Guidelines for Managing Hyperglycemia

(High Glucose Level)

Signs and Symptoms of Hyperglycemia (High Glucose Level)

ONSET	• **Gradual (hours to days)**	
USUAL CAUSES	• **Illness, infection, surgery, injury** • **Stress: emotional or physical** • **Too little insulin**	• **Increased food** • **Exercise (in type 1) with glucose level over 14 mmol/L**
SIGNS AND SYMPTOMS	• **Thirst** • **Excessive urination** • **Fatigue** • **Abdominal pain, nausea, vomiting** • **Blurred vision**	• **Change in appetite** • **Dry/itchy skin** • **Slow healing cuts** • **Hard to breathe/acetone breath**
TREATMENT	• **Drink 8 oz (or more) of carbohydrate-free liquid per hour** • **Antibiotics for infection** • **Reduce stress**	• **Reduce excess intake of foods** • **Increase diabetes medication on advice of care provider**
Prevent By	• **Consistency in adhering to meal plan, insulin/oral agent use and exercise** • **Use stress reduction strategies**	• **Monitor glucose level more frequently** • **Report rising glucose level to physician**

REMEMBER

Insulin should always be taken!

Extra insulin may be needed by the body when you have hyperglycemia.

Drink plenty of extra carbohydrate-free fluids.

Check glucose level and ketones.

Before meals and/or every 2-4 hours around the clock.

Guidelines for Managing Diabetic Ketoacidosis

What is DKA?

Diabetic Ketoacidosis happens when you do not have enough insulin to help your body use glucose for energy. Your body starts burning fat for energy, which releases ketones in your blood. Ketones make your blood more acidic than normal. This can upset the chemical balance in your body and can quickly make you very sick.

What would cause DKA?

Diabetic Ketoacidosis can occur in people with Type I diabetes if you are not getting enough insulin or if your insulin isn't working well due to sickness, infection, pregnancy, stress and/or high glucose level.

Check for Ketones:

- for any unexplained high glucose level
- if your glucose level is above 14 mmol/L
- if a fruity odor is detected in the breath
- if abdominal pain is present
- if nausea or vomiting occurs
- if you are breathing rapidly and short of breath

If a moderate or large amount of ketones register on the test strip, ketoacidosis is present and treatment is required immediately

The Total Daily Dose (TDD) formula helps to decide how much ***extra rapid acting insulin*** you need to take. See table below to determine extra rapid insulin dose.

Add up the number of units of **ALL** insulin (rapid and long acting insulin) that you take in 24 hours (when not ill).

The TDD =_____ units.

Calculate 5%= _____10% = ____ 15% = _____20% =____ of TDD. This is ***the extra dose.***

Example: TDD = 50 units

5% (50 units x 0.05) = 2.5 units 10% (50 units x 0.1)= 5 units

15% (50 units x 0.15) = 7.5 units 20% (50 units x 0.2) = 10 units

Table 1: Type 1 diabetes supplement Insulin doses (see calculation above)

If ketones are		**Give this much rapid-acting insulin**		
Urine ketones	**Blood ketones**	**Glucose level 10.1-13.9 mmol**	**Glucose Level 14-20 mmol**	**Glucose Level >20 mmol**
Negative -	< 0.6	Usual insulin correction dose for non-illness days.	Add 5% of your total daily dose to your usual rapid dose.	Add 10% of your total daily dose in addition to usual rapid dose.
Trace +/-	0.6-0.9	Usual insulin correction dose for non-illness days.	Add 5% of your total daily dose to your usual rapid dose.	Add 10% of your total daily dose to your usual rapid dose.
Small +	1.0-1.49	Add 5% of your total daily dose to your usual rapid dose.	Add 10% of your total daily dose to your usual rapid dose.	Add 15% of your total daily dose to your usual rapid dose.
Moderate ++	1.5-2.9	Add 10% of your total daily dose to your usual rapid dose.	Add 15% of your total daily dose to your usual rapid dose.	Add 20% of your total daily dose to your usual rapid dose.
Large +++	> 3.0	Add 15% of your total daily dose.	Add 20% of your total daily dose **and contact MD and/or go to the hospital.**	Add 20% of your total daily dose **and contact MD and/or go to the hospital.**