

# Link between COVID-19 vaccination, sudden deafness explored

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The possible association between COVID-19 vaccination and sudden

sensorineural hearing loss (SSNHL) is unclear, according to two studies published online Feb. 24 in *JAMA Otolaryngology–Head & Neck Surgery*.

Eric J. Formeister, M.D., from the Johns Hopkins University School of Medicine in Baltimore, and colleagues examined the potential association between COVID-19 vaccination and SSNHL in a population-based analysis of 555 incident reports of probable SSNHL reported from Dec. 14, 2020, through July 16, 2021. Data were also included from a retrospective case series of 21 patients who developed SSNHL after COVID-19 vaccination. The researchers found that the annualized incidence estimate was 0.6 to 28.0 cases of SSNHL per 100,000 people per year. Across all three [vaccine manufacturers](#), the rates of incident reports of SSNHL were similar (0.16 cases per 100,000 doses for the Pfizer-BioNTech and Moderna vaccines; 0.22 cases per 100,000 doses for Janssen/Johnson & Johnson vaccines). In the case series, eight of 14 with posttreatment audiometric data experienced improvement after receiving treatment.

Yoav Yanir, M.D., from the Lady Davis Carmel Medical Center in Haifa, Israel, and colleagues examined the association between the BNT162b2 mRNA COVID-19 [vaccine](#) and SSNHL in a retrospective population-based cohort study performed from Dec. 20, 2020, to May 31, 2021. The researchers observed 91 cases of SSNHL reported among 2,602,557 patients who received the first doses of the BNT162b2 mRNA COVID-19 vaccine and 79 cases of SSNHL reported among 2,441,719 patients who received the second vaccine dose. The age- and sex-weighted standardized incidence ratios were 1.35 (95 percent confidence interval, 1.09 to 1.65) and 1.23 (95 percent confidence interval, 0.98 to 1.53) after the first and second vaccine doses, respectively.

"Sharing these findings with [health care professionals](#) who are involved

in SSNHL assessment might lead to early recognition and treatment, which are crucial to improve outcome," Yanir and colleagues write.

**More information:** Eric J. Formeister et al, Assessment of Sudden Sensorineural Hearing Loss After COVID-19 Vaccination, *JAMA Otolaryngology–Head & Neck Surgery* (2022). DOI: [10.1001/jamaoto.2021.4414](https://doi.org/10.1001/jamaoto.2021.4414)

Yoav Yanir et al, Association Between the BNT162b2 Messenger RNA COVID-19 Vaccine and the Risk of Sudden Sensorineural Hearing Loss, *JAMA Otolaryngology–Head & Neck Surgery* (2022). DOI: [10.1001/jamaoto.2021.4278](https://doi.org/10.1001/jamaoto.2021.4278)

Angela K. Ulrich et al, Rare Sudden Sensorineural Hearing Loss Potentially Associated With COVID-19 Vaccination Does Not Outweigh the Benefit of COVID-19 Vaccines, *JAMA Otolaryngology–Head & Neck Surgery* (2022). DOI: [10.1001/jamaoto.2021.4279](https://doi.org/10.1001/jamaoto.2021.4279)

Two authors from the Formeister study disclosed ties to the biopharmaceutical industry.

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