IFSO 2026 · TORONTO · RAPID FIRE

Artificial Intelligence to Predict Weight Loss After Gastric Bypass

Personalized 10-year weight-loss prediction and patient follow-up

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Disclosure

Nothing to declare

The author has no financial or commercial conflicts of interest.

Background & Aim

1. **Gastric bypass (RYGB) is highly effective —** but weight regain and follow-up are lifelong challenges.

2. **Patients want to know their long-term future,** not just the first year after surgery.

3. **Yet most prediction tools stop at 1–5 years.** 10-year prediction is rarely found in the literature.

Our gap: *a personalized, long-term view the patient can actually follow.*

AIM

1 Predict weight loss up to
10 years after gastric bypass.

2 Give patients a personalized
follow-up experience over time.

Even the largest ML tools predict only ~5 years: SOPHIA (Lancet Digit Health 2023) · Seyssel et al. (Obes Surg 2018).

Methods

1.344

patients · RYGB · 2010–2020

1

DESIGN

Retrospective cohort

10 years of data

2

SURGERY

Roux-en-Y gastric bypass

adults with obesity

3

MODEL

9 ML models tested

consistent results

4

HORIZONS

14 time points

1 month → 10 years

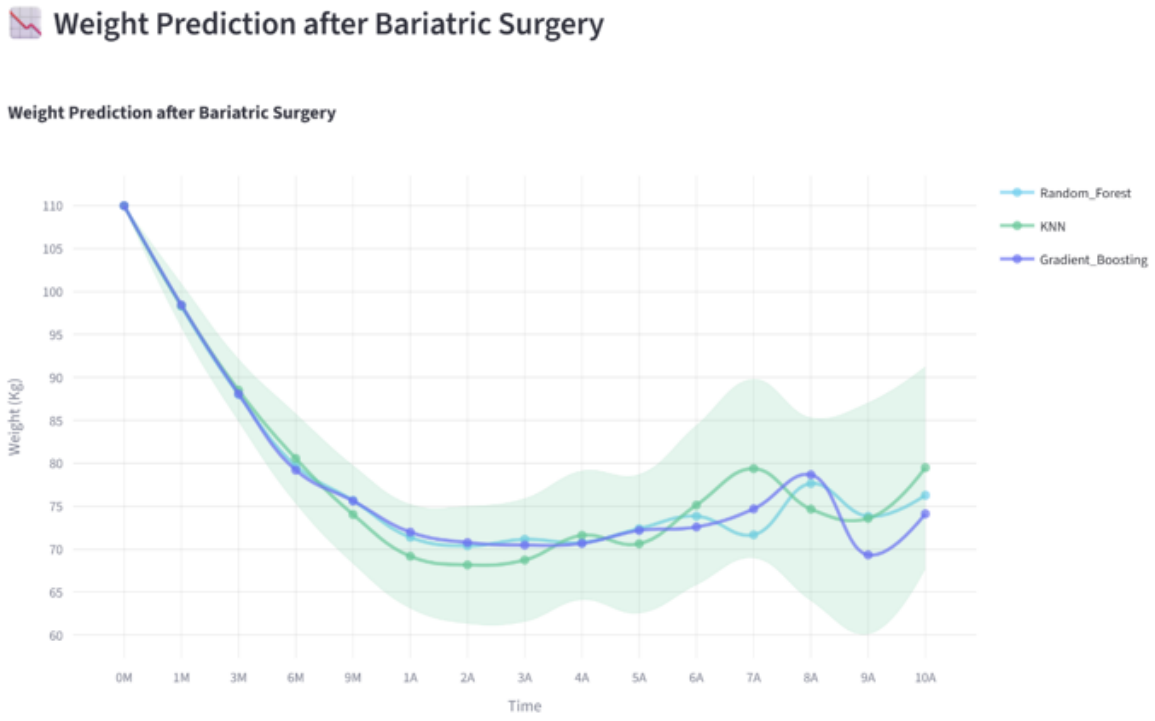
INPUTS

Age | **Sex** | **Height** | **Weight**

Approved by the Research Ethics Committee (opinion 7.920.039/2025 · CAAE 92973025.3.0000.0269)

The app: follow-up in the patient's hand

From model output to daily routine — what the patient sees and logs



1. **10-year prediction on the home screen**
   estimated %TWL, lowest predicted weight and maintenance over 10 years

2. **Logs current weight**
   the avatar shows whether they are on their personalized curve, with feedback

3. **BMI and %TWL curves**
   the patient's real progress next to the predicted trajectory

4. **Habits section**
   vitamins, water, protein, activity, dumping and hypoglycemia

5. **Photos and PDF report**
   visual weight-loss timeline and monthly report

Conclusion

1

A rare 10-year view

Long-term prediction seldom seen in the literature.

2

Personalized to each patient

Their own trajectory, from four simple inputs.

3

Continuous follow-up

The app engages and motivates between visits.

NEXT STEPS external multicenter validation · publication of this work

Thank you!

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