



Patient Care + Research + Clinical Trials

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Hospital Medical Staff  
BC & Canada-wide

Re: "Looping" in hospital (using open source automated insulin delivery)

Dear Hospital medical staff

We are in the midst of a diabetes revolution that has seen automated insulin delivery (AID) become the standard of care in Type 1 diabetes worldwide. AID is analogous to cruise control for an automobile: it allows the patient to achieve optimal sugars most of the time via automation requiring only a very limited amount of manual intervention.

AID systems have 3 components

- 1) a continuous glucose monitor (CGM = Dexcom, Freestyle Libre 2 &3, Medtronic guardian)
- 2) an insulin pump (Omnipod, Medtronic, Tandem or Ypsopump)
- 3) an app running an algorithm either on a smartphone or on the pump itself which takes the glucose value from the CGM to control the amount of insulin delivered by the insulin pump.

Health Canada (HC) has approved two retail AID systems, Tandem (app =Control IQ), and Medtronic 780G (app = Smartguard) and will likely approve 2 more in the coming 12 months (Omnipod 5 & Ypsa/CamAPS). In addition there are three AID systems that use non-HC approved open-source apps driving HC-approved pumps with HC-approved CGMs, so-called "Loop" systems generically, are in wide use. The three app/primary systems are Loop, iAPS and AAPS.

These five AID systems provide better glycemic control with dramatically fewer diabetic emergencies than conventional control. For the evidence open this short URL <https://bit.ly/CJD248> which describes outcomes for the first 248 clients at BCDiabetes put on to Loop systems (the 611th client was started on Loop yesterday).

The bearer of this letter may be a BCDiabetes client. If so, their Loop system has been installed, configured & maintained by BCDiabetes staff.

If this is the case, by using a Loop system, the client will not only be able to maintain better control of their diabetes while hospitalized when they are in clear consciousness than by using conventional means, but also when they are unable to manage their system in which case they can instruct the anesthesiologist or intensivist managing their diabetes to safely control the AID system. Should the anesthesiologist or intensivist opt not to use the AID system they can use systems (insulin infusions or multiple daily injections) with which they are comfortable.

I recommend that all my looping patients be given, at the discretion of the MRP, full control of the glycemic management in-hospital while they are in clear consciousness.

Please call if you have any questions +1-604-960-1347

Yours sincerely,

Tom Elliott, Medical Director