Aspects of Exercise before or after bariatric surgery: a systematic review

Sjaak Pouwels, MD; Marjon Wit MSc; Joep A.W. Teijink, MD, PhD; Simon W. Nienhuijs, MD, PhD

Introduction
Bariatric surgery has a considerable effect on weight loss. A positive relationship between exercise and weight loss has been described before. However, the mode of exercise and its timing pre- or postoperatively or a combination remains unclear.

Methods
A multi-database search was conducted. Identified articles were reviewed on description of exercise, timing around bariatric surgery, and outcome. Methodological quality was rated using the Physiotherapy Evidence Database scale. A Cohen’s kappa score assessed the level of agreement. Outcome measures were improvement of anthropometric and physical fitness variables, operation related complications, weight regain, and quality of life

Results

Exercise before surgery
- Significant improvement of anthropometric variables
- Significant improvement of cardiovascular risk factors and inflammation
- Significant improvement of physical fitness and functional capacity

Exercise after surgery
- Significant improvement of anthropometric variables
- No significant changes in cardiovascular risk and inflammation
- Significant increase in fatty-acid oxidation
- Prevention of a decrease in muscle strength by an exercise program

Conclusion
In the majority of reports on exercising in a (future) bariatric population, positive effects on anthropometrics, cardiovascular risk factors and physical fitness were described.

However, the results were not unanimous, with a wide range of exercise programs and perioperative timing, therefore hampering adequate practical guidance.