

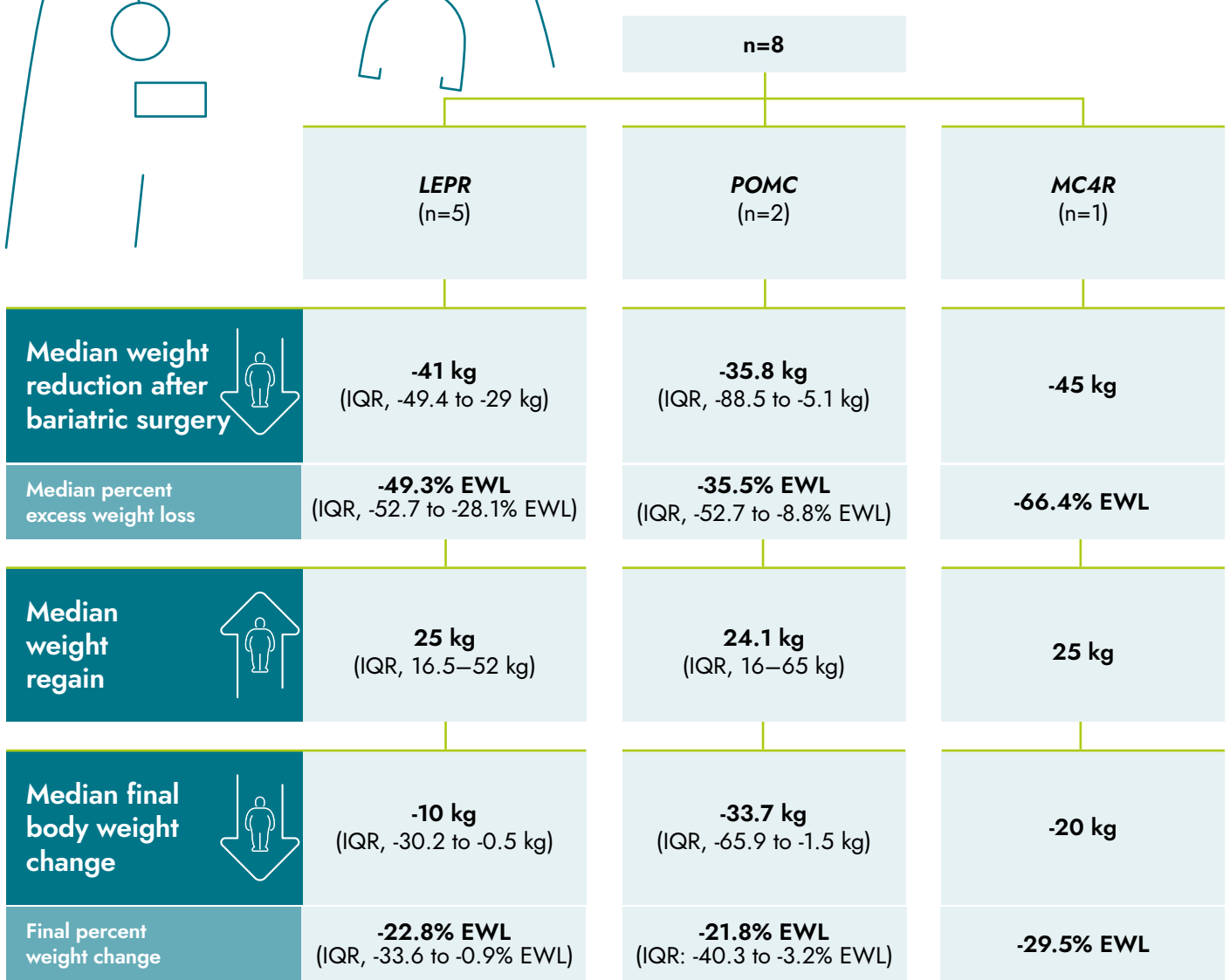
Long-term outcomes of bariatric surgery in patients with bi-allelic mutations in the *POMC*, *LEPR*, and *MC4R* genes

Poitou C, et al. *Surg Obes Relat Dis.* 2021;17:1449–56.



Aim To retrospectively analyze the efficacy of bariatric surgery and its long-term outcomes in patients with genetic obesity.

