

# Critically Appraised Topic: Weight Gain Following Discontinuation of Semaglutide in Nondiabetic Patients

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## Keywords

weight loss • semaglutide • weight gain • cessation

## Clinical Question

Should weight gain be expected following cessation of semaglutide treatment in obese, nondiabetic patients?

**Patient/Population:** (n=1961) Nondiabetic and BMI  $\geq 30$  or BMI  $\geq 27$  &  $\geq 1$  weight-related comorbidities

**Intervention:** Lifestyle interventions + Semaglutide 2.4 mg SQ once weekly for 68 weeks (including 16 weeks of dose escalation) followed by an additional year of monitoring following discontinuation of semaglutide and lifestyle interventions.

**Comparison:** Lifestyle interventions + Placebo SQ injections for 68 weeks followed by an additional year of monitoring following discontinuation of lifestyle interventions and placebo injections.

**Outcome:** Weight gain, cardiometabolic variables (blood pressure, cholesterol, CRP, HgbA1C)

**Type of study:** Randomized Control Trial

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doi: 10.3998/mjm.7687

Conflicts of interest: None of the authors has any conflicts of interest to disclose.

## Evidence Summary

As Wilding et al have reported,<sup>1</sup> from weeks 0–68, mean weight loss was 17.3% (SD 9.3%) in the treatment group and 2% (SD 6.1%) in the control group. One year following treatment cessation, patients in the treatment group regained 11.6% (SD 7.7) of their original body weight resulting in a net loss of 5.6% (SD 8.9%) and the control group had a net loss of 0.1% (SD: 5.8%) of original body weight. Cardiometabolic metrics including blood pressure, cholesterol levels, and HgbA1C were shown to improve during weeks 0–68 in the treatment group but reverted towards baseline at week 120 for most variables.

## Clinical Bottom Line

The literature describes semaglutide as an effective treatment option for weight loss in nondiabetic patients which was further demonstrated by the results of this study. In addition to weight loss, improvements in cardiometabolic markers also improve with concurrent semaglutide and lifestyle modifications. However, these improvements seem to largely be erased at one-year following cessation. Patients should be counseled that weight gain is to be expected following discontinuation of semaglutide and shared-decision making should be employed when deciding to discontinue or maintain semaglutide use.

## Reference

1. **Wilding JPH, Batterham RL, Davies M**, et al. Weight regain and cardiometabolic effects after withdrawal of semaglutide: The STEP 1 trial extension. *Diabetes Obes Metab.* 2022;24(8):1553–1564. doi:10.1111/dom.14725.

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ISSN 2470-9727