

# J3 Group, Tribe complete first-of-its-kind research study in First Peoples community

By Chucri (Chuck) Kardous

Siletz Tribal members John Johnson (Tribal elder) and son Shawn Johnson, J3 group LLC, were in Siletz in early April to perform a Personal Attenuation Rating (PAR) fit testing study for their hearing protector device – Sert-A-Plug (SAP) – that fits foam earplugs directly into the user’s ear canals. Siletz Tribal members participated in the PAR study.

Individual fit-testing of hearing protectors is a recommended best practice by the National Institute for Occupational Safety and Health (NIOSH), the Occupational Safety and Health Administration and the National Hearing Conservation Association. In November 2023, fit testing of hearing protectors became a Department of Defense mandatory requirement for all service members and ancillary components.

J3 Group invited me (an acoustical engineer with 30 years’ experience as a hearing loss research scientist with NIOSH) to join their team alongside Dr. John Takacs, a well-established Portland-based doctor of osteopathic medicine. Together their team conducted the hearing protection fit testing study to evaluate the effectiveness of the patented SAP insertion tool in collaboration with Miranda Williams, executive health director of the Siletz Community Health Clinic.

J3 Group is proud that this pilot research study is the first of its kind to be conducted in a First Peoples community. It was vitally important to recruit Tribal members who could participate in our study on Tribal lands and in Tribal facilities to help prove or disapprove SAP’s effectiveness.

Preliminary data results suggest that this pilot research study was a huge success in proving SAP’s overall effectiveness compared to traditional methods of earplug insertions.

The study aimed to examine the difference in the PAR between regularly and fit-tested earplugs and those inserted using the SAP tool to document its effectiveness analytically and based on real-world data.

The study examined the hearing and the personal attenuation rating of 30 Siletz Tribal members (ages 18-64; 21 women and nine men) using the FitCheck SoloTM

system. Most participants had in the past been exposed to recreational noise (loud music, shooting firearms, motorcycles, power tools, etc.) and some had on-the-job noise exposure.

Everyone was asked to sign an informed consent form before the beginning of the study. Preliminary results showed that the SAP tool achieved 83% improvement on naïve-fitted earplugs and an almost 19% improvement on those who had been properly trained fit-tested individuals.

Participants were asked to provide feedback upon completion of the study and every participant who responded indicated a positive experience with increased awareness about the proper fitting of earplugs and the importance of hearing protection. They also indicated a willingness to participate in follow-up J3 Group research studies.

Overall, the PAR study was well-executed and would not have been possible without the support of the members of the Siletz Tribal community and Williams’ oversight. Plans are under way to present the findings from this study at national hearing conferences and to submit a manuscript for publication to a scientific journal (such as the *International Journal of Audiology* or the *Journal of Occupational and Environmental Hygiene*).

J3 would like to thank all of the PAR study participants for their patience, the fun and laughs, and to remind them that they are encouraged to participate in future SAP studies. We also wish to thank the Siletz Tribal Council for approving our proposal and for allowing the use of Tribal facilities to execute the PAR study. Special thanks go to Williams for taking on this extra duty on very short notice and for expertly coordinating all aspects of this endeavor. You are a star!

John Johnson is a member of the National Occupational Research Agenda (NORA) Council. NORA is a NIOSH sub-agency that sets the occupational safety and health agenda for the Nation.

He sits on two NORA committee groups - Fit Testing, Hearing Protection Devices; and Hazard Awareness, Noise & Ototoxins.

For additional information, contact John Johnson at john@Sertaplug.com.



Shawn Johnson (l), Chuck Kardous and John Johnson in front of the Siletz Community Health Clinic



Courtesy photos

Dr. John Takacs and Chuck Kardous at the Siletz Community Health Clinic

**For more information about the Siletz Tribe, visit [ctsi.nsn.us](https://ctsi.nsn.us).**


## Siletz Tribal Behavioral Health Programs

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