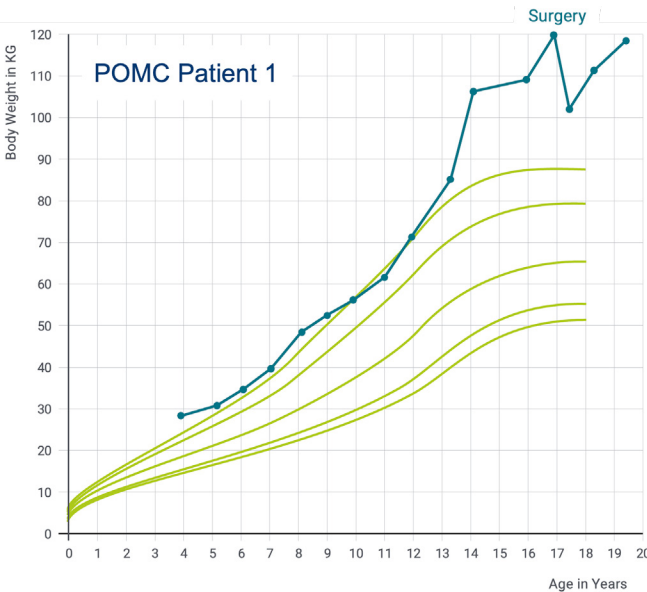
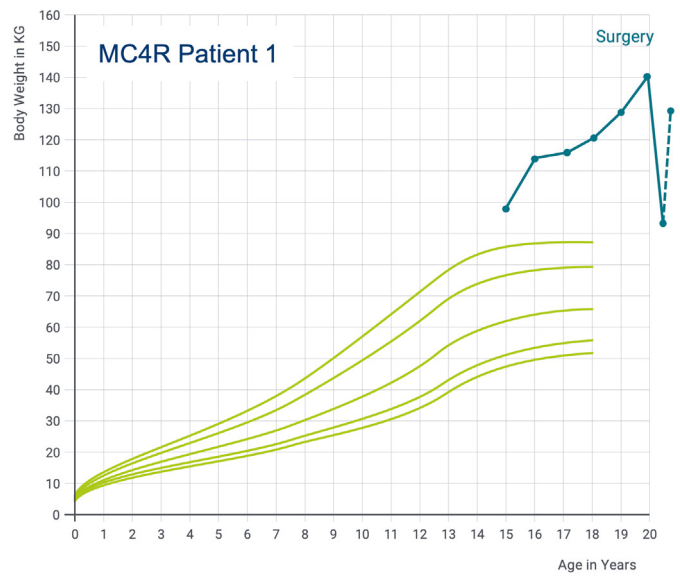
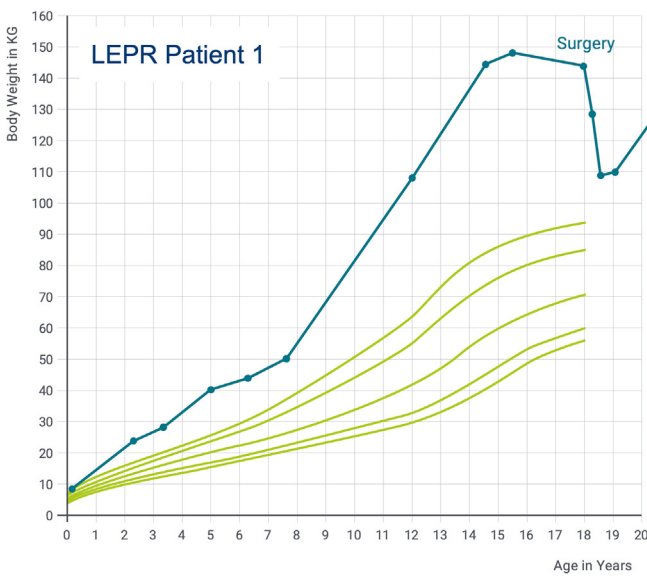
Patient population Patients with monogenic forms of obesity with bi-allelic variants in the genes *LEPR*, *POMC*, and *MC4R* who had undergone bariatric surgery at three major academic specialised medical centres.



EWL, excess weight loss; IQR, interquartile range; LEPR, leptin receptor; MC4R, melanocortin-4 receptor; POMC, proopiomelanocortin.

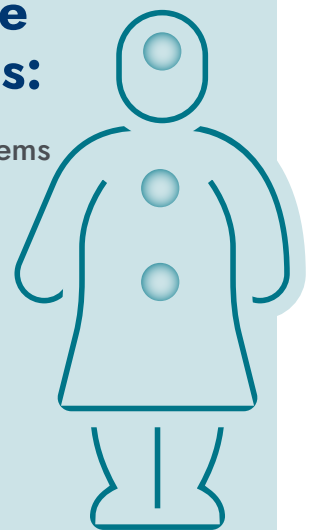
Weight course of select individual patients with monogenic obesity before and after surgery*

All patients initially experienced weight loss after each bariatric surgery, which was followed by substantial weight regain**



Postoperative complications:

- Psychological problems (depression, binge-eating disorder)
- Abdominal wall hernia and chronic infection of the abdominal wall
- Recurrent iron, vitamin D, and B6 deficiencies



LEPR, leptin receptor; MC4R, melanocortin-4 receptor; POMC, proopiomelanocortin.

*Individual weight course graphical data was not available for all patients.

**All patients in this study experienced substantial weight regain following surgery, with all patients still morbidly obese (median BMI of 44.3 kg/m²).

Conclusions

- Patients with monogenic obesity exhibit significant variability in weight loss after bariatric surgery, likely due to inadequate control of the underlying hyperphagia, leading to weight regain.

- To avoid an unsuccessful operation, preoperative genetic testing of patients with a history of early onset obesity may be required.

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