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Salima Jiwani, PhD, MSc, Reg. CASLPO

Concussion and Hearing: The Hidden Impact

When most people think of concussions, they picture headaches, dizziness, blurred vision, or memory problems. Yet, one of the most under-recognized consequences of concussion is its impact on hearing. While the peripheral auditory system may appear healthy, many patients who sustain a mild traumatic brain injury discover that listening-something most of us take for granted-has suddenly become exhausting, confusing, or even painful.

Over the past decade, research has increasingly demonstrated that concussions can alter the way the brain processes sound (Harris et al., 2024). Hearing is not simply about detecting tones at different pitches and volumes. It is about how the brain filters, interprets, and organizes the complex soundscape of daily life. A normal audiogram does not guarantee normal listening. This distinction is especially important for individuals recovering from head injuries who complain that they “hear but don’t understand.” In my own clinical work, I have seen patients who perform perfectly on a standard hearing test but struggle tremendously in noisy restaurants, classrooms, or workplaces.

Subtle but Disruptive Changes

One young man I assessed after a car accident described his post-concussion auditory world this way: “Voices sound like they’re layered on top of each other. I can hear everyone, but I can’t focus on the one person speaking to me.” His audiogram showed thresholds within normal limits. Yet, when we assessed his speech-in-noise abilities, he performed well below average for his age.

This is not an isolated case. Post-concussion patients frequently report difficulty filtering background noise, localizing where sound is coming from, or tolerating everyday sounds that never bothered them before. Many also develop tinnitus or hyperacusis—ringing in the ears or painful sensitivity to sound—which compounds their struggles (Dobie, 2015; Knoll et al., 2020). Others experience auditory fatigue, describing an overwhelming sense of exhaustion after social interactions, even though they “technically” have normal peripheral hearing.

The Audiologist’s Role

These challenges highlight why audiologists must be involved in concussion care. If hearing healthcare is omitted from post-concussion assessment, patients may be left with invisible barriers that hinder recovery. In Ontario, where motor vehicle accident rehabilitation often involves completing OCF18 treatment plans, documenting auditory impacts is critical to securing

appropriate supports.

Audiologists are uniquely equipped to reveal the “hidden” deficits that standard hearing tests miss. Beyond pure-tone audiometry, post-concussion evaluations may include speech-in-noise testing, central auditory processing assessments, tinnitus and sound tolerance evaluations, vestibular and balance testing, and electrophysiological measures (Musiek et al., 2019). Taken together, these tools provide a comprehensive picture of how the auditory system-peripheral and central-has been disrupted.

A Multidisciplinary Approach

Of course, audiology cannot stand alone in concussion care. Patients benefit most when we collaborate with physiotherapists, occupational therapists, neurologists, and psychologists. For instance, a physiotherapist might address cervical whiplash and vestibular rehabilitation, while the audiologist manages tinnitus retraining and auditory training strategies. Together, this approach acknowledges that post-concussion symptoms rarely fall neatly into one discipline.

This collaborative model is echoed in the literature. Studies underscore the overlap between auditory processing, cognition, and vestibular function in concussion recovery (Gallun et al., 2012; Harris et al., 2024; Saunders et al., 2021). The brain is an integrated system, and so too should be our clinical responses.

Changing the Narrative

Unfortunately, many patients still hear some version of: “Your hearing is fine.” They are reassured because their audiogram looks normal, yet they continue to feel alienated from conversations and environments they once navigated with ease. This mismatch between test results and lived experience can erode confidence and delay access to appropriate interventions.

As audiologists, part of our responsibility is to change that narrative. By educating both patients and interdisciplinary colleagues about post-concussion auditory changes, we can validate patients’ experiences and advocate for their care. Even small adjustments—such as recommending communication strategies, environmental modifications, or structured auditory training—can have a profound impact on quality of life.

Looking Forward

The future of concussion audiology lies in both awareness and innovation. As research advances, we may see greater use of objective central auditory measures, portable vestibular technologies, and digital platforms for home-based auditory rehabilitation. But even now, the key is simple: listen to patients when they say, “Something isn’t right with my hearing.”

By recognizing the auditory consequences of concussion, audiologists can bridge a crucial gap in rehabilitation. For patients, that recognition may mean the difference between struggling in silence and reclaiming their ability to engage fully with the world of sound.

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