

Research Tune-Up: Using PubMed for Quick Searches in the Clinic

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Run by the National Library of Medicine, [PubMed](#) is a free database most healthcare professionals will be familiar with. It contains over 28 million journal article citations in different areas such as biomedical research, topics in the pharmaceutical industry, the life sciences, and more. You might be familiar with PubMed from using it to find scientific papers in your clinical practice, or from learning about it during your coursework in school. Either way, we can always benefit from a research tune-up, and this article will cover the basics of searching PubMed as well as some useful tips that can get you relevant results fast.

Beginning a Search

On [PubMed's homepage](#) you will see that there is a main search bar at the top of the page. This is where you will enter your keywords, and PubMed will interpret your search and give you the most relevant results. However, it is important to set yourself up with an account first, so you can save any papers you find into a PubMed collection and not risk losing them. You can do this by clicking My NCBI in the top right of the home screen, and registering using your email address.

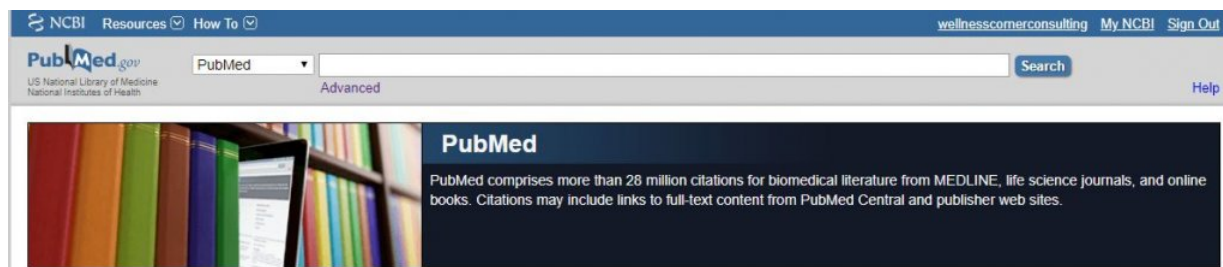


Figure 1. PubMed's homepage where you can register for a My NCBI account.

Now you're ready to search! We are going to start by searching for papers that discuss noise-induced hearing loss and adolescents. To do this, enter the following into the search bar: Noise-induced hearing loss AND Adolescents, then hit Search. The AND is what's known as a [Boolean operator](#) that tells PubMed to combine those terms together and only return articles with both terms.

Looking at our results page, in this example we see that there are 821 papers. That is a lot to sift through, but don't worry because we are going to cut this down to a usable number of results.

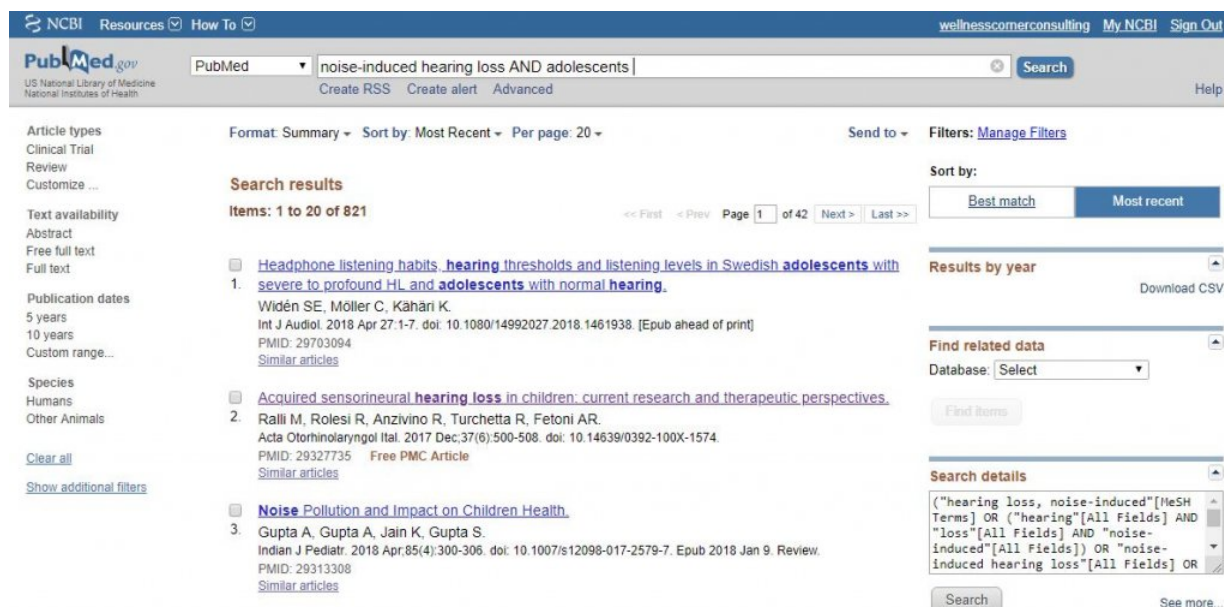


Figure 2. Search results in PubMed.

