Media Contact:

Michael McAleer, VA Public Affairs Officer
503-220-8262 x51920
Michael.McAleer2@va.gov

The National Center for Rehabilitative Auditory Research

Facilities Background

The National Center for Rehabilitative Auditory Research "Center of Excellence" is housed in a 20,000 square foot facility located within the Portland VA Medical Center. Because the facility is underground – essentially built in a parking garage – the unique design features higher ceilings, wider corridors, bright colors, larger offices, glass block, and other special effects to maximize natural light and simulate an above-ground building.

Completed in June 2006, the new Center houses nine sound booths and associated control rooms, one anechoic chamber, a centrally located reception and waiting area, a library, office and research space for investigators, audiologists, engineers, and support staff, as well as patient education space. In addition, a well-equipped engineering laboratory located in the Center supports the design and development of specialized equipment for auditory research and clinical applications.

Center Builds in Efficiencies

Since it was officially designated in 1999, the National Center for Rehabilitative Auditory Research offices, research space and sound booths have been scattered throughout the Medical Center, both on the Portland and the Vancouver campuses. The new facility brings it all under one roof, ensuring more efficient processes and better patient care.

This is in line with VA's goal to maximize building use and design more efficient facilities in order to better serve veterans with available resources. As part of that work, the Portland VA Medical Center recently demolished 21 of 39 WWII-era buildings on its Vancouver campus and consolidated offices located there; modernized other facilities and units, such as medical wards, both in Vancouver and Portland; and consolidated spaces – such as its recent project to merge its three intensive care units into one.

When the existing medical center was built, the Center's current space was used as a parking garage but earmarked to house an MRI facility. Due to technological advancements, however, the MRI machine no longer needed the thick walls of the garage to protect its magnetic fields, thus freeing up an ideal location for a unique audiology research tool, an anechoic chamber.

Anechoic Chamber to Aid Research

Designed for human hearing research, an anechoic chamber ensures a complete absence of sound reflection or echoes. This simulates a free-field sound environment, as one would experience outside when no wind and no reflective surfaces are present. In an anechoic environment, the sound level drops 6dB for every doubling of distance from a point source.

The chamber will be used for hearing aid research, sound localization studies, acoustic transducer studies, and other soundfield research. The chamber measures 16'x16'x16' yielding an interior volume of 4096 cubic feet.

Construction on the facility was phased in over a five year period, with a different small business contractor managing each of the four phases of construction. Silco Construction completed Phase I; Pence Construction (formerly Pence-Kelly) completed Phase II; Cedar Mill Construction completed Phase III and Pacific Tech Construction completed Phase IV. Petersen Kolberg Architects was the design architect firm.

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