

Preventing Surgical Site Infections

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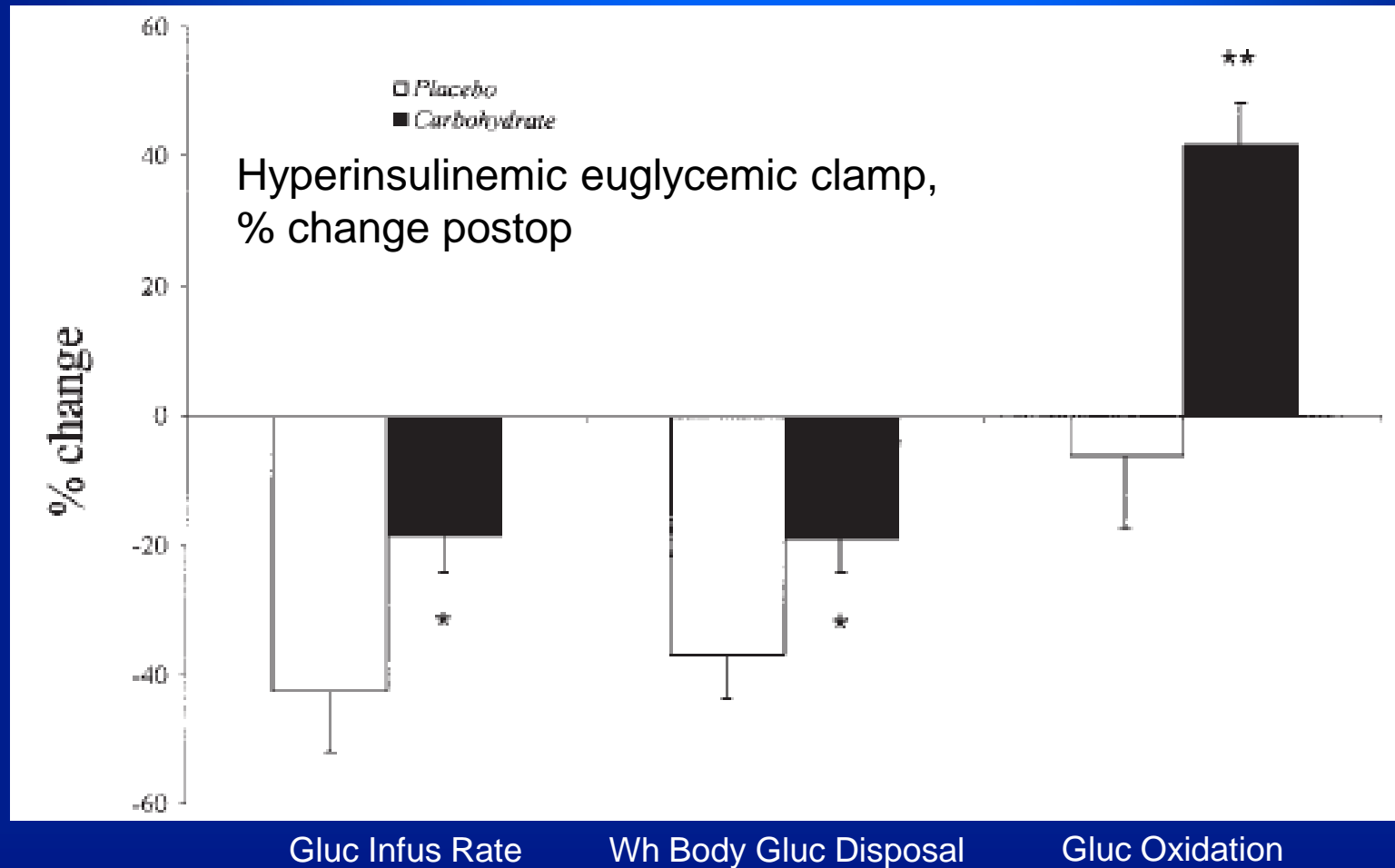
Glucose Control and Pre-Operative Carbohydrate Loading

