

Aching knee or sore back? New app helps doctors treat pain

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Navigate Pain app and web platform

Danish researchers have developed a system that lets you visually draw your pain using an app on your phone. Doctors can then study your symptoms as images or video, saving time and improving treatment.

Explaining to your doctor exactly where and how it hurts is tedious and often inaccurate but that process is about to become a lot smoother. A new app and web platform called Navigate Pain helps you register types, intensities and areas of [pain](#) every day by simply drawing over sketches of the human body.

As the first evidence based clinical system for visual pain communication between patient and doctor, the app records your changing symptoms as easily understandable graphics on your phone or tablet. Your doctor can then view your data as a video on her computer to quickly assess your symptoms or perform a more detailed visual analysis of how your pain has progressed.

"If you've ever tried describing your symptoms to anyone then you know how difficult it is. Visualizing the pain makes the process simpler and allows a trained professional to immediately recognize specific patterns of pain expression, saving time and avoiding misunderstandings," says Shellie Boudreau, Associate Professor at Aalborg University and the creator of Navigate Pain.

Built for use in the field

The platform was initially created in the Department of Health Science and Technology at Aalborg University, where Shellie Boudreau is an associate professor specializing in pain research. It was first intended as a research tool since there was previously no way of mapping the progression of pain.

"As our system improved we reached a tipping point where we had a tool that deserved to be used in real life health clinics. So in 2015 we founded a company to refine the product and bring it to market," says Shellie Boudreau. She is now CEO of Aglance Solutions, the company she founded to develop the clinical version of the Navigate Pain

application.

With the help of Aalborg University the app has since been tested in more than 60 clinics, hospitals and research settings all around the world and is now ready for commercial use. This week Aglance Solutions launched a website where clinics can sign up for Navigate Pain. The dedicated web platform optimized for use in health clinics will be in use by summer this year.



Credit: Aalborg University

"Professionals don't have time to fiddle with a complicated interface. The technology needs to just work and fit seamlessly into the workflow of a clinic. Otherwise physiotherapists and doctors simply won't use it," says Shellie Boudreau of Navigate Pain.

Apart from being a useful tool in consultations and treatment, Navigate Pain's new [web platform](#) will also have important features for [health clinics](#) such as business intelligence, comprehensive statistics and

automatic documentation of cases and treatments.

The future of pain and body mapping

Currently the focus of Navigate Pain is to establish a wide user base with the new commercial platform. For this reason Aalborg University is showcasing the company at the Danish IP Fair on May 9th looking to partner with health tech companies in order to quickly reach more users.

The next step is to return to the community that started the project in the first place. Since Navigate Pain was originally created for research it has very powerful anonymized data mining capabilities built into it.

As the commercial platform gains more users, Shellie Boudreau says the company will launch a separate platform tailored to the academic community later this year. With more advanced analysis tools it will give scientists access to the immense amounts of anonymized data that the app collects globally for research purposes.

Shellie Boudreau and her team have recently published a research article using the data, revealing unique pain patterns in knee pain patients which may help improve treatment and [pain management](#). With data from Navigate Pain soon being widely available for researchers, similar strides could be made for different patient groups.

"Our ultimate goal is to create a broad mapping tool for the body that can visualize not only pain but all kinds of symptoms, helping patients and clinics and creating valuable research data in the process," says Shellie Boudreau of Aalborg University and Navigate Pain.

More information: S. A. Boudreau et al. Distribution and symmetrical patellofemoral pain patterns as revealed by high-resolution 3D body mapping: a cross-sectional study, *BMC Musculoskeletal Disorders* (2017).

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