

# Drugs and tinnitus

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**Most drugs do not cause tinnitus. There are a handful of prescribed and over-the-counter medicines which may have links to tinnitus when taken in large doses – this leaflet explains more.**

## Introduction

Many people with tinnitus worry that particular drugs or medicines may have caused their tinnitus. A browse through a medical textbook or internet search would seem to reinforce that view as there are numerous reports of tinnitus being associated with medication.

In fact, when these claims are subjected to proper scientific scrutiny the number of drugs that genuinely cause tinnitus is extremely small. These are discussed below. For most drugs, there is no scientific evidence to either support or contradict claims that they cause tinnitus.

## Is there a link between taking medicines and tinnitus?

The number of people who report tinnitus while taking the most commonly prescribed drugs is very small, usually less than 1 in 1000 people. This incidence rate is classed as 'rare'. When compared to the total number of adverse reactions or side effects, tinnitus is reported relatively rarely.

These numbers apply to most drugs prescribed for high blood pressure, cholesterol lowering drugs (statins), drugs given for anxiety and most antidepressants.

Even in the cases where drugs have caused tinnitus, the results tend to be temporary. Once the person stops taking the drug, the tinnitus usually disappears.

Although some medicines have been linked to tinnitus, this is seen in research studies where unusually large doses have been given. The normal dose that a doctor would prescribe does not cause tinnitus.



Tinnitus UK tries very hard to make sure our information is right, but it cannot tell you everything. It is not a substitute for medical advice. You should always check with your doctor or hearing health professional.

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## Why do people make a link between medication and tinnitus?

Although many people report that a drug has caused tinnitus, there are very few scientifically confirmed cases. There are a few possible reasons for this.

Firstly, tinnitus is common and taking medication is also common. For some people, the onset of tinnitus will occur while taking medication. They may blame their medicine for this. If the patient reports this to their GP, the doctor has a duty to fill in a report card and send it to the Medicines and Healthcare products Regulatory Agency (MHRA). The information is then stored so that other doctors can access it to advise their patients. A small number of reports of tinnitus can label a drug as a "tinnitus causer" even though the tinnitus may have been coincidental to taking the medication.

Secondly, we should factor in the link between tinnitus and stress. Drugs are taken to treat medical conditions or illnesses. Having an illness that requires treatment is a stressful event. Stress is a well-recognised trigger for tinnitus so it may well be that it is the stress of the illness rather than the drug used to treat the illness, that triggers the tinnitus.

## Drugs that have been linked to tinnitus

Although most medications do not have an adverse effect, there are a small number of drugs that may cause tinnitus or are ototoxic (cause damage to the inner ear). Many of these drugs are only given for serious illnesses where there is no alternative.

**We would like to stress that no-one should alter their medication without first discussing it with the doctor who prescribed it.**



## Aspirin

Aspirin was previously used in much larger doses to treat some rheumatological conditions. When given at these very high doses, tinnitus sometimes did occur. However, this effect was generally temporary. Once the aspirin was stopped or the dosage reduced, the tinnitus disappeared. Such large doses of aspirin are almost never used now, as alternative more effective drugs are available to treat these conditions.

In the normal doses used to treat headaches or flu, or the very small doses taken to prevent heart attacks or strokes, it is very unlikely that aspirin will cause tinnitus.

A very small number of people are unusually sensitive to aspirin and may develop tinnitus at very low doses. This is usually reversible, and these people are advised to avoid aspirin and speak to their doctor about alternative drugs.

## Quinine

Quinine and some of the other anti-malarial drugs can occasionally cause damage to the ear when given in high or prolonged doses when treating malaria.

However, taken in low doses to prevent malaria or to relieve night cramps, this does not usually happen.

In rare cases where people on low doses of quinine do report tinnitus, it is temporary and stops as soon as they stop taking the medication.

## Aminoglycoside antibiotics

There is a small group of very specialised, powerful **ototoxic** (toxic to the ears) antibiotics. This drug group is known as the aminoglycoside antibiotics and includes streptomycin and gentamicin. These drugs are generally given by injection in hospital for severe, life-threatening infections. They are **not prescribed** as tablets or syrups or by your family doctor.

These can damage the inner ear which can cause hearing loss. A small number of the affected people develop tinnitus as a result of this hearing loss. Damage to the ear occurs when the amount of the drug in the blood stream exceeds certain levels. For this reason, the level is closely monitored by regular blood tests. However, there are certain conditions such as renal failure which can cause the level of the drug to rise unpredictably and allow dangerous levels to be reached. In these rare circumstances, tinnitus can occur.

