



WHICH DEVICE OPTIONS ARE AVAILABLE?

A guide
to insulin
devices

www.withyoualltheway.info

changing
diabetes®

At Novo Nordisk, we are changing diabetes. In our approach to developing treatments, in our commitment to operate profitably and ethically and in our search for a cure.



With you all the way is a paediatric support programme created by Novo Nordisk, providing practical information on diabetes and its management for you and your child.

This material has been reviewed by a panel of experts:

- Lead Diabetes Specialist Nurse – Nicola Lewis, UK
- Paediatric Endocrinologists – Prof Thomas Danne, Germany and Dr Nandu Thalange, UK



This information is not designed to replace the advice of a healthcare professional. Please consult your healthcare professional if you have any questions or concerns about your child's condition.

Injecting insulin

Your child will need to receive several insulin injections each day to help manage their diabetes.¹

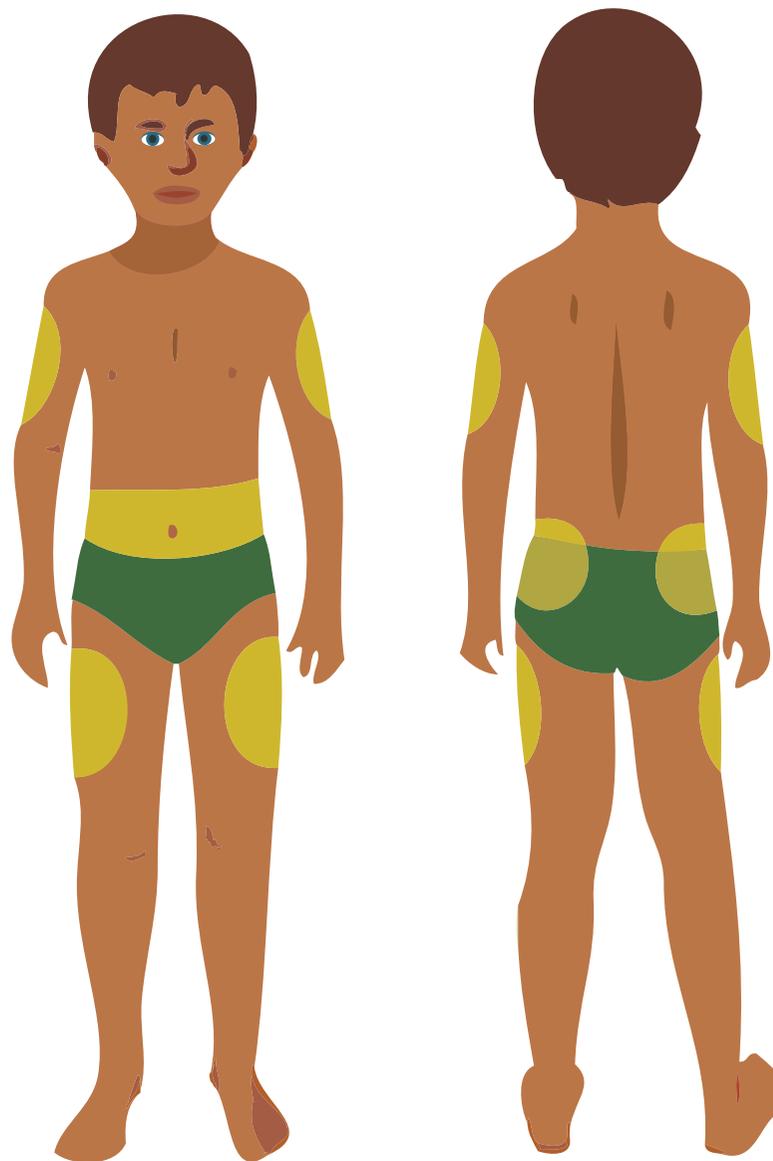
At first, injections will be stressful for you and your child, and they may find them uncomfortable – but it will get easier with time as you both start to feel more confident and relaxed.²

Older children and teenagers can normally do their own injections from the beginning and take a more active role in managing their own treatment. Your diabetes care team will have a lot of experience helping children get started with injections.

