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TREATMENT

RESCUE VS. PREVENTATIVE

Rescue medications reduce symptoms when they happen. Preventative keeps them from happening.

ARTICLE

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Medications for Vestibular Disorders

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ARTICLE SUMMARY

Medicines can be helpful tools to reduce dizziness and vertigo symptoms. They are used in two common ways. The first way is to reduce symptoms when they happen, also known as "rescue" medications. The second way is when medications are taken regularly to prevent the symptoms from happening, known as "preventive" medications. This article summarizes the common medications used for rescue and prevention of different vestibular disorders.

WHY PATIENTS MAY CHOOSE MEDICATIONS

Although many vestibular disorders improve with lifestyle changes (regular and healthy sleep, nutrition, exercise, hydration, and stress management practices) and physical therapy, some people do not get enough improvement with those changes alone and can benefit from taking medications. Patients can partner with their clinician to discuss which medications may be most helpful for them using the following guide. Many of these medications are used off-label, meaning they are being used in a manner not officially approved by the FDA. That's because very few medicines have been studied to treat vertigo or dizziness problems. As with any medication, especially in these cases, patients should be told about the possible risks and benefits before starting treatment.

RESCUE MEDICATIONS: MEDICINES USED TO REDUCE SYMPTOMS WHEN THEY HAPPEN

Sometimes, the dizziness or vertigo is so strong that it activates the part of the brain responsible for vomiting. This can lead to nausea, vomiting, and other symptoms, such as sweating, pale skin, drooling, diarrhea, and bloating. Rescue medications can be used to treat dizziness or the symptoms that accompany it (such as nausea and vomiting) or both.

Vestibular Suppressants

Vestibular suppressants are drugs that help reduce the spinning feeling (vertigo) and strange eye movements (nystagmus) caused by balance problems. They also help with motion sickness and sensitivity to

movement. There are four main types of vestibular suppressants:

- Benzodiazepines
- Antihistamines
- Anticholinergics
- Antiemetics

Benzodiazepines
Benzodiazepines are a group of medicines that include diazepam (Valium®), clonazepam (Klonopin®), lorazepam (Ativan®), and alprazolam (Xanax®). These drugs are often used to treat anxiety and depression, but they also help reduce dizziness and motion sickness.[3] In small doses, they can be very helpful for people having a sudden vertigo attack.4 They can also calm anxiety or panic that often comes with vertigo.

However, these medicines have side effects, such as:

- Getting used to them or wearing off over time (called habituation or tolerance)
- Memory problems
- A higher chance of falling
- Slowing down the brain's ability to adjust to balance problems (vestibular compensation)

Because of these risks, benzodiazepines should only be used for a short time. If you have been using them a long time (>4 weeks), they should not be stopped suddenly, as this can cause withdrawal symptoms.

Antihistamines
Antihistamines include meclizine (Antivert®), dimenhydrinate (Dramamine®), diphenhydramine (Benadryl®), and promethazine. These can prevent motion sickness and lessen symptoms even if taken after symptoms have already started.[5] They can cause sleepiness, dry mouth, and blurry vision because they also have anticholinergic effects. They may also increase the risk of sleep, balance, or memory problems, so they should be used only for short periods and not for long-term use.

Anticholinergics
Anticholinergics are medicines that calm down certain nerves in the vestibular system. They also slow down abnormal eye movements (nystagmus) caused by vertigo. The most effective anticholinergic drug for motion sickness is scopolamine. But anticholinergic drugs often have strong side effects, such as:

- Dry mouth
- Big (dilated) pupils
- Feeling very sleepy (sedation)

Antiemetics
Antiemetics are medications used to prevent nausea and vomiting, and may also help alleviate dizziness and headache. Which one a doctor chooses depends on how the drug is given and what side effects it might have.

