ST VINCENT'S HOSPITAL SYDNEY
A FACILITY OF ST VINCENT'S HEALTH AUSTRALIA

Policies & Protocols

Clinical Practice Manual
- Inpatient Diabetes Model of Care Policy

Policy Statement:

Context and Purpose

- To provide a standardised system for promoting best practice in diabetes management across all streams within the ir setting.
- To direct clinical practice and the development of procedures, protocols and education programs relating to diabetes management within the hospital.
- To optimise outcomes for all in patients with diabetes.

Model of Care Scope

This model of care applies to all clinicians who provide care to in patients with diabetes at St Vincent's Hospital (including Heart Hospice).

Definitions

Blood Glucose Level (BGL)	The measure of glucose in the blood in mmol/L
Blood Glucose Monitoring (BGM)	The measurement and documentation of the BGL using a capillary (finger-prick) blood sample and point of care (bedside) blood glucose meter
Diabetic Ketoacidosis (DKA)	A medical emergency most common in type 1 diabetes, characterised by high blood glucose levels, ketosis and metabolic acidosis
Glucagon (rys) hydrochloride	A hyperglycaemic agent that mobilises hepatic glycogen which is released into the blood as glucose and is most commonly used to treat hypoglycaemia.
HbA1c	The main fraction of haemoglobin to which glucose is bound. Used to assess glycaemic control over a 2 to 3 month period
Hyperglycaemia	A BGL persistently >10mmol/L[1] for more than twenty-four (24) hours
New hyperglycaemia	A fasting or pre-meal BGL > 7mmol/L and/or random BGL > 11mmol/L in a person NOT previously diagnosed with diabetes
Hyperosmolar Hyperglycaemic (Non-ketotic) state (HHS)	A medical emergency characterised by severe hyperglycaemia (usually >33.0mmol/L) with the absence of ketones, resulting in a raised blood osmolality and dehydration, sufficient to impair consciousness
Hypoglycaemia	A BGL (<4mmol/L) with or without symptoms
Intravenous Insulin Infusion	A solution of regular-acting insulin in sodium chloride or 5% glucose infused intravenously to regulate blood glucose levels
Subcutaneous Insulin Pump	A patient-held subcutaneous insulin delivery device, that delivers a continuous basal infusion (24hrs) of rapid-acting insulin, with user operated (bolus) dose insulin as required
Type 1 Diabetes	An autoimmune condition where the pancreas cannot produce sufficient insulin due to beta cell destruction (insulin deficient)
Type 2 Diabetes	Condition where the pancreas makes insufficient insulin for the degree of insulin resistance.

Assessment

- All patients with diabetes admitted to the hospital will have:
  - The diabetes type clearly identified in the patient healthcare record[2].
  - A clinical history completed.
  - An HbA1c completed on admission or as part of preadmission screening (if not been completed within th months or the result is unattainable)[2].
  - A blood glucose monitoring regimen prescribed and results made available and accessible to all membe health care team[2].
- All patients with diabetes should be identified in the Emergency Department, Surgical Outpatients, or Pre Admission C other pre-operative assessment process, and plans made to manage their diabetes, as per associated procedures[3].
- All patients identified in *Element 7 - Referral & Care Coordination*, shall be referred to the Endocrine Team (Endocrine Registrar, page 6810, Mon-Fri or Endocrine Consultant on-call via switch).
- All patients at high risk of developing hyperglycaemia during their admission are to have blood glucose monitoring per

according to the SVH 'Blood Glucose & Blood Ketone Monitoring Protocol'. High risk patients include but are not limited to those[1]:
  - Receiving high dose corticosteroids
  - Post transplant
  - Receiving Total Parental Nutrition or Enteral Nutrition
  - Requiring treatment with Octreotide

Element 2 - Best Practice Care

- SVH diabetes related protocols incorporate best practice principles to guide the health care team when assessing and managing inpatients with diabetes. Refer to the following protocols:
  - Blood Glucose & Ketone Monitoring Protocol
  - Hypoglycaemia Management Protocol
  - Hyperglycaemia and Insulin Management Protocol
  - Management of Diabetes Ketoacidosis (DKA) and Hyperosmolar Hyperglycaemic State (HHS) Protocol
  - Inpatient Subcutaneous Insulin Pump Protocol
  - Inpatient Supervised Self-administration of Subcutaneous Insulin or Glucagon-Like peptide 1 (GLP-1) Analogues Protocol
- Compliance with these procedures will be monitored by the SVH Diabetes Service at least annually using associated Bundle Audit Tools.

