

## Hypermonitoring – Measuring the Perceptual Mismatch in Tinnitus

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- The study compared the subjective loudness perception of tinnitus to the loudness of a tone judged to be equivalent in loudness to the tinnitus, allowing for an assessment of the accuracy of tinnitus loudness perception.
- Data were collected from the SoundCure Serenade programming database.
- 122 data points were collected from 119 patients.
- Patients subjectively judged their tinnitus to be louder than the equivalent tone by 3.9 +/- 2.6 points, on a 10 point scale, indicating a significant average perceptual mismatch.
- 85% of patients judged their tinnitus to be more than 1 point louder than the matched loudness tone, indicating hypermonitoring.
- 28% had a delta between their perceived and matched tinnitus loudness  $\geq 6$ ; 68% had a delta between their perceived and matched tinnitus loudness  $\geq 3$ .
- 82% of patients judged the sound matched to their tinnitus to be a 3 or lower on the 10 point scale, indicating most people have soft tinnitus.
- There is little correlation between a patient's loudness match of their tinnitus, in dBSL, and their perceived loudness of their tinnitus match. This means that while it is true that most patients have a tinnitus match with a low dBSL, and it is true that most patients have soft tinnitus, these two things are neither causally related nor predictive.

### Main take away messages

- Most patients seeking treatment are hypermonitoring their tinnitus – hypermonitoring here is an overperception of the loudness of their tinnitus such that it is louder to the patient than it should be.
- Most patients have soft tinnitus.
- You cannot determine how loud a patient's tinnitus is by a loudness match alone. You must perform a loudness growth function of their tinnitus pitch match and evaluate the loudness match.
- Capturing the hypermonitoring that a patient may be doing is potentially an excellent counseling tool for a patient to explain the potential benefit of habituation. Correcting this overperception (hypermonitoring) over time is a good way to explain the benefit and process of long term relieve thru habituation.