Needles can be scary, particularly for young children. However, the needles used to inject insulin are very small, as insulin only needs to be injected into fatty tissue under the skin (subcutaneously), and not into a muscle or vein.²

The most common sites for injecting insulin are the abdomen, buttocks, thigh or arm, as advised by your healthcare professional.² It is important to know that insulin is absorbed at different speeds, depending on the site it is injected. It enters the bloodstream more quickly if it is injected into the stomach and more slowly if injected into the buttocks or thighs.² Rotation of injection sites is important to avoid a build up of lumps under the skin.²

There are a number of insulin devices available including needles and syringes, pen devices and pumps. Your diabetes care team will be able to discuss the options with you and your child.



Insulin pens

Insulin pens are designed with a discreet, short, fine needle on the end of the pen.¹

Insulin pens have built-in cartridges. The dose is selected by turning a dial, and then the plunger/button at the end of the pen is pressed to inject the dose.

There are two main types of pens:

Reusable (durable) pens – with this type you need to replace the cartridge when it is empty and all doses have been used.

Prefilled (disposable) pens – this type of pen is supplied with the insulin inside and should be thrown away when it is empty, or after 30 days of use (depending on the type of insulin and its in-use time).

Single-use needles need to be attached before each use of the pen.² The size will depend on the age and weight of your child.

Some insulin pens have half-unit dosing which may be better for precise dosing in younger children.¹ There are also some pen devices that have a memory function which records the time the last dose was taken³ – this may be useful if your child is taking their medication at school or at a friend's house.

For further details on how to use and store your child's insulin pen, please contact your local healthcare professional who will help explain how to use the insulin pen and understand the manufacturer's instructions for use.



Insulin pump

An insulin pump is a small device about the size of a mobile phone.² It provides a steady flow of short-acting insulin continually throughout the day and night, matched to your child's needs. It also allows extra insulin to be given at mealtimes or if blood sugar levels rise too high.²

Some children prefer having a pump than having to inject several times a day,¹ and pumps can be a more flexible option. When children get older, start school and spend more time away from home, delivering insulin via a pump may also be a convenient option.

Pumps work by storing insulin in a special holder and delivering it via a very thin plastic tube, which is inserted just under the skin, usually in the abdomen.² This needs to be replaced and repositioned two to three times a week.² Pumps are controlled by pressing buttons to change the dose and deliver the dose.²

Using a pump is the best way of matching the body's normal production of insulin,¹ and can help your child get better control of their diabetes with fewer sudden drops in blood sugar.² Your child may even be able to reduce the total dose of insulin needed every day as their diabetes control improves.²

Insulin pumps can be particularly suitable for very young children, who are more sensitive to insulin and tend to need smaller doses, and for adolescents who can find it difficult to gain good control of their blood sugar.²

If your child's healthcare professional decides that a pump is the right choice, you will receive full training on how to help your child use the pump.

Talk to your healthcare professional about which device is most appropriate for your child.



References

1. Bangstad HJ *et al.* ISPAD Clinical Practice Consensus Guidelines 2009 Compendium: Insulin treatment in children and adolescents with diabetes. *Pediatr Diabetes* 2009; 10(Suppl 12): 82–99.
2. Diabetes UK website: www.diabetes.org.uk
3. Novo Nordisk website: www.novonordisk.com/diabetes_care/
Accessed July 2012.



About Novo Nordisk

This information was developed by Novo Nordisk, a global healthcare company specialising in the care of people with diabetes.

Novo Nordisk was started up almost 90 years ago by a Danish couple with a passion for changing diabetes. August Krogh was a professor at the University of Copenhagen and Nobel Prize winner and his wife Marie, a doctor and researcher into metabolic diseases, suffered from type 2 diabetes. They learned of insulin being developed in Canada and were determined to ensure access to insulin for everyone with diabetes, hence in 1923 Novo Nordisk was born.

Since then Novo Nordisk has grown to become a world leader in the provision of diabetes products and support for patients of all ages.³

We fully understand the challenges that children with diabetes face and are working together with parents, schools and healthcare professionals to improve the care of children with diabetes, as they grow up and develop.

For more information about Novo Nordisk, please visit: www.novonordisk.com



This information is not designed to replace the advice of a healthcare professional. Please consult your healthcare professional if you have any questions or concerns about your child's condition.

APROM ID#5919; approval date: March 2014.

Changing Diabetes® and the Apis bull logo are registered trademarks of Novo Nordisk A/S. Novo Nordisk A/S Novo Alle 2880 Bagsværd Denmark



www.withyoualltheway.info