Anneli, Martina's daughter
In better control with her pump since 2011

MY CHILD HAS TYPE 1 DIABETES

MiniMed® Veo™

CONTENT REVIEWED BY DIABETOLOGIST

Medtronic

Many parents whose child is diagnosed with Type 1 diabetes wonder: Why is this happening to my child? How can I best help? How can they continue to live as before? Often it seems there are more questions than answers at the beginning.

One of the most important things to parents is the health and wellbeing of their children. For a child with Type 1 diabetes, the aim of diabetes therapy is to reduce the risk of developing long-term complications caused by high glucose levels, avoiding hypoglycaemia and ensuring normal growth and development both physically and emotionally.

Read the real-life stories of other parents of children with Type 1 diabetes and discover how they have found their way to better control.

"When Anneli was diagnosed with Type 1 diabetes, my first thoughts were that I wanted our lives to go on just as they were; having fun, laughing, without having to always worry about insulin levels. Our physician and nurse at the hospital convinced me that by using an insulin pump Anneli would have better control – and a better life. They were so right! Over the years, we have participated in women's races together, flown around the world and even been skiing in Lapland. Thanks to the MiniMed Veo pump and Anneli's better control, we can do everything again."

Martina, Anneli's mother, Austria




Managing children with Type 1 diabetes

Life changes for the whole family when a child is diagnosed with Type 1 diabetes. Many parents worry about how diabetes will affect their child's life. How it may affect their future. How they can continue to live a normal life.

What is the goal of diabetes management?

In simple terms, to **keep glucose under good control**, as this can help to ensure a healthy life today and minimise the risk of complications in the future. One way of knowing that a child's glucose level is under good control is to keep their HbA1c in the target range set by their physician.

Ways of managing blood glucose levels

To keep blood glucose levels in the target range and to **reduce the risk of complications**, accurate doses of insulin need to be delivered to the body. Different therapies can include:

- **Conventional Therapy**: 2 to 3 injections per day of mixed long- and short-acting insulin
- **Multiple Daily Injections (MDI)**: injecting 3 or more times per day with rapid acting insulin and 1 to 2 times per day with long-acting insulin
- **Insulin pump (Continuous Subcutaneous Insulin Infusion)**: CSII replaces the need for frequent injections by delivering rapid acting insulin 24 hours a day. A programmed insulin rate mimics the basal insulin production by the pancreas in people who don't have diabetes and can be better adjusted to the body's needs rapid acting insulin acts very quickly to help minimise variations in blood glucose levels in response to carbohydrate intake or if needed to lower high blood glucose values

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Reduced HbA1c can help reduce complications

HbA1c: An **important measure** of how effectively diabetes is being managed using a measure of the amount of glucose that has attached itself to each red blood cell over the preceding 2-3 months to assess the level of diabetes control.

The DCCT (Diabetes Control and Complications Trial) study confirms that **lowering HbA1c by just 1%** can decrease the risk of developing microvascular complications by up to 40%.* HbA1c should be monitored every 3 months with **the goal of keeping it below 7% (53mmol/mol)**, or at the target set by your physician.*

Normal glucose values vary between 4.0 and 7.8 mmol/L, and you may want to consider trying to achieve these targets in daily life with self-monitoring of blood glucose (SMBG) levels using a personal glucose meter.*

Guzman, Esther's son
In better control with his pump since 2010

Challenges when caring for children with Type 1 Diabetes

Hypoglycaemia

Parents may worry that their child may have a hypoglycaemic event (low blood glucose) during the night while sleeping. Many may check blood glucose values several times during the night to ensure that their child's blood glucose levels are within their target range.

"The thing we feared most was nocturnal hypoglycemia." ***Paolo, Giulia's father, Italy***

"I realised in the first few hours of learning about an insulin pump that life would be different. It was clear to me that with a pump, my child would have a better life." ***Martina, Anneli's mother, Austria***

Small children and toddlers

Young children need small doses of insulin. Many children eat small amounts at frequent intervals throughout the day so may require more frequent insulin injections.

So, what can parents do to help their children better manage their diabetes and keep their blood glucose levels under control whilst letting them enjoy their childhood?

Believe in Better Control

For many children, an insulin pump offers an ideal solution

To deal with the challenges of **keeping blood glucose levels under better control**, many children with Type 1 diabetes **rely on insulin pumps**.

An insulin pump is a **small device**, about the size of a mobile phone that can be **easily carried** on a **belt**, inside a **pocket**, or even attached to clothing or a small pouch worn around the waist.

An insulin pump can help you and your healthcare team to more closely **mimic the way a healthy pancreas delivers the basal insulin to the body** by providing small amounts of rapid acting insulin during the day and night.

It can **help to better manage the need for insulin dose adjustment**, particularly after meals and overnight and can thus **help to achieve better glucose control**.

Instead of frequent injections, all that is needed on pump therapy is a **change of infusion set every few days**.

Anneli's real size pump

"Now, Guzman does everything other kids do: swimming, and his favorite sport, football. The simple truth is that the pump has improved life for the whole family." ***Ester, Guzman's mother, Spain***




How does the MiniMed® Veo™ help control glucose levels?

The MiniMed® Veo™ can deliver tiny, precisely measured doses of insulin as little as 0.025units every hour throughout the day. The exact amount is set to the specific requirements of the child's normal body functions by the physician.