Filters

PubMed has a lot of handy filters on the left-hand side of the results page. Filters get you closer to what you're looking for, and for our search we will start with three in particular: Article Types, Text Availability, and Publication Dates. Let's take our example and apply some filters. If you were interested in reading case reports on this topic, you would apply the Case Reports filter (or any other filter such as Systematic Review, Clinical Trial, etc.). To find it, click Customize under the Article Types heading. There, you will find many options to choose from, and you can see that we have selected Case Reports, then clicked Show.

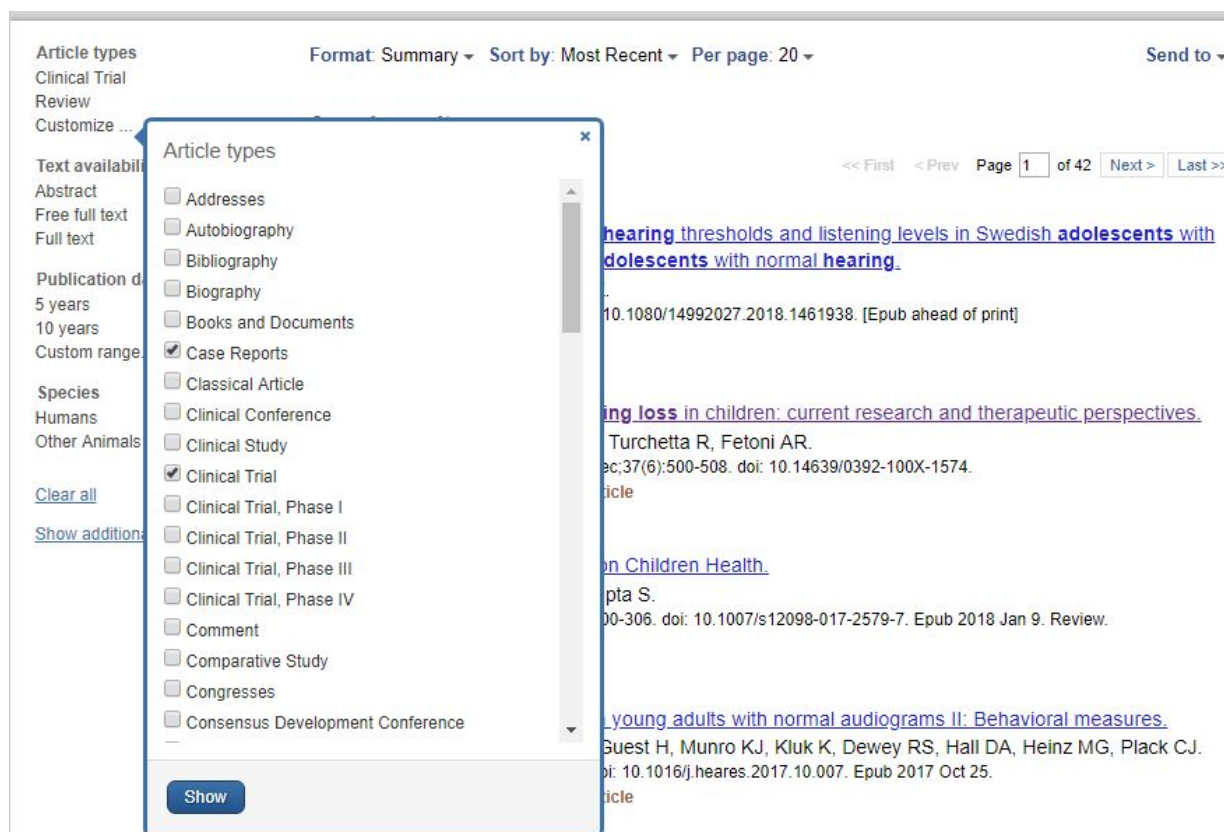


Figure 3. Finding and applying filters.

Once your desired Article Type is on the list, click to activate it and watch your results come down

in numbers. To turn a filter off, click it again and return to the original results.

Text Availability is an important filter for you to be aware of, as it changes your results so only papers with free full text access show up. This means that in a clinic with no ties to a hospital or university library, you can read the full journal article for free. In our example, clicking Free Full Text changes the results to a much lower number.

