potentially helpful

↓ binge vulnerability
↓ cravings
↓ loss-of-control eating

Restrictive ED

Potentially harmful

↓ nutritional intake
↑ restriction
↑ weight-loss reinforcement

Does modification of eating behavior represent recovery- or psychopathology?

Primary questions that will be addressed

1. **Can GLP-1s help?**
   Evidence in binge eating disorder
2. **Could GLP-1s harm?**
   Evidence gaps in restrictive eating disorders
3. **How should we practice?**
   Screening, prescribing, and monitoring

Why might GLP-1s help binge eating?

Peripheral
- Increased satiety
- Delayed gastric emptying
- Decreased intestinal motility

Central
- Changes to hunger signaling
- Changes to food-reward signaling
- Craving

Behavioral
- Reduced food intake
- Decreased intake of palatable foods
- Reduced emotional eating

What does the BED literature actually look like?

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Radkhah et al., 2025. Systematic review & meta-analysis, 5 studies, 182 patients

First author, year	Type of study	Intervention/control	Number for intervention/control	Duration of intervention	Weight change (Kg)	BMI change (Kg/m2)	WC change (cm)	BES score change
Allison et al. 2023	Randomized double-blind controlled trial	Liraglutide (3 mg)	(*n* = 13/7 completed)	17 weeks	−4.7 ± 2.88	−1.3 ± 1.44	−4 ± 3.97	NR
		Placebo	(*n* = 14/7 completed)		−0.9 ± 2.62	−0.3 ± 1.49	−1.2 ± 3.67	NR
Richard et al. 2023	Open-label retrospective cohort study	Semaglutide	*n* = 19	Average of change in 180 days	−10.2 ± 6.48	NR	NR	−14 ± 8.2
		alternative anti-obesity medications but not receiving semaglutide	*n* = 16		−13.2 [20.1, −23.54–67.1]	NR	NR	−5.9 ± 9.1
Lanius et al. 2022	Abstract, trial	Metformin and liraglutide 1.8 mg daily -12 weeks	*n* = 8	12 weeks	−4.3 ± 1.3	NR	NR	NR
		Metformin and SGLT-2 inhibitors	*n* = 10		−1.7 ± 0.8	NR	NR	NR
Robert et al. 2015	Randomized, prospective, controlled trial	Liraglutide 1.8 mg daily, exercise and diet	*n* = 21	12 weeks	−4.4 ± 8.59	−1.75 ± 2.12	−3.71 ± 6.2	−10.44 ± 3.19
		Exercise and diet	*n* = 21		−0.76 ± 7.11	−0.76 ± 2.36	−0.25 ± 2.36	−6.15 ± 3.55
Da Porto et al. 2020	Pilot open-label, prospective controlled study	Dulaglutide	*n* = 30	12 weeks	−4.53 ± 2.17	−1.65 ± 0.81	NR	−11.93 ± 7.11
		Gliclazide	*n* = 30		0.49 ± 1.91	0.1 ± 0.77	NR	0.3 ± 3.23

GLP-1s significantly associated with:

- ↓ **BMI**
- ↓ **Waist circ.**
- ↓ **BES scores**

The RCT: weight loss effect clearer than binge-eating efficacy

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Allison et al., 2023: 17 week, double-blind, randomized, placebo controlled, N=27

Characteristic	Placebo (*N* = 14) Mean ± SE	Liraglutide 3.0 mg (*N* = 13) Mean ± SE	Mean difference (95% CI)	*p*
Objective binge episodes per week[a]	−2.5 ± 0.5	−4.0 ± 0.6	1.2 (−1.3, 2.0)	0.37
CGII	1.9 ± 0.3	1.5 ± 0.3	0.4 (−0.4, 1.2)	0.30
Body weight (kg)	−0.9 ± 0.7	−4.7 ± 0.8	3.7 (1.4, 6.0)	0.003
Percent change in weight	−0.9 ± 0.9	−5.1 ± 1.0	4.2 (1.4, 7.1)	0.005
BMI (kg/m^2)	−0.3 ± 0.4	−1.3 ± 0.4	1.0 (−0.2, 2.2)	0.10
Waist circumference (cm)	−1.2 ± 0.9	−4.0 ± 1.1	2.8 (−0.1, 5.8)	0.06
Depression (PHQ-9)	−3.4 ± 1.0	−3.7 ± 1.1	0.3 (−2.7, 3.4)	0.83
Quality of life (Q-LES-Q-General)	5.1 ± 2.9	4.5 ± 3.3	0.6 (−8.4, 9.7)	0.89
Eating inventory				
Cognitive restraint	1.9 ± 1.0	3.0 ± 1.0	1.2 (−1.8, 4.1)	0.38
Disinhibition	−1.6 ± 0.7	−2.6 ± 0.8	1.0 (−1.0, 2.9)	0.25
Hunger	−2.1 ± 1.0	−2.7 ± 1.0	0.6 (−2.3, 3.4)	0.58

