

TITLE

PRE-OPERATIVE FASTING AND CARBOHYDRATE LOADING PRIOR TO SURGICAL INTERVENTIONS - ADULTSSCOPE

Provincial

DOCUMENT

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NOTE: The first appearance of terms in bold in the body of this document (except titles) are defined terms – please refer to the Definitions section.

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OBJECTIVES

- To set out minimum standards for **health care providers** working with **adult patients** receiving **scheduled surgical interventions** who require **anesthesia care** based on:
 - evidence-informed **pre-operative fasting** practices; and
 - consensus-based **carbohydrate (carb) loading** practices.
- Clinical judgment may be exercised when a situation is determined to be outside the parameters provided in this guideline. If a deviation from this guideline is determined to be appropriate or necessary, documentation of the rationale shall be included on the patient's **health record**.
 - Health care providers may consider application of this guideline for **non-scheduled** surgical interventions where determined appropriate.

PRINCIPLES

Alberta Health Services (AHS) supports pre-operative fasting and carb loading practices based on current guidelines by the Canadian Anesthesiologists' Society (CAS) and international Enhanced Recovery After Surgery (ERAS) Society in order to:

- promote **patient safety** by minimizing the risk of pulmonary aspiration;
- avoid unnecessary prolonged pre-operative fasting for patients;
- prevent unnecessary delay of surgical interventions due to inadequate pre-operative fasting; and

- promote that all patients undergoing scheduled surgical interventions be in a metabolically fed and hydrated state which has been shown to enhance recovery and contribute to reductions in post-surgical complications.

AHS is committed to ensuring:

- adult patients receive and have access to appropriate instructions on what to eat and drink including carb loading with clear juice and when to stop eating and drinking before a scheduled surgical intervention requiring anesthesia care, along with rationale and importance of following the instructions.
- health care providers utilize evidence-informed guidance on assessing the last time adult patients ate and drank before a surgical intervention requiring anesthesia care based on minimum pre-operative fasting guidelines, along with considerations for safely proceeding with the surgical intervention.

APPLICABILITY

Compliance with this document is required by all Alberta Health Services employees, members of the medical and midwifery staffs, Students, Volunteers, and other persons acting on behalf of Alberta Health Services (including contracted service providers as necessary).

ELEMENTS

1. Points of Emphasis

- 1.1 Patient pre-operative fasting instructions shall be evidence-informed by the CAS *Guidelines to the Practice of Anesthesia - Revised Edition 2019* pre-operative fasting guidelines with minimum fasting times of:
 - a) eight (8) hours after a meal that includes meat or fried or fatty foods;
 - b) six (6) hours after a **final snack**;
 - c) two (2) hours after **clear fluids**; and
 - d) two (2) hours prior to surgical intervention time, the patient is to take nothing by mouth (NPO).
- 1.2 Patient pre-operative carb loading instructions of consuming 500 mL of clear apple juice or cranberry cocktail three (3) hours prior to the surgical intervention time are consensus-based. Refer to the AHS Provincial Clinical Knowledge Topic: *Enhanced Recovery for All Surgeries, Adult – Inpatient, Ambulatory V 1.1*, AHS Provincial Clinical Knowledge Topic: *Perioperative Management of Patients with Diabetes Mellitus, Adult – Inpatient V 1.0*, and the AHS ERAS Nutrition Working Group Consensus: *Juice as Carbohydrate Loading Products*.
- 1.3 This guideline applies to all health care providers working with adult patients undergoing scheduled surgical intervention requiring anesthesia care.

- 1.4 Health care providers shall consider the applicability of this guideline for adult patients undergoing non-scheduled surgical interventions after assessing the risk of delaying surgical intervention versus the risk of aspiration of gastric contents based on the type, amount, and timing of food and fluid last consumed.
- a) Minimum fasting guidelines may be applied to patients requiring non-scheduled surgical interventions if the surgical intervention time is greater than eight (8) hours away, as per Section 1.1, 1.2 and 3.4.
- (i) The anticipated surgical intervention time may be used to determine appropriateness and timing of when a patient may be offered something to eat, drink and/or carb loaded along with other clinical considerations related to patient condition.
- 1.5 Clinical judgment shall be exercised for diabetic patients undergoing scheduled surgical intervention requiring anesthesia care. Refer to AHS Provincial Clinical Knowledge Topic: *Perioperative Management of Patients with Diabetes Mellitus, Adult – Inpatient V 1.0*, AHS Provincial Clinical Knowledge Topic: *Basal Bolus Insulin Therapy, Adult – Inpatient V 1.0*, and AHS *How to BBIT: An Educational Resource for Prescribers AHS Adult Subcutaneous Basal Bolus Insulin Therapy (BBIT)* for further guidance on this topic.
- 1.6 Refer to the AHS Provincial Clinical Knowledge Topic: *Enhanced Recovery for All Surgeries, Adult – Inpatient, Ambulatory V 1.1* for evidence-informed clinical best practice recommendations for scheduled adult surgery patients.
- 1.7 Local Surgical Programs and Services shall establish processes to delegate responsibility to designated health care providers providing patient pre-operative fasting and carb loading instructions.

