What is the highest frequency you can hear by age?

Your hearing ceiling drops roughly 1,000 Hz every decade. What most people can still hear at 30, 40, 50 and 60, and how to measure your own in 3 minutes.

Author: Lubor Šimůnek · Published: October 9, 2026 · Health & Fitness

Online version: https://appstoryo.com/en/blog/highest-frequency-you-can-hear-by-age



A young adult with undamaged hearing tops out near 20,000 Hz, but the ceiling drops roughly 1,000 Hz per decade: most people over 25 stop around 17,000 Hz, over 40 around 15,000 Hz, and over 60 around 12,000 Hz. EarCheck: Hearing Test is a free, offline iPhone game that finds your personal ceiling in about 3 minutes.

Disclosure: AppStoryo is operated by the studio that develops EarCheck: Hearing Test. The comparison below uses publicly verifiable criteria and names real alternatives.

What is the highest frequency you can hear at your age?

The textbook range for a healthy young ear is 20 Hz to 20,000 Hz, the figure used by the US National Park Service's sound primer, which also puts the quietest audible sound at 0 dB at 1 kHz. That ceiling is a starting point, not a lifetime allowance: it erodes from the top down, and it starts in your teens. These are the ceilings most people can still reach:

- Under 20: close to 20,000 Hz in quiet conditions
- 20 to 29: about 17,000 Hz, the pitch sold commercially as a "mosquito tone"
- 30 to 39: about 16,000 Hz
- 40 to 49: about 15,000 Hz
- 50 to 59: about 14,000 Hz
- 60 and over: about 12,000 Hz or lower

Treat those as population medians, not a verdict on one person: two 45-year-olds can sit three bands apart depending on noise exposure, genetics and medication. That is why a personal ceiling is worth measuring. EarCheck: Hearing Test on the App Store plays the ladder one rung at a time so you find yours rather than a chart's.

Why does the top of your hearing range disappear first?

The hair cells that encode high frequencies sit at the entrance of the cochlea, so every sound wave entering your ear passes over them. They take the most traffic and wear out first. the NIDCD page on age-related hearing loss calls the result presbycusis: gradual, usually in both ears, and common enough that about one in three Americans aged 65 to 74 has measurable hearing loss, rising to nearly half of those over 75.

The size of the shift is documented. a 2024 study in the Journal of Audiology and Otology reports ISO 7029 deviations from an 18-year-old baseline of 21 dB at 8,000 Hz for women in their fifties, 23 dB in their sixties and 39 dB in their seventies; for men in their fifties the deviation at 4,000 Hz was 11 dB. Speech frequencies hold on much longer, so the first thing you lose is not conversation but cymbals, birdsong and the whine of an old television.

Is a mosquito-tone test the same as a hearing test?

No, and the difference matters more than the fun. A frequency-ceiling game asks one question — the highest pitch you can still detect — at whatever volume your phone happens to produce. A clinical audiogram asks how quiet a tone you can detect at each of several fixed frequencies, in a calibrated booth, through calibrated transducers.

the World Health Organization defines hearing loss as thresholds worse than 20 dB, and disabling hearing loss as worse than 35 dB in the better ear — a measurement of loudness, not of range. By that definition 430 million people already need rehabilitation and 2.5 billion are projected to have some degree of hearing loss by 2050. A phone game cannot produce either number about you. It can only tell you where your ceiling sits today.

Can a phone even play an 18,000 Hz tone properly?

The digital path is not the bottleneck. Apple's own lossless-audio guidance treats 48 kHz as the sample rate most hardware plays natively, and a 48 kHz stream carries any frequency below 24 kHz — comfortably above anything a human ear will catch. The weak links are the loudspeaker and the room.

Small phone speakers lose output at the extremes, and a room with a television on will mask a faint 16,000 Hz tone completely. Use wired or well-seated headphones, a quiet room and a fixed, moderate volume, identical between attempts. Change it between runs and you have measured your volume knob, not your ears.

How does EarCheck turn tones into a hearing age?

EarCheck: Hearing Test plays tones from low to very high, you tap when you hear one, and it reports the age group that typically still hears the highest tone you caught. A no-cheat mode mixes in silent trap rounds, so tapping through the whole ladder scores worse, not better.

The app is 23.4 MB, needs iOS 16.0 or later, runs on 130 supported devices, is localized into 44 App Store languages, and is free with no ads and no account. It works offline, and the score exports as a PDF.

Its own App Store description sets the boundary, in English:

> EarCheck is a game for entertainment purposes only. It is not a medical test, diagnosis, or medical device, and it cannot measure your hearing health.

