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VibroSense Dynamics AB: New study shows that impaired vibrotactile sense in the feet can be detected by Multi-Frequency Vibrometry in children and adolescents with type 1 diabetes.

A study conducted at Lund University has showed that 19 percent of the children and adolescents with type 1 diabetes enrolled showed signs of impaired vibrotactile sense in their feet. The results further show that the incidence of impaired sensation was more common in those children and adolescents who receive insulin through insulin syringes, as compared to those treated with an insulin pump. A new method, Multi-Frequency Vibrometry was used in the study.

The study showed that 19 percent of the examined children showed signs of decreased sensation in their feet, so-called subclinical peripheral diabetes neuropathy. The HbA1c values did not differ between the persons with impaired and normal sensation, nor were there any differences between sex.

An interesting observation from the study is that the incidence of decreased sensation was lower among children and adolescents treated with an insulin pump, compared to those who administered the insulin by a syringe.

The study also included testing of the patient’s sensations using so-called monofilaments. None of the investigated children in the study showed signs of impaired sensation when tested for light monofilament pressure.

In the study which was carried out in the region Skåne in the south of Sweden, the VibroSense Meter instrument was used to measure the sensation of vibration on fingers and feet of children and adolescents with type 1 diabetes. Using a VibroSense Meter is comparable to how a hearing test is conducted. The children and adolescents placed a finger or part of the sole of the foot on a probe that vibrates with 7 different frequencies of different intensities. When the children perceive a vibration in the skin, they press a response button, and when the vibrations stop, they release the button. The method thus measures the patient’s sensation for the different vibration frequencies.

“The presence of subclinical diabetes neuropathy among children and adolescents is well known but the observed correlation between using an insulin pump and presence of subclinical diabetes neuropathy is extremely interesting,” says Toni Speidel, CEO VibroSense Dynamics AB.

The study included 73 children and adolescents between 8 and 18 years of age with type 1 diabetes. The study was conducted by Erik Ising, PhD student at the Department of Clinical Sciences Malmö - Pediatric Endocrinology, Lund University. Co-author is Lars B Dahlin, Professor of Department of Translational Medicine - Hand Surgery, Lund
University and Helena Elding Larsson, Associate Professor at the Department of Clinical Sciences Malmö, Lund University. The study was presented at the American Diabetes Association’s 77th Scientific Sessions in San Diego, California.

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