



<i>Medical Directive</i>	<b>MEDICAL DIRECTIVE: MANAGEMENT OF INSULIN AND INSULIN SECRETAGOGUES INDUCED HYPOGLYCEMIA</b>		
<i>Performed by:</i>	All RN's and RPN's of Residence		
<i>Approved by:</i>	Executive Director		
<i>Date Approved:</i>	October 2021	<i>Date Revised:</i>	Feb. 2022
Page 1 of 4			

**Signatories:**

Medical Director:	_____	<i>Date:</i> _____
	Dr. Daniel Vincent, MD	DD/MM/YYYY
Director of Residence Care:	_____	<i>Date:</i> _____
	Kate Cholewa RN	DD/MM/YYYY

<b>Medical Directive Description:</b>
This medical directive orders the administration of glucose tablets <b>and/or</b> glucagon injection to reverse a life-threatening hypoglycemia induced by insulin or insulin secretagogue administration. This is hypoglycemia that is not expected as part of the current disease process. It also outlines other treatment including positional safety precautions and ongoing monitoring during and post the hypoglycemic event. Physicians and Nurse Practitioners with admitting privileges to Hospice Care Ottawa (HCO) residences agree to authorization of the Medical Directives.
<b>Regulated Health Professional (s) Authorized to Implement Directive:</b>
Registered Nurses (RN) and Registered Practical Nurses (RPN) who have completed a learning package and quiz related to the administration of glucose tabs and/or glucagon.
<b>Indications:</b>
Any patient in HCO Residence with a blood glucose level less than 4 millimoles per L (less than 4mmol/L) as a result of administration of insulin or insulin secretagogues (eg. Glyburide, repaglinide, glimepiride, nateglinide). Symptoms of hypoglycemia may include; <ul style="list-style-type: none"> <li>Shakiness, dizziness, sweating, hunger, fast heartbeat, inability to concentrate, confusion, irritability or moodiness, anxiety or nervousness, headache</li> </ul>
<b>Exclusions:</b>
This medical directive is not to be used for <ol style="list-style-type: none"> <li>Hypoglycemia when the patient <u>is not on</u> insulin or insulin secretagogue medications</li> <li>Hypoglycemia that is an expected part of the disease process at the end of life in a palliative patient.</li> </ol>

### Implementation of Directive

When enacting this medical directive, ensure a designate is attempting to reach one of the following colleagues (in this order) to help manage the care while you implement the directive:

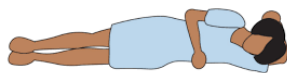
- The Most Responsible Physician (MRP) of the patient
- Medical Director or Site Lead
- On- Call Nurse
- Director of Residence Care
- Executive Director

#### Consciousness- patient is able to swallow

1. Give five (5) 4 gram glucose tablets (this equals 20 g of carbohydrate). If patient has difficulty swallowing tablets, they can be chewed or crushed and dissolved in water
2. Check blood glucose in 15 minutes
3. If less than 4 mmol/L, repeat five (5) 4 gram glucose tablets
4. If after 3 treatment cycles with the glucose tablets over 45 minutes the symptoms remain and/or blood sugar is below 4 mmol/L, proceed to the treatment with Glucagon listed below titled 'Impaired Consciousness – Patient is not able to Swallow'.

#### Impaired consciousness- patient is NOT able to swallow

1. Prepare Glucagon 1 mg intramuscular (IM) or subcutaneous (Subcut)
2. Do not use an existing Subcut access port to avoid potential issues with interactions with other medications.
3. Place the patient in a lateral recumbent position:
  - This position aids in the prevention of choking when consciousness returns.
  - Vomiting is a side effect of glucagon administration so side lying will also help prevent aspiration. If vomiting develops have suction in the room.



**Left Lateral Recumbent**



**Right Lateral Recumbent**

4. Check blood glucose in 15 minutes:
  - i. If less than 4 mmol/L, and patient remains unconscious, **repeat** (x1 dose) the glucagon administration
  - ii. If blood glucose is less than 4 mmol/L and the patient has regained consciousness, provide glucose tablets as described previously under "Normal Consciousness- patient is able to swallow"
5. If the patient has regained consciousness but the blood glucose is below 4 mmol/L do not feed the patient until the blood glucose is above 4 mmol/L as food may delay the effectiveness of the hypoglycemia treatment.

**MEDICAL DIRECTIVE FOR MANAGEMENT OF INSULIN AND  
INSULIN SECRETAGOGUES INDUCED HYPOGLYCEMIA**

6. Monitor for adverse effects of the glucose or glucagon administration. Monitor vital signs (RR, BP, HR) every 15 minutes for the first 1 hours, then hourly for 2hrs. If stable vitals and Blood Glucose Level, can discontinue. Use clinical judgement if this should be increased.
7. Check Blood Glucose with vitals every 15 minutes for the first 1 hour, then hourly for 2hrs. Can consider increasing if patient is unstable.
8. Repeat POCT blood glucose one hour after achieving the 4 mmol/L measurement. Treatment with glucagon should be apparent within 15 minutes post administration. Typically, 1mg of glucagon will produce a rise in blood glucose of 3-12 mmol/L in 60 minutes.
9. If the patient has regained consciousness and blood sugar is above 4 mmol/L, give a snack containing carbohydrates and protein.
  - Example of carbohydrate and protein snacks
    - Bread/toast with peanut butter or cheese
    - 6-7 crackers with peanut butter or cheese
    - ½ sandwich with protein such as peanut butter, cheese, meat or egg
10. Hold all further diabetes medication until you have spoken to a physician

**Documentation**

- Document the administration of glucose tabs or glucagon as ‘order per Medical Directive for Glucose Tabs or Glucagon’ on the physician’s order form, along with the name and legible signature of the implementer including credentials.
- Document the route and dose(s) of the glucagon on the medication administration record (MAR).
- Document the events leading up to the decision to initiate the medical directive related to the administration of glucose tabs and/or glucagon will be documented on the patients progress notes
- Document when the patients’ physician or Medical Director/Medical Lead was notified of the administration of the glucose tabs and/or glucagon in the progress notes
- Document when the POA or SDM was notified in the progress notes
- Complete an Incident Report if you have implemented this Medical Directive

**Management of Untoward Outcomes**

Any untoward event suspected to be related to the implementation of this Medical Directive, is reported to the MRP or Medical Director/Medical Lead and the Team Leader or after hours the On Call nurse. The event is to be documented in the progress notes.

**Education Process for Implementation of this Medical Directive**

RN/RPNs are guided by their respective professional practice standards and are accountable at all times for their own practice and actions. Each are also accountable to acquire and maintain the level of competence required for the ongoing provision of safe and effective care along with being able to recognize the limits of their practice and competence.

The educational process required for the implementation of the medical directive include:

**MEDICAL DIRECTIVE FOR MANAGEMENT OF INSULIN AND  
INSULIN SECRETAGOGUES INDUCED HYPOGLYCEMIA**

Understanding the policy in place related to the administration of glucose tabs and/or glucagon to a palliative patient.

1. Understanding the role of insulin or insulin secretagogues and their impact on a patient who is entering end of life when intake is less.
2. Have the knowledge to critically think through the differentiation of insulin or insulin secretagogue induced situations and the symptoms of end of life.