2. Patient Instructions: Eating and Drinking Before Surgery

- 2.1 Pre-operative fasting and carb loading instructions shall be provided by designated health care providers to all patients within an appropriate time period prior to scheduled surgical interventions requiring anesthesia care according to the AHS *Eating and Drinking Before Surgery: Patient Instructions* in order to:
- a) provide an additional two (2) hour period of time for last time to eat a final snack, and an additional one (1) hour period of time for last time to drink clear fluids to accommodate variable patient compliance with minimum pre-operative fasting guidelines outlined in Section 1.1 (i.e., the instructions contain longer time periods compared to Section 1.1); and
- b) minimize any need to delay or cancel surgical interventions due to non-compliance with pre-operative fasting guidelines outlined in Sections 1.1 and 1.2.

- 2.2 The provision and review of AHS *Eating and Drinking Before Surgery: Patient Instructions* with a patient shall be documented by the designated health care provider in the patient's health record as per AHS *Clinical Documentation Directive*.
- 2.3 The AHS *Eating and Drinking Before Surgery: Patient Instructions* shall be available for patients and health care providers to access in multiple formats and locations, e.g., print at Pre-admission Clinics and surgeons' offices, and online at MyHealth.Alberta.ca.

3. Pre-operative Fasting Assessment and Minimum Duration Times

- 3.1 A verbal assessment of the last time a patient ate or drank along with the type of food and drink last consumed shall be conducted by the designated health care provider and shall be documented in the patient's health record, prior to a surgical intervention requiring anesthesia care as per site process.
- 3.2 Reassessment of the last time a patient ate or drank shall be conducted by the designated health care provider when a surgical intervention time is changed to ensure minimum fasting times are still met for the new surgical intervention time and the surgery is safe to proceed and shall be document as per 3.1.
- 3.3 The assessment and documentation of the last consumption of food and drink shall be used by the designated health care provider to confirm if a surgical intervention may safely proceed according to the CAS *Guidelines to the Practice of Anesthesia* as per Section 1.1.
- 3.4 Reasonable clinical judgment shall be applied if the last times or types of food or drink consumed by a patient do not meet the pre-operative fasting guidelines with minimum duration times outlined in Section 1.1.
- 3.5 Any consideration of delaying or cancelling a surgical intervention requiring anesthesia care related to a patient not meeting the pre-operative fasting minimum duration times outlined in Section 1.1 shall:
- consider the risk of delaying a surgical intervention versus the risk of aspiration of gastric contents;
 - be communicated within the surgical team and to site leadership as per local practices; and
 - be documented along with rationale by the designated health care provider in the patient health record.
- 3.6 If a decision is made to delay or cancel the surgical intervention due to unsafe pre-operative fasting, a **Reporting and Learning System for Patient Safety (RLS)** report should be submitted as an **adverse event** and reported to a **clinical leader** as per AHS *Reporting of Clinical Adverse Events, Close Calls*

and Hazards Procedure and AHS Immediate Management of Clinical Adverse Events Procedure.

4. Carbohydrate Loading

- 4.1 All non-diabetic patients undergoing surgical interventions requiring anesthesia care should be instructed to consume a carb load of 500 mL of clear apple juice or cranberry cocktail three (3) hours prior to the surgical intervention time as per Sections 1.2, 2.1, 2.2, and 2.3. Refer to the AHS Provincial Clinical Knowledge Topic: *Enhanced Recovery for All Surgeries, Adult – Inpatient, Ambulatory V 1.1*, AHS Provincial Clinical Knowledge Topic: *Perioperative Management of Patients with Diabetes Mellitus, Adult – Inpatient V 1.0* and the AHS ERAS Nutrition Working Group Consensus: *Juice as Carbohydrate Loading Products*.
- a) The timing, type and volume of the clear juice carb load or non-consumption of same shall be documented by the designated health care provider in the patient's health record.
 - b) While beneficial, consumption of a clear juice carb load is not required for a surgical intervention to proceed. Non-consumption as per volume, juice type and time period outlined in Section 1.2 is not a reason to delay or cancel a surgical intervention requiring anesthesia care.
- 4.2 The clear juice carb load may be consumed by the patient either prior to or after admission to the surgical facility.
- a) If a patient has not consumed their clear juice carb load prior to admission on the day of surgical intervention, they should be offered a clear juice carb load as per Section 1.1 and 1.2, depending on their surgical intervention time.

DEFINITIONS

Adult means a person aged 18 years and older.

Adverse event means an event that could or does result in unintended injury or complications arising from health care management, with outcomes that may range from death or disability to dissatisfaction, or require a change in care, such as prolongation of hospital stay.

