

Insulin Pumps

Information for Young People

Have you heard much about insulin pumps? Have you ever seen one?
Do you know how they work? Do you know what do they cost?

Insulin Pump Therapy

Insulin pump therapy is simply another way to receive insulin. Instead of taking injections of insulin (sometimes up to 4 or 5 each day), insulin can be given by a small electronic device called a 'pump'. The pump is filled with insulin and is connected to the body by a thin plastic tube which is connected to a needle. This needle stays in for about 3 days at a time.

How it Works

The pump delivers insulin into the body according to the directions set on the pump. This means that it usually delivers a small dose of insulin all the time (called a 'basal' rate which is preset) and then it delivers a bigger dose or 'bolus' to match each serve of carbohydrate that is eaten throughout the day. The user can enter information into the pump, like how much carbohydrate they are eating or drinking as well as their BGL's. Some pumps can then work out how much insulin is needed to cover the meal or snack. The user then needs to direct the pump to administer the insulin. It is especially important to do regular blood glucose levels (BGL's) when on an insulin pump.

What they Look Like

An insulin pump looks a bit like a mobile phone or a doctor's beeper and they come in all sorts of colors. Most people wear them on their belt or in a pocket. Some girls wear them in their bra or strapped to their leg and use a remote control device to give a bolus of insulin. You can disconnect the pump to have a shower, swim or play contact sports (e.g. football) but shouldn't have it off for longer than **2 hours at a time**.

What do they Cost?

Insulin pumps have been around for a long time and have been particularly popular in America. In the past 5 years insulin pumps have become more popular in Australia but they are still a bit expensive.

An insulin pump usually costs between \$5000 and \$8000. In 2006 the pump consumables (the disposable bits that connect from the pump to you) became available on the NDSS which meant the cost of disposables went down from approximately \$200 per month to \$25 per month.

Visit the Sweet Transition website at www.sweet.org.au

If you have private health cover you may be covered for the cost of the pump. You will need to check with your health insurance company to find out what you are covered for.

Advantages of Pump Therapy

Using an insulin pump means:

- eliminating individual insulin injections
- delivering insulin more accurately
- improving HbA_{1c} levels
- fewer swings in blood glucose levels
- diabetes management is easier – if your glucose level is high or you feel like eating extra 'carbs', figure out how much insulin you need and push the button on the pump to deliver more insulin
- more flexibility around when and what you eat
- improving your quality of life
- reducing severe 'hypo's'
- reducing unpredictable effects of intermediate or long-acting insulin
- reducing the need to eat large amounts of carbohydrate when exercising

Disadvantages of Pump Therapy

Although there are many good reasons as to why using an insulin pump can be an advantage, there are also some disadvantages:

- Can cause weight gain
- Can cause Diabetic Ketoacidosis (DKA) if your catheter (tube) blocks or comes out and you don't get insulin for hours
- Can be expensive
- Can be bothersome since you are attached to the pump most of the time
- Can require a hospital stay or maybe a full day in the outpatient center to be trained

Even though using an insulin pump has disadvantages, most pump users agree the advantages outweigh the disadvantages.

For more information talk to your diabetes doctor or educator or have a look at the following websites:

<http://www.diabetes.org/type-1-diabetes/insulin-pumps.jsp>

<http://www.minimed.com/pumptherapy/index.html>

www.cozmore.com

Visit the Sweet Transition website at www.sweet.org.au