Element 3 – Staff Education

- All health care professionals and patient care providers must be supplied with information about diabetes that identifies:
  - The screening and assessment of patients with diabetes.
  - The difference between type 1 and type 2 diabetes.
  - Use of diabetes medicines (including insulin and non-insulin medications).
  - Use of diabetes care related equipment e.g. blood glucose and blood ketone meters, hypoglycaemia kits, Intravenous Insulin Infusions and Subcutaneous Insulin Pumps, according to use in ward areas.
  - How to document BGLs, hypo/hyperglycaemic episodes and management strategies,
  - Identification and notification of insulin and other diabetes medication incidents as per the SVH Incident Management Policy.
- Education in diabetes management for Junior Medical Officers and will occur on induction to SVH and opportunity for monthly updates thereafter.

Element 4 - Patient/Carer Education

- Patient/Carers must have their learning needs assessed and be involved in setting and prioritising learning goals and management plans[4].
- As priority Patient/Carers must be provided with diabetes education that focuses on 'survival skills', safe medication administration, blood glucose management, hypoglycaemia management, DKA detection/prevention[3,4].
- Patient/Carers must be informed about strategies to reduce the risk of developing long-term diabetes related complications.
- Patient/Carers must have access to diabetes related educational resources available via the Inpatient Diabetes CNC.

Element 5 - Resources

- Each clinical unit is responsible for ensuring access to and maintenance of:
  - A hypoglycaemia kit as per the 'Hypoglycaemia Management Protocol'. This kit must be checked and recorded daily and all contents kept up-to-date.
  - Glucagon (rys) hydrochloride (GlucaGen® HypoKit) on medication imprest.
  - Retractable insulin safety syringes in both 1mL (100 unit) and 0.5mL (50 unit) sizes.
  - A hospital approved blood glucose meter (and blood ketone meter in ED, ICU & 8N only) as per the SVH 'Blood Glucose & Ketone Monitoring Protocol'.
- All point of care blood glucose and ketone meters are maintained under a quality management framework that includes:
  - Staff successfully completing the hospital's 'blood glucose and/or blood ketone competency assessment' ***prior*** to performing blood glucose or ketone testing on patients[5,6]
  - Procurement of new blood glucose/ketone meters involves input from medical, nursing and laboratory staff[5,6].
  - Performing Internal Quality Control tests, as per the 'Blood Glucose & Ketone Monitoring Protocol'
  - Participation in the Royal College of Pathologists of Australasia - Monthly External Quality Assurance Program[5,6], as per the 'Blood glucose & Ketone Monitoring Protocol.
  - Replacement meters are only obtained via Sydpath, Xavier Level 6.

Element 6 – Documentation & Reporting

- Document all:
  - Assessments, plans and observations related to diabetes management in the Patient Healthcare Record according to SVH 'Health Care Records – Documentation and Management Policy'
  - BGLs according to the SVH 'Blood Glucose & Blood Ketone Monitoring Protocol.

- Insulin prescriptions according to the SVH 'Hyperglycaemia & Insulin Management Procedure'.
- Management of DKA or HHS according to the SVH 'Management of Diabetic Ketoacidosis and Hyperosmolar Hyperglycaemic State Protocol'
- Document and report all:
  - Episodes of hypoglycaemia according to the SVH 'Hypoglycaemia Management Protocol'.
  - Episodes of hyperglycaemia according to the SVH 'Hyperglycaemia and Insulin Management Protocol'.