Anesthesia care means for the purposes of this document, all forms of anesthesia, including monitored anesthesia care, requiring fasting.

Clear fluids means for the purposes of this document, see-through fluids including water, pulp-free juice, and tea or coffee without milk or cream.

Carbohydrate (carb) loading means for the purposes of this document, the consumption of 500 mL of clear apple juice or cranberry cocktail up to three (3) hours prior to scheduled surgical

intervention requiring anesthesia care to ensure all patients undergo surgery in a metabolically fed and hydrated state.

Clinical leader means for the purposes of this document, the senior leader immediately available to provide immediate management of a clinical adverse event. This may be a charge nurse, on-duty supervisor, administrator on call, most responsible health practitioner, unit manager or other leader as appropriate.

Health record means the Alberta Health Services legal record of the patient's diagnostic, treatment and care information.

Health care provider means any person who provides goods or services to a patient, inclusive of health care professionals, staff, students, volunteers and other persons acting on behalf of or in conjunction with Alberta Health Services.

Final snack means for the purposes of this document, one (1) small piece of fruit and one (1) cup of cereal with half (½) cup milk, or one (1) small piece of fruit and one (1) slice of toast with jam and ½ cup yogurt consumed up to eight (8) hours prior to scheduled surgical intervention requiring anesthesia care to ensure all patients undergo surgery in a metabolically fed and hydrated state.

Non-scheduled means for the purposes of this document, a surgical intervention as a result of an unplanned admission that is urgent that can wait until the patient is medically stable, needing to be performed within 24 hours to 42 days; or emergent, needing to be performed within 0 to 24 hours.

Patient means an adult or child who receives or has requested health care or services from Alberta Health Services and its health care providers or individuals authorized to act on behalf of Alberta Health Services. This term is inclusive of residents, clients and outpatients.

Pre-operative fasting means for the purposes of this document, the practice of a patient abstaining from oral food and fluid intake for a time before a surgical intervention is performed, with the intention to prevent pulmonary aspiration of stomach contents during general anesthesia.

Reporting and Learning System for Patient Safety (RLS) means the electronic software program designated by Alberta Health Services to report patient related events resulting in adverse events, close calls or hazards.

Scheduled means for the purposes of this document, a surgical intervention that is medically beneficial and necessary but is scheduled in advance (no unplanned admission) because the patient's condition doesn't necessitate it be performed urgently. Sometimes referred to as elective surgery.

Surgical intervention means for the purposes of this document, an intervention that involves at least one of the following: a) any type of anesthetic, regardless of where it is provided; b) an

incision below the skin or eye, into the underlying body structure or cavity; or c) an operating room, due to the condition or age of the patient.

REFERENCES

- Alberta Health Services Governance Documents:
 - *Clinical Documentation Directive (#1173)*
 - *Immediate Management of Clinical Adverse Events Procedure (#PS-95-02)*
 - *Recognizing and Responding to Hazards, Close Calls and Clinical Adverse Events Policy (#PS-95)*
 - *Reporting of Clinical Adverse Events, Close Calls and Hazards Procedure (#PS-95-04)*
- Alberta Health Services Resources:
 - *Eating and Drinking Before Surgery: Patient Instructions – Non-Diabetic*
 - Additional Versions: *Non-Diabetic, Fasting Only; Non-Diabetic, With Bowel Prep; Non-Diabetic, With Bowel Prep, Fasting Only*
 - *Eating and Drinking Before Surgery: Patient Instructions – Diabetic*
 - Additional Versions: *Diabetic, With Bowel Prep*
 - *ERAS Nutrition Working Group Consensus: Juice as Carbohydrate Loading Products*
 - *How to BBIT: An Educational Resource for Prescribers AHS Adult Subcutaneous Basal Bolus Insulin Therapy (BBIT)*
 - *Provincial Clinical Knowledge Topic: Enhanced Recovery for All Surgeries, Adult – Inpatient, Ambulatory V 1.1*
 - *Provincial Clinical Knowledge Topic: Perioperative Management of Patients with Diabetes Mellitus, Adult – Inpatient V 1.0*
 - *Provincial Clinical Knowledge Topic: Basal Bolus Insulin Therapy, Adult – Inpatient V 1.0*
- Non-Alberta Health Services Documents:
 - *Canadian Anesthesiologists' Society Guidelines to the Practice of Anesthesia - Revised Edition 2019*
 - *Enhanced Recovery after Surgery (ERAS) for gastrointestinal surgery, part 2: consensus statement for anaesthesia practice (2015)*
 - ERAS Society Guidelines (see AHS Knowledge Resource Service: Subject Guide Surgery – Enhanced Recovery After Surgery ERAS)

VERSION HISTORY

Date	Action Taken
Click here to enter a date	Optional: Choose an item