Allison KC, Chao AM, Bruzas MB, et al. *A pilot randomized controlled trial of liraglutide 3.0 mg for binge eating disorder*. *Obes Sci Pract*. 2023; 9(2): 127-136. https://doi.org/10.1002/osp4.619

The RCT: No difference in BE remission rates between groups

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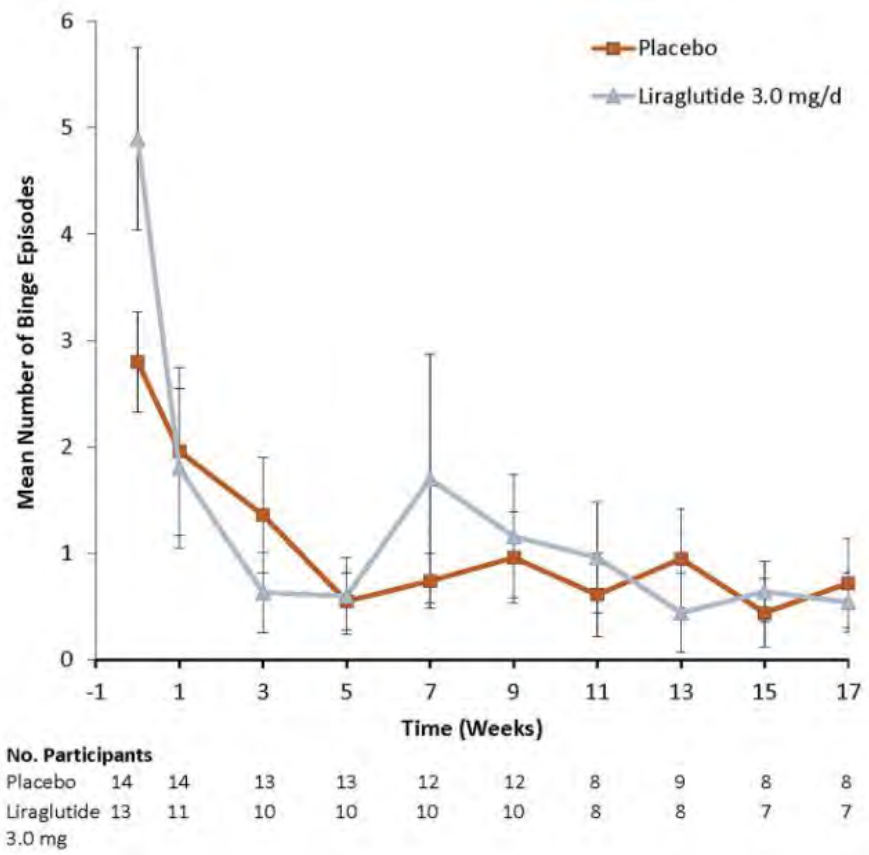
Allison et al., 2023: 17 week, double-blind, randomized, placebo controlled, N=27



Allison KC, Chao AM, Bruzas MB, et al. *A pilot randomized controlled trial of liraglutide 3.0 mg for binge eating disorder*. *Obes Sci Pract*. 2023; 9(2): 127-136. https://doi.org/10.1002/osp4.619

Semaglutide: a promising signal in binge eating symptoms

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Successful treatment of binge eating disorder with the GLP-1 agonist semaglutide: A retrospective cohort study

Jesse Richards [a,*], Neha Bang [a], Erin L. Ratliff [b], Maria A. Paszkowiak [a], Zhamak Khorgami [a], Sahib S. Khalsa [c], W. Kyle Simmons [b,d]

