

Many Patients Maintain Weight Loss a Year After Stopping Semaglutide and Liraglutide

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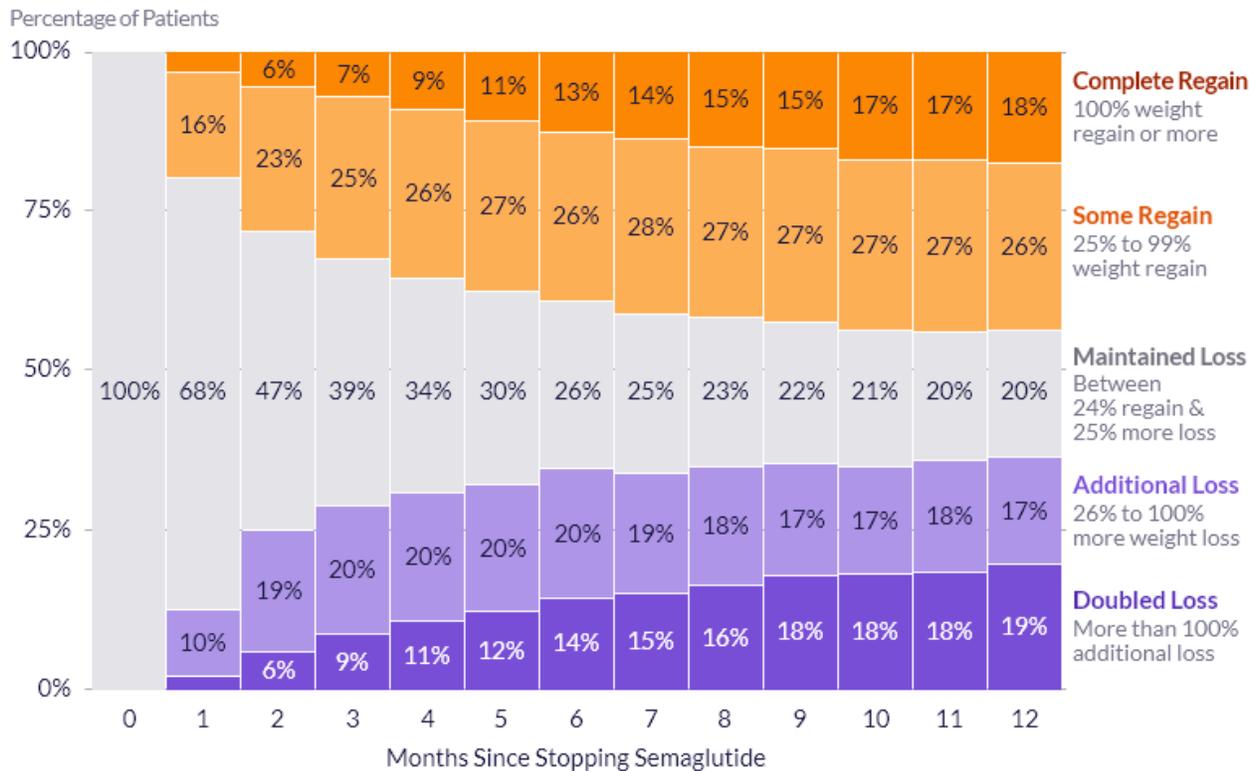
Key Findings:

- More than half of patients are able to maintain weight loss achieved while on semaglutide or liraglutide even a year after discontinuing the medication.
- However, a portion of patients who stop taking either medication experience weight regain, with 18.7% of liraglutide users and 17.7% of semaglutide users regaining all the weight they had lost or more.

In a previous study, we demonstrated that patients using the recommended weight loss dose of semaglutide for 60 weeks achieved weight loss of 8-11% of their initial body weight.¹ However, clinical trials have shown weight gain after discontinuation of semaglutide.^{2,3} Because of this, we aimed to further investigate the effects on weight after discontinuing semaglutide or liraglutide.

We studied 20,274 patients who were prescribed semaglutide and successfully lost at least five pounds while on the medication. We aimed to assess their weight change one year after discontinuation. We found that 17.7% of these patients regained all the weight they had lost or even exceeded their initial weight. However, a majority (56.2%) of patients either remained around the same weight they were at when stopping the medication or continued to lose additional weight.

