Clinical

Food, Fluid and Nutritional Care Policy (Adults)

SECTION 1.2 PROTOCOL FOR THE ASSESSMENT AND MANAGEMENT OF HYDRATION IN ADULTS

1.2.3 PROTOCOL FOR PRE-OPERATIVE FASTING FOR ELECTIVE SURGERY/PROCEDURES

Policy Manager
Joyce Thompson

Policy Group
Food, Fluid & Nutritional Care (FFNC) and Protected Mealtimes (PMT) Policies Review Group

Policy Established 31 March 2017
Policy Review Period/Expiry Last Updated 08 September 2016

This policy does / does not apply to Medical/Dental Staff (delete as appropriate)

UNCONTROLLED WHEN PRINTED
# Policy Development, Review and Control Policy

## Version Control

<table>
<thead>
<tr>
<th>Version Number</th>
<th>Purpose/Change</th>
<th>Author</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>First Draft</td>
<td>Victoria Hampson /</td>
<td>03/05/2012</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Caroline McKenzie</td>
<td></td>
</tr>
<tr>
<td>2.0</td>
<td>National Hydration Group review</td>
<td>Victoria Hampson</td>
<td>01/10/2012</td>
</tr>
<tr>
<td>2.1</td>
<td>Review from comments from National Hydration Group</td>
<td>Victoria Hampson /</td>
<td>22/11/2012</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Kerry Queen</td>
<td></td>
</tr>
<tr>
<td>3.0</td>
<td>Formatting</td>
<td>Lorna Murray</td>
<td>10/04/2013</td>
</tr>
<tr>
<td>4.0</td>
<td>Review from comments from Anaesthetic Department</td>
<td>Victoria Hampson</td>
<td>01/07/2013</td>
</tr>
<tr>
<td>4.1</td>
<td>Review from comments from Anaesthetic Department</td>
<td>Victoria Hampson</td>
<td>19/08/2013</td>
</tr>
<tr>
<td>4.2</td>
<td>Review from comments from Anaesthetic Department</td>
<td>Victoria Hampson</td>
<td>23/10/2013</td>
</tr>
<tr>
<td>5.0</td>
<td>Formatting Extension to expiry date</td>
<td>Sue Smart</td>
<td>23/10/2013</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Victoria Hampson /</td>
<td>08/09/2016</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sue Smart</td>
<td></td>
</tr>
</tbody>
</table>
## Contents

### Section 1.2.3

1. **Purpose and Scope** 5
2. **Responsibilities and Organisational Arrangements** 5
3. **Background** 5
4. **Roles and Responsibilities** 6
5. **Pre-operative Fasting** 6
   - 5.1 Minimum fast for clear fluids 6
   - 5.2 Minimum fast for solids 6
   - 5.3 Maximum fasting times 7
   - 5.4 Patients requiring regional anaesthesia only 7
   - 5.5 Procedures requiring local anaesthesia only 7
   - 5.6 Use of sedation 7
6. **Emergency Surgery** 7
7. **Enhanced Recovery** 7
8. **Medications** 8
9. **Patient Information** 8
10. **Consent** 9
11. **Authorised Professionals** 9
12. **Education and Training** 9
13. **Legal Liability** 9
14. **References** 10 - 11
Appendices

Appendix 1 - Pre-operative Fasting Guideline 12
Appendix 2 - Morning Day Case Fasting 14
Appendix 3 - Afternoon Day Case Fasting 14
Appendix 4 - Drugs: Quick Guide - What to stop before surgery 15 - 16
1.2.3 PRE-OPERATIVE FASTING FOR ELECTIVE SURGERY/PROCEDURES

1. PURPOSE AND SCOPE

This document outlines the protocol for the management of pre-operative fasting (or “nil by mouth”) for all elective surgical procedures, patients undergoing non-surgical procedures requiring general anaesthesia, or sedation. This protocol seeks to address and resolve inconsistencies in preoperative fasting, and give guidance to ALL staff within NHS Tayside to ensure practice is evidence based, and that patient’s safety and comfort is not compromised.