The pump also allows you to:

- Use the Bolus Wizard®: this built-in feature helps to ensure accurate dosing by taking into account the insulin already in the system, the current glucose levels, carbohydrate intake and personal insulin settings to determine the right dose
- Adjust the basal insulin in order to compensate for higher or lower levels of exercise or during illness
- Cancel programmed deliveries of insulin if the child decides not to eat or take part in a previously-planned activity

Is an insulin pump suitable for toddlers and young children?

Results of recent studies* show that insulin pumps can be both safe and effective for toddlers and young children provided that their parents are both knowledgeable about and motivated to use this device.

An insulin pump may help make the task of balancing insulin and glucose easier and, also can help reduce hypoglycaemia.

The MiniMed Veo has been used successfully for many years with toddlers, young children and teenagers. It may be less invasive for those parents, family, friends and teachers who help assist the child with managing his/her diabetes.

Clinical studies confirm that many Type 1 patients of all ages who switch from MDI to insulin pump therapy report improvements in their quality of life and increased satisfaction with their treatment.*

Believe in Better Control

How the MiniMed® Veo™ can help in daily life

The MiniMed® Veo™ has many features and settings that may be ideal for younger users.

- **The Bolus Wizard®** that takes also previous insulin still in the body into account so that bolus calculations are more accurate
- **A child lock feature** that disables pump buttons, so insulin cannot accidentally be programmed. A remote control is also available to put parents in sole control
- The MiniMed Veo pump has a **sophisticated network of safety checks and systems.** If the safety network detects anything unusual, the pump notifies of conditions that require immediate attention

Giulia, Paolo's daughter
In better control with her pump since 2008

Where can my child keep his or her insulin pump?

This is often one of the first questions asked by many parents and children. In fact, the pump can be **easily attached** to a belt or carried in a pocket. Various pump cases are also available.

Insulin pumps and sports? How does that work?

There are often questions about wearing the pump during activities such as sports, dance and parties. Usually, the pump can remain attached without interfering in these activities. **The pump can be disconnected** (for up to 60 minutes) **for showers, swimming or intense activity**. The pump has to be connected again after, and in case the pump has been disconnected for more than an hour, some dosage adjustments may have to be made.

Parents should discuss this with their physician to establish the right adjustments for their child.

Can my child still be able to live a normal social life?

Having fun and playing with friends is one of the best ways for a child to stay happy and healthy. With a MiniMed Veo a child's social life can be as flexible as their schedule demands.

The MiniMed Veo has infusion sets and automatic inserters suitable for all ages (including babies) to help ensure effective insulin delivery and allow children to continue their lives.

"We always loved to do outdoor activities and sports together. Thanks to the pump we all have reached a new level of freedom and increased peace of mind!" ***Paolo, Giulia's father, Italy***

Believe in Better Control

Is an insulin pump right for my child?

Many children with Type 1 diabetes may **benefit** from an insulin pump without even knowing it. In general if they or (where appropriate) their parents experience any of the following, they could get better control with an insulin pump:

- Fear of needles
- Difficulty in managing highs and lows
- Fear of hypoglycaemia, especially at night
- Reduced hypoglycaemia awareness
- HbA1c outside target range
- Concerns about long-term complications
- Seeking more flexibility in everyday life

The best way for your child to stay within the target glucose range is to test blood glucose levels (SMBG) at least 4 times per day and make adjustments to the therapy as needed. The MiniMed® Veo™ can make these calculations and adjustments to **help improve glucose control**.

"What surprised me most was the flexibility the pump provided him and the whole family. And the truth is that the pump has also improved our nights for all." ***Ester, Guzman's mother, Spain***

Talk to your physician about the insulin pump therapy and whether it may be right for your child.




Additional options available with the MiniMed® Veo™

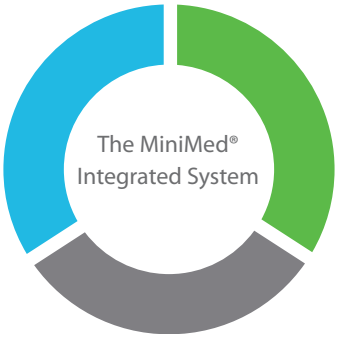
The MiniMed® Veo™ is also available with **the additional integrated** function of Continuous Glucose Monitoring (CGM) and CareLink® Therapy Management Software.

The MiniMed Veo when coupled with CGM is the **only insulin pump** with a feature which can help **reduce the impact of hypoglycaemia***. If the glucose levels fall dangerously low, the MiniMed Veo can turn off insulin delivery for up to 2 hours. It can also **advise if glucose levels are rising or dropping quickly by sounding an alert**. This can be a big advantage compared to SMBG alone as the MiniMed® Integrated System will also alert when crossing pre-set threshold limits and shows current glucose trends.

To learn more about these additional options and how they can improve diabetes therapy, please visit our website **www.medtronic-diabetes.co.uk**, or speak to your healthcare team.

The MiniMed® Integrated System

The MiniMed® Veo™



Enlite® Glucose Sensor

CareLink® Therapy Management Software

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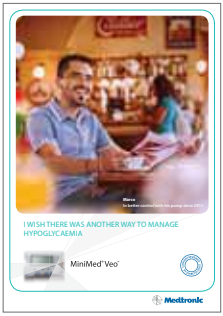

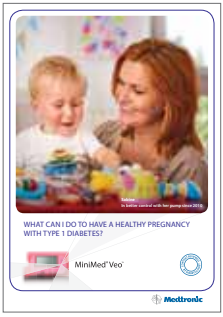

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