

Type 1 diabetes is a chronic, life threatening condition. People diagnosed with it rely on numerous insulin injections or pump infusions every day, just to stay alive.

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Insulin pumps

'I believe under fives should be on a pump'

Peter Hindmarsh, Professor of Paediatric Endocrinology at University College Hospital London, runs a clinic that currently has 89 children on insulin pumps. He believes that the pump's ability to mimic the function of beta cells by introducing low doses of insulin continuously can help to achieve tighter control with a reduced risk of hypoglycaemia. Here, he explains why he feels it is important for children to be introduced to pump therapy.

What are your own thoughts on insulin pumps?

They are brilliant really! Insulin pumps have given us the chance to mimic as close as we possibly can the function of the beta cells, with a really low dose of background insulin suited to the individual. This, coupled with a lower incremental scale for bolus therapy, means that tighter control can be achieved with a lower risk of hypoglycaemia. If you, under ideal circumstances, can couple an insulin pump with a glucose sensing system, then you have a powerful combination to help people with type 1 better control their blood glucose levels while maintaining a 'normal' quality of life. It helps them to incorporate type 1 diabetes into their lives and not the other way around.

Why would you decide to put a child on an insulin pump?

I think that the new NICE Guidelines released last year have got it about right. They state that children under 12 years of age should have access to insulin pump therapy, if treatment with multiple daily injections is not practical, or is not considered appropriate.

I believe under fives should definitely be on a pump, and all those who are newly diagnosed. The low doses and flexibility of pump therapy make managing small children much easier, as well as the honeymoon period in the newly diagnosed. In essence, pump therapy is about enhancing quality of life first and diabetes control second, although the two are often closely entwined.

What are your experiences with putting children on the pump? How well have they adapted?

At the beginning we were as scared as the families were with the new technology! Now it is a lot easier starting people off and we use a structured education programme that culminates in the Pump School. This is a two day course in which aspects of the pump are covered, rules laid down and the child switched to live insulin. We have found it is almost like having the diagnosis being made again, as the pump brings new rules and new techniques to master.

People have to carefully consider their decision before they start on an insulin pump. They have to remember that they, or their child, will be wearing the pump 24/7. We therefore encourage the parents and child to wear the pump as a "dummy" run first of all. The almost universal response from families is sheer amazement that the pump and the rules actually work.

We started a pair of children recently on insulin pumps and they could not understand how it was that their sugar levels were normal all the time! They believed that it had to go wrong sometime and we told them "no it's not going to." These were two three year olds and the parents felt they got their child back, as they no longer had huge swings in blood sugar levels which altered their mood.

Those on insulin pumps do not want to go back to MDI, which is a testimony to what they think of them.

What are the challenges they face when moving from injections to a pump?

There is a lot of re-learning involved. You have to learn how your child and their condition get on with this bit of technology. What we found was for the first month people think it is fantastic. Then they go through a depression period for about six weeks when it dawns on them that this is for life. Generally it is three months before they start to feel comfortable with it and from then on they are fans. We rarely have people coming off it.

Are there increased clinic visits once someone has switched to the pump?

We start with 48-hour access to the team, with daily telephone calls for the first two weeks. Usually the parents stop us ringing because they are fine! We have email and text correspondence and keep the follow up consultations to dealing with particular problems or learning new functions on the pump.

Do you ever have any patients who choose not to go on a pump?

By the time they have gone through the process to get one, it is rare to see anyone who chooses not to go on a pump. We do have three people who have stopped. However, one was very early on when we were not quite astute at picking up the differences between what the parent and the child actually wanted. In this particular case, the child was not interested. There are also two girls who have about three months off the insulin pump in the summer when they switch back to injections. They do this because they want to wear summer clothes without having a visible sign of having type 1 diabetes.

How can my child get an insulin pump?



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You need to get the funding in place with the PCT before you start. We have a contract for this, which gets the price down, and a fantastic contracts team who liaise with PCTs directly for us.

Finally get the schools and nursery on board. We bring them to Pump School and instruct them on the Wizard features that allow for calculation of insulin dose for snacks and lunch. Schools and nurseries love this because it takes away the prescription responsibility.

What advice would you give someone who is interested in getting a pump?

First of all think hard about how you would feel about being attached to something all the time, which is quite important. It does have its own demands in terms of regular blood testing, so possibly it is more work initially. Contact someone who could help with carbohydrate counting - that really is one of the key bits in terms of using the pump effectively. Think about how you will cope with activities and sports and see someone with good knowledge and expertise rather than looking for a pump yourself.

The current issue of Diabetes Breakthrough contains a supplement focusing on insulin pumps. [Become a Friend of JDRF](#) and receive a copy of Diabetes Breakthrough every quarter. [Click here to order your first complimentary copy.](#)

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