The term ‘surgery’ is used throughout this document for convenience’s sake but guidelines also apply to non-operative procedures e.g. Endoscopy, radiological procedures, cardioversion and electro-convulsive therapy.

This protocol excludes: paediatrics, women in labour or patients who are “nil by mouth” for the medical management of dysphagia/stroke.

2. RESPONSIBILITIES AND ORGANISATIONAL ARRANGEMENTS

General Managers/Assistant Directors (or equivalent) are responsible for the distribution of this protocol to all staff within their area/directorate; ensuring staff have the opportunity to access the Food, Fluid & Nutritional Care Policy.

Clinical Directors & Senior Clinical Nurses are responsible for ensuring this protocol is implemented within their area and to monitor compliance.

All clinical staff are responsible for their own compliance with the guidance contained within this protocol, identifying their own training needs and attending appropriate training when provided.

3. BACKGROUND

Pre-operative fasting is the time during which a patient is “nil by mouth” before a planned procedure or emergency surgery, and continues until the patient regains consciousness and is able to take fluids orally, (RCN 2005).

Fasting reduces the risk of aspiration pneumonitis at induction of anaesthesia. Evidence has demonstrated that some patients are at a higher risk than others: those with obesity, diabetes, pregnancy, peptic ulcer/gastric reflux, stress/pain, narcotics, difficult intubation, medication (bisphosphonates and steroids), alcohol and trauma, (Phillips et al, 1993; Olsson et al, 1986).

Until relatively recently; surgical patients were fasted routinely from food and drink for periods of 8 to 24 hours before anaesthesia, (Hebbali et al 2002). Prolonged fasting can result in significant discomfort for patients including increased feelings of thirst and hunger, (Crenshaw 2011).

In 2005 the RCN endorsed clinical practice guidelines. Evidence for the guideline was supported by randomised controlled trials to investigate the effects of a shortened preoperative fast, which showed that reduced preoperative fasting times benefit patients including; increased patient comfort and hydration, coupled with an unchanged risk of adverse events, (AAGBI, 2003).
For maximum safety and comfort, patients should be actively encouraged to drink clear fluids until 2 hours before surgery, indeed there is evidence to suggest that even a 2 hour fast is probably conservative as the stomach empties exponentially, with a half time of approximately 10 minutes for clear fluids, (Soreide et al 2005). Therefore prolonged fasting is an inappropriate way to prepare for the stresses of surgery and is detrimental to patients, especially the elderly, (BADS 2013).

4. **ROLES AND RESPONSIBILITIES**

This protocol provides the minimum default guidance and should be followed unless specific instructions by an anaesthetist are given to the contrary.

**For patients that do not speak English as a first language then an interpreter may be necessary to ensure patient compliance.**

5. **PRE-OPERATIVE FASTING**

(See [Appendix 1](#))

5.1 **Minimum fast for clear fluids:**

Patients may drink clear fluids up to 2 hours prior to the start of the list, unless there is a surgical contra-indication (7.00 am if 9.00 am list start time or 10.30 am for an afternoon list).

Clear fluids include water, diluting juice, black tea and black coffee.

- All other fluids, including fruit juices containing pulp (e.g. fresh orange juice), milky drinks, fizzy drinks should be avoided within 6 hours of surgery
- Alcohol containing drinks should not be consumed within the 24 hours prior to surgery

5.2 **Minimum fast for solids:**

Patients for a morning list should eat nothing for six hours before surgery.

This includes sweets and chewing gum as the act of chewing gum/sucking sweets increases oral and gastric secretions, which may increase gastric fluid volume, (Schoenfelder et al 2006).

Some anaesthetist may be delay or cancel a procedure if a patient arrives in a preoperative holding area and has been chewing gum/sucking sweets.

Realistically most patients will not usually eat after midnight and this is a convenient cut-off point.