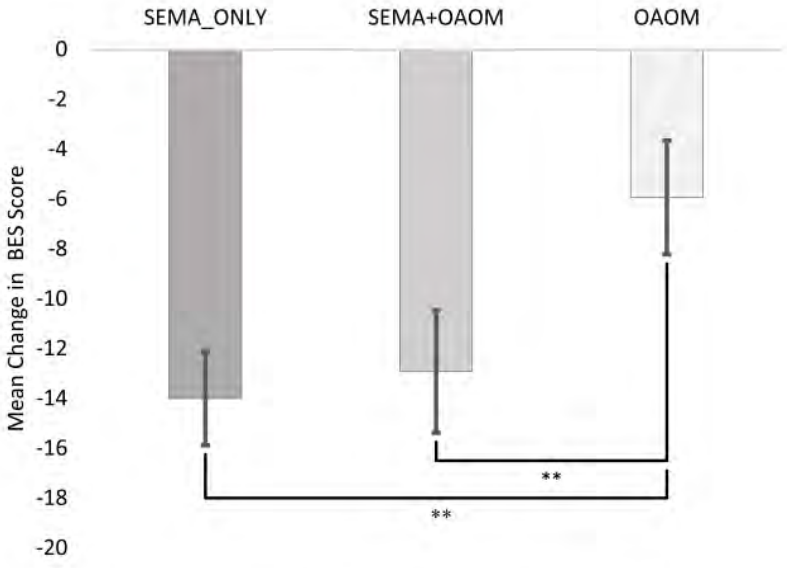

Fig. 1. Mean change in BES score for patients with moderate or severe initial BES scores treated with semaglutide only (SEMA_ONLY, n = 19), a combination of semaglutide and other anti-obesity medications (SEMA + OAOM, n = 13), and other anti-obesity medications only (OAOM, n = 16). n = 48. $^{**}p < .01$. Error bars = standard error of the mean.

N=48

Finding:
Greater improvement in binge eating scores with semaglutide

Limitations:
- Retrospective
- Not randomized
- No placebo control

Richards J, Bang N, Ratliff EL, Paszkowiak MA, Khorgami Z, Khalsa SS, et al. Successful treatment of binge eating disorder with the GLP-1 agonist semaglutide: a retrospective cohort study. Obes Pillars. 2023;7:100080. https://doi.org/10.1016/j.obpill.2023.100080.

Weight loss ≠ eating disorder recovery

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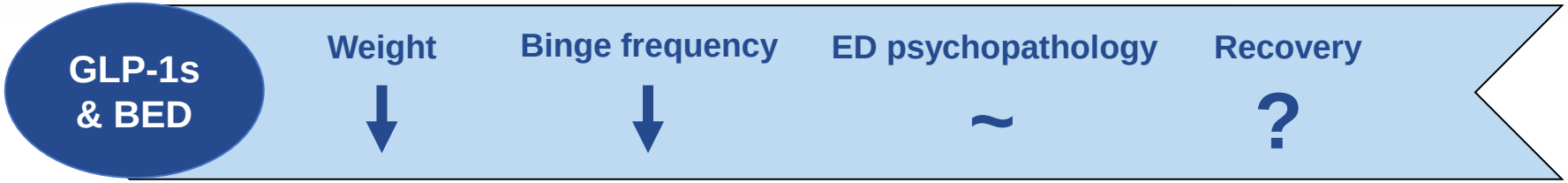

TABLE 3 | Impact of incretin therapy on eating disorder symptomatology domains.

Psychopathology domains associated with BED	Studies measuring domain	Direction of change	Consistency across trials
Depression	Pierret 2025, Gong 2024, Allison 2023 [25, 26, 28]	Improved ↓	High
Anxiety	Pierret 2025, Gong 2024 [26, 28]	Improved ↓	Moderate
Emotional eating	Jensterle 2015, Chao 2019, Nicolau 2022, Masaki 2022 [20, 21, 23, 24]	Improved ↓	High
Uncontrolled eating/disinhibition	Jensterle 2015, Chao 2019, Apperley 2025 [20, 21, 29]	Improved ↓	High
Cognitive restraint	Chao 2019, Jensterle 2015 [20, 21]	Slight Improvement ↓	Mixed
Stress/emotional regulation	Gong 2024 [28]	Improved ↓	Low

↓Indicates decrease in symptoms.