The screenshot shows the PubMed search results page for the query "noise-induced hearing loss AND adolescents". The search results are displayed in a list format, with the first four results visible. The "Free full text" filter is activated, and the results are sorted by "Best match". The page shows 129 items in total, with the first page displaying 20 items. The search results are as follows:

- 1. [Acquired sensorineural hearing loss in children: current research and therapeutic perspectives.](#)
Ralli M, Rolesi R, Anzivino R, Turchetta R, Fetoni AR.
Acta Otorhinolaryngol Ital. 2017 Dec;37(6):500-508. doi: 10.14639/0392-100X-1574.
PMID: 29327735 Free PMC Article
[Similar articles](#)
- 2. [Effects of noise exposure on young adults with normal audiograms II: Behavioral measures.](#)
Prendergast G, Millman RE, Guest H, Munro KJ, Kluk K, Dewey RS, Hall DA, Heinz MG, Plack CJ.
Hear Res. 2017 Dec;356:74-86. doi: 10.1016/j.heares.2017.10.007. Epub 2017 Oct 25.
PMID: 29126651 Free PMC Article
[Similar articles](#)
- 3. [Contemporary noise-induced hearing loss \(NIHL\) prevention.](#)
Sułkowski W, Owczarek K, Olszewski J.
Otolaryngol Pol. 2017 Aug 31;71(4):1-7. doi: 10.5604/01.3001.0010.2241.
PMID: 29116045 Free Article
[Similar articles](#)
- 4. [Why Do People Like Loud Sound? A Qualitative Study.](#)
Welch D, Fremaux G.
Int J Environ Res Public Health. 2017 Aug 11;14(8). pii: E908. doi: 10.3390/ijerph14080908.
PMID: 28800097 Free PMC Article
[Similar articles](#)

The page also includes a sidebar with filters, a "Results by year" chart, and a "Titles with your search terms" section.

Figure 4. Free full text filter when activated.

Finally, if you are only interested in papers from a certain time period, you can adjust the Publication Dates filter and focus your results even more, though I recommend you leave this filter to the end of your searching.

There are additional filters that many people don't know about, and you might find some of them useful. When you click Show Additional Filters, you will see these hidden extra filters. For this example, select Subjects, then click Show. Then under the Subjects filter, click Customize to give you even more options. Here, Toxicology is listed, and this filter could be useful if you're ever interested in finding papers on exposure to a toxic substance and hearing conditions.

Text availability
Abstract
Free full text
Full text

Publication dates
5 years
10 years
Custom range...

Species
Humans
Other Animals

Subjects
AIDS
Cancer
Systematic Reviews
Customize ...

[Clear all](#)
[Show additional filters](#)

☐ [Headphone listening habits, hearing thresholds and listening levels in Swedish adolescents with severe to profound HL and adolescents with normal hearing.](#)
1. Widén SE, Möller C, Kähäri K.
Int J Audiol. 2018 Apr 27;1-7. doi: 10.1080/14992027.2018.1461938. [Epub ahead of print]
PMID: 29703094
[Similar articles](#)

☐ [Acquired sensorineural hearing loss in children: current research and therapeutic perspectives.](#)
2. Ralli M, Rolesi R, Anzivino R, Turchetta R, Fetoni AR.
Acta Otorhinolaryngol Ital. 2017 Dec;37(6):500-508. doi: 10.14639/0392-100X-1574.
PMID: 29327735 [Free PMC Article](#)
[Similar articles](#)

☐ [Noise Pollution and Impact on Children Health.](#)
3. Gupta A, Gupta A, Jain K, Gupta S.
Indian J Radiol. 2016 Aug 95(4):300-306. doi: 10.1007/s12098-017-2579-7. Epub 2018 Jan 9. Review.

[young adults with normal audiograms II: Behavioral measures.](#)
Guest H, Munro KJ, Kluk K, Dewey RS, Hall DA, Heinz MG, Plack CJ.
doi: 10.1016/j.heares.2017.10.007. Epub 2017 Oct 25.
Article

[d hearing loss \(NIHL\). prevention.](#)
szewski J.
(1):1-7. doi: 10.5604/01.3001.0010.2241.

[interventions to increase the use of hearing protections among](#)

[Rohlman DS.](#)

Subjects

☒ AIDS
☐ Bioethics
☒ Cancer
☐ Complementary Medicine
☐ DART
☐ Dietary Supplements
☐ History of Medicine
☒ Systematic Reviews
☐ Toxicology
☐ Veterinary Science

[Show](#)

Figure 5. Additional filters you can use.