- Injectable antiemetics are mostly used in hospitals or emergency rooms. These include dexamethasone (Decadron®) and ondansetron (Zofran®), which are strong and reliable. Droperidol (Droleptan®) is also used outside the U.S., but it's not FDA-approved.
- Oral antiemetics are for mild nausea. These are better suited for use at home, and sublingual tablets (placed under the tongue) work the fastest. Ondansetron (Zofran®), prochlorperazine (Compazine), promethazine (Phenergan®), metoclopramide (Reglan®) are commonly used in this way.
- Suppositories are used when nausea and vomiting are too strong to be able to swallow a pill. They are inserted per rectum and work very quickly.

If the doctor picks an oral option, meclizine or dimenhydrinate (Dramamine®) are typically the first choices. These are also antihistamines, and they usually don't cause anything more severe than drowsiness. Other medicines like prochlorperazine (Compazine) and promethazine (Phenergan®) are also helpful. Still, they can cause sleepiness and sometimes serious side effects, such as muscle stiffness or shaking (called extrapyramidal symptoms), if used too frequently. Drugs like metoclopramide (Reglan®) and domperidone can also help because they speed up digestion,

which may reduce nausea.[6]

TREATMENT OF INDIVIDUAL CONDITIONS

VESTIBULAR NEURITIS

Vestibular neuritis—now also called acute unilateral vestibulopathy—used to be treated mainly with strong medications. Now, doctors focus more on supportive care and rehabilitation exercises, and as little medication use as possible.

The latest advice suggests starting balance exercises and walking practice as soon as possible.7 These exercises help people regain balance and feel better faster. Starting rehabilitation exercises early has proven to be one of the most effective ways to help people recover quickly, especially when combined with short-term medication.[7] In the first 1 to 3 days, doctors may use rescue medications like meclizine, diazepam, or ondansetron to help control symptoms. However, these should only be used for a few days, because using them too long can slow down the brain's natural recovery process (called central compensation).[8]

In the past, doctors thought the virus that causes cold sores (HSV) might be involved, so they tried antiviral drugs like acyclovir or valacyclovir. However, studies have shown no real benefit from using antivirals. They may still be used in some instances, but are not recommended for everyone.

Steroid Use in Vestibular Neuritis
Doctors used to give steroids (like methylprednisolone or prednisone) to help the damaged nerve heal. Some older studies suggested it might be beneficial, but newer research has shown mixed results. A large review in 2021 found that steroids may help in the first month, but by a year later, there was no real difference in recovery compared to people who didn't take steroids.[9] A 2024 study compared short-term versus long-term steroid treatments and found no significant improvement in balance or symptoms for either group.10On the other hand, a 2022 review showed that some people might benefit from steroids, but the data wasn't very strong or consistent.11 Because of this, expert groups (like the Bárány Society) say steroids might help reduce spinning and eye movement early on, but they stop short of fully recommending them.

VESTIBULAR MIGRAINE

Vestibular migraine is now known as the most common cause of vertigo and dizziness, even though it was ignored for years. Vestibular migraine, in particular, can benefit greatly from medications, both preventive and rescue, in addition to lifestyle changes and vestibular physical therapy. Doctors often use migraine prevention drugs to help treat vestibular migraine if lifestyle changes and physical therapy aren't helping enough. Common migraine medications used include:

- Beta-blockers (propranolol, metoprolol, nadolol, etc.)
- Anti-seizure medications (topiramate, gabapentin, lamotrigine, zonisamide, etc.)
- Antidepressants (nortriptyline, amitriptyline, venlafaxine, etc.)
- Calcium channel blockers (verapamil, nifedipine, etc.)

A 2023 study found that propranolol (a beta-blocker) and venlafaxine (an antidepressant) were most effective in reducing vertigo and improving quality of life.[12] However, not all studies agree. One study in 2019 (called PROVEMIG) tested metoprolol (another beta-blocker) and found it didn't work better than a sugar pill (placebo) for reducing vertigo attacks.[13] A 2014 study found that flunarizine (not available in the US) helped reduce the number and severity of vertigo episodes, but didn't help headaches much.[14] This shows the need for more dedicated research in prevention medications for vestibular migraine.

CGRP Inhibitors: New Migraine Treatments
New migraine treatments, called CGRP Inhibitors, block the inflammatory protein CGRP