Auditory Outreach uses both ultrasound and electropalatography to assist in assessments and recommendations for school-based teams across the province.

**ULTRASOUND**

Ultrasound has been used by speech language pathologists for about 10 years as a visual feedback tool for assessment and therapy. Here in British Columbia the PRP-AO has been using ultrasound since 2002. SLPs are using ultrasound at 3 school districts and various centres across the province, and have been working with students with hearing loss with great success.

Penelope Bacsfalvi’s first pilot study on the use of ultrasound in speech habilitation was presented at CHHA-BC in 2001 in Richmond. Dr. Bacsfalvi’s doctoral work on speech habilitation for people with hearing loss developed methods and evaluated the outcomes of these methods on progress with intervention, with great promise. Her preliminary research and other projects completed during her doctoral studies with collaborators at the University of British Columbia have demonstrated equally encouraging outcomes for students who present with persistent speech difficulties with or without hearing loss. Since then there have been a number of other studies demonstrating positive results.

For a look at the tongue movements during speech and visual feedback with ultrasound, please follow the website link to the School of Audiology and Speech Science in the Faculty of Medicine at the University of British Columbia for this published online resource:


**ELECTROPALATOGRAPHY**

Electropalatography (EPG) has been around for three decades and used by speech language pathologists (SLPs) around the world. EPG is another visual feedback device that has proven useful in the area of speech habilitation for students who present with persistent speech production issues for a variety of reasons (e.g. hearing loss, Down Syndrome, cleft palate to name a few).

One benefit of the EPG system we are using at the PRP-AO is that it has a Portable Training Unit (PTU) that can be used in any district across the province. The PTU is a battery powered portable EPG unit which provides visual feedback without the need for a computer. It is ideal for speech therapy clients to use at their school with the school based SLP, and then at home for home practice.

An acrylic palate, much like a retainer, is placed in the mouth. The palate contains electrodes that are sensitive to tongue palate contacts and send contact-induced electrical impulses through fine bundled wires to a computer. Tongue-palate contact patterns are displayed on-line.

**Recommended background training for ultrasound training for speech habilitation—**Master’s degree in Speech Language Pathology including the following courses: Anatomy and Physiology of the Speech Mechanism, Advanced courses in: Speech Science, Phonetics, Phonology, Clinical phonology, and Practicum in speech habilitation with specific focus on ultrasound.

**Ultrasound is a relatively new tool used by therapists in a number of fields including speech language pathology. Training for use of ultrasound with the clinical population is currently done at universities with speech research and communication disorder programmes as well as by clinicians experienced in the use of ultrasound for speech habilitation.**