E. Patchen Dellinger, MD
University of Washington

**Can we do anything before
the operation to reduce the
risk of hyperglycemia
and its associated
complications?**

PreOp CHO and Insulin Resistance

800 mL evening, 400 mL 2 h Preop

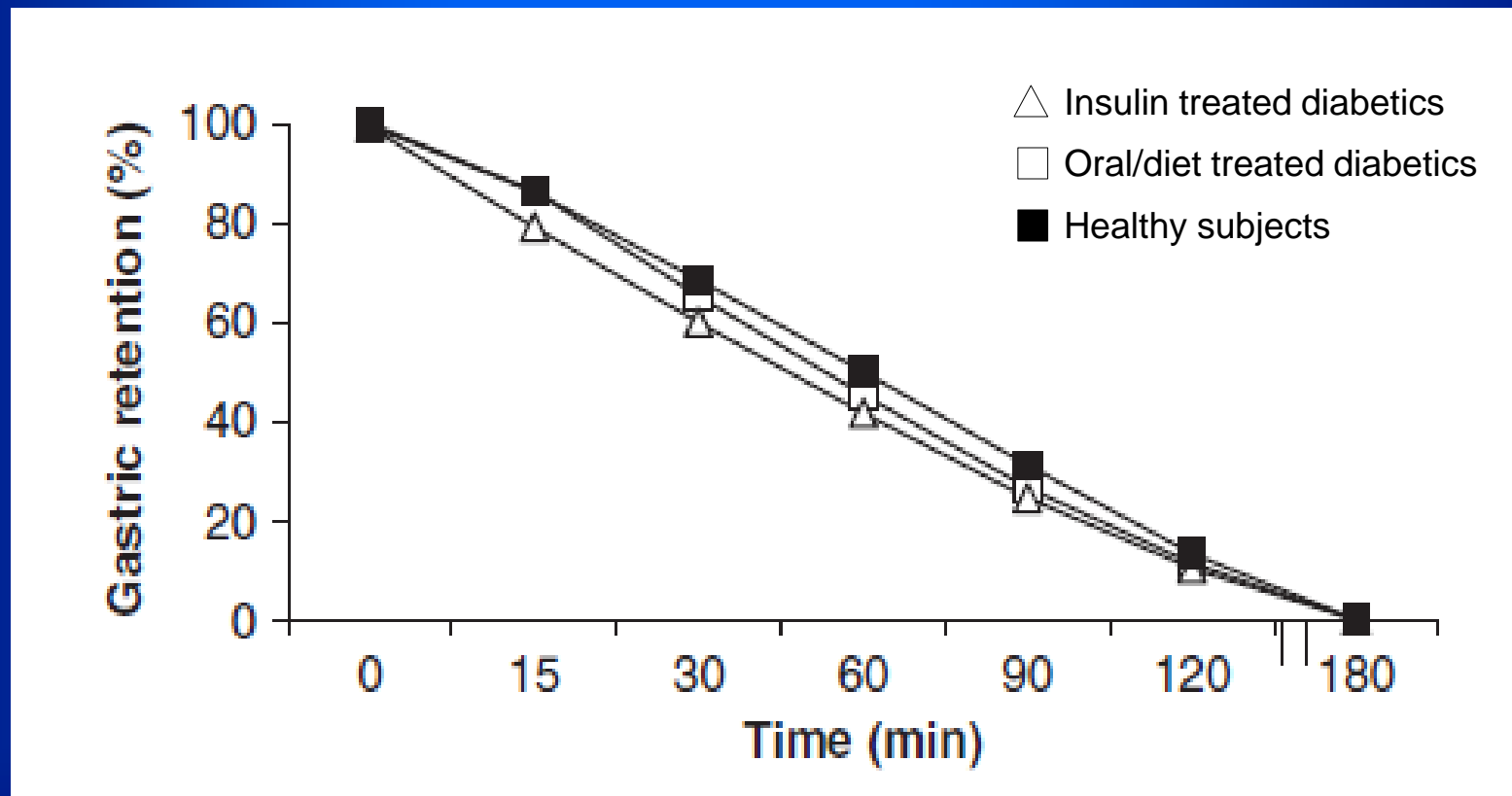


PreOp CHO and Insulin Resistance

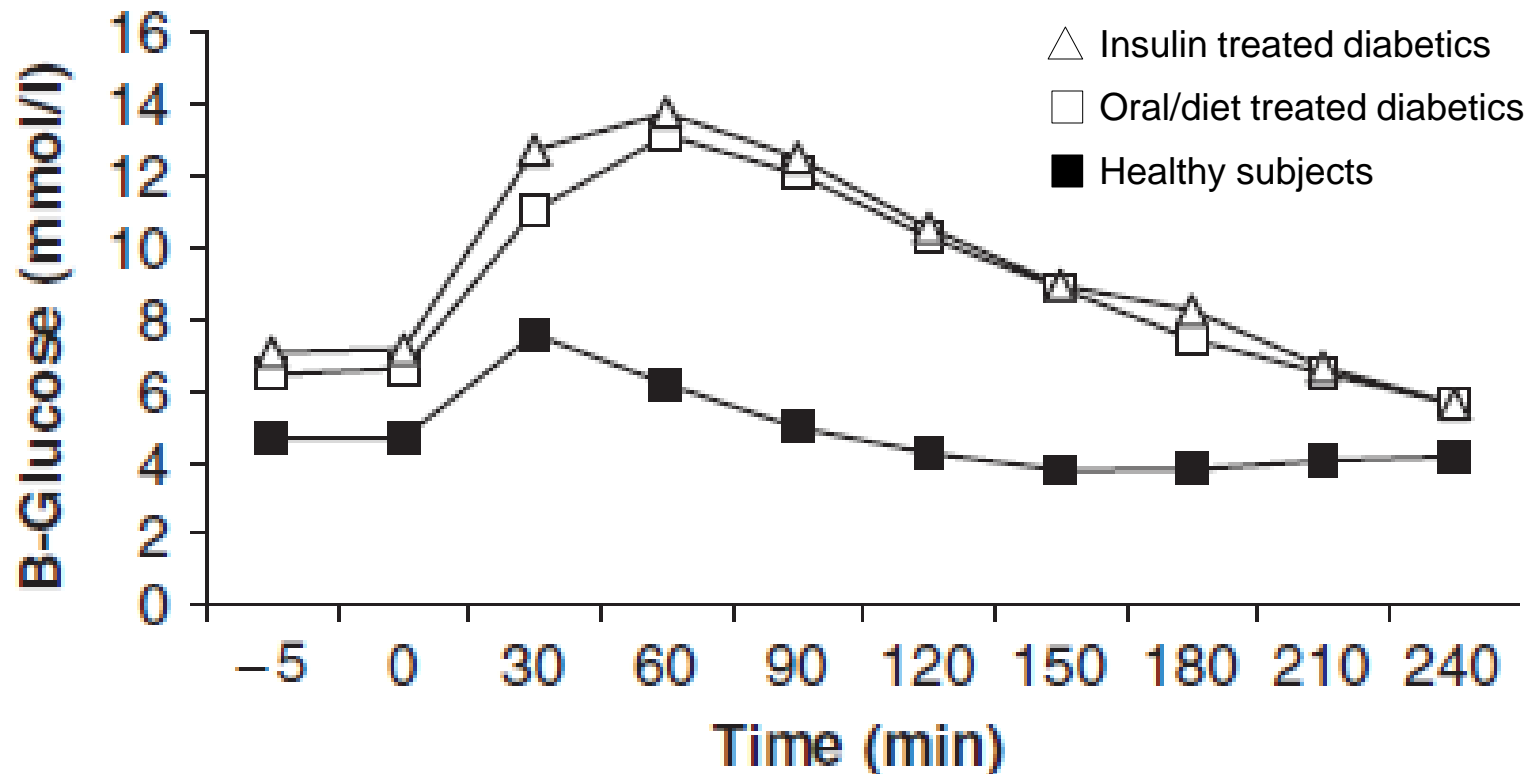
474 mL evening, 237 mL 3 h Preop

	<u>Control</u>	<u>CHO</u>	<u>p</u>
HOMA-IR	5.74	2.75	0.03
Insulin	19.9	10.7	0.05
Glucose	115	105	0.09

Gastric Emptying After 400 mL CHO Drink in Diabetics



Blood Glucose After 400 mL CHO Drink in Diabetics



400 mL CHO Drink

50 g CHO

12% monosaccharides

12% disaccharides

76% polysaccharides

285 mOsm

Nutricia Preop[®]

