SESLHD GUIDELINE COVER SHEET

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POSITION RESPONSIBLE FOR DOCUMENT	SESLHD Clinical Stream Nurse Manager – Surgery, Perioperative and Anaesthetics
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SUMMARY	This guideline will provide clinicians across SESLHD with guidance to implement best practice regarding fasting requirements of patients undergoing procedures that require procedural sedation or general anaesthesia. This guideline supports the Agency for Clinical Innovations 'Key Principles- Preoperative fasting in NSW public hospitals'.

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Pre-Operative/Procedural Fasting for Patients Undergoing Anaesthesia

Section 1 - Background

This guideline will provide clinicians across SESLHD with guidance to implement best practice regarding fasting requirements of patients undergoing procedures that require procedural sedation or general anaesthesia.

The following is a guideline only and supports the Agency for Clinical Innovation's 'Key Principles – Preoperative fasting in NSW public hospitals' (ACI. 2016). Individual patient circumstances and requirements should be considered by anaesthetic and procedural teams (particularly for diabetic patients and any undergoing specific colorectal procedures) with pre-operative plans being made in conjunction with patients, families and carers.

For the pre-operative fasting management of patients with Diabetes Mellitus (DM), please refer to local clinical business rules to guide best practice.

This guideline is not intended for use in non-procedural patients who are nil-by-mouth.

Section 2 - Principles

1. Pre-operative and pre-procedural fasting is necessary for all patients undergoing procedural sedation or general anaesthesia to protect the patient from possible regurgitation and aspiration of gastric contents.

2. All patients undergoing procedural sedation or general anaesthesia should fast from solids for **no less than six (6) hours**, and fast from preoperative oral fluids for **no less than two (2) hours before the induction of anaesthesia.**

3. It is important that patients are not fasted for extended lengths of time before a surgical procedure as this will increase the surgical stress response, increasing the catabolic state associated with starvation, increases insulin resistance, increases risk of hypoglycaemia in diabetic patients and is uncomfortable for patients.

4. Patients who are fasted from preoperative oral fluids for extended periods pre-operatively become dehydrated, making it difficult to gain IV access, increase the intraoperative fluid requirements and increase the risk of sodium overload. It also increases pre-operative thirst, hunger, anxiety and nausea.

5. A pre-operative fluid diet does not provide adequate nutrients and should not be used as the sole source of nutritional support for longer than one (1) day. Consider IV fluid replacement for extended fasting times.

6. Pre-operative fluids covered in this guideline must **exclude** all liquids containing fat, protein and insoluble fibre. **Note:** clear soups, milk, thickened fluids and jelly are **NOT** suitable pre-operative fluids (see appendix A and B).

7. Patients with enteral tube feeding can continue feeding **until six (6) hours pre-procedure**; water may be administered via tube **up to two (2) hours prior to the induction of anaesthesia.** Patients should then be nil-by-tube until the end of the procedure.

8. Diabetic patients should be managed pre-operatively through regular blood glucose monitoring and the titration of insulin (intravenous or subcutaneous, as determined by the anaesthetist/endocrinologist) and the possible administration of intravenous glucose preparations (i.e. 5% glucose solution) as required. *Please refer to local clinical business rules and clinical judgement to help determine the appropriate management.*

9. Advice from an endocrine medical officer should be sought for all type 1 and type 2 diabetes patients (on basal/bolus insulin regimens, SGLT2 inhibitors, GLP1 inhibitors and DPP4 inhibitors) and those with poor glycaemic control (i.e. >9% HbA1C, or random BGL >10 mmol/L).

10. Type 1 and type 2 diabetic patients who are insulin dependent **should not** have their insulin withheld entirely during periods of fasting; insulin titration should occur in consultation with the patient and the anaesthetist +/-endocrinologist to achieve and target BGL (5-10 mmol/L).