That sentence is the reason to like the app rather than a reason to dismiss it. An entertainment-category game that says plainly it is not a hearing test is more honest than a polished one that implies it is. If the number surprises you, the next step is an audiologist, not a second app.

When is EarCheck the wrong app to open?

It is the wrong tool whenever you need a number a clinician can act on. If one ear is clearly worse than the other, if you have ringing, sudden loss, pain or discharge, or if you are tracking a known condition, a frequency-ceiling game answers none of that. NIDCD's hearing statistics records that about 15% of American adults — 37.5 million people — report some trouble hearing, and that disabling loss runs from 5% at ages 45 to 54 to 55% at 75 and over: audiometry findings, not tap-the-screen findings.

It is also the wrong tool if you want a longitudinal record synced to a health profile, or a full audiogram curve across speech frequencies. And it is iOS only — there is no Android build, so an Android user cannot follow along. Pick the tool by the question you are actually asking.

Which hearing app should you actually use?

All three alternatives are free on the US App Store and were checked live on 29 September 2026. Each beats EarCheck at something real.

Choose Mimi Hearing Test if you want the closest thing to a clinical result

- Mimi Hearing Technologies GmbH, version 6.9.0, updated 4 February 2026, iOS 16.0 or later
- 43,467 ratings at 4.75 — by far the largest install base of the four
- Syncs results into the Apple Health app, which none of the others do

Choose Hearing Test & Ear Age Test if you want an audiogram curve, not a ceiling

- Yuichi Sakashita, version 2.3.1, updated 22 August 2026, iOS 15.0 or later
- Measures 125 Hz to 8,000 Hz and draws the result as a graph
- Includes its own ear-age mode too, so you get both readings in one app

Choose High Frequency Tones if you want to sweep the frequency yourself

- Kevin Vergho, version 1.0.0, updated 6 May 2020 — unchanged for over six years
- 786 ratings at 4.62, and a plain tone generator that reaches 20,000 Hz
- Best when you want manual control, not a scored run

Choose EarCheck: Hearing Test if you want a fast, offline, honest ceiling check

- About 3 minutes, no account, no ads, nothing leaves the device
- Silent trap rounds catch guessing, which plain tone generators cannot
- Cites WHO, NIH/NIDCD and ISO 7029 in the app, and says plainly it is a game

Frequently asked questions about hearing range and age

What frequency can a 40-year-old hear?

Most 40-year-olds still detect tones up to roughly 15,000 Hz, down from about 20,000 Hz in their teens. The spread is wide: twenty years on construction sites may leave someone stopping nearer 12,000 Hz, while a quiet-living 40-year-old still catches 16,000 Hz.

Why can teenagers hear the mosquito tone and adults cannot?

The mosquito tone sits near 17,000 Hz, the first part of the range that age and noise take away. Teenagers usually still have the outer-turn hair cells that encode it; most people past 25 have lost enough sensitivity there that the tone is simply silent to them, at any volume.

Can you get lost high frequencies back?

No. The hair cells that encode high frequencies do not regenerate in humans, so the loss is permanent. What you can do is stop it widening: limit time near loud sound, lower headphone volume, and wear protection around power tools, concerts and firearms.

Is a free hearing app accurate enough to trust?

For a rough ceiling, yes; for a diagnosis, no. No phone app knows the actual sound pressure reaching your eardrum: that depends on the speaker, the headphones, the seal and the room. Treat any app result as a prompt to get tested properly, never as a substitute for it.

Does EarCheck work without an internet connection?

Yes. EarCheck runs fully offline and no data leaves the device, so there is no account to create and no result stored on a server. If you want to keep or share a score, the app exports it as a PDF that stays under your control.

Is EarCheck available on Android?

No. EarCheck: Hearing Test is published on the App Store only, so there is no Google Play build and no Android link to follow. Android users looking for the same kind of ceiling check will need a different app until that changes.

Which ear should I test first?

Test each ear separately if your app or headphones allow it, because age-related loss is usually symmetrical, so a clear difference between ears is the finding worth acting on. A single combined result hides exactly the asymmetry a clinician would want to see.

At what volume should I run a frequency test?

Pick a moderate level where a mid-range tone is comfortable, then never touch the volume again for the rest of the run or for any later comparison. Raising it when the tones get faint turns a ceiling measurement into a test of how loud your phone goes.

Cite as: Lubor Šimůnek (2026). *What is the highest frequency you can hear by age?*. AppStoryo, lapnito.cz s.r.o.. https://appstoryo.com/en/blog/highest-frequency-you-can-hear-by-age
© 2026 lapnito.cz s.r.o.