Element 7 - Referral and Care Coordination

- The principal care team is responsible for the coordination of care for the patient's entire journey through the health system.
- Refer to the **Endocrine Team** for opinion and/or management (Endocrine Registrar, page 6810 Mon-Fri OR Endocrine Consultant on-call, via switchboard out of hours and weekends) and the **Diabetes CNC** (page 6157, Mon-Fri) if the patient has any of the following:
  - Type 1 diabetes (including those newly diagnosed).
  - Type 2 diabetes who have a BGL >10mmol/L[1] for 24-hours or more or an HbA1c >8.0% (64mmol/mol).
  - Newly diagnosed diabetes.
  - *New hyperglycaemia* (fasting or pre-meal BGL > 7mmol/L and/or random BGL > 11mmol/L not previously diagnosed with diabetes).
  - Recurrent and/or severe (BGL <3mmol/L) hypoglycaemia.
  - Require transition to subcutaneous insulin post intravenous insulin infusion.
  - Present with a subcutaneous insulin pump.
  - Treated with concentrated insulin (Humulin R –U500® Regular 500 units/mL or Toujeo® Glargine 300 units/mL).
- These patients will:
  - Have a diabetes management plan developed in conjunction with the patient, principle care team, the Endocrine Team and the Diabetes CNC, dietitian and social worker where applicable. The plan will be reviewed on a regular basis or daily in the case of insulin dose adjustment.
  - Be managed using ~~a~~n patient-centred, interdisciplinary team approach from the time of admission throughout the hospital stay.
  - Be provided with diabetes related care in line with the agreed diabetes plan and will receive review and evaluation of care outcomes daily.
- Discharge planning for patients with diabetes:
  - Is not a separate entity but is part of an overall discharge plan.
  - Begins at admission and is updated as projected patient needs change.
  - Diagnosed with *new hyperglycaemia* during their admission, who do not have a prior diagnosis of diabetes, shall have plans for follow-up testing and care clearly documented in their discharge summary.
  - Shall be compliant with all relevant SVH discharge policy and protocols, including the 'Discharge Planning Policy' and the 'Medical (Electronic) Discharge Summary and Discharge Medications Protocol').

Element 8 - Governance

- Within the NSW Health system diabetes management is every clinician's responsibility.
- Effective care of patients with diabetes requires a whole of organisation approach with clear points of accountability for implementing assessment and management strategies and reporting of incidents with feedback lines at all levels within the organisation.
- This incorporates both individual and organisational roles and responsibilities.

All Clinical Staff are responsible for:

- Ongoing daily assessment and management of patients with diabetes.
- Providing education to patients regarding diabetes management.
- Implementing strategies to prevent the occurrence of diabetes related incidents e.g. hypoglycaemia.
- Discharge planning and ensuring appropriate follow-up care is arranged.

Managers of Clinical Units are responsible for:

- Ensuring effective care processes are in place for assessing and managing patients with diabetes within their clinical unit.
- Using the recommended quality improvement methodology, the Bundle Monitoring Model, for monitoring the implementation and compliance of the diabetes procedures.
- Ensuring all diabetes related incidents are notified in Riskman™ and are monitored.
- Ensuring appropriate resources are available for effective assessment and management of patients with diabetes.
- Implementing policies, protocols and local practices that support staff, training on diabetes assessment and management.
- Encouraging an environment where diabetes and insulin incidents are notified and active management of incidents is fostered.
- Ensuring all point of care blood glucose and ketone meters are maintained under a quality management framework[5,6] (see Element 5 Resources).

The Diabetes Service is responsible for:

- Providing advice and regular reports to the Integrated Care Stream Clinical Governance Committee on Diabetes Inpatient Policy and Protocol compliance using Bundle Audit Tool methodology. Reporting rates of compliance with diabetes related procedures across SVH in order to guide targeted staff education and to improve patient care.
- Overseeing care and management of patients as outlined in Element 7.

Mission and Strategic Fit

The Inpatient Diabetes Model of Care Policy supports SVH in the provision of patient-centred care in accordance with the Hospital's Mission and Values of compassion, justice, integrity and excellence.

The Inpatient Diabetes Model of Care Policy aligns with St Vincent's Public Health Services Strategic Plan, enVision 2025 which aims to ensure delivery of person-centred, clinically excellent care to all patients with focus and priority to the vulnerable.

