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British Tinnitus Association

Health & care information you can trust

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DRUGS AND TINNITUS

Don McFerran FRCS
Consultant Otolaryngologist, Colchester Hospital University NHS Foundation Trust

This leaflet has been written to help you understand more about whether any medications or drugs you take may have an effect on your tinnitus.

Many people with tinnitus worry that certain drugs or medicines may have caused their tinnitus. A browse through a medical textbook or a search on the internet 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, and these are outlined below. For most drugs, there is no scientific evidence to either support or refute claims that they cause tinnitus.

For the majority of the most commonly prescribed drugs the number of people who report tinnitus while taking the drug is tiny, usually less than 1 in 1000 people. Tinnitus is a relatively rarely reported adverse reaction in most cases compared to the total number of adverse reactions.

This applies to most drugs for high blood pressure, cholesterol lowering drugs (statins), drugs given for anxiety and most antidepressants. Even those drugs that do cause tinnitus tend to result in **temporary** tinnitus: once the drug is discontinued the tinnitus usually disappears. Also, where drugs do cause tinnitus the effect is usually *dose dependent.* In other words, the normal dose that a doctor would prescribe does not cause tinnitus. It is only unusually large doses that result in tinnitus.

Why is it that there are so many reports of drugs causing tinnitus but so few scientifically confirmed cases?

The reasons for this apparent contradiction are interesting. Firstly tinnitus is common and taking medication for one condition or another is also common. It is therefore inevitable that there should be some coincidences and some people will develop their tinnitus while taking certain drugs just by chance. They may then blame the drug even though it is blameless. If the patient reports this to their general practitioner the doctor has a duty to fill in a report card and send it to an organisation called the Medicines and Healthcare Products Regulatory Agency (MHRA). The information is then stored so that other doctors can access it to advise their patients. Thus 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.

There is another way that drugs may get accused of causing tinnitus: drugs are administered to treat

medical conditions or illnesses. Having the illness that requires treatment is a stressful event. Stress is a well recognised trigger for tinnitus and 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.

Specific drugs & tinnitus

Nonetheless, there are a small number of drugs that do cause tinnitus. Many of these drugs are only given for serious illnesses where there is no alternative and once again the BTA would like to stress that no-one should alter their medication without first discussing it with the prescribing doctor.

Aspirin

Aspirin in large doses has long been recognised as being able to cause tinnitus and indeed researchers use this property to deliberately produce tinnitus in animal experiments. In the normal small doses used to treat headaches or flu it is very unlikely that aspirin will cause tinnitus. Similarly the tiny doses of aspirin that many middle aged and elderly people take to prevent heart attacks or strokes are extremely unlikely to result in tinnitus.

Aspirin used to be used in much larger doses to treat some rheumatological conditions and when given at these very high doses tinnitus sometimes did occur. However this effect was generally reversible: once the aspirin was stopped or the dosage reduced, the tinnitus disappeared. Such large doses of aspirin are almost never used nowadays as there are more effective, modern, alternative drugs available to treat these conditions.

A very small number of people are unusually sensitive to aspirin and develop reversible tinnitus at very low doses. Clearly such people should avoid aspirin and contact their doctor for advice regarding 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, such as in the treatment of malaria. However, taken in low doses to prevent malaria or to relieve night cramps, this does not usually happen. In the rare cases where people on these low doses of quinine do report tinnitus it is temporary and ceases as soon as they discontinue the medication.

Aminoglycoside antibiotics

There is a small group of very specialised, powerful antibiotics that can be ototoxic – in other words they can damage the inner ear. This damage can cause hearing loss and a small number of the affected people develop tinnitus as a consequence of this hearing loss. This group is known as the aminoglycoside antibiotics and includes streptomycin and gentamicin. These drugs are not available as tablets, syrups or other oral preparations and are generally given by injection in hospital for severe, life threatening infections. Damage to the ear only 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 when the level of the drug can 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 that can be purchased at a pharmacy 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 used in treating cancer. Despite the power of such drugs, damage to the ear is surprisingly 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. The

specialist doctors who prescribe such 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

Some other drugs which are occasionally ototoxic are a group of drugs called loop diuretics which 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 such diuretics probably only cause permanent damage when used in combination with other ototoxic drugs.

Idiosyncratic drug reactions

Although the vast majority of drugs do not cause tinnitus in most patients there is a small group of patients who will have an unexpected – or idiosyncratic – reaction to their medication. Any patient who suspects this should discuss the matter with their doctor. There may well be a suitable alternative medication or a different dosage regime that may help.

Recreational drugs

Although the BTA cannot condone the use of such substances, there is no evidence that marijuana, cocaine or heroin usage increases the risk of developing tinnitus. Indeed there has been discussion among some patient groups as to whether marijuana could help tinnitus. Although there is not much research on this topic, the evidence that is available suggests that it is not helpful. The use of hallucinogenic drugs and inhalants (solvents) does seem to be associated with increased risk of developing tinnitus.

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Alternative formats

This publication is available in large print on request.

For further information

Our helpline staff can answer your questions on any tinnitus related topics on **0800 018 0527.** You may also find our website **takeontinnitus.co.uk** helpful.

BTA publications

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. *available in Easy Read

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Complementary therapy for tinnitus: an opinion

Drugs and tinnitus

Ear wax removal and tinnitus

Flying and the ear

Food, drink and tinnitus

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Hyperacusis

Ideas for relaxation without sound

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Noise and the ear

Otosclerosis

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Relaxation

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Sources of mutual support for tinnitus

Supporting someone with tinnitus

Taming tinnitus

Tinnitus and disorders of the temporo-mandibular joint (TMJ) and neck

Tinnitus: a parent's guide

Tinnitus: a teacher's guide

Tinnitus and sleep disturbance

Tinnitus and stress

Tinnitus services*

Leaflets for children:

Ellie, Leila and Jack have tinnitus (for under 8s)

Tinnitus (for 8-11 year olds)

Tinnitus (for 11-16 year olds)

Ellie, Leila and Jack have tinnitus activity book

Tinnitus activity book (for 8-11 year olds)

Tinnitus activity book (for 11-16 year olds)

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British Tinnitus Association
Ground Floor, Unit 5, Acorn Business Park, Woodseats Close, Sheffield S8 0TB
Email: **helpline@tinnitus.org.uk**
Helpline: **0800 018 0527**
Website: **tinnitus.org.uk**

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