11. Clinical patient outcomes are improved when fluids are continued until two (2) hours prior to the induction of anaesthesia (compared to prolonged fasting) including (ACI 2016):

    - Replaced/maintained the body's water balance
    - Easier peripheral cannulation
    - Improved post-operative nausea and vomiting
    - Improved patient comfort
    - Enhanced post-operative recovery

12. A safe, acceptable rate of drinking clear liquids in elective situations is a maximum of 200ml/hr with a maximum volume of 400ml clear liquid 2 hours prior to the procedure. This does not appear to be associated with an increase in risk of regurgitation or aspiration.

13. Medications should not be withheld purely for fasting purposes. Tablets such as paracetamol and opioid analgesics can be given with small sips of water at any time while fasting. Patients should not have analgesia withheld because they are waiting for an anaesthetic. Good pre-operative pain management is essential for patient wellbeing.

14. Sites using ' Sip Til Send', please refer to local protocols

Section 3 - Definitions

DM	Diabetes Mellitus
BGL	Blood Glucose Level
IV	Intravenous
PACE	Patient with an Acute Condition for Escalation
BTF	Between the Flags (eMR2)
NSAID	Non-steroidal anti-inflammatory drugs
SGLT2 inhibitor	Sodium-glucose co-transporter-2
HbA1C	Haemoglobin A1c
GLP1 agonists	Glucagon-like peptide-1 agonists
DPP4 inhibitor	Dipeptidyl peptidase-4

Section 4 - Responsibilities

Anaesthetists are responsible for:

- Pre-operative assessment of patient's 'fitness' for surgery
- Provision of clear and evidence-based instructions of fasting times to patients and nursing staff.
- Prescription of insulin regimens for diabetic patients, in consultation with endocrine, where appropriate
- Prescription of intravenous glucose infusions where appropriate
- Responding to deterioration of patients in regards to complications related to pre-operative fasting and diabetic emergencies (hypo/hyperglycaemia) in pre-operative patients (refer to SESLHDPR/697 - Management of the Deteriorating ADULT inpatient (excluding maternity) or SESLHDPR/705 - Management of the deteriorating MATERNITY woman)
- Informing nursing staff of delayed lists and instructions for the provision of timeframes for fluids prior to procedure
- Documenting medication plan on NIMC/eMeds and progress notes.

Surgeons are responsible for:

- Documenting clear and evidence-based instructions for provision of fasting times to patients and nursing staff
- Alerting anaesthetic and nursing staff of alterations in list order to provide patients with appropriate nourishment.

Registered and Enrolled Nurses are responsible for:

- Following instructions provided in this guideline for pre-operative patients
- Communicating with anaesthetists and surgeons regarding fasting instructions for specific patients
- Escalation of clinical deterioration of fasting patients including initiation of the Rapid Response system (refer to SESLHDPR/697 - Management of the Deteriorating ADULT inpatient (excluding maternity) or SESLHDPR/705 - Management of the deteriorating MATERNITY woman
- Regular BGL monitoring of fasting diabetic patients.
- Provision of clinical handover to the procedural unit or operating theatre nurse including fasting time and BGL monitoring
- Ordering and providing appropriate fluids for pre-operative patients (as per local procedures).

Section 5 – Pre-Procedure Fasting

5.1 - All Patients

- Fasting times for non-elective patients should be checked with anaesthetist
- Consider IV fluid replacement if patient is elderly, bowel preparation has been administered or if there is a delay in procedure.
- Sites using 'Sip Til Send', please refer to local protocols.

5.2 - Diabetic Patients

The management and treatment of fasting diabetic patients should be guided by local business rules from each facility.