Patients for an afternoon list should have a light breakfast at least 6 hours prior to the start of the list (at 6.30 am and finished by 7.00 am).

Light breakfast:
- a small bowl of cereal with milk
- 1-2 slices of toast with spread
5.3 **Maximum fasting times:**

If a patient has been fasted for fluids for more than six hours, ward staff MUST contact the anaesthetist/theatre to ask if it would be acceptable for the patient to have a drink.

**Maintenance intravenous fluids should be administered to all patients not receiving fluids for more than 6 hours.**

5.4 **Patients requiring regional anaesthesia only:**

Fasting guidelines apply as for general anaesthesia. The possibility of conversion to general anaesthesia must always be considered. Patients may require intravenous sedation.

5.5 **Procedures requiring local anaesthesia only:**

No fasting required - patients should eat a normal diet.

5.6 **Use of sedation:**

- Patients requiring intravenous sedation need to be fasted preoperatively as per guidance above
- Oral sedation e.g. Temazepam given prior to the procedure usually does not necessitate preoperative fasting if general or regional anaesthesia are not planned

6. **EMERGENCY SURGERY**

Fasting guidelines may need to be overridden in order to expedite surgery in urgent or emergency cases. Follow any specific instructions given by the anaesthetist. If it is possible to delay surgery, the same pre-operative fasting guidelines should be followed.

**Close coordination between theatre and ward nursing staff is required for emergency surgery patients in order to feedback delays and, where appropriate, to discuss with the surgical team patient access to clear fluids or IV fluid administration should fasting duration exceeds 4 hours.**

7. **ENHANCED RECOVERY (ER)**

Through the introduction of enhanced recovery, patients are now recovering much more quickly and can be as fit and ready for much earlier discharge, whereas their predecessors would have much later. Implementation of enhanced recovery is an innovative approach to clinical care bringing quality benefits for patients across a range of specialties, (DoH 2010). ER principles have been successfully applied across many elective surgical pathways, such as breast, colorectal, gynaecology, urology, musculoskeletal and anaesthetics, and are currently being adopted across many more surgical and emergency specialties, (ASGBI 2009).

**Pre-operative fasting**

The principles of ER avoid the traditional pre-operative preparations, such as fasting from midnight or bowel preparation, which have adverse effects on hydration status and electrolyte balance. This allows reduction of fasting periods to 2 hours preoperatively for clear fluids. A 6 hour fast is still recommended for solid food.
In addition carbohydrate drinks are provided pre-operatively with the aim of minimising protein catabolism, negative nitrogen balance and insulin resistance that occurs with the stress response, meaning that the loss of lean muscle mass is minimised, (Roberts 2010).

**Post-operative fasting**
Post-operative fasting has not been extensively studied, including its impact on postoperative nausea and vomiting. Restriction of solid food/clear fluids only has been a commonly accepted practice after surgery involving the gastrointestinal tract, (Hoshi et al, 1999). However with recommendations from the Colorectal Enhanced Recovery Programme and evidence from RCTs of early enteral or oral feeding vs “nil by mouth” conclude that there is no advantage of keeping patients fasted after elective gastrointestinal resection. Early feeding reduced both the risk of infection and the length of hospital stay and was not associated with an increased risk of anastomotic dehiscence. However, the risk of vomiting may increase in patients fed early, (Lassen et al 2009).

Post-operative care involves maintenance of hydration by encouraging the discontinuation of intravenous fluid therapy and early commencement of oral intake, including carbohydrate drinks. These can be continued beyond the return of normal intake if pre-operative nutritional status is poor, (Roberts 2010). However, there is a lack of evidence and guidance in terms of the resumption of oral intake in otherwise healthy patients undergoing elective surgery not involving the gastrointestinal tract, under general anaesthesia.

Instruction from the surgical team should be followed.

### 8. MEDICATIONS

Routine medicines MUST be given to all patients including up to the time of surgery with a small amount of water.

