

Insulin Pump Information

A RESOURCE FOR SCHOOL PERSONNEL

What is an insulin pump?

An insulin pump is a medical device used by some students with diabetes. It provides insulin continuously through a small tube inserted under the skin and held in place by a sticky pad. An insulin pump replaces insulin injections by a pen or syringe. An insulin pump gives:

1. **Basal** insulin: a trickle of rapid-acting insulin continuously.
2. **Bolus** insulin: a burst of rapid-acting insulin when a user asks it to, to cover carbohydrate eaten as well as to correct (bring down) glucose that is above target.

Insulin Pumps and Glucose Sensors

Insulin pumps can be used on their own (stand-alone) or can be integrated (joined with) a glucose sensor, where the sensor glucose values are automatically sent to the insulin pump.

1. Some integrated systems can suspend (temporarily stop) insulin when the sensor shows that glucose is low or likely to be low soon (predicted low).
2. Automated insulin delivery (AID) systems will also automatically adjust (increase, decrease, or temporarily stop) insulin delivery to keep glucose near target or prevent a predicted low. Some can also give an automatic bolus to correct glucose that is predicted to rise above target. AID systems can have an “exercise/activity mode” or use a “temp target” to adjust for the effects of physical activity on glucose levels.

Depending on the specific insulin pump/system used, a user can set temporary basal rates or a temporary glucose target for special circumstances (e.g., for illness or physical activity), suspend (temporarily stop) and resume (start) insulin delivery, and turn on special modes (e.g., “exercise/activity” mode).

Role of Teacher Assistants

Teacher Assistants can be assigned and trained to support students using an insulin pump, either through supervision (second check the student’s selections on the pump) or directly (make the selections on the pump). Through supervision or directly, TAs may be required to:

1. Use the insulin pump’s pre-programmed bolus calculator to **deliver a bolus of insulin** at lunch/snacks and to correct glucose that is above target (if needed) at usual glucose checking times, as indicated in the student’s plan of care.
2. Turn on **exercise/activity mode/temp target**, as indicated in the student’s plan of care.
3. **Suspend insulin delivery** if the student has severe low blood glucose, as indicated in the student’s plan of care.

Insulin Pumps available in Canada

There are 4 companies that make insulin pumps sold in Canada. This table shows which pumps are made by each company, and whether they are stand-alone only, can be integrated with a sensor, or are an AID system.

Type of System	Insulin Pump by Company (alphabetical)			
	Insulet	Medtronic	Tandem	Ypsomed
Automated insulin delivery (AID) systems*	Omnipod 5 [®] <i>Coming soon</i>	MiniMed [™] 780G MiniMed [™] 770G	t:slim X2 [™] with Control IQ [™]	
Integrated systems**		MiniMed [™] 630G	t:slim X2 [™] with Basal IQ [™]	
Stand-alone pump	Omnipod Dash [®] Omnipod [®]	<i>Any Medtronic pump when worn without sensor</i>	<i>Any Tandem pump when worn without sensor</i>	Ypsopump [®]

*When used with a specific glucose sensor and in auto mode

**When used with a specific glucose sensor

Instructions for select functions

This table provides a link to each insulin pump User Guide and references the pages with instructions for:

- **Giving a bolus of insulin** (for carb and correction) using the pre-programmed calculator.
- **Turning on Exercise/Activity Mode or Temp Target** (if applicable).
- **Suspending** (stopping) and **resuming** (starting) insulin delivery.

Insulin Pump by Company (alphabetical)	User Guide (hyperlink)	Page in User Guide with Instructions		
		Insulin Bolus using Calculator	Exercise/Activity Mode or Temp Target	Suspend and Resume
Insulet				
Omnipod 5 [®] <i>Coming soon</i>	----	----	----	----
Omnipod Dash [®]	User Guide	Pages 57-63	Not applicable	Pages 72-74
Omnipod [®]	User Guide	Pages 30-34	Not applicable	Pages 55-57
Medtronic				
MiniMed [™] 780G	User Guide	Pages 90-92	Pages 172-173	Pages 79-81
MiniMed [™] 770G	User Guide	Pages 100-102	Pages 230-231	Pages 80-81
MiniMed [™] 630G	Not available	----	Not applicable	----
Tandem				
t:slim X2 [™] with Control IQ [™]	User Guide	Pages 91-97	Page 277	Pages 104-105
t:slim X2 [™] with Basal IQ [™]	User Guide	Pages 91-96	Not applicable	Pages 102-103
Ypsomed				
Ypsopump [®]	User Guide	Pages 67-68 (use Ypsomed App Bolus Calculator for dose)	Not applicable	Pages 25-28

This resource aligns with the Nova Scotia Department of Education and Early Childhood Development, Plan of Care: Diabetes (2023)