Title	Pre-operative fasting guidelines: elective procedures
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Prepared by	
Developed by	Dr D Love FRCA, Consultant in Anaesthesia
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Introduction

Pre-operative fasting aims to minimise residual gastric volume and acidity prior to surgery or other procedures. This helps to prevent regurgitation, inhalation and aspiration of gastric contents which may otherwise occur during general anaesthesia, regional anaesthesia or intravenous sedation.

However prolonged periods of fasting are unnecessary and may cause distress, dehydration, biochemical imbalance and hypoglycaemia, especially in children. There is also a tendency for gastric volume to increase after a prolonged fast.

In 1999 the American Society of Anesthesiologists produced Practice Guidelines on this subject. These were produced after a comprehensive literature review and world-wide survey of anaesthetists, taking into account the opinions of an expert panel. The Association of Anaesthetists of Great Britain and Ireland's most recent guidelines (2010) are in agreement with their recommendations. A comprehensive review in the Cochrane Database of Systematic Reviews (2010), a detailed guideline by the Royal College of Nursing (2005) and the European Society of Anaesthesiology guidelines (2011) came to very similar conclusions. It is prudent to use these guidelines as the basis for our recommendations.

In addition to guidelines on minimal fasting periods, we have also included guidelines on maximum fasting periods in an attempt to reduce prolonged fasting.

These guidelines also apply to patients undergoing non-surgical procedures requiring **general anaesthesia, regional anaesthesia or sedation.** These include endoscopy, radiological procedures, DC cardioversion and electro-convulsive therapy (ECT). The term "surgery" is used throughout this document for convenience but guidelines also apply to non-operative procedures.

This document replaces **all previous** fasting guidelines and is to be used hospital-wide to guide the production of:-

- Patient information materials
- Integrated Care Pathways and other patient management protocols
- Guidance for staff carrying out pre-operative assessment
- Educational materials for nursing, medical and other staff

Existing documentation **must** be reviewed to ensure it is in compliance with these guidelines and should be changed accordingly.

Fasting guidelines	
Ingested material	**Minimum fasting time***
Clear liquids[1]	2 hours
Breast milk	4 hours
Infant formula "milk"	6 hours
Non-human milk[2]	6 hours
Light meal[3]	6 hours
Alcohol containing drinks[4]	24 hours

* these fasting times apply to all ages

[1] Clear liquids include: water, carbonated (fizzy) drinks, tea without milk, coffee without milk

Non-clear fresh fruit juice containing pulp (e.g. fresh orange juice) should be avoided within 6 hours of surgery. Newsprint should be visible through a glass of the liquid.

Clear jellies without fruit pieces leave no residue in the stomach and may be considered as clear liquids. These may be useful in paediatric practice.

It is safe for patients (including diabetics) to drink carbohydrate rich drinks (specifically developed for peri-operative use) up to two hours before elective surgery.

[2] Non-human milk and milk-containing drinks become semi-solid in the stomach and should be considered as solids. If any milk is added to tea or coffee the appropriate fasting time is extended to 6 hours.

[3] Examples of a light meal include:-

- A small bowl of cereal (e.g. Rice Krispies or Cornflakes) with skimmed or semi-skimmed milk. **No high fibre cereals such as Weetabix, muesli, bran, etc**.
- A slice of white toast with honey, jam, syrup, or marmite but **no butter**.

Meals including fried or fatty food or meat prolong gastric emptying time.

[4] Alcohol increases gastric emptying time.

In all cases it is up to the discretion of the individual anaesthetist as to whether surgery should proceed or not, or whether a patient's required fasting time may be shortened.

- Unless instructed otherwise for surgical reasons, patients should eat normally the day before surgery but avoid large or fatty meals. Fat or dietary fibre remains in the stomach longer than other foods.
- Chewing gum does not increase gastric volume but it should be avoided as it may be swallowed inadvertently. Patients should not have their operation cancelled or delayed just because they are chewing gum or sucking a boiled sweet immediately prior to induction of anaesthesia.

Prescribed medication

- Unless otherwise specified, this may be taken within the 2 hours prior to surgery with a small drink of water (< 30ml).
- Analgesic drugs should not normally be omitted due to fasting as pain can prolong gastric emptying times.

Exceptions

1. **Diabetes mellitus**

   The management of these patients presenting for surgery is covered by established regimes for fasting, administration of fluids and insulin, and blood sugar monitoring. Guidelines for fasting times are similar and patients should adhere to their usual diet outside the period of the peri-operative fast, wherever possible.

   In some cases a longer fast may be necessary, e.g. bowel preparation. Great care should be taken to ensure that adequate fluid replacement be given to prevent dehydration.

   Some of these patients may have prolonged gastric emptying times due to autonomic neuropathy.

   Diabetic patients presenting for surgery or other non-operative procedures requiring an anaesthetic should be given advice on fasting and consequent management of their diabetes in accordance with hospital guidelines.

   No fasting is required and patients should eat a normal diet before:-

2. **Procedures requiring only local anaesthesia with no sedation.**

3. **Dental procedures performed under Conscious Sedation** (i.e. normal communication is maintained with the patient at all times).

Maximum fasting times

All patients should be encouraged to drink clear fluids up to 2 hours prior to the start of the list (i.e. 07:00 for morning lists and 11:30 for afternoon lists) unless this is contra-indicated due to the type of surgery.

For all day lists, if it is possible to predict which patients are to be operated on in the afternoon they may be have an early light breakfast.

Whenever possible children should be scheduled at the start of lists and in order of age (i.e. youngest first) as they are less able to tolerate prolonged fasting times.

If a patient has been fasted for fluids for more than 6 hours ward staff should contact the anaesthetist to ask if it would be acceptable for the patient to have a drink. If not, consideration should be given to starting maintenance intravenous fluids on the ward.

Patients at increased risk of gastro-oesophageal reflux

Patients with a history of symptomatic gastro-oesophageal reflux, hiatus hernia and morbid obesity (BMI > 40) may be at increased risk of regurgitation and aspiration of gastric contents under general anaesthesia or intravenous sedation.

In these cases steps should be taken to increase gastric pH and reduce gastric volume pre-operatively using antacids, H2 receptor antagonists or proton pump inhibitors. Patients scheduled for regional anaesthesia alone require similar precautions due to the possible requirement for conversion to general anaesthesia during surgery.

There is insufficient evidence of clinical benefit to recommend the routine use of antacids, prokinetics, H2 receptor antagonists or proton pump inhibitors before elective surgery in non-obstetric patients who are not otherwise at risk of gastro-oesophageal reflux.

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