Many medications may be continued before and after surgery without any problems. However, others must be stopped before surgery and instruction will be given at Pre operative Assessment Clinic or by the anaesthetist responsible for the theatre list. Failure to do so may result in surgery cancellation or adverse outcomes such as an exacerbation of their chronic condition or adverse effects from abrupt drug withdrawal, (NCEPOD 1993).

If required, it may be appropriate to give an alternative product using an alternative route.  (See Appendix 4 Drugs: Quick Guide - What to stop before surgery). For more detailed information refer to NHS Tayside Clinical Guidance; Administration of Medicines in the Peri-operative Period 2012 (available on Staffnet).

If adjustments to therapy cannot be made e.g. for emergency admissions, ensure the surgeon and anaesthetist are aware of the patients medication history.

Routine medications should then be re started post-operatively, unless contraindicated.

### 9. PATIENT INFORMATION

There is a duty for all clinical staff to provide best care to an individual, which includes information pre, peri and post-operatively so that the patient has sufficient information to make a reasoned decision.
Information leaflets MUST be given to patients to ensure that consistent, high quality information is given to the patient pre-operatively to ensure that patients understand both the risk of aspiration from failure to comply with fasting protocols and also the risks associated with prolonged fasting and of omission/continuation of medications. (See Appendices 2 & 3).

For further information for patients see Patient information leaflet (LN1111) Coming into and Leaving Hospital (available on Staffnet)

It is important to stress to patients that they MUST drink clear fluids as this is both safe and enhances comfort and reduces minor side effects like headaches, dry mouth, sore throat, nausea.

Due consideration should be given to vulnerable groups of patients, (e.g. patients with learning disabilities or cognitive impairment) who may require a greater degree of support from family, carers and healthcare personnel.

10. CONSENT

No consent is required for this protocol.

11. AUTHORISED PROFESSIONALS

All staff within NHS Tayside that are involved in the assessment of patients must at all times act in accordance with their professional code of practice.

12. EDUCATION AND TRAINING

No formal training is required however, several studies on clinical practice in the UK have shown whilst hospital advised a two-hour fluid fast for elective surgical patients, the period of fluid fasting ranged from 3.5 to 17.75 hours, (Andrew-Romit & Van de Mortel 2001). Therefore all staff are required to update their practice regularly and ensure that it is evidence based.

13. LEGAL LIABILITY

It is a medical and legal requirement that a patient must not be anaesthetised without a period of fasting from food and fluids, concurrence with evidence from research, (Hung 1992, O’ Callaghan 2002), except in the case of emergency surgery.

Physical and psychological pre-operative preparation of patients is a major domain of nursing care. Previous practices of prolonged periods of fasting are suggestive of adherence to ritualistic practice by nurses, (Walsh and Ford 1989) and failure to implement research findings by medical staff, (Hunt 1987).

As delays or alterations in the operation list occur frequently nursing staff should feel empowered to challenge practices to ensure that policy is followed to ensure patient safety is not compromised and reduce the risk of complications pre-operatively, such as aspiration pneumonitis, or post-operatively, such as dehydration or malnutrition, (O’ Callaghan 2002).

Effective communication between ward and operating theatre is vital to ensure co-ordinated practice.
14. REFERENCES


RCN (2005) Clinical practice guidelines, Perioperative fasting in adults and children: An RCN guideline for the multidisciplinary team, RCN.


Scottish Health Executive (2000) Adults with Incapacity Scotland Act, HMSO.


Preoperative Fasting Guideline
For
Elective Surgery

Please follow this as a minimum and default guideline, unless specific instructions by an Anaesthetist to contrary (see overleaf)

Morning
For morning lists and for patients on the morning section of all day lists:

- No solid food after midnight
- Free access to water for all patients overnight until 06.30am (07.00am if 09.00 list start)
- A final drink must be given, no later than 06.30am consisting of approximately one glass or cup (or 1/2 pint or 250ml) of clear fluid.