White, R.T., Henriquez, P., Innocent, B., Bullers, K. and Elmaoued, A. (2026), Incretin-Based Therapies for the Treatment of Binge Eating—A Systematic Review. Pharmacotherapy, 46: e70135. https://doi.org/10.1002/phar.70135

Who has actually been studied?

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Typical study profile



- Higher BMI
- BED/binge eating predominant
- Small sample sizes
- Adults
- Short follow-up
- Limited psychiatric symptoms

Major gaps



- Restrictive EDs
- Bulimia nervosa
- Adolescents
- ED remission
- Long-term effects
- Misuse

Restrictive EDs: Why the risk is theoretically different

Diet-related weight loss/restriction is a known risk factor and reinforcer of EDs



GLP-1 use

- ↓ Hunger
- ↓ Eating
- ↓ Weight

Potential pathway



ED reinforcement loop

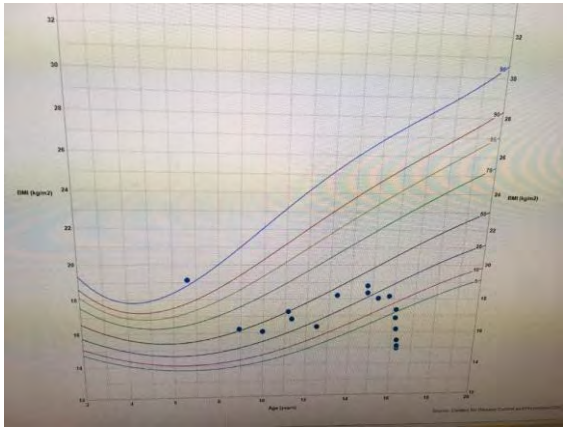
- ↑ Restriction
- ↑ Desire for further weight loss
- ↑ Weight/shape concern

Atypical anorexia nervosa a particularly vulnerable population

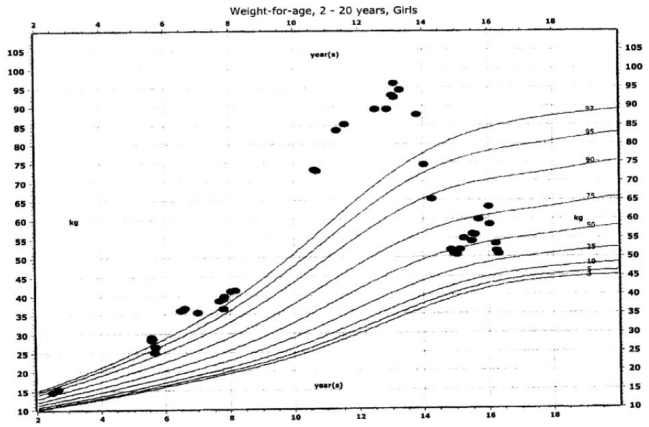
Atypical anorexia nervosa (AAN)

- Meet DSM-5 criteria for anorexia nervosa *but* are not significantly underweight
- Exhibit rapid, significant weight loss through restriction
- Similar medical complications as AN

