

# Improved Glycemic Management in Hospital

## Project Bulletin

The DON SCN is leading a provincial inpatient diabetes management initiative; with the goal to improve and standardize how patients with diabetes are cared for in Alberta's hospitals. This is a multipronged quality improvement initiative, in collaboration with provincial Pharmacy, Nutrition and Food Services (NFS), Zone operational areas, and other stakeholders. It involves a multidisciplinary approach to diabetes management, with the patient and family as key team members.

This initiative is a priority for the DON SCN as hyperglycemia (high blood glucose) continues to be common in hospitals and increases the risk of in-hospital complications, mortality and length of stay. Literature suggests that patients with diabetes experience hyperglycemia over 1/3 of the time while they are in hospital. Alberta data is consistent with this figure.

Diabetes Canada Clinical Practice Guidelines for in hospital management recommend:

- Blood glucose target range of **5-10 mmol/L** for most patients with diabetes in hospital.
- Insulin therapy as the best treatment to manage hyperglycemia in hospital
- Using Basal Bolus Insulin Therapy (BBIT), a proactive approach to subcutaneous insulin, over subcutaneous sliding scale insulin

See more information in the Diabetes Canada [Clinical Practice Guidelines \(CPGs\) for In-Hospital Management of Diabetes](#)

**Basal Bolus Insulin Therapy (BBIT)** is a way of ordering scheduled multiple daily injections of subcutaneous (sc) insulin that better replicates how our body naturally produces insulin. BBIT has been shown to be an effective way to manage patients' diabetes during their hospital stay, and is similar to how many patients manage their diabetes in the community. Sliding Scale Insulin (SSI) continues to be commonly used in the treatment of diabetes within the inpatient setting. Unfortunately, the "sliding scale" regime treats hyperglycemia after it has occurred.

The DON SCN is promoting the clinical practice change to BBIT using **Knowledge Translation (KT)** or implementation science. KT is a term used to describe how we integrate research into our everyday work. To change practice, it is important to think about what might get in the way of change (barriers), and identify what will support practice change (facilitators)- before we try to implement the change. Research shows that if we think through these barriers and facilitators, and have a plan to address these, we are more likely to achieve our change goals. It is a deliberate, planned approach that the DON SCN is offering to help operational teams adopt BBIT into their routine management of patients with diabetes in hospital.



**Have you visited  
our website?**

[www.bbit.ca](http://www.bbit.ca)

This website has an online calculator to support insulin ordering. Education resources are posted for sharing with early adopter sites and stakeholders. The website is continually being updated with new or revised resources as we work with early adopter sites. Updates to the website this month include 2 CADTH reviews in the research section, and the following educational resources:

- Site Implementation Guidelines
- How to BBIT
- Patient Handout
- BBIT self study guide
- BBIT FAQ
- Surgical Considerations for BBIT ordering

## Provincial Order Set and BG Record

The paper based order set (form #19885) and blood glucose (BG) and insulin administration record (form #20115) are now available provincially from DATA group.

### Inside this issue

<b>Project Overview</b> .....	1
<b>Provincial Glycemic Policy</b> .....	2
<b>Glucose Meter Alerts</b> .....	2
<b>BBIT Early Adopter Updates</b> .....	3
<b>Peri-operative Guidelines</b> .....	4
<b>Pharmacy Update</b> .....	4
<b>NFS Update</b> .....	4
<b>Insulin Pump Therapy</b> .....	4

# Provincial Glycemic Management Policy and Procedures for Hypo and Hyperglycemia Management

We are happy to share that the provincial policy for Glycemic Management, along with procedures for hypoglycemia and hyperglycemia management **were approved** by AHS Clinical Operations Executive Committee (COEC) on May 24, 2017. They are now posted on the policy website, with a resource document, with an effective date of September 1, 2017. ([Policy](#), [Hypoglycemia Procedure](#), [Hyperglycemia Procedure](#), [FAQ](#))

The aim of this policy suite is to improve glycemic management in Acute Care settings through a number of coordinated strategies, and to support staff in early recognition and treatment of hypoglycemia and hyperglycemia, to prevent negative outcomes for adult patients.