Aminoglycosides are also a component of some ear drops. These ear drops are only available on prescription. All the ear drops available at pharmacies without a prescription in the United Kingdom **do not** contain aminoglycosides.

Although there is a theoretical risk, aminoglycoside ear drops do not generally cause ear damage and ear specialists are happy to prescribe them in reasonably short courses. However, any patient who is worried about taking such drops should discuss the matter

with their doctor – there may be an alternative.

## Cytotoxic drugs

The other main group of drugs which can damage the inner ear are the **cytotoxic** drugs (meaning ones which are toxic to cells) used in treating cancer.

Despite the power of such drugs, damage to the ear is very uncommon. The main group of cytotoxic drugs that can damage the ear is the group containing platinum, including cisplatin and, to a lesser extent, carboplatin and oxaliplatin.

Doctors who prescribe these drugs are very well aware of their potential side effects and usually discuss the matter in great detail prior to treatment. Also, where possible, patients receiving such drugs will have their hearing tested on a regular basis to identify any ear damage at an early stage, before any serious deterioration occurs.

## Diuretics

A group of drugs called loop diuretics are occasionally ototoxic. These are used to increase the production of urine in the treatment of high blood pressure, heart failure and some kidney disorders.

Ototoxicity only occurs with large doses and the relatively small dose given for mild or moderate hypertension (high blood pressure) does not cause damage to the ear. Even with large doses they probably only cause permanent damage when used in combination with other ototoxic drugs.

Speak to your doctor if you are also taking another ototoxic drug mentioned above.

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## Idiosyncratic drug reactions

Although most drugs do not cause tinnitus in most patients, there will always be a small number of people who will have an unexpected, or idiosyncratic, reaction to their medication.

Any patient experiencing this should talk with their doctor. There may well be a suitable alternative medication or a different dosage plan that may help.



## Recreational drugs

Whilst we do not condone their use, there is also no evidence that cocaine or heroin usage increases the risk of developing tinnitus.

There is some evidence that the cannabinoids found in cannabis and marijuana could lead to increased activity in the auditory areas of the brain and hence actually increase tinnitus.

The use of hallucinogenic drugs and inhalants (solvents) does seem to be associated with increased risk of developing tinnitus.

## Help and support

The Tinnitus UK Support Team can answer your questions on any tinnitus related topics:

Telephone: **0800 018 0527**

Web chat: **tinnitus.org.uk**

Email: **helpline@tinnitus.org.uk**

Text/SMS: **07537 416841**

We also offer a free tinnitus e-learning programme, Take on Tinnitus at **takeontinnitus.co.uk**

## References

The list of references consulted in the production of this leaflet is available on request.

## Alternative formats

This publication is available in large print on request.

## Feedback

We welcome feedback on all our information.

You can pass your comments to our Communications Team:

Telephone: **0114 250 9933**

Email: **communications@tinnitus.org.uk**

or by writing to us at the address on page 5.

## Tinnitus UK publications

*\*Available in Easy Read*

Our information leaflets are written by leading tinnitus professionals and provide accurate, reliable and authoritative information which is updated regularly. Please contact us if you would like to receive a copy of any of our information leaflets listed below, or they can be downloaded from our website.

### For adults:

*All about tinnitus\**  
*Complementary therapy for tinnitus: an opinion*  
*Drugs and tinnitus*  
*Ear wax removal and tinnitus*  
*Flying and the ear*  
*Food, drink and tinnitus*  
*Hearing aids and tinnitus\**  
*Hyperacusis*  
*Ideas for relaxation without sound*  
*Information for musicians*  
*Mindfulness for tinnitus*  
*Musical hallucination (musical tinnitus)*  
*Noise and the ear*  
*Otosclerosis*

*Pulsatile tinnitus*  
*Relaxation*  
*Self help for tinnitus\**  
*Sound therapy*  
*Sources of mutual support for tinnitus*  
*Supporting someone with tinnitus*  
*Taming tinnitus*  
*Tinnitus and disorders of the temporomandibular joint (TMJ) and neck*  
*Tinnitus: a parent's guide*  
*Tinnitus: a teacher's guide*  
*Tinnitus and sleep disturbance*  
*Tinnitus and stress*  
*Tinnitus services\**

### For children:

*Ellie, Leila and Jack have tinnitus (under 8s)*  
*Tinnitus (8-11 year olds)*  
*Tinnitus (11-16 year olds)*  
*Ellie, Leila and Jack have tinnitus activity book*  
*Tinnitus activity book (8-11 year olds)*  
*Tinnitus activity book (11-16 year olds)*



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