AN

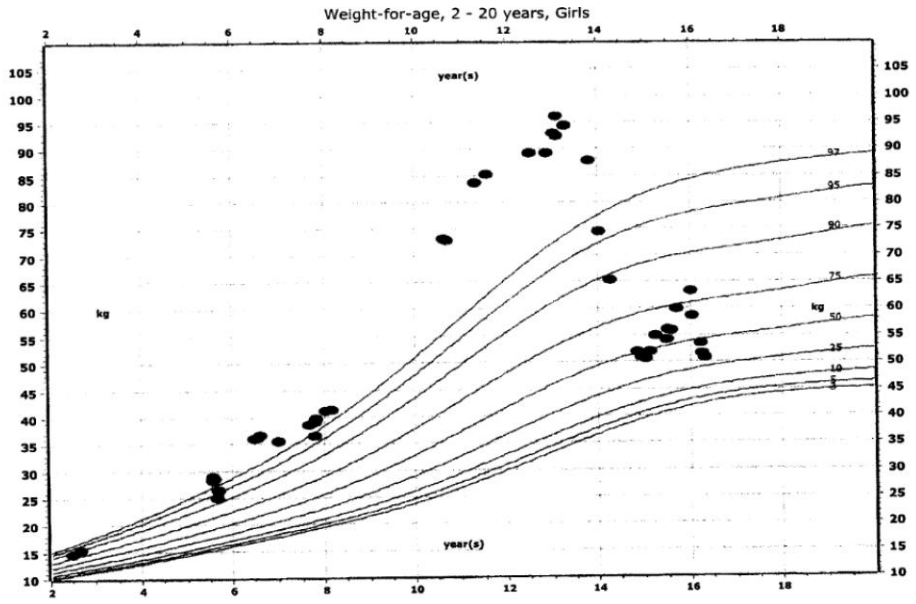


AAN



Atypical weight loss may look like a "healthy" treatment response





AAN and GLP-1s in the media

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WSJ WSJ

They Used GLP-1s to Lose Weight. They Ended Up in Treatment for Anorexia.



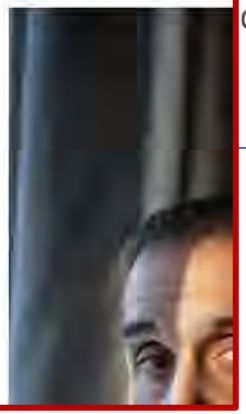
The miracle drugs helping A
triggering disordered eating

Internal dialogue and an anorexia diagnosis

For Krynicki, meals have become a source of internal conflict, and he knows he ought to eat more and regain muscle.

"I've lost hair," he says, and sometimes he feels light-headed because his blood-sugar falls too low. But, he says, "I still go on the scale like every other day."

He's struggling with an anorexia diagnosis, yet he fears quitting his monthly shots. "I'm afraid that if I come off of it, I'm going to go back to that 267-pound person that had all the medical issues, hated his life and everything about myself."



r safety



Ozempic

npr

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HEALTH

GLP-1
for pe

FEBRUARY 4, 2026 · 4:45 AM ET

What the literature shows: GLP-1s and restrictive EDs

Report	GLP-1	Weight lost	ED effect	Clinical consequence
Liekens et al., 2025	Semaglutide	20 kg over 6mos	AAN, restriction, excessive exercise, fear of weight gain	Hospitalization, bradycardia, pericardial effusion
Guerdjikova et al., 2025	Tirzepatide	37 kg in 14mos	Relapse of AN	Hospitalization, bradycardia
Guerdjikova et al., 2024	Semaglutide	>20 kg in 9mos	Exacerbation of AAN, worsening restriction, laxative misuse	Psychiatric hospitalization, refused treatment for AAN
Saito et al., 2026	Semaglutide, Tirzepatide	63 kg over 3yrs	New AAN diagnosis, intense fear of weight gain and body image obsession	Hospitalization, edema
Yasui-Furukori et al., 2026	Tirzepatide	6 kg in 2mos (BMI 17 to 15)	Worsened AN-BP	Hospitalization, starvation ketosis

What we still don't know



- Did GLP-1 use precede ED worsening?
- Did the ED drive GLP-1 use?
- Which ED phenotypes are most at risk?
- Does family history of an ED put someone on a GLP-1 at risk of developing an ED?
- Does GLP-1 use maintain ED symptoms?
- What happens after discontinuation?

Bulimia nervosa: plausible pathways in both directions

Potential benefits	Potential concerns
• Decreased appetite • Decreased craving • Decreased binge episodes	• Increased restriction (compensatory behavior) • GI side effects enabling purging o Increased nausea/vomiting • Continued or worsening weight/shape concerns

Important questions for ARFID

ARFID may already involve:

- Decreased appetite
- Early satiety
- Decreased food intake
- Restricted food variety
- Fear of aversive consequences

Can patients with ARFID reliably meet nutritional needs if appetite is pharmacologically suppressed?

