

## Desired Sensation Level Software Gives Infants, Children Gift Of Hearing, Again

University of Western Ontario



For nearly 15 years, Desired Sensation Level (DSL) software has helped clinicians around the world provide infants and children with the gift of hearing.

“*DSL was originally designed for use in children’s hearing aids but has been upgraded to work for adult hearing aids as well. The software has also been updated over the years to include support for a variety of different hearing aid types.*”

In 2017, a team of researchers at Western University’s world-renowned National Centre for Audiology (NCA) in London, Ontario, rolled out an updated version of DSL, developing the world’s first hearing aid prescription software for bone-conduction hearing aids, which work on force, not sound pressure like conventional hearing aids.

“These small devices send sound directly into the skull, bypassing the external ear and middle ear,” said lead researcher Susan Scollie.

Originally developed by Scollie, Richard Seewald and NCA colleagues, DSL helps clinicians properly fit hearing aids and tune them to a patient's specific needs. By applying these principles to bone-anchored hearing aids, clinicians can now improve hearing outcomes for many patients born without external ear structures, or who have been affected by certain infections or amputations.

Working in concert with NCA software engineer Steve Beaulac, and Bill Hodgetts, a Western alumnus and Program Director of bone conduction amplification at the University of Alberta and the Institute for Reconstructive Sciences in Medicine, Scollie developed algorithms that take hearing assessment information from each patient and prescribe recommended amounts of loudness and pitch shaping for their individual needs.

WORLDiscoveries, the technology transfer office for Western University, helped trademark, secure internal development funding, market and license the technology to commercialization partners.

The project has already drawn industry attention, and is licensed by a local testing company, and a multinational healthcare manufacturer in Denmark.

"We've had a long history of impacting clinical practice in hearing aid fitting, so we're very happy to bring this type of evidence-based accuracy to the fitting of bone-anchored hearing aids," Scollie said.

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