

Clear liquids may be continued up until 2-4 hours before general anesthesia.

Class (Strength) of Recommendation	Class IIb (Weak)
Level (Quality) of Evidence	Level C-LD (Limited Data)

Preoperative carbohydrate loading may be considered before surgery.

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### Main Points

- Prolonged preoperative fasting may contribute to postoperative insulin resistance.
- Maintenance of a clear liquid diet up until 2-4 hours before surgery is an important component in non-cardiac ERAS protocols.
- Provision of a carbohydrate drink has been shown to reduce insulin resistance and tissue glycosylation- improving postoperative glucose control, enhancing return of gut function, and reducing length of stay.
- A small study in cardiac surgery patients found that near-complete gastric emptying occurred 2-hours following an oral carbohydrate drink.
- The risk-benefit profile of oral carbohydrate load has not been sufficiently studied in cardiac surgical patients to warrant more than a weak recommendation at this time.

### Key References

1. Noblett SE, Watson DS, Huong H, Davison B, Hainsworth PJ, Horgan AF. Pre-operative oral carbohydrate loading in colorectal surgery: a randomized controlled trial. Colorectal disease : the official journal of the Association of Coloproctology of Great Britain and Ireland. 2006;8:563-569.
2. Ljungqvist O. Modulating postoperative insulin resistance by preoperative carbohydrate loading. Best practice & research. Clinical anaesthesiology. 2009;23:401-409.

3. Nygren J, Thorell A, Jacobsson H, et al. Preoperative gastric emptying. Effects of anxiety and oral carbohydrate administration. *Annals of surgery*. 1995;222:728-734.
4. Nygren J, Thorell A, Ljungqvist O. Preoperative oral carbohydrate therapy. *Current opinion in anaesthesiology*. 2015;28:364-369.
5. Smith MD, McCall J, Plank L, Herbison GP, Soop M, Nygren J. Preoperative carbohydrate treatment for enhancing recovery after elective surgery. *Cochrane database of systematic reviews*. 2014:CD009161.
6. Jarvela K, Maaranen P, Sisto T. Pre-operative oral carbohydrate treatment before coronary artery bypass surgery. *Acta anaesthesiologica Scandinavica*. 2008;52:793-797.

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