A practical GLP-1 + ED assessment: Beyond yes/no ED question

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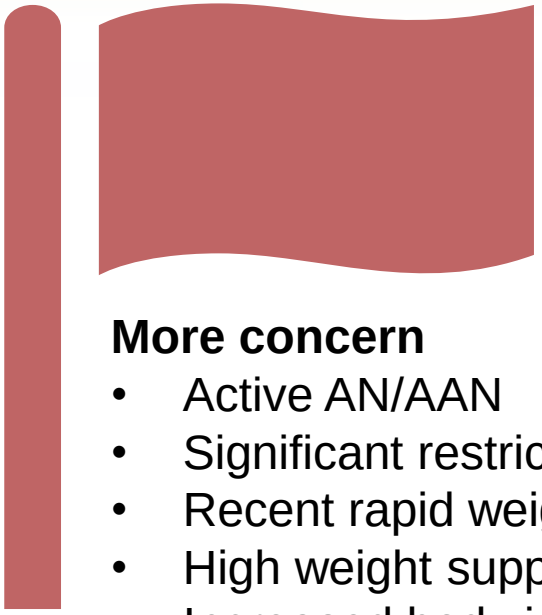
ED Behaviors	ED Cognitions	Nutritional adequacy	Weight trajectory	Motivations
• Restriction • Bingeing • Purging • Excessive exercise • Laxatives • Diet pills	• Fear of weight gain • Body checking • Weight/shape preoccupations • Loss of control	• Typical intake • Meal frequency • Hydration • Micronutrient risk	• Recent loss • Rate of loss • Highest weight • Lowest weight • Weight suppression • Desired weight	"Why do you want this medication?"

Flag for concern



More concern

- Active AN/AAN
- Significant restriction
- Recent rapid weight loss
- High weight suppression
- Increased body image preoccupation
- Laxative misuse



Less concern

- Binge eating + metabolic indication
- Adequate nutritional intake
- Stable ED psychopathology
- Active ED treatment/monitoring

Monitor the eating disorder- not just the weight

ED Behaviors	ED Cognitions	Nutritional adequacy	Weight trajectory	Motivations
• Intentional meal skipping • Taking higher doses than prescribed	• Intensifying fear of weight gain despite being at a healthy weight • Growing preoccupation with calories or weight/shape	• Consistently eating below nutritional needs (e.g. <800-1000 kcal/day)	• Unexpected trajectory • Continued loss beyond initial treatment goal	Is the medication still serving its intended goal?

Consider a multi-disciplinary approach in patients with risk factors

- CBT is an effective treatment for eating disorders
- Consider adjunctive psychotherapy for vulnerable populations who are taking GLP-1s
- Consult or refer to an eating disorder specialist when concerned
  - Psychiatrist, therapist, dietician



Back to our patients

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Patient 1

21F, Student athlete

- Did not prescribe GLP-1
- Remains weight restored, in active treatment

Established outpatient. Recently weight restored, in early stages of recovery. Asks, "Could Ozempic be a safe way for me to lose weight? And quiet my food noise?"

Patient 2

41F, Retail worker

- Diagnosed with new atypical anorexia nervosa
- Referred to PHP

New patient eval. Lost 150 lb after starting GLP-1 therapy. Experiencing increased distress related to weight/shape, desires further weight loss, difficulty increasing intake above 1 meal/day.

Take home points

1. **GLP-1 use and misuse is already occurring in ED populations**

Can GLP-1s help?

2. **GLP-1s may reduce bingeing- but evidence of improvement in BED is minimal**

Can GLP-1s harm?

3. **Evidence in restrictive EDs is sparse- but concerning case reports exist**

How should we practice?