Proportion of Patients by Weight Change After Stopping Semaglutide



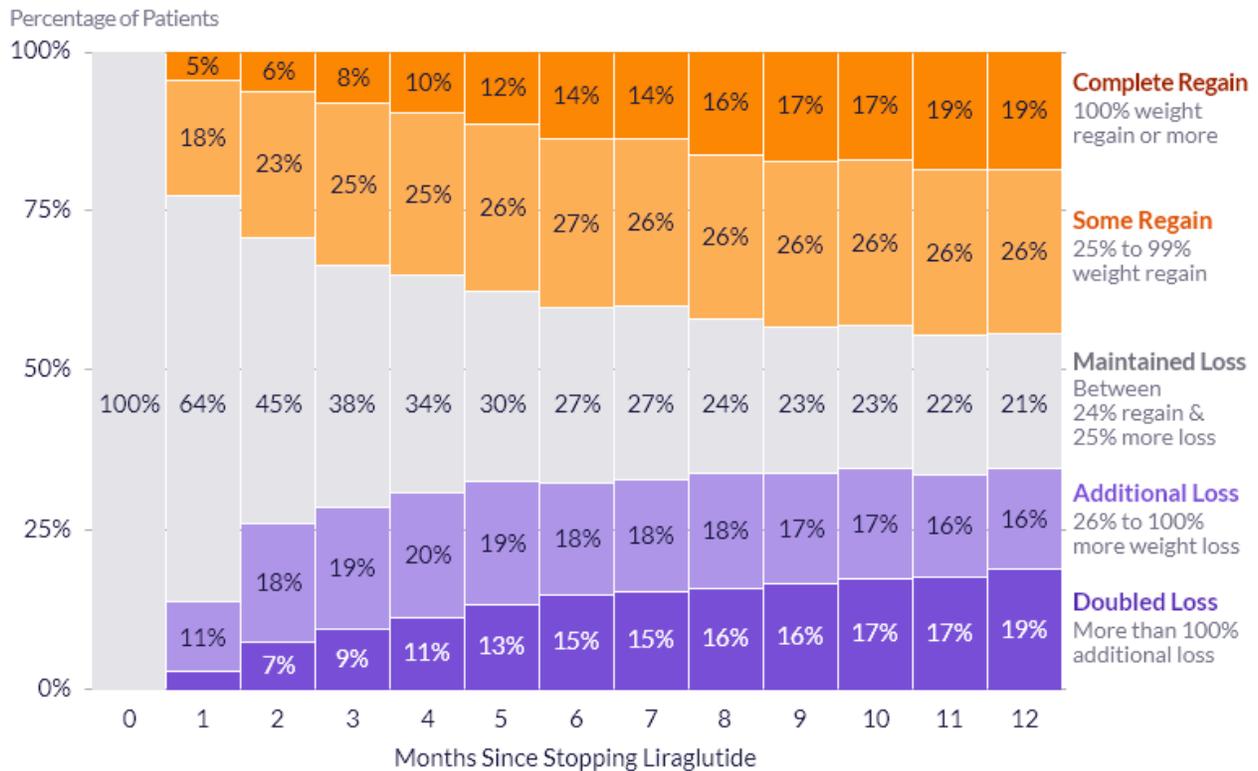
N=20,274 patients

"Proportion of Patients by Weight Change After Stopping Semaglutide," 2024. EpicResearch.org

Figure 1. The proportion of patients by amount of weight regained or lost after stopping semaglutide.

Similarly, we studied 17,733 patients prescribed liraglutide who achieved a weight loss of at least five pounds while on the medication. Among this group, 18.7% experienced complete weight regain or surpassed their initial weight. However, 55.7% of these patients either remained around the weight they were at when stopping the medication or continued to lose additional weight.

Proportion of Patients by Weight Change After Stopping Liraglutide



N=17,733 patients

"Proportion of Patients by Weight Change After Stopping Liraglutide," 2024. EpicResearch.org

Figure 2. The proportion of patients by amount of weight regained or lost after stopping liraglutide.

These data come from Cosmos, a collaboration of 236 Epic health systems representing more than 227 million patient records from 1,301 hospitals and more than 28,600 clinics from all 50 states and Lebanon. This study was completed by two teams that worked independently, each composed of a clinician and research scientists. The two teams came to similar conclusions. Graphics by Brian Olson.

References

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2. Wilding, John P..H., et al. "Weight regain and cardiometabolic effects after withdrawal of semaglutide: The STEP 1 trial extension." Diabetes, Obesity, and Metabolism, vol. 24, no. 8, Pharmacology and Therapeutics, August 2022, pp. 1553-1564. <https://doi.org/10.1111/dom.14725>.
3. Rubino, Domenica, et al. "Effect of Continued Weekly Subcutaneous Semaglutide vs Placebo on Weight Loss Maintenance in Adults with Overweight or Obesity." JAMA. 2021;325(14):1414-1425. doi:10.1001/jama.2021.3224. <https://jamanetwork.com/journals/jama/article-abstract/2777886>.