St George Hospital and Sutherland Hospital:

- SGH-TSH BR079 - Preoperative / procedure management of an Adult
- SGH-TSH CLIN078 - Post operative/procedure management of an Adult

Sutherland Hospital:

- TSH CLIN644 - Perioperative Management for patients with diabetes undergoing elective surgery at the day surgery unit

Prince of Wales Hospital:

- POWH/SSEH CLIN023 - Surgery and Medical Procedures for Patients with Diabetes Mellitus
- POWH CLIN185 - Insulin Infusion – For: Fasting for Surgery / treatment of Non-Diabetic Ketoacidosis (Non-DKA) / treatment of Non-Hyperglycaemic Hyperosmolar State (Non-HHS)

Royal Hospital For Women:

- SESLHDGL/116 - Management of Pre-existing Diabetes Mellitus in Pregnancy
- SESLHDGL/117 - Management of Gestational Diabetes Mellitus (GDM)

Section 6 – Hyper/Hypoglycaemia

- Consult the anaesthetist or surgical team if there are any concerns regarding management of the patient's BGL
- Use escalation process as outlined in SESLHDPR/697 - Management of the Deteriorating ADULT inpatient (excluding maternity) or SESLHDPR/705 - Management of the deteriorating MATERNITY woman
- For patients experiencing hypoglycaemia (**<4mmol/L**) or hyperglycaemia (**>20mmol/L**), follow local guidelines

Section 7 – Pre-Procedural Medication Administration

Prescribed morning medications (including analgesia) should be administered with a sip of water at 0600 hrs unless otherwise stated (check anaesthetist's and surgeon's instructions). If patient is on an SGLT2 inhibitor, this medication must be ceased at least 48hrs prior to surgery.

Patients' medications should be reviewed prior to procedural fasting by the anaesthetist, in consultation with the procedural team, for appropriateness to continue/suspend the medication depending on the nature of the procedure and patient factors.

Clearly note on the medication chart (NIMC/eMeds) which medications are to be withheld/suspended, and document in the patient's progress notes a plan specifying which medications are to be withheld, along with the appropriate timing for continuation after surgery.

Exceptions:

This list is NOT exhaustive:

Intention to continue these medications should be confirmed with treating team and/or anaesthetist.

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Contact the anaesthetist or medical team for clarification if required.

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Anticoagulants
Antiplatelets
Hypoglycaemic Agents
Lithium
Monoamine Oxidase Inhibitors
NSAIDs
Potassium Sparing Diuretics
Hormone Replacement Therapy
Oral Contraceptives
Immunomodulators
OTC supplements

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Patients undergoing vascular, neurosurgical or cardiac surgery may require the continuation of anticoagulation/antiplatelet medication. Seek clarification from Surgical/Anaesthetic Medical Officer.

Patients' medications should be reviewed prior to procedural fasting by the anaesthetist, in consultation with the procedural team, for appropriateness to continue/suspend the medication depending on the nature of the procedure and patient factors.

Section 8 –

Documentation

Pre and Post Procedural Handover Form

- Last food time
- Last drink time
- Last BGL pre-procedure result.

Intravenous Fluid Therapy

- Intravenous Fluid Order Form.

BGL

- BTF (eMR2)/SAGO/iView
- Approved Insulin Infusion forms
- Approved Subcutaneous Insulin Management forms.
- Pre and Post Procedural Handover form.

Subcutaneous Insulin Prescription

- Approved Subcutaneous Insulin Management forms.
- Approved electronic medication management systems (e.g. eMEDs, eRIC).

Intravenous Insulin Infusion

- Approved Insulin Infusion forms
- Approved electronic medication management systems (e.g. eRIC).

Progress Notes

- Specific fasting instructions (for deviations from this guideline)
- PACE notifications.

Medication Chart

- Document medications to be withheld/suspended on eMeds/NIMC and review date post operatively.