4. **BMI alone is an inadequate screen for ED risk**

5. **Monitor the eating disorder- not just the weight**

References

- 1. Allison KC, Chao AM, Bruzas MB, et al. A pilot randomized controlled trial of liraglutide 3.0 mg for binge eating disorder. *Obes Sci Pract*. 2023;9(2):127–136. doi: 10.1002/osp4.619 .
- 2. Barrett P, Papastavrou Brooks C, McCluskey S, Brown A. A scoping review on weight loss injections and eating disorders: therapeutic impact, risks of misuse, and emerging harms. *J Eat Disord*. 2026;14(1):194. doi: 10.1186/s40337-026-01634-6 .
- 3. Chetty AK, Chen AS, Ross JS, Ramachandran R. Online Prescribing of GLP-1 Receptor Agonists. *JAMA*. 2026;336(5):428–431. doi: 10.1001/jama.2026.9131 .
- 4. Deloitte Access Economics. The Social and Economic Cost of Eating Disorders in the United States of America: A report for the Strategic Training Initiative for the Prevention of Eating Disorders and the Academy of Eating Disorders. 2020.
- 5. Guerdjikova AI, Dlugosz H, Wolterman R, McElroy SL. Relapse in Anorexia Nervosa Associated With Tirzepatide: A Case Report. *J Clin Psychopharmacol*. 2025;45(3):287–288. doi: 10.1097/JCP.0000000000001975 .
- 6. Guerdjikova AI, Ward A, Ontiveros M, McElroy SL. Semaglutide Misuse in Atypical Anorexia Nervosa-A Case Report. *J Clin Psychopharmacol*. 2024;44(2):179–180. doi: 10.1097/JCP.0000000000001820 .
- 7. Leziak A, Kochman K, Kocełak P. The dual role of GLP-1 receptor agonists in weight management and eating disorders: Potential benefits and risks. *Journal of Psychiatric Research*. 2026;197:243–249. doi: 10.1016/j.jpsychires.2026.03.008 .
- 8. Liekens L, Kaïret K, Elst EF. Semaglutide-associated worsening of atypical anorexia nervosa in an adolescent girl: case report. *BJPsych open*. 2025;12(1):e2. doi: 10.1192/bjo.2025.10909 .
- 9. Peiper NC, Zibbell JE, LaJoie AS, Wahlang B, Krishnasamy SS, Levinson CA. Use and Misuse of GLP-1 Receptor Agonists Among People With Eating Disorders. *JAMA Psychiatry*. 2026;83(8):880–882. doi: 10.1001/jamapsychiatry.2026.1716 .
- 10. Radkhah H, Rahimipour Anaraki S, Parhizkar Roudsari P, et al. The impact of glucagon-like peptide-1 (GLP-1) agonists in the treatment of eating disorders: a systematic review and meta-analysis. *Eat Weight Disord*. 2025;30(1):10. doi: 10.1007/s40519-025-01720-9 .
- 11. Richards J, Bang N, Ratliff EL, et al. Successful treatment of binge eating disorder with the GLP-1 agonist semaglutide: A retrospective cohort study. *Obesity Pillars*. 2023;710.1016/j.obpill.2023.100080 .
- 12. Saito C, Saito M, Nakagawa M, et al. Atypical Anorexia Nervosa Developed in a Patient with Severe Obesity and Type 2 Diabetes Following Sleeve Gastrectomy and Postoperative Treatment with Semaglutide and Tirzepatide. *Intern Med*. 2026. doi: 10.2169/internalmedicine.7502-26 .
- 13. White RT, Henriquez P, Innocent B, Bullers K, Elmaoued A. Incretin-Based Therapies for the Treatment of Binge Eating—A Systematic Review. *Pharmacotherapy*. 2026;46(5)10.1002/phar.70135 .
- 14. Yasui-Furukori N, Tasaki K, Kaiga Y, Aso Y. Starvation ketosis following self-administered tirzepatide obtained via online services in a young woman later diagnosed with anorexia nervosa: a case report. *J Eat Disord*. 2026. doi: 10.1186/s40337-026-01666-y .

Questions?

Case report: Semaglutide and atypical anorexia

Semaglutide–associated worsening of atypical anorexia nervosa in an adolescent girl: case report

Lisa Liekens [1 2], Koen Kaïret [2], Elisabeth F Elst [2]

- Adolescent female, BMI 24.6
- History of restriction and increased exercise
- Desired weight loss, had distorted body image, struggled to eat
- Semaglutide prescribed for perceived weight concerns
- Lost 20 kg over 6 months to BMI 18.2
- Hospital admission for bradycardia (38 bpm) and pericardial effusion
- After discharge, experienced panic attack and SI after gaining 1 kg

Liekens L, Kaïret K, Elst EF. Semaglutide-associated worsening of atypical anorexia nervosa in an adolescent girl: case report. BJPsych Open. 2025 Dec 1;12(1):e2. doi: 10.1192/bjo.2025.10909. PMID: 41320187; PMCID: PMC12835689.

Case report: Anorexia relapse with GLP-1 use

Relapse in Anorexia Nervosa Associated With Tirzepatide: A Case Report

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- 23 year old female
- Anorexia nervosa- restricting type in high school
- After college, gained weight to BMI >30, developed diabetes
- Prescribed tirzepatide by PCP
- Endorsed significant progression of food restriction & excessive exercise while injecting
- Lost 37 kg in 14 months while prescribed
- Continued injecting GLP-1 after PCP formally discontinued it
- Continued to experience weight loss, food & exercise preoccupation after stopping GLP-1
  - Focused on eating <800 kcal/day
- Inpatient admission at BMI 17.5, with bradycardia