Compliance:

Compliance will be monitored through:

- Biannual Incident Monitoring, through the Incident Management System Riskman, of:
  a. Hypoglycaemia / Hyperglycaemia incidents
  b. Subcutaneous insulin/ Insulin infusion incidents
  c. Other diabetes related medication incidents
- Biannual Care Bundle Practice Audit Monitoring (refer to respective procedures for Bundle Tools) of documented care delivery for patients requiring:
  a. Subcutaneous Insulin / Intravenous Insulin Infusion Transition
  b. Blood glucose monitoring
  c. Hypoglycaemia management
  d. DKA/HHS management
- Annual rates of staff completion of Diabetes Management Education
- Annual review of diabetes care research underway or completed

Risk Rating: Medium

Standard:

National Standards:

NSQHS Standard 1 - Governance for Safety and Quality in Health Service Organisations

- 1.3.1 Workforce are aware of their delegated safety and quality roles and responsibilities
- 1.4.4 Competency-based training is provided to the clinical workforce to improve safety and quality
- 1.5.2 Actions are taken to minimise risks to patient safety and quality of care
- 1.6.2 Actions are taken to maximise patient quality of care
- 1.7.1 Agreed and documented clinical guidelines and/or pathways are available to the clinical workforce
- 1.7.2 The use of agreed clinical guidelines by the clinical workforce is monitored
- 1.8.2 Early action is taken to reduce the risks for at-risk patients
- 1.18.1 Patients and carers are partners in the planning for their treatment

NSQHS Standard 4 - Medication Safety

- 4.4.2 Action is taken to reduce the risk of adverse medication incidents
- 4.5.2 Quality improvement activities are undertaken to reduce the risk of patient harm and increase the quality and effectiveness of medicines use
- 4.9.1 Information and decision support tools for medicines are available to the clinical workforce at the point of care
- 4.11 Identifying high-risk medicines in the organisation and ensuring they are stored, prescribed, dispensed and administered safely

References:

1. Australian Diabetes Society (ADS). Guidelines for Routine Glucose Control in Hospital – Position Statement 2012. Accessed from https://diabetessociety.com.au/documents/ADSGuidelinesforRoutineGlucoseControlinHospitalFinal2012_000.pdf July 6, 2016.
2. Diabetes Association. Standards of Medical Care in Diabetes. *Diabetes Care* 2016; 39, Suppl 1, S1-S109.
3. Australian Diabetes Society (ADS). Peri-operative Diabetes Management Guidelines July 2012. Accessed from https://diabetessociety.com.au/documents/PerioperativeDiabetesManagementGuidelinesFINALCleanJuly2012.pdf July 7, 2016.
4. American Association of Diabetes Educators(AADE). AADE Position Statement: Diabetes Inpatient Management. *The Diabetes Educator* 2012, 38(1), 142-146.
5. Sharp L, Farrance I, Greaves R F. The application of glucose point of care testing in three metropolitan hospitals.

Pathology (January 2016) 48(1), pp. 51–59.
6. International Organization for Standardization (ISO). Point-of-care testing (POCT) – Requirements for quality and competence. ISO22870: 2006. Geneva: ISO, 2006.

Risk Rating:
Not set

Focus Area(s):
- Patient Care - General

Linked PP:
- Blood Glucose and Blood Ketone Monitoring Protocol
- Discharge Planning Policy
- Health Care Records – Documentation and Management Policy
- Hyperglycaemia and Insulin Management Protocol
- Hypoglycaemia Management Protocol
- Inpatient Supervised Self Administration of Subcutaneous Insulin or Glucagon-like peptide-1 (GLP-1) analogs Protocol
- Medical (Electronic) Discharge Summary and Discharge Medications Protocol
- Procedure for Management of Diabetic Ketoacidosis (DKA) and Hyperosmolar Hyperglycaemic State (HHS) Protocol

Departments:
- Allied Health Service, Clinical Governance Unit, Medicine Clinical Stream, Sub Acute Program, Surgical Clinical Stream

Revision History:

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Suggest change (0 changes already suggested)

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