References

- ACI. 2016. Key Principles: Preoperative fasting in NSW public hospitals
- Insulin Dextrose Infusion Protocol for Labour (RHW CBR)
- NSW Health Consent to Medical and Healthcare Manual
- NSW Health Policy Directive PD2017_032 - Clinical Procedure Safety
- Meyer EJ, Gabb G and Jesudason D. Diabetes Care. 2018. doi 10.2337/dc17-1721
- SESLHDGL/116 Management of Pre-existing Diabetes Mellitus in Pregnancy

- SESLHDGL/117 Management of Gestational Diabetes Mellitus (GDM)
- SESLHDPR/697- Management of the Deteriorating ADULT inpatient (excluding maternity)
- SESLHDPR/705 - Management of the deteriorating MATERNITY woman
- SGH-TSH BR079 Preoperative / procedure management of an Adult
- SGH-TSH CLIN078 Post operative/procedure management of an Adult
- POWH CLIN185 Insulin Infusion – For: Fasting for Surgery / treatment of Non-Diabetic Ketoacidosis (Non-DKA) / treatment of Non-Hyperglycaemic Hyperosmolar State (Non-HHS)
- POWH/SSEH CLIN023 Surgery and Medical Procedures for Patients with Diabetes Mellitus
- TSH CLIN644 Perioperative Management for patients with diabetes undergoing elective surgery at the day surgery unit
- American Society of Anesthesiologists (2017) "Practice Guidelines for Preoperative Fasting and Use of Pharmacologic Agents to Reduce the Risk of Pulmonary Aspiration." Anesthesiology **126**:376-393
- European Society of Anaesthesiology (2011) "Perioperative fasting in adults and children." European Journal of Anaesthesiology **28**: 556-569

Version and Approval History

Date	Version	Version and approval notes
August 2017	Draft	Executive Sponsor endorsed development of guideline
November 2017	Draft	Executive Services processed prior to submission to SESLHD DQUM for endorsement.
December 2017	Draft	Approved by Drug and Quality Use of Medicines Committee
December 2017	Draft	Approved at Clinical and Quality Committee.
March 2021	1	Minor review. Updated links and terminology (from clear fluids to perioperative fluids) updated fasting guidelines for preoperative fluid intake, medications taken while fasting and added surgeon responsibility as well to document correct fasting times. Approved by Executive Sponsor. To be tabled at Quality Use of Medicines Committee (QUMC).
August 2021	1.1	Updated following recommendation from QUMC to include advice regarding management of SGLT2 inhibitors in the peri-operative period. Approved by Executive Sponsor. To be tabled at Quality Use of Medicines Committee (QUMC).
September 2021	1.2	Minor amendments recommended by QUMC. QUMC noted 'Approved with amendment'.
September 2023	1	Minor review. Updated links
October 2023	1.1	Minor amendment recommended by RHW
August 2024	1.2	Minor review: inclusion of site Diabetic policies. Approved by SESLHD Drug and Therapeutics Committee and Executive Sponsor.

Appendix A: Diet – Pre-operative Oral (Non-Diabetic)

	Allowed	*Not Allowed*
Beverages	Water Apple juice Cordial **Black** tea/coffee	All others, including: Prune juice Milk Thickened fluids Carbonated drinks
Miscellaneous	Commercial re-hydration fluids Sugar/Sweetener	Cream Commercial supplements with milk or soy proteins
NO FOOD PRODUCTS IN THE SIX (6) HOURS PRIOR TO INDUCTION OF ANAESTHESIA		

ACI (2016). Key Principles: Preoperative fasting in NSW public hospitals.

Appendix B: Diet – Pre-operative Oral (Diabetic)

	Allowed	*Not Allowed*
Beverages	Water **Diet** cordial **Black** tea/coffee	All others, including juice Regular cordial Milk Thickened fluids Carbonated drinks
Miscellaneous	**Diet** commercial re-hydration fluids Sweetener	Sugar Cream Commercial supplements with milk or soy proteins
NB: Some diabetic patients may require small amounts of carbohydrate-containing oral fluids to correct hypoglycaemia. This should be determined on a case-by-case basis following local protocols.		
NO FOOD PRODUCTS IN THE SIX (6) HOURS PRIOR TO INDUCTION OF ANAESTHESIA		

ACI (2016). Key Principles: Preoperative fasting in NSW public hospitals.