



## A Mission to Save Hearing

Hearing is a necessary human function that alerts us to danger, allows us to communicate, and makes life rich. For military personnel, hearing can be a matter of life or death. The Wireless Automated Hearing Assessment System (WAHTS) is a highly portable system that makes it possible to accurately assess hearing in diverse test locations— even far-forward military operations— thereby protecting the hearing of those who need it most, who may also be the hardest to reach.

Historically, due to the need for large soundproofed booths and cumbersome equipment, hearing damage resulting from service was rarely evaluated and treated at the point of injury. Service members would be evacuated for an injury such as a perforated ear drum, which is costly from a human and resource perspective. Furthermore, without the option for reliable assessments in the field, service members

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HEARING CENTER OF EXCELLENCE DIVISION  
CHIEF, AIR FORCE COL. (DR.) LAKEISHA HENRY

would simply be asked whether their hearing was “okay.” Because hearing loss is bloodless and painless, members would often unknowingly return to the battlefield with serious damage. Not realizing the extent of injury, the risk was extensive to themselves and those around them.

WAHTS has changed this. Developed with support from the Department of the Army and the Hearing Center of Excellence, WAHTS consists of a headset that provides enough ambient noise attenuation that valid hearing assessments may be obtained without the use of a sound booth. With a wireless audiometer built into the earcups, the system can be used for air conduction tests and a suitable location for testing can be identified almost anywhere. With many hearing injuries, having an immediate diagnosis is key, with treatment options dependent on time elapsed after the injury. Identifying a hearing injury immediately could mean the difference between a successful recovery or a permanent hearing loss.

As part of Combined Joint Task Force-Operation Inherent Resolve, Lieutenant Colonel (Dr.) Jillyen Curry-Mathis, senior audiologist, traveled across Iraq with a WAHTS. Curry-Mathis provided preventive medicine and tested the portable WAHTS audiometric equipment on the ground in challenging circumstances. While deployed, Curry-Mathis encountered a British soldier who sustained a hearing injury after his ear plug fell out while firing. During the time incurred to



**ARMY PUBLIC HEALTH COMMAND HAS USED WAHTS TO INCREASE CAPACITY FOR HEARING READINESS ASSESSMENTS.**

reinsert his earplug, he was exposed to 15 live rounds (exceeding 150 dB), and sustained sudden hearing loss. Due to the accessibility of WAHTS in the field, Curry-Mathis was able to perform a battery of tests the next morning. The test results were quickly communicated to Lt. Col. (Dr.) Linda Orr, Royal Army Medical Corps' ear, nose and throat surgeon, who developed a plan to treat the soldier's injury. In this case, if administered within a short range of the injury, treatment to minimize the injury could be successful or even recover their hearing. If evacuation had been the only option for diagnosis and treatment, this may not have been possible. "...We had a shot at recovery because we kept the timeline to treatment...very short," said Curry-Mathis.

"This technology will enable audiologists to test hearing injury at the source with a better and quicker assessment to determine the next level of care and treatment," said Hearing Center of Excellence Division Chief, Air Force Col. (Dr.) LaKeisha Henry. "Ultimately this capability will help save hearing and keep military members healthy and mission ready."

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