Thank you to the following provincial working group members who guided the development of these governance documents: *Brenda Ashman; Brianna Johanson; Carrie Waggott; Cassie Waters; Chauntal Dunn; Danielle Denty; Darren McIlwaine; Glenda Moore; Gwen Stott; Lana Chivers; Linda Juse; Linda Vogel; Madie Anderson; Michele Stanley; Peter Macek; Rae Popowich; Rhonda Roedler; Sasha Wiens; Dr. Tammy McNab; and Dr. Julie McKeen.*

We are looking forward to advancing these provincial governance documents to assist staff in supporting their patients to achieve their glycemic (blood sugar) targets while in hospital.

## Webinar-July 13, 2017 @ 1200-1300h

The DON SCN will be hosting a recorded webinar through the weekly Health Professional Strategy and Practice (HPSP) webinar series, to introduce these recently approved governance documents. For more information about the webinar; please contact the DON SCN @ [diabetesobesitynutrition.scn@ahs.ca](mailto:diabetesobesitynutrition.scn@ahs.ca)

## Additional Alerts on Hospital Glucose Meters

The DON SCN has partnered with provincial lab Point of Care Testing (POCT) Network to add new alerts on the Roche glucose meters at a number of adult hospital sites across the province (Chinook Regional in Lethbridge, Grey Nuns in Edmonton, and all Calgary Zone urban and rural sites).

The added alerts are for:

Blood Glucose **less than 4.0mmol/L**

Blood Glucose **greater than 18.0mmol/L**

These alerts have been added to assist staff in early recognition and treatment of patients experiencing hypoglycemia or hyperglycemia. These additional alerts are aligned with the provincial Basal Bolus Insulin Therapy (BBIT) order set, as well as the provincial glycemic management policy and accompanying procedures for hypoglycemia and hyperglycemia management.

The current alerts on the glucose meters, that coincide with the lab services critical blood glucose values (critical low-2.6, critical high-25.0), will also remain on the meters.

With the upcoming September 1<sup>st</sup> effective date for the above policy and procedures; we will be seeking to have alerts added on all adult Roche glucose meters across the province this Fall. More information about this will be forthcoming shortly.

## Safe Management of Insulin Pump Therapy in Hospital

In-Hospital Guidelines and required forms for the self-management on Insulin Pump Therapy (IPT) in-hospital can be found at: [www.ipumpit.ca](http://www.ipumpit.ca)

The DON SCN is excited to partner with South Zone in their implementation of the IPT guidelines across all sites in South Zone. A multidisciplinary zone wide implementation working group is in progress to support the safe use of insulin pump therapy in hospital.

## Update: Early Adopter Sites of BBIT implementation

All of the early adopter sites have identified site champions (Physician, Nurse Practitioners, Nursing, Pharmacy and Administration) working collaboratively to support the implementation of this clinical practice change. They are currently collecting data that will be populated into an audit tool that has been created in Tableau.

**QEII in Grande Prairie** is in the pre-implementation phase, gathering site champions, and engaging key stakeholders.

### Edmonton Zone :

**University of Alberta Hospital** - The UAH piloted BBIT on one unit at their site in 2016 to gain learnings prior to their site wide implementation in March 2017. March 2017 saw a staggered implementation across programs over the month. All departments within the hospital are working towards improved glycemic management. The site is now in the process of collecting audit data to review the outcome of this clinical practice change.

**Grey Nuns Community Hospital - Covenant Health** set a “GO (Glycemic Optimization) initiative” go live date for June 19, 2017 after their Train the Trainer session in February 2017. (Multidisciplinary) Site Champions have been busy supporting and educating peers over the past 3 months. The use of sliding scale insulin orders were retired on the GO live date. The site has collected their baseline data and will start their audit data shortly.

**Edmonton Zone Integrated Quality Management** portfolio is collaborating with DON SCN and are in the planning stages for the remainder of sites within the Edmonton zone for improved glycemic control including the implementation of BBIT.