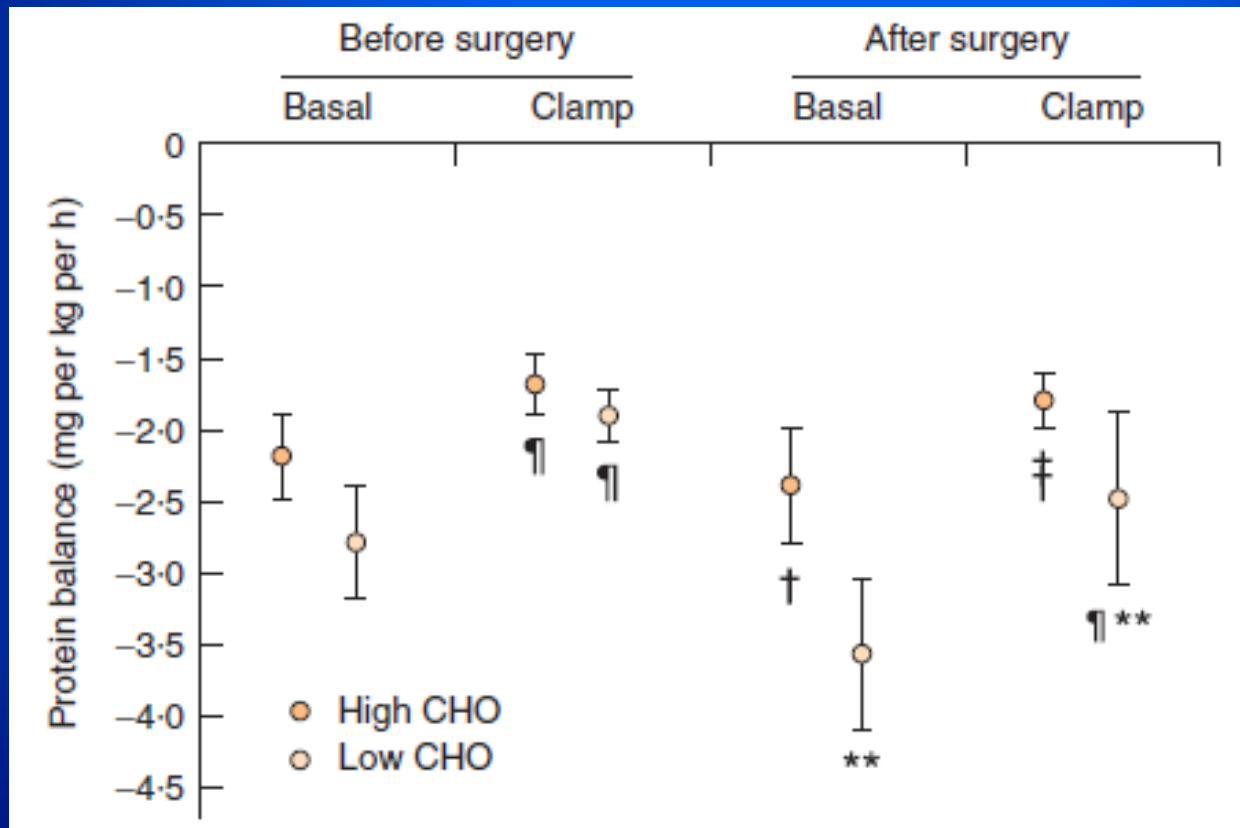
Cochrane Review on PreOp Fasting

There was no evidence to suggest a shortened fluid fast results in an increased risk of aspiration, regurgitation or related morbidity compared with the standard 'nil by mouth from midnight' fasting policy. Permitting patients to drink water preoperatively resulted in significantly lower gastric volumes.

PreOp CHO and Protein Metabolism Colorectal Surgery

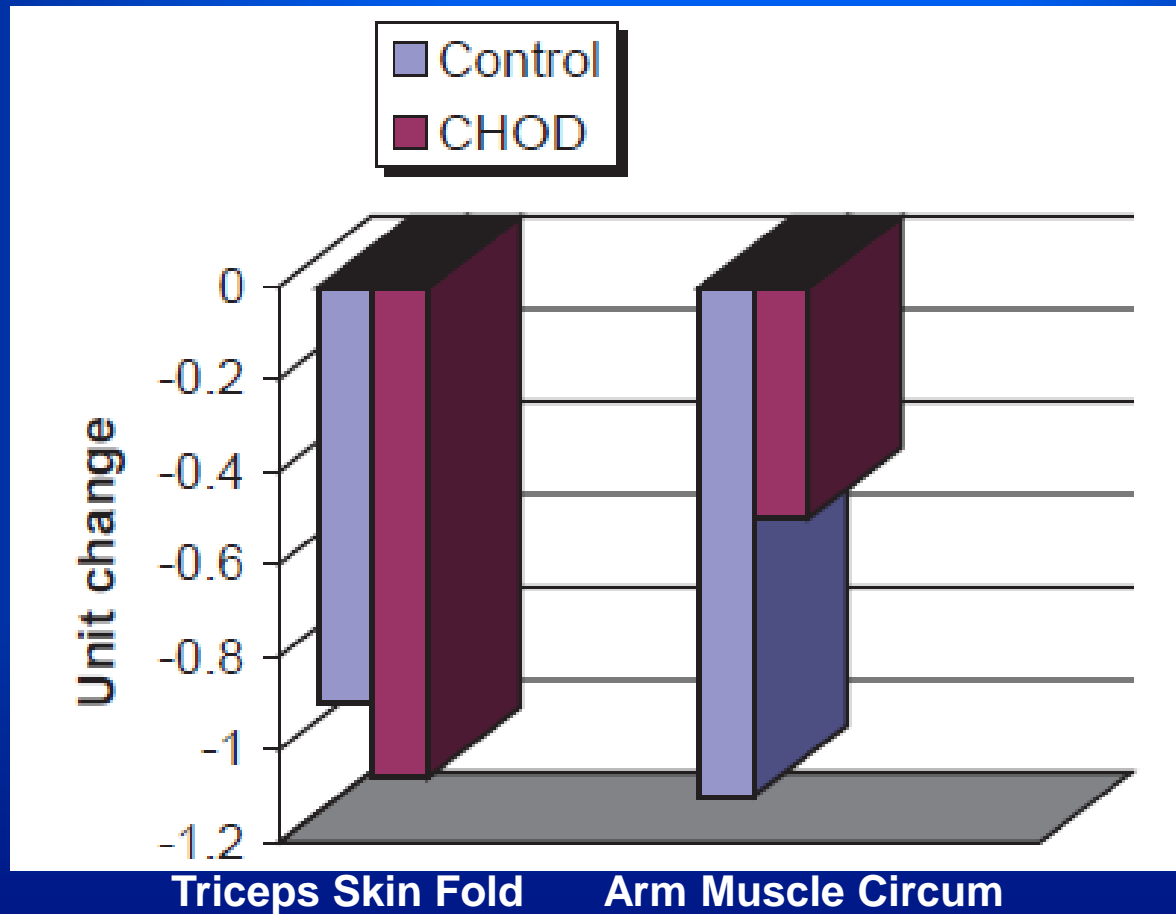
800 mL evening, 600 mL 2 h Preop

Hi CHO (125 mg/mL) & Lo CHO (25 mg/mL)



