

Title: Pregnant woman with Diabetes: Insulin injection vs Insulin pump

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Abstract: Comparison of traditional insulin injection with insulin pump in pregnant women with type I diabetes mellitus. The outcome is evaluated by looking at both glycemic control and perinatal complications.

# Pregnancy in type I diabetes: Insulin pump versus traditional injection

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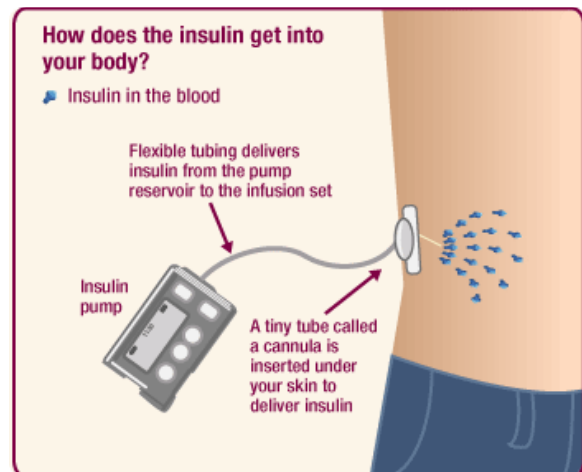
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## Insulin Pump:

The insulin pump is a medical device used for the administration of insulin in the treatment of diabetes mellitus, also known as continuous subcutaneous (under the skin) insulin infusion therapy. The device includes:

- the pump itself (including controls, processing module, and batteries)
- a disposable reservoir for insulin (inside the pump)
- a disposable infusion set, including a cannula for subcutaneous insertion (under the skin) and a tubing system to interface the insulin reservoir to the cannula.
- Still need to check your blood sugars often. Then you must adjust the amount of insulin dosed as needed.



<http://healthy-diabetic-diet-ideas.info/2010/01/advantages-and-disadvantages-of-insulin-pumps/>

## **Advantages:**

- Using an insulin pump means eliminating individual insulin injections
- Insulin pumps deliver insulin more accurately than injections
- Insulin pumps often improve A1C
- Using an insulin pump usually results in fewer large swings in your blood glucose levels
- Using an insulin pump makes diabetes management easier – if your glucose level is high or you feel like eating, figure out how much insulin you need and push the little button on the pump
- Insulin pumps allow you to be flexible about when and what you eat
- Using an insulin pump can improve your quality of life
- Using an insulin pump reduces severe low blood glucose episodes
- Insulin pumps allow you to exercise without having to eat large amounts of carbohydrate

## **Disadvantages:**

- Expensive
- Quickly develop high blood sugars if tubing kinks, run out of insulin or take off the insulin pump
- Tubing under the skin must be changed every 3-4 days
- Some people do not like the look of being connected to a machine
- 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

## **Pregnancy and diabetes:**

- Pump therapy is the preferred insulin therapy for women with type 1 who want to get pregnant.
- A pump allows the wearer to easily make the necessary insulin adjustments that the different stages of pregnancy require.
- If a woman is experiencing morning sickness, a pump allows her to give small boluses based on the amount of food she is able to keep down.
- The ability to give precise dosing, down to fractions of a unit of insulin, also allow her to keep her blood sugars in the very tight range that pregnancy demands.

## **Studies comparing insulin injection and pump in pregnant woman**

- Women with type 1 DM managed with insulin pump are more likely to have a lower hemoglobin A1c (HgbA1c) <6.0%
- They have lower rates of cesarean delivery but
- No differences in rates of preterm delivery, birthweight, or intensive care nursery admission.

## **Is the pump right for you?**

- If you have hypoglycemic episodes or wide glucose level fluctuations despite compliance with diet and insulin dosing
- Problems with hyperemesis gravidarum (nausea and vomiting of pregnancy)
- Don't eat meal at regularly scheduled or require more food during pregnancy

### **More Questions?**

If you need more information please contact your doctor. Your doctor can give you more information or refer you to a diabetes educator.

### **Other Resources**

American Diabetes Association

[www.diabetes.org](http://www.diabetes.org)