### Calgary Zone:

**Hospitalist Program** cares for over 800 patients in hospital daily, focusing on glycemic optimization through and multidisciplinary collaboration. The implementation of BBIT using the GO Project, starting in April 2016. The Calgary Hospitalist Innovation Committee (CHIC) has partnered with the Physician Learning Program to support its Glycemic Optimization initiative through providing individualized physician data to its members. For more information contact the CHIC program @ [CHIC@albertahealthservices.ca](mailto:CHIC@albertahealthservices.ca)

**Calgary ZMAC** supported the June 22, 2017 retirement of the pre-populated subcutaneous sliding scale insulin order sets available in SCM (Sunrise Clinical Manager) EMR across all 4 acute care sites in Calgary. A Train the Trainer session and two grand rounds were held for champions in all programs across all 4 sites in Calgary to support them to educate their peers on basal bolus insulin therapy and the use of the BBIT order set in SCM.

**Canmore General Hospital** and **Oilfields General Hospital** (Black Diamond, AB) are two rural sites in Calgary Zone who were the first early adopter sites, both implementing in early 2016. They are now sharing their experience with other rural sites in their zone. The remaining 5 **Calgary Zone AHS rural sites** attended a Train the Trainer session on May 8/17. This session brought multidisciplinary site champions together to learn how to best support and educate their peers at their individual sites in preparation of implementation. Implementation dates for each site are varied based on site readiness, implementation will occur between June-October 2017.



### South Zone:

**Chinook Regional Hospital-Lethbridge** implemented BBIT and improved glycemic management across the site in April 2016. The hospital is now monitoring its audit data and sharing the collected data with their team members, as well as provincially. Data from April—November 2016 continues to show positive improvement in BBIT uptake and im-

## Peri-operative Guidelines for Patients with Diabetes

The DON SCN is pleased to be collaborating with the Surgery SCN and Clinical Knowledge and Content Management (CKCM) to develop guidelines for patients with diabetes who are having surgery. We will be building on work already completed in the province (eg. Carb loading for patients having surgery through ERAS initiative).

Dr. Zaina Albalawi is the topic lead, and will be leading the multidisciplinary working group of experts across the province to develop these provincial guidelines.

## Update from Provincial Pharmacy

**Nancy Louis, Medication Safety Pharmacist**

The Pharmacy Services Medication Quality and Safety Team (MQST) continues to monitor the Reporting and Learning System (RLS) for issues related to insulin pens and safety pen needles. Proper technique is critical to ensure that patients receive the correct dose. Resources to support staff, including a Quick Reference Guide, Competency Checklist, troubleshooting poster, and more, can be found on Insite by typing 'insulin' into the search bar and selecting the [Insulin Safety & Diabetes Management Toolkit](#).

If you have any other suggestions for follow up, or if you are aware of a specific practice area that might be experiencing difficulties, please forward the information to Nancy Louis @ [nancy.louis@ahs.ca](mailto:nancy.louis@ahs.ca)

## Nursing Education Days

### Inpatient Diabetes Management

*Helping your patients achieve their glycemic targets*

The DON SCN in collaboration with Calgary and Edmonton Zone operations hosted 3 successful interactive basic diabetes education days for LPNs, RNs and RPN's who work in acute care. Please contact the DON SCN if your Zone or Site is interested in more information in hosting an education day.

#### Calgary Zone

March 31, 2017

May 12, 2017

#### Edmonton Zone

June 9, 2017

For more information, please contact:

[DiabetesObesityNutrition.SCN@ahs.ca](mailto:DiabetesObesityNutrition.SCN@ahs.ca)

## Update from NFS

**Janet Nielsen, RD (Program Lead, NFS Standards and Practice)**

As part of improving the ability of patients to self-manage their diabetes, NFS continues the process of adding additional sites to those providing available carbohydrate information to patients. The most recent sites adding this information are: Grey Nuns, Misericordia and Red Deer Hospitals.

Additional information about available carbohydrate for foods served on our inpatient menus is available for adult patients on Insite by searching "*carbohydrate content*." Patients admitted as In-patients that self-manage their diabetes with an insulin pump, can also access this information from the AHS ipumpit webpage.

A new document, designed for children with diabetes who are inpatients at Alberta Children's Hospital and Stollery Children's Hospital, is being developed and reviewed. It will provide similar information that is presently posted for adults with diabetes. The plan is to post it in the same locations as the adult documents on Insite.

For more information, contact Janet Nielsen, @ [janet.nielsen@ahs.ca](mailto:janet.nielsen@ahs.ca).