

PREOPERATIVE COMPLEX CARBOHYDRATE DRINKS

Can the use of complex carbohydrate-rich drinks before surgery improve outcomes in adult surgery patients at the MUHC?

Background

- Enhanced Recovery After Surgery (ERAS) guidelines since 2012 support clear carbohydrate drinks up to 2 hours before surgery.
- Current MUHC practice varies:
 - Montreal General Hospital: Complex carbohydrates (e.g., maltodextrin)
 - Royal Victoria Hospital: Simple carbohydrates (clear juice)
- Evaluation question:** What is the impact of preoperative complex carbohydrate drinks vs. simple carbohydrates on clinical outcomes for patients needing general anesthesia?



Methods

We meta-analyzed three randomized controlled trials (165 patients) and conducted a budget impact analysis.

	Population	Adult patients requiring surgery under general anesthesia
	Intervention	Preoperative complex carbohydrate drinks (e.g. maltodextrin)
	Comparator	Preoperative simple carbohydrate drinks (e.g. no-pulp juice)
	Outcomes	Gastric emptying; Insulin sensitivity; Post-op complications; Patient well being

Results: Evidence Summary



Clinical Effectiveness and Safety



Insulin sensitivity index: No clinically meaningful effect (Mean difference: 0.5 mg/kg/min (95% CI:-2.1 to 3.1) **Moderate certainty**



Residual gastric volume: No clinically meaningful effect (Mean difference: 1.05 mL (95% CI -3.61 to 5.71) **Low certainty**



Budget Impact



Modest annual increase of \$76,100 that covers product and nursing costs to educate patients about preoperative complex carbohydrate drinks

Recommendation: Not Approved

This recommendation was based on:

- Current evidence on insulin sensitivity and residual gastric volume is **insufficient** to support MUHC-wide standardization of complex carbohydrate drinks. Further well-designed research studies are needed.

▪ No evidence of benefit over clear liquids

▪ Modest budget impact

Against

Favour