

# Sert-A-Plug (SAP) Fit-Test Study

## Summary

The J3 Group, a Confederated Tribes of Siletz Indians (CTSI) tribal member-owned company, conducted a hearing protection fit-test study to evaluate the effectiveness of their patented Sert-A-Plug (SAP) insertion tool in collaboration with the CTSI Community Health Clinic in April and August of 2024. The study aimed to examine the difference in the Personal Attenuation Rating (PAR) between naïve and experimenter-assisted fit, and those inserted using the SAP tool using the FitCheck Solo and WAHTS Fit-Test systems. The study also asked participants to rate the comfort and ease of use, as well as duration of time spent using the SAP tool. Additional expanded studies are being planned to include noise-exposed workers along with developing targeted hearing conservation and hearing loss prevention programs. A manuscript is in preparation for journal publication.

## Findings

- 67 total subjects tested (ages 18 – 65, avg 40.5), 8 returned for second study
- 24 males and 30 females (13 excluded due to age, equipment malfunction, other issues)
- Some occupational exposures (grounds-keeping, maintenance, logging). Most exposed to recreational noise (loud music, shooting firearms, motorcycles, power tools, etc.)
- Naïve Subjects PAR (dBA  $\pm$  SD): **17.2  $\pm$  9.3**; Trained Subjects: **24.3  $\pm$  6.7**. Trained subjects with SAP: **28.8  $\pm$  6.4**
- 83% improvement on naïve-subjects, 19% improvement on trained fit-tested subjects
- 87% rated Sert-A-Plug (SAP) as Very or Somewhat Comfortable. 90% rated SAP as easy to use, and 87% reported a “Better Fit” using SAP tool
- Participants reported a positive experience and increased awareness about HPDs fit/use

## Personal Attenuation Ratings (PAR) - Study Results