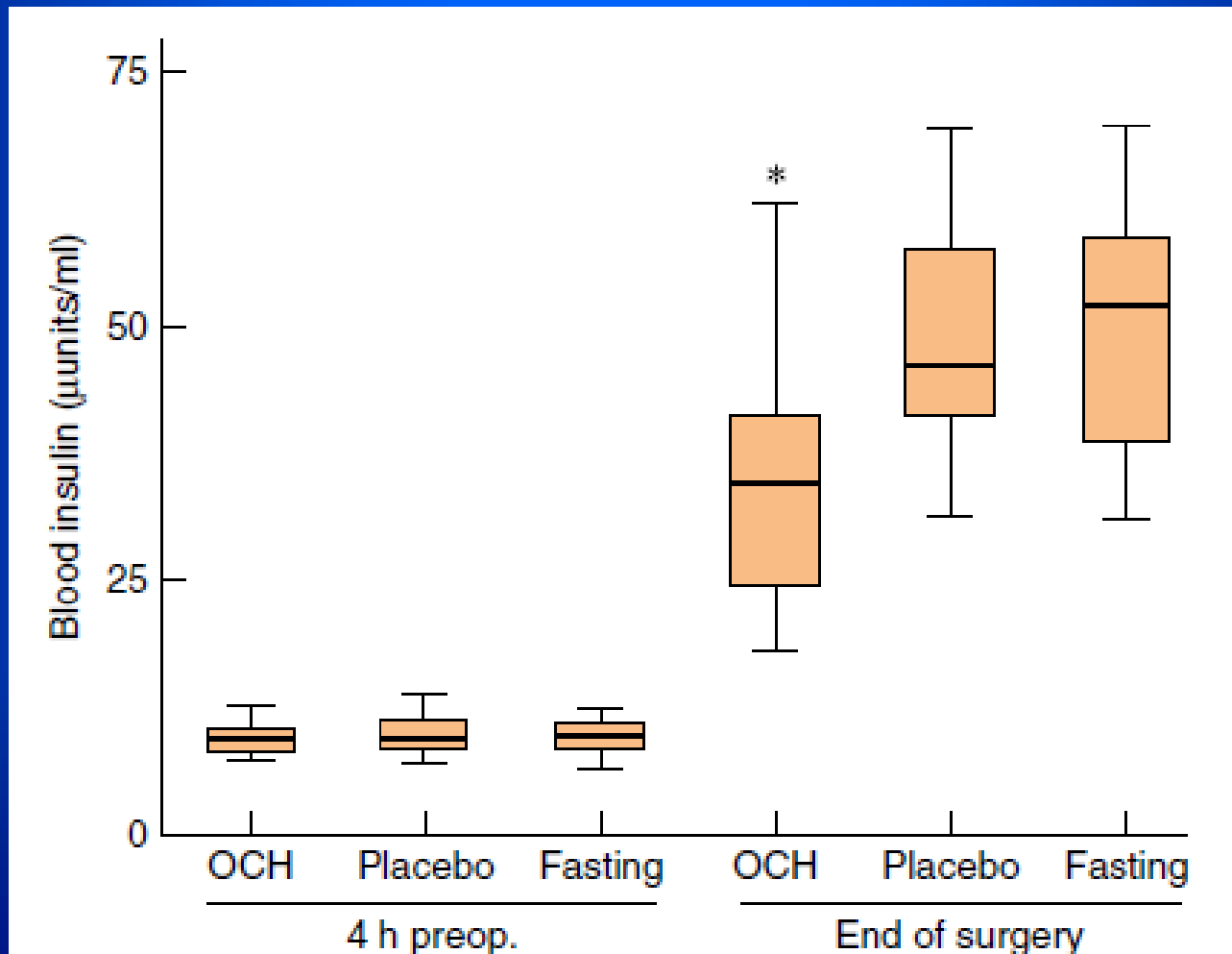
PreOp CHO and Muscle Mass – Major Abdominal Surgery

