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VibroSense Dynamics: Insulin pumps can reduce the level of nerve damage in children with diabetes according to Swedish study

A study, published in the scientific journal PLOS ONE, reveals that 18 percent of examined children in Skåne, South of Sweden, with type 1 diabetes show initial signs of nerve damages in the feet, Diabetic Peripheral Neuropathy (DPN). The study also found that children, who used insulin pump instead of the insulin pen, had a lower degree of early signs of peripheral neuropathy.

Nerve damage in the feet is a common cause of amputation due to diabetes of adult diabetic patients. The study raises questions about the screening method recommended in Sweden today to detect nerve damage in the feet of children, adolescents and adults with diabetes. The researchers emphasize the importance of screening in order to find early signs of nerve damages in children and adolescents with type 1 diabetes.

Eighteen percent of the 72 children and adolescents from Skåne, included in the study, showed early signs of peripheral neuropathy, in terms of impaired sensitivity in the feet. The study also revealed that children and adolescents, who used insulin pump, had a better sensitivity in their feet, compared to those who injected insulin with an insulin pen.

The researchers examined the sensitivity of hands and feet with the VibroSense Meter (VSM system) and with monofilament which is a common screening method. The study showed that the VSM system disclosed impaired sensitivity that could not be detected with monofilament, indicating that the VSM system detects impaired sensitivity at a much earlier stage.

The VSM system is a medical device instrument, which examines a person's ability to detect vibration stimuli on fingers or feet, within a wide frequency band. An examination is easy to perform and the patient does not experience any discomfort.

In the published study, it is also discussed that other commonly used methods, Biothesiometer and Tuning fork, may be inferior. In Sweden, it is recommended to use a 128 Hz tuning fork, for screening of diabetic patients, to detect peripheral neuropathy in the feet, but this method can only detect impaired sensitivity at a very late stage.

- The published study supports the use of our VSM system for screening of young people with diabetes. A screening examination takes about 4-10 minutes and does not cause any discomfort to the patient. By providing a tool for detection of early signs on peripheral neuropathy in children and adolescents who have diabetes, we hope children are given the opportunity to avoid foot ulcers and amputation later in life, says Toni Speidel, CEO VibroSense Dynamics AB.

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About VibroSense Dynamics AB

VibroSense Dynamics AB (public) develops and markets efficient systems to aid early detection and diagnosis of sensory neuropathy, i.e. disease of large nerve fibres and nerve trunks in e.g. legs and arms. The Company, founded in 2005, has been listed on AktieTorget since May 2015.