You can click to activate as many filters as you want, and to read interesting papers you can click the article title then look for a button on the right-hand side of the screen under Full Text Links.

Finding and Saving More Papers

To find even more papers related to your search, click the title of a paper you like and, on the right of the screen, click See All under Similar Articles.

Format: Abstract ▾

Acta Otorhinolaryngol Ital. 2017 Dec;37(6):500-508. doi: 10.14639/0392-100X-1574.

Acquired sensorineural hearing loss in children: current research and therapeutic perspectives.

Ralli M¹, Rolesi R², Anzivino R², Turchetta R², Fetoni AR².

[Author information](#)

Abstract in English, Italian

The knowledge of mechanisms responsible for acquired sensorineural hearing loss in children, such as viral and bacterial infections, noise exposure, aminoglycoside and cisplatin ototoxicity, is increasing and progressively changing the clinical management of affected patients. Viral infections are by far the most relevant cause of acquired hearing loss, followed by aminoglycoside and platinum derivative ototoxicity; moreover, cochlear damage induced by noise overexposure, mainly in adolescents, is an emerging topic. Pharmacological approaches are still challenging to develop a truly effective cochlear protection; however, the use of steroids, antioxidants, antiviral drugs and other small molecules is encouraging for clinical practice. Most of evidence on the effectiveness of antioxidants is still limited to experimental models, while the use of corticosteroids and antiviral drugs has a wide correspondence in literature but with controversial safety. Future therapeutic perspectives include innovative strategies to transport drugs into the cochlea, such as molecules incorporated in nanoparticles that can be delivered to a specific target. Innovative approaches also include the gene therapy designed to compensate for abnormal genes or to make proteins by introducing genetic material into cells; finally, regenerative medicine (including stem cell approaches) may play a central role in the upcoming years in hearing preservation and restoration even if its role in the inner ear is still debated.

KEYWORDS: Acquired hearing loss; Cochlear implant; Genetic diagnosis; Pediatric otolaryngology

PMID: 29327735 PMID: [PMID: 29327735](#) DOI: [DOI: 10.14639/0392-100X-1574](#)

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The design and screening of drugs to prevent acquired sensorineural hearing loss [Expert Opin Drug Discov. 2011]

[Review](#) Early Investigational drugs for hearing loss. [Expert Opin Investig Drugs. 2015]

[Review](#) Platinum-induced hearing loss after treatment for head and neck cancer: a systematic review [Cochrane Database Syst Rev. 2016]

Infant hearing loss: from diagnosis to therapy [Official Report of the Italian Society of Otorhinolaryngology and Head and Neck Surgery. 2012]

[Review](#) Insulin-like growth factor 1: A novel treatment for the protection or repair of the inner ear [Hear Res. 2015]

[See reviews...](#)
[See all...](#)

Figure 6. Looking at a PubMed record, including the free access button under Full Text Links and the list of similar articles.

PubMed also makes saving papers a breeze: From your list of results click the checkbox on the left side of an article's title. Then, click Send To, Collections, Add To Collections.

Search results

Items: 1 to 20 of 129 Selected: 1

Filters activated: Free full text. [Clear all](#) to show 821 items.☒ [Acquired sensorineural hearing loss in children: current research ar](#)

1. Ralli M, Rolesi R, Anzivino R, Turchetta R, Fetoni AR. Acta Otorhinolaryngol Ital. 2017 Dec;37(6):500-508. doi: 10.14639/0392-100X-157. PMID: 29327735 [Free PMC Article](#) [Similar articles](#)

☐ [Effects of noise exposure on young adults with normal audiograms II: Behavioral measures](#)

2. Prendergast G, Millman RE, Guest H, Munro KJ, Kluk K, Dewey RS, Hall DA, Heinz MG, Plack CJ. Hear Res. 2017 Dec;356:74-86. doi: 10.1016/j.heares.2017.10.007. Epub 2017 Oct 25. PMID: 29126651 [Free PMC Article](#) [Similar articles](#)

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Figure 7. Saving papers to your collections.

From here you can create a new Collection to store your papers, or save a paper into one you've already made. To find your Collection in the future, click My NCBI in the top right corner of your screen and you'll find your list of Collections.

Conclusion

This has been a brief overview on using PubMed to find information fast, and if you're interested in learning more about PubMed you can check out their [online tutorials](#) that cover other searching topics in greater detail. If you're especially interested in learning more about searching with PubMed's thesaurus (MeSH) check out their handy [user's guide](#) and enjoy becoming a tech savvy searcher with PubMed.

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