Afternoon
For afternoon lists and for patients on the afternoon section of all day lists:

- Light breakfast of toast and tea / coffee until 06.30am (07.00am if 09.00 list start)
- Free access to water overnight and until 10.30am
- A final drink must be given, no later than 10.30am consisting of approximately one glass or cup (or 1/2 pint or 250ml) of clear fluid.

Clear fluids include water, and diluting juice

Grant Rodney
Consultant Anaesthetist

Reviewed October 2013 SN0016
Preoperative Fasting Guideline: Supporting Information

The guideline is based on the recommendation below:

- 6 hours for solid food, infant formula, or other milk
- 4 hours for breast milk
- 2 hours for clear non-particulate and non-carbonated fluids

References:
1. Practice guidelines for preoperative fasting... Anaesthesiology 1999; 90: 896-905
2. Preoperative assessment; the role of the anaesthetist AAGBI 2001
4. RCN guideline 2005: www.rcn.org.uk/resources/guidelines

Notes:

- This guideline serves as the default and minimum expected for food and fluid administration for elective surgical patients.

- This guideline defines clear fluids as water and diluting juice; individual anaesthetists may prescribe additional fluids including tea and coffee on the once only section of the drug kardex.

- Anaesthetists may further individualise fasting instructions by prescribing different fluid timing on the once only section of the drug kardex.

- The guideline may not apply or may need to be modified for patients with co-existing diseases or conditions that might affect gastric emptying or fluid volume (eg pregnancy, obesity, diabetes, hiatus hernia, gastro-oesophageal reflux disease, ileus or bowel obstruction, emergency care or enteral tube feeding). Anaesthetists will provide instructions on the once only section of the drug kardex.

Grant Rodney
Consultant Anaesthetist

Reviewed October 2013 SN0016
APPENDIX 2: Morning Day Case Fasting

Food and Drink before Surgery

Morning Day Case

Elective Surgery Patient Information

The aim of this leaflet is to give you information about what you can eat and drink before surgery.

Your operation will be on the morning

of ________________________________

1. You should have no food to eat after midnight.

2. You may drink water overnight until 7.00am in the morning. At that time you must have one final glass of water or a cup of black tea or black coffee.

It is safe to drink this type of fluid as it empties from your stomach quickly and you are not more likely to be sick during your anaesthetic and surgery. Drinking will also reduce the chance of being thirsty and suffering from headaches and other minor complaints.

Please do not drink:

<table>
<thead>
<tr>
<th>Fizzy drinks</th>
<th>Fruit juices</th>
<th>Milk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milky coffee</td>
<td>Milky tea</td>
<td>Hot chocolate</td>
</tr>
</tbody>
</table>

Developed by the Department of Anaesthetics, Secondary Care
Reviewed October 2013  LN1037a5

APPENDIX 3: Afternoon Day Case Fasting

Food and Drink before Surgery

Afternoon Day Case

Elective Surgery Patient Information

The aim of this leaflet is to give you information about what you can eat and drink before surgery.

Your operation will be on the afternoon

of ________________________________

1. You should have a light breakfast of toast and tea, or coffee. Please finish this no later than 7.00am in the morning.

2. You may continue to drink water until 10.30am in the morning. At that time you must have a final drink of a glass of water or a cup of black tea or coffee.

It is safe to drink this type of fluid as it empties from your stomach quickly and you are not more likely to be sick during your anaesthetic and surgery. Drinking will also reduce the chance of being thirsty and suffering from headaches and other minor complaints.

Please do not drink:

<table>
<thead>
<tr>
<th>Fizzy drinks</th>
<th>Fruit juices</th>
<th>Milk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milky coffee</td>
<td>Milky tea</td>
<td>Hot chocolate</td>
</tr>
</tbody>
</table>

Developed by the Department of Anaesthetics, Secondary Care
Reviewed October 2013  LN1037a5
DRUGS: QUICK GUIDE - WHAT TO STOP BEFORE SURGERY

ACEIs and Angiotensin Receptor Blockers (ARBs) “Prils & Sartins”
- Withhold on day of surgery (all patients)

