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Listening Fatigue &
The Modern Workplace:
The Tiring Reality of Listening.



Listening for long periods of time is mentally exhausting. It costs money, productivity, and even lives.

Best-selling author, Harvey Mackay, said “**Fatigue makes fools of us all. It robs us of our skills, over judgment, and blinds us to creative solutions.**” He is most definitely not wrong.

Fatigue is dangerous. It affects employees' memory, balance, coordination, concentration, decision-making, and motor skills.

It's cited as the cause behind **13% of workplace accidents and injuries each year(1).**

Fatigue is also expensive. An employer with 1,000 employees can expect to lose over \$1 million each year to fatigue: \$272,000 due to absenteeism and \$776,000 due to presenteeism (that act of showing up without being productive). An additional \$536,000 in healthcare costs could be avoided by mitigating the effects of fatigue. Overall, fatigue is estimated to cost employers about \$136 billion a year in health-related lost productivity (2).

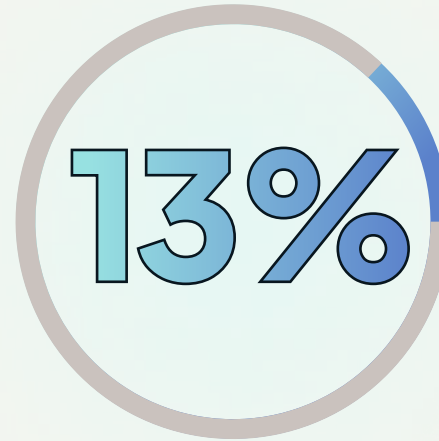
What is Fatigue?

Fatigue is not the same as feeling just tired or sleepy, although there is a link. When you feel fatigued, you have no energy, to the point that it affects your daily living and your mental and emotional state.

Mental fatigue manifests as potentially impaired cognitive function and is one of the most significant causes of accidents in modern society (3). Fatigued workers are more likely to make safety-critical errors resulting in workplace accidents like the 2005 BP Texas City oil refinery explosion and the 2010 Deepwater Horizon oil spill.

There are different reasons why someone may experience fatigue. It might be a result of lifestyle choices or an underlying physical or mental health condition. What most people don't realize is that fatigue is also caused by listening.

By definition, listening fatigue is a normal consequence of listening to sounds for extended periods of time. Many became aware of this phenomenon when back-to-back virtual meetings became the norm during the COVID-19 pandemic. For many, working from home turned out to be more exhausting than being in the office.



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What Causes Listening Fatigue?

The listening effort required to detect, decode, process, and respond appropriately requires the allocation of attentional and cognitive resources, in addition to working memory. The more difficult the listening effort is, the more physical, cognitive, and emotional resources are required. This might explain why some particularly difficult meetings can seem so draining!

Working memory refers to the brain's ability to provide temporary storage and manipulation of the information necessary for such complex cognitive tasks as language comprehension, learning, and reasoning. Working memory simultaneously stores and processes information and can be divided into three sub-systems:

- 1 **Central Executive.** An attentional controlling system.
- 2 **Visuospatial Sketch Pad.** Manipulates visual images.
- 3 **Phonological Loops.** Stores and rehearses speech-based information and is necessary for the acquisition of language (4).

Although speech recognition seems to be a simple exercise for many, it actually requires great effort and the allocation of significant brain resources. The addition of filters, like hearing loss, listening to someone with a foreign accent, or trying to hear over background noise, requires additional resources which task a person's ability to function greatly.

This quote from an attendee at an international meeting probably rings true and will be familiar to many: "It was a highly anticipated international conference and listening to speakers from around the world and catching up with colleagues was electrifying! Waking the next morning was more difficult than usual and by evening, I practically crawled back to my room and fell asleep before room service arrived. For two days I strained to understand speakers from around the globe and found myself emotionally drained and exhausted". What that individual was experiencing was listening fatigue.

For someone with hearing loss, the brain needs a greater effort to listen, and this increases mental fatigue. It means a person with hearing loss, young or old, will experience greater mental fatigue much faster than their hearing peers because it takes their bodies and brains more energy to perform everyday auditory tasks.



Listening fatigue is common for anyone who must try harder to listen and understand what is being said. But for those who have hearing loss, tinnitus, auditory processing disorders, language impairments, or those who are second language learners, the amount of energy required is exponentially greater, and therefore, the on-the-job stakes are higher.

Mark Ross, a well-known pediatric audiologist with significant hearing loss made this comment about his own hearing loss, “I can attest to the fatigue caused by prolonged intensive listening in noise through hearing aids. It seemed like the listening efforts were diverting some of my cognitive resources; so much effort was being devoted to getting the signal that I sometimes missed part of the message” (Ross 2012).

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Listening fatigue manifests differently in people and most reports describe diverse feelings of physical, cognitive, social, and emotional fatigue. Physical experiences of listening-related fatigue are:

- Exhaustion
- Problems with concentration and memory
- Problems with hand-eye coordination
- Increased chance of taking risks or making errors
- Low energy
- Sluggishness
- Slower reaction times
- Problems focusing
- Inattentiveness
- Mood changes
- Decrease in stamina
- Tiredness
- Headaches
- The desire for sleep or rest.





While physical symptoms tend to appear more behavioral, emotional aspects of listening fatigue can also be confusing to others. Emotional experiences of listening-related fatigue are:

- Stress
- Depression
- Anxiety
- Sadness
- Anger
- Frustration
- Embarrassment
- Feeling left out
- Incompetent
- Annoyed
- Angry

The combination of both physical and emotional listening-related fatigue can leave a person with few internal resources left in reserve to work productively, learn well, or be less prone to accidents.