Data Definitions

Term	Definition
Study period	Study population prescribed a GLP-1 agonist drug with an estimated end of treatment date between 1/1/2017 and 1/1/2023.
Study population	Patients must have:

	<ul style="list-style-type: none"> • A continuous GLP-1 agonist order for at least 90 days. • No GLP-1 agonist order in the year following cessation of treatment. • A pre-treatment weight as well as two more readings in the year prior to the start of treatment that vary by no more than 5% of the average of those readings. • A post-treatment weight. • Lost at least 5 pounds during their GLP-1 agonist drug treatment.
Pre-treatment weight	Patient weight recorded within the 365 days prior to and 3 days following start of GLP-1 agonist drugs .
Post-treatment weight	Patient weight recorded within 30 days following the estimated end of treatment .
Estimated end of treatment	Calculated the date following the last end date of GLP-1 agonist drug represented by the end date calculated based on the number of refills as (refills + 1) * 28 after the treatment start date.
GLP-1 agonist drugs	Drugs must have the corresponding dosage: Liraglutide: 0.6mg, 1.2mg, 1.8mg, 2.4mg Semaglutide (injection): 0.25mg, 0.5mg, 1mg, 2mg, 1.7mg, 2.4mg

Figure 1: Proportion of Patients by Weight Change After Stopping Semaglutide

Months	Patients	(-,-100%)		[-100%,-25%)		[-25%,25%)		[25%,100%)		[100%,+)	
		Count	Rate (%)	Count	Rate (%)	Count	Rate (%)	Count	Rate (%)	Count	Rate (%)
0	20,274	0	0	0	0	20,274	100	0	0	0	0
1	9,252	193	2.09	969	10.47	6,265	67.72	1,518	16.41	307	3.32
2	7,947	463	5.83	1,517	19.09	3,729	46.92	1,797	22.61	441	5.55
3	7,789	669	8.59	1,568	20.13	3,016	38.72	1,986	25.49	550	7.06
4	9,124	979	10.73	1,823	19.98	3,082	33.78	2,411	26.42	829	9.09
5	7,735	937	12.11	1,545	19.97	2,349	30.37	2,058	26.61	846	10.94
6	7,320	1,047	14.30	1,476	20.16	1,933	26.41	1,938	26.48	926	12.65
7	8,580	1,297	15.12	1,600	18.65	2,141	24.95	2,371	27.63	1,171	13.65
8	7,615	1,242	16.31	1,405	18.45	1,783	23.41	2,045	26.85	1,140	14.97
9	7,162	1,281	17.89	1,248	17.43	1,586	22.14	1,954	27.28	1,093	15.26
10	7,582	1,366	18.02	1,275	16.82	1,625	21.43	2,033	26.81	1,283	16.92
11	7,380	1,343	18.20	1,312	17.78	1,482	20.08	1,985	26.90	1,258	17.05
12	7,116	1,386	19.48	1,204	16.92	1,411	19.83	1,858	26.11	1,257	17.66

Figure 2: Proportion of Patients by Weight Change After Stopping Liraglutide

Months	Patients	(-,-100%)		[-100%,-25%)		[-25%,25%)		[25%,100%)		[100%,+)	
		Count	Rate (%)	Count	Rate (%)	Count	Rate (%)	Count	Rate (%)	Count	Rate (%)
0	17,733	0	0	0	0	17,733	100	0	0	0	0
1	8,515	223	2.62	927	10.89	5,421	63.66	1,550	18.20	394	4.63
2	7,421	547	7.37	1,371	18.47	3,334	44.93	1,698	22.88	471	6.35

3	6,930	643	9.28	1,330	19.19	2,629	37.94	1,754	25.31	574	8.28
4	7,779	867	11.15	1,524	19.59	2,653	34.10	1,972	25.35	763	9.81
5	6,603	873	13.22	1,263	19.13	1,974	29.90	1,727	26.15	766	11.60
6	6,434	942	14.64	1,127	17.52	1,765	27.43	1,708	26.55	892	13.86
7	7,296	1,114	15.27	1,282	17.57	1,976	27.08	1,913	26.22	1,011	13.86
8	6,425	1,007	15.67	1,162	18.09	1,556	24.22	1,652	25.71	1,048	16.31
9	6,163	1,012	16.42	1,064	17.26	1,410	22.88	1,610	26.12	1,067	17.31
10	6,431	1,113	17.31	1,102	17.14	1,450	22.55	1,658	25.78	1,108	17.23
11	6,249	1,090	17.44	1,000	16.00	1,371	21.94	1,622	25.96	1,166	18.66
12	6,026	1,125	18.67	954	15.83	1,276	21.17	1,546	25.66	1,125	18.67