For hip and knee replacement patients:
- Withhold on day of surgery and for 72 hrs – restart before discharge
- Withhold all antihypertensive drugs (except beta blockers ending "olol") from day of surgery for 72 hrs - restart before discharge

ANTIPLATELETS: see Clopidogrel guideline
- Aspirin: Withhold 7 days before op (unless coronary stents) - restart before discharge ONLY IN NEUROSURGERY OR ORTHOPAEDIC SURGERY CASES – DO NOT STOP IN OTHER SURGERIES
- Clopidogrel: Withhold 7 days prior to admission
- Dipyridamole: Withhold 24 hours prior to admission

NB: Patients with coronary stents need to stay on anti-platelet therapy continuously - discuss with anaesthetist

WARFARIN: see perioperative Warfarin guideline
- If taking for AF or DVT stop 5 days prior to admission: check INR on admission. Good to go if <1.5
- If taking for Recurrent CVA/PE/DVT, metallic heart valves or antiphospholipid syndrome discuss with anaesthetist

HRT
- If no additional risk factors for VTE’s no need to stop, (risk factors – PMH DVT/PE, Obesity, Varicose veins, Family history VTE)
- If additional risk factors, stop 4 weeks prior to admission

COMBINED ORAL CONTRACEPTIVES (Oestrogen and Progesterone) – see guideline
- Stop 4 weeks prior to admission (alternative contraception advice should be given – consider progesterone only "mini-pill")

NSAIDs
- Diclofenac, Arthrotec, Aceclofenac, Acemetacin, Azapropazone, Etodolac, Fenbufen, Flurbiprofen, Fenoprofen, Ibuprofen: Withhold 24 hrs before admission
- Indomethacin, Ketoprofen, Mefenamic Acid, Meloxicam, Nabumetone, Naproxen, Piroxicam, Sulindac: Withhold 3 days prior to admission

COX-2 INHIBITORS
- No need to stop

DMARDS
- Methotrexate, Sulphasalazine, Penicillamine, Hydroxychloroquine: No need to stop

BIOLOGICS
- Adalimumab (Humira), Infliximab (Remicade), Etanercept (Enbrel): Stop 2-4 weeks prior to admission
CORTICOSTEROIDS
- Continue therapy, do not stop
- Only patients on >10mg Prednisolone daily need perioperative steroid supplementation

ANTI-DIABETICS – see diabetic guideline
- Acarbose, Gliclazide, Glipizide, Glibenclamide, Glimepiride, Pioglitazone, Rosiglitazone: No need to stop
- Metformin: Withhold on day of surgery
- Insulin: Omit on day of surgery if fasting
- Insulin pumps: Cannot be turned off – ask patient to put on lowest setting on day of surgery when fasting.

HERBAL MEDICINES
- Ephedra: Stop 24 hours prior to admission
- Echinacea: Stop as far as possible in advance of surgery
- Feverfew: Stop 7 days prior to admission
- Garlic: Stop at least 7 days prior to admission
- Ginger: Stop 7 days prior to admission
- Ginkgo: Stop 14 days prior to admission
- Ginseng: Stop 7 days prior to admission
- Glucosamine: Consider stopping 7 days prior to admission (potential anti-platelet/anticoagulant effect)
- St John’s Wort: Stop 5 days prior to admission
- Valerian: Consider stopping prior to admission (potential to increase sedative effect of anaesthetic but can have withdrawal symptoms)

INFLAMMATORY BOWEL DISEASE DRUGS (Aminosalicylates)
- Balsalazide, Mesalazine, Olsalazine, Sulfasalazine: No need to stop

DRUGS FOR DEMENTIA
- Donepezil: Stop 2 weeks prior to admission (restart day one post-op)
- Galantamine: Stop 24-48 hours prior to surgery (restart day one post-op)

Adapted by Dr M. R. Checketts, Pre-assessment clinic, Ninewells, October 2013

ANY QUERIES CONTACT PHARMACIST or MEDICINES INFORMATION