Lack of desire to engage in social activities or avoid challenging listening situations is easily misunderstood by others who may not understand the toll listening fatigue has on a person who already struggles to communicate. Listening fatigue can also negatively compromise a person's quality of life. This means understanding what it is and how to compensate for it is critical.

What can you do about listening fatigue?

Quite a lot. While there's no way to prevent listening fatigue completely, you can take steps to minimize both the physical and mental effects.

If you're suffering from listening fatigue, here are 10 steps you can take today to help combat it:

1 SLEEP

If you have a demanding day of listening ahead of you, then sleep is your friend. Starting out well-rested is going to serve you well. A minimum of eight hours is needed for your brain to feel rested and ready to tackle a difficult day.

2 EAT

We hear with our brain, so making sure it's well-fed is important. Eat a mixture of slow carbs such as fruit and vegetables and whole grains, as well as protein. Eating too heavy can make you feel sluggish while eating refined carbs foods will cause your blood sugar to spike and crash, leaving you lethargic. A turkey sandwich on whole-grain bread with vegetables and hummus, along with lots of water will give your brain the necessary fuel it needs to stay alert.

3 KEEP TECHNOLOGY ON HAND AND JUICED!

Wearing technology (hearing aids, cochlear implants, etc.) has proven to help combat listening fatigue. Don't leave home without fresh batteries and/or a way to recharge your devices.

If you are using assistive technology, make sure remote mics and any backup batteries are juiced up. Most meetings and classrooms have poor acoustics and using additional technology can make a big difference in the ability to hear well.

4 MANAGE SCREEN TIME

If you spend a lot of your day in front of a screen, set an alarm to monitor when you should take a break. Blue light glasses filter out and protect your eyes from screen damage and help with eye fatigue. Giving your eyes an occasional break and using moisturizing eye drops can also help with eye strain. The combination of hearing and vision strain can be a double whammy!

5 BREATHE

Sometimes we just need to slow down to take in our surroundings. Anxiety can creep up when we get overwhelmed, with breathing rapidly and shallowly causing our sympathetic system to think we're in a "flight" or "fight" mode. Staying in this mode for any length of time is exhausting on its own. If you are getting anxious because of the strain of listening, calm yourself down by taking deep, slow breaths. Focus on breathing through your nose and telling yourself "I am calm."

6 HYDRATE & SNACK

Keep a bottle of water, along with protein snacks like nuts or healthy bars handy. Even the least amount of dehydration can affect concentration. Try to stay away from caffeine, alcohol, soda, or anything else that may inadvertently dehydrate you. Try to eat healthy snacks instead of those loaded with sugar and/or salt.

7 LIGHTING

All of us rely on facial expressions and intonation to help our brains fill in for what we don't hear. But for those with hearing loss, relying on speech-reading or facial expressions to help with communication is critical. Make sure the lighting in the room is bright enough that you can see people's faces clearly. Arrive a little early to check out the lighting and place yourself strategically so you can see faces clearly.

8 MOVE

You may find that getting up and moving around helps you concentrate. Taking a few short breaks can get the blood flowing to your brain and can give you a much-needed mental boost. Sometimes just getting up and walking out of the room will give you the mental alertness you need. So yes - it is ok to pretend to need the toilet and then actually stretch your legs quickly!

9 SHUT DOWN

Just as you may need an energy break, you may also need a silence break. Giving your brain a moment away from noise may provide a chance to shut down for a minute. Don't feel bad for turning your technology off while you regain control of your brain. Too much input is exhausting and taking a few minutes to do what you need (e.g. silence, music, nature) will put you back in the driver's seat and ready to engage.

10 ADVOCATE

Don't forget to advocate for yourself or others around you. If you are trying to listen and there is music playing, don't hesitate to ask if the music can either be turned down or off. If you need repetition, don't be afraid to ask someone to repeat themselves. At the end of a class or conference, ask for a summary or notes.

By advocating for yourself you are also teaching others how to do it for themselves and letting others know it's ok.



What Can Employers Do About Listening Fatigue?

Once you have acknowledged the threat that listening fatigue poses to your organization, the steps to mitigate that threat are relatively straightforward.

It begins by including Tuned as part of your total benefits package, so employees who are suffering

from listening fatigue can receive the personalized education and guidance they deserve.

Indeed, with a preventative and holistic approach like Tuned's, employees are able to better manage their hearing health so listening fatigue may not even become a problem.

With as many as 1-in-4 working age adults with a hearing issue, ***addressing listening fatigue is a great place to start improvement.***



Bibliography

1. NSC Fatigue Reports – copyright 2023 National Safety Council
2. <https://www.nsc.org/workplace/safety-topics/fatigue/what-is-fatigue-costing-your-company>
3. Ross M. Personal communication. 2012.
4. Baddeley AD. Working Memory. Oxford: Clarendon Press; 1986.
5. Ishii A, Tanaka M, Watanabe Y. Neural mechanisms of mental fatigue. Rev Neurosci. 2014;25(4):469–79. doi: 10.1515/revneuro-2014-0028. PMID: 24926625.



Tuned delivers the only hearing health benefit beyond just discounted hearing aids. Tuned's telehealth platform offers clinical screenings, preventative and pediatric care, care for tinnitus, auditory processing disorder, mild-to-moderate hearing loss, and other conditions.

The care is coupled with traditional device options, vetted OTC products, software, OSHA screenings, and more, to deliver truly comprehensive hearing health care. Today over 1.4 million people have access to Tuned through their employee benefits. Tuned is a private company headquartered in New York City, with audiologists across the country and worldwide.

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