

Ototoxic Medications



What is ototoxicity?

Certain medications can damage the ear, resulting in hearing loss, ringing in the ear, or balance disorders. These drugs are considered ototoxic.

Hearing and balance problems caused by these drugs can sometimes be reversed when the drug therapy is discontinued. Sometimes, however, the damage is permanent.

When a decision is made to treat a serious illness or medical condition with an ototoxic drug, your health care team will consider the effects of the medications on your hearing and balance systems. The team will discuss with you how these side effects will affect your quality of life.

What are the effects I may notice from ototoxic medications?

Usually the first sign of ototoxicity is ringing in the ears (tinnitus). Over time, you may also develop hearing loss. This hearing loss may go unnoticed until your ability to understand speech is affected.

Balance problems can also occur as a result of ototoxic medications. You may experience a loss of balance, and you may feel unsteady on your feet. Sometimes these problems are temporary because the human body can learn to adapt to reduced balance control.

The effects of ototoxic medications can affect your quality of life. Not being able to hear conversations or feeling a little dizzy may cause you to stop participating in your usual activities.

What is happening inside my ear to cause these effects?

Ototoxic medications cause damage to the sensory cells used in hearing and balance. These sensory cells are located in the inner ear.

Which medications are ototoxic?

There are more than 200 known ototoxic medications (prescription and over-the-counter) on the market today. These include medicines used to treat serious infections, cancer, and heart disease.

Ototoxic medications known to cause permanent damage include certain aminoglycoside antibiotics, such as gentamicin (family history may increase susceptibility), and cancer chemotherapy drugs, such as cisplatin and carboplatin.

Drugs known to cause temporary damage include salicylate pain relievers (aspirin, used for pain relief and to treat heart conditions), quinine (to treat malaria), and loop diuretics (to treat certain heart and kidney conditions).

In some instances, exposure to loud noise while taking certain drugs will increase their damaging effects.

It is important to discuss with your doctor the potential for hearing or balance damage from any drug you are taking. Sometimes there is little choice. Treatment with a particular medication may provide the best hope for curing a life-threatening disease or stopping a life-threatening infection.

Can I protect myself from ototoxicity?

Research is being done to develop ways of protecting people from ototoxicity. At this time, there is no approved protective strategy.

What should I do before I begin treatment with ototoxic medications?

You should monitor your hearing and balance systems before and during treatment. Before starting the treatment, a baseline record of your hearing and balance

should be recorded by an audiologist. The baseline record should include an audiologic hearing test focuses on your ability to hear very high pitch sounds, word recognition, and other tests when possible. This information can help you and your doctor make any important decisions to stop or change the drug therapy before your hearing is damaged.

For cases in which the drugs cannot be stopped or changed, the patient and the audiologist can take steps to manage the effects of the hearing loss that results.

During the course of your treatment, you should have periodic hearing tests as part of the monitoring process. This will help enable you to report any hearing changes, ringing in the ears, or balance problems that you may notice.

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