800 mL evening, 400 mL 2 h Preop



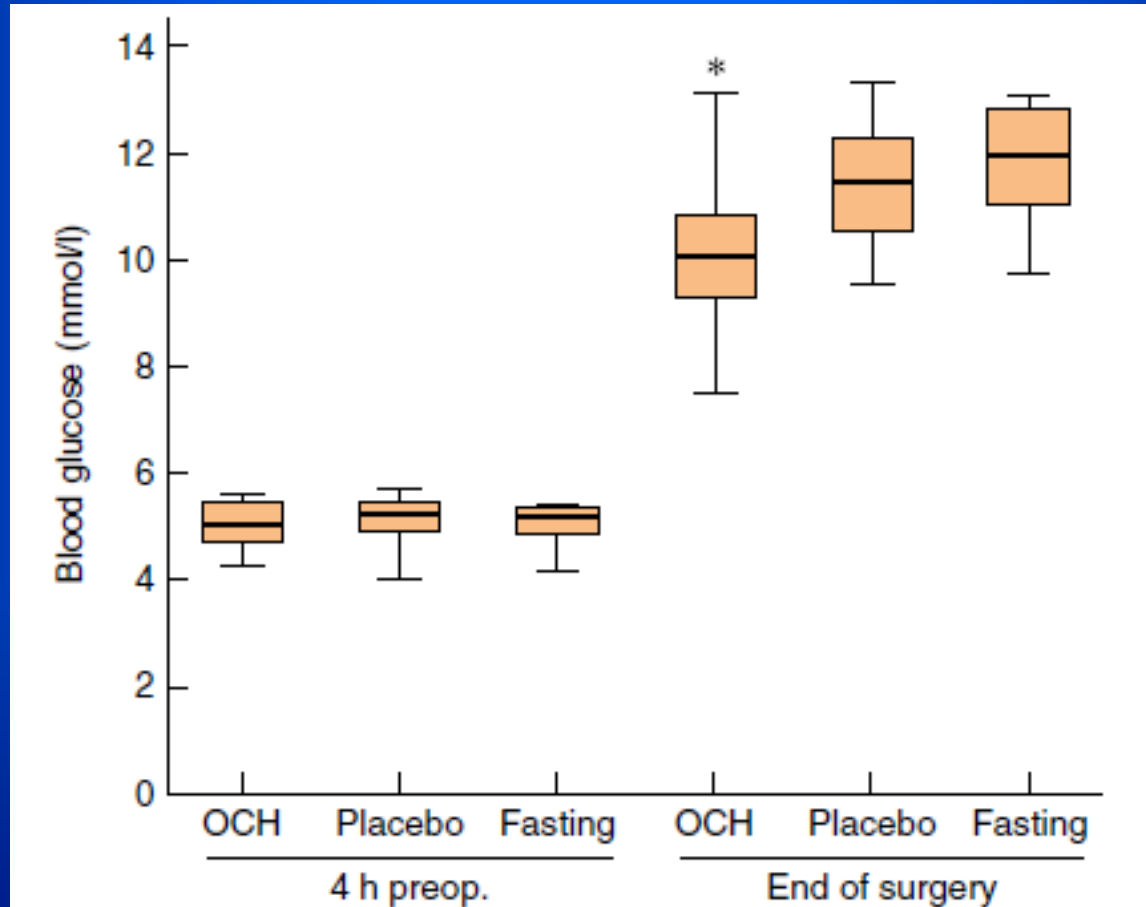
PreOp CHO and Insulin Resistance

Colorectal Surgery, 400 mL 3 h Preop



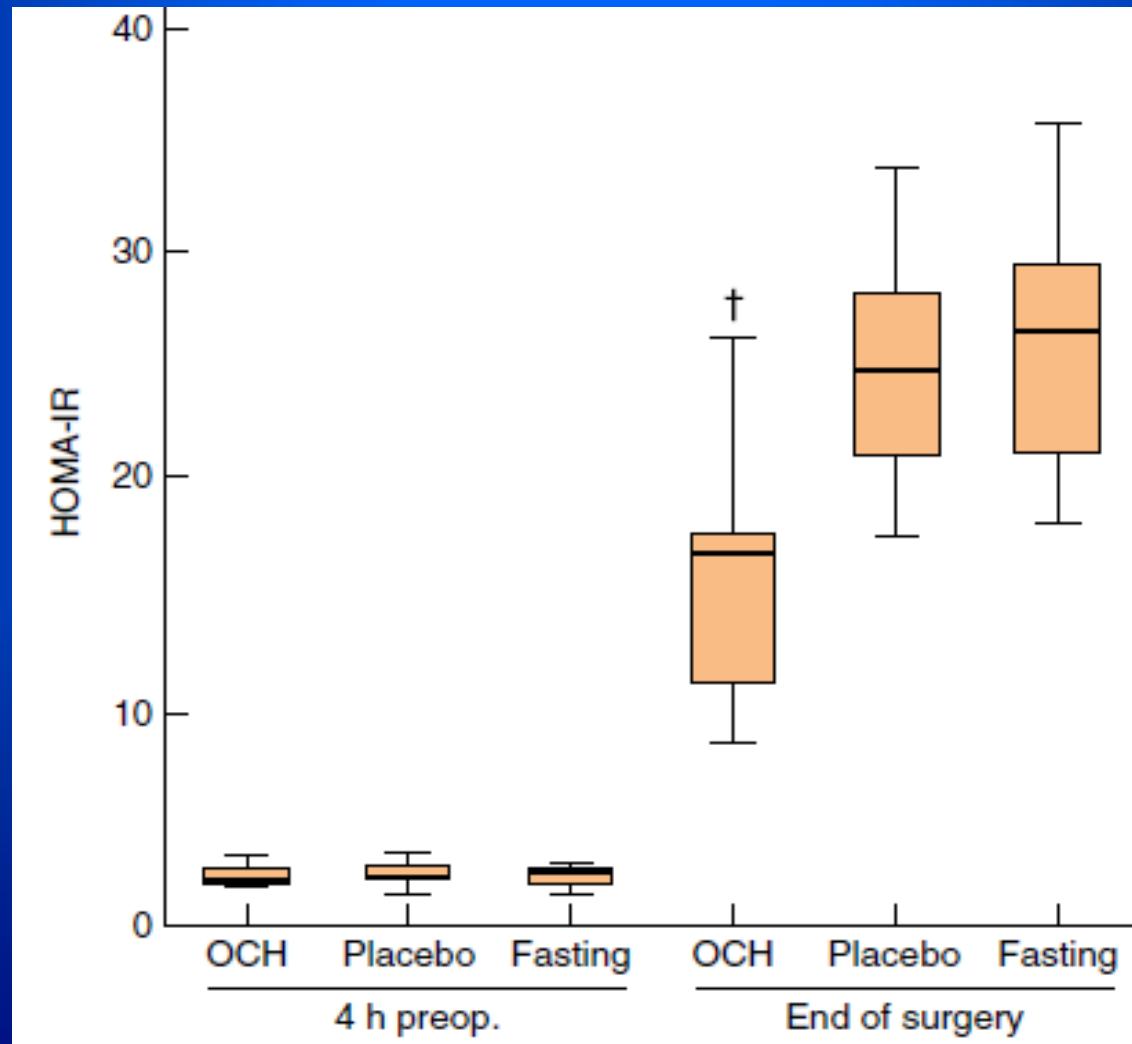
PreOp CHO and Insulin Resistance

Colorectal Surgery, 400 mL 3 h Preop



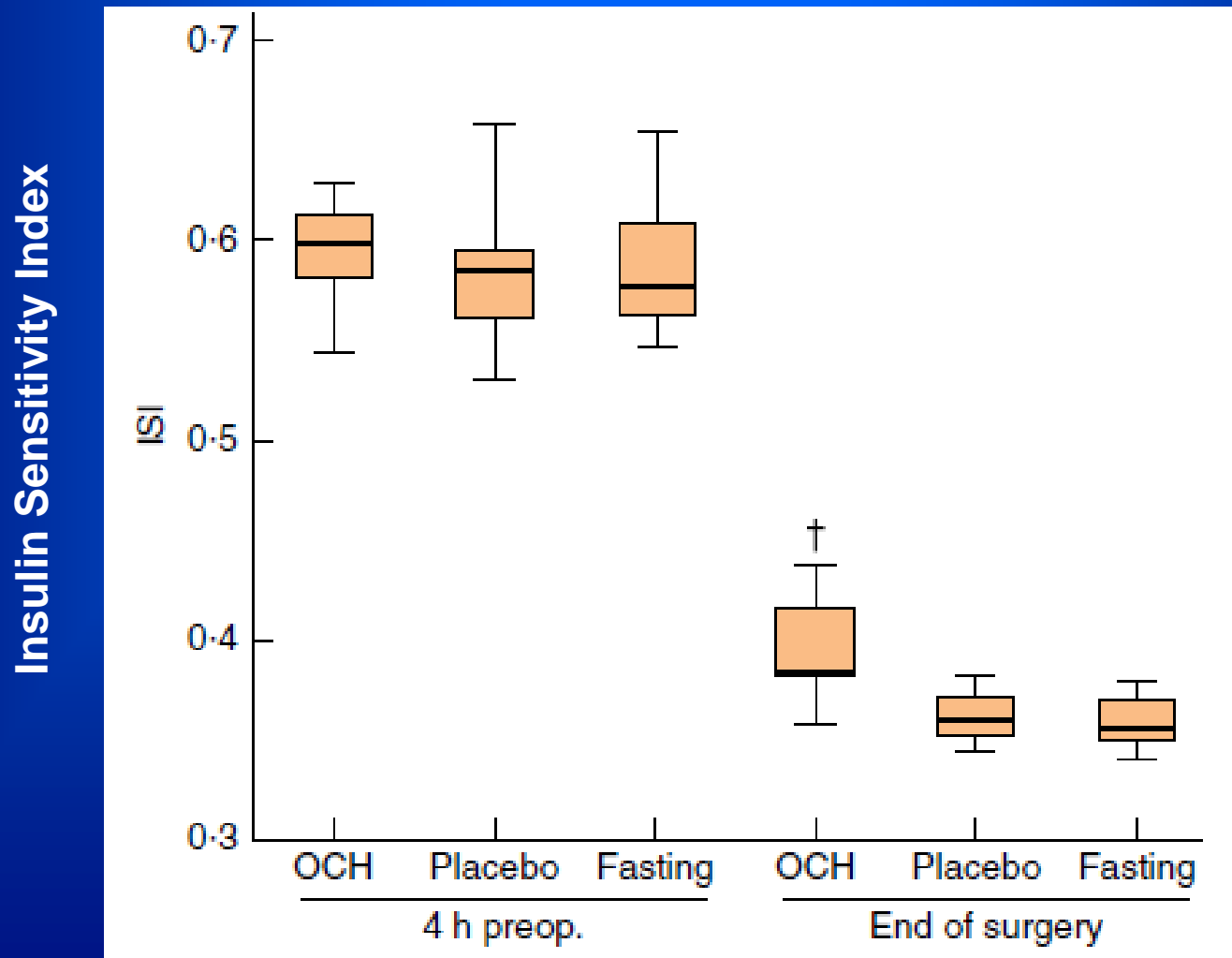
PreOp CHO and Insulin Resistance

Colorectal Surgery, 400 mL 3 h Preop



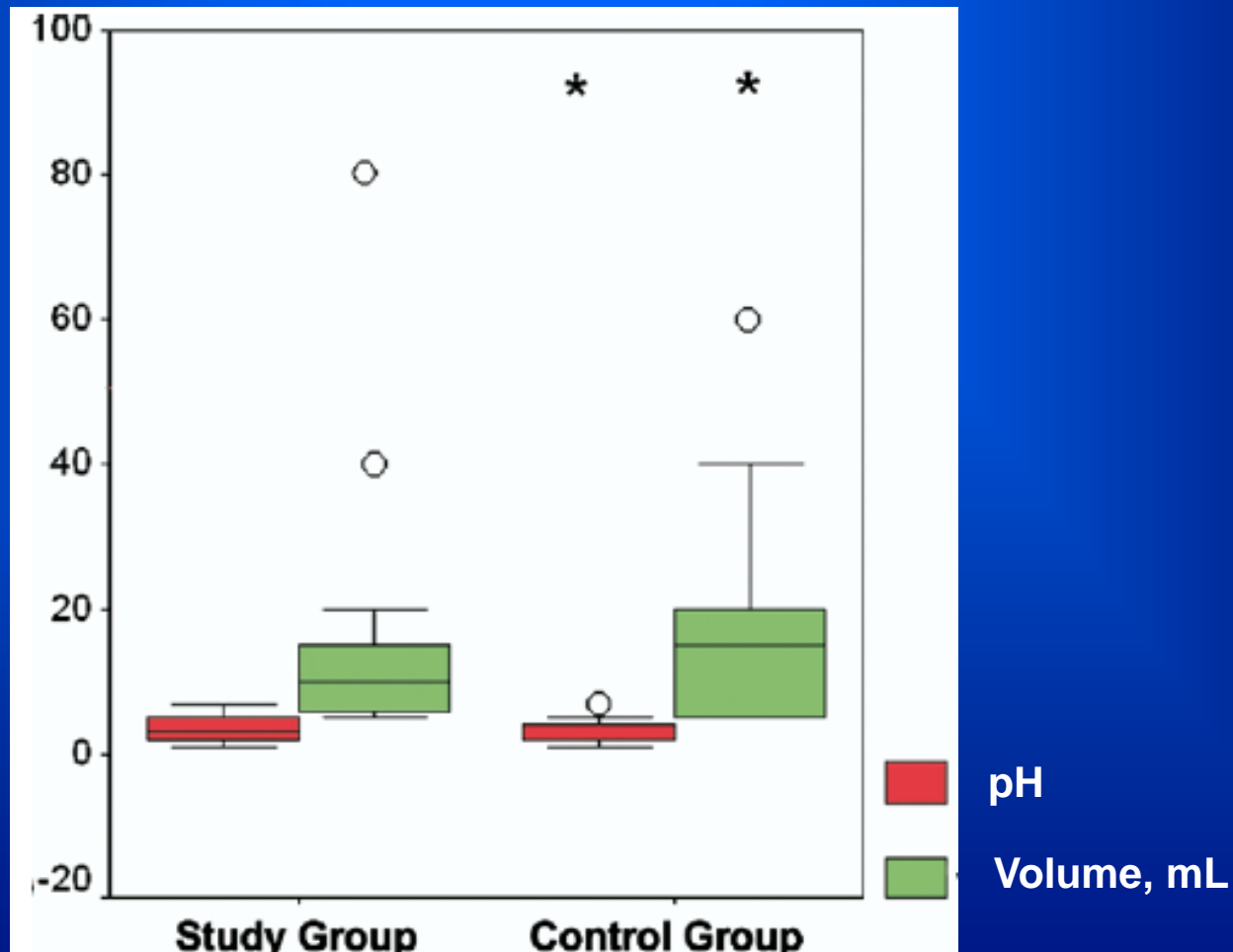
PreOp CHO and Insulin Resistance

Colorectal Surgery, 400 mL 3 h Preop



PreOp CHO, Gastric Volume & pH Colorectal Surgery, 400 mL 2 h Preop

Measured
Immediately
After
Induction



**Practice guidelines for preoperative fasting and the use of pharmacologic agents to reduce the risk of pulmonary aspiration: application to healthy patients undergoing elective procedures: an updated report by the American Society of Anesthesiologists Committee on Standards and Practice Parameters.
Anesthesiology 2011;114:495-511**

It is appropriate to fast from intake of clear liquids at least 2 h before elective procedures requiring general anesthesia, regional anesthesia, or sedation/analgesia. Examples of clear liquids include, but are not limited to, water, fruit juices without pulp, carbonated beverages, clear tea, and black coffee. . . . The volume of liquid ingested is less important than the type of liquid ingested.

Glucose Levels & SSI

- The exact “best” level of glucose control in the perioperative period is not known.
- High glucose levels unequivocally increase the risk of SSI and other perioperative infections.
- Tight glucose control in the perioperative period is tricky.
- Hypoglycemia increases the risk of morbidity and mortality.
- Preoperative CHO loading lowers glucose and increases insulin sensitivity without increasing aspiration risk.

I hope that we can start a conversation that will lead to most patients getting preoperative CHO loading 2-3 hrs before operation and that we can begin more routine monitoring of intra-operative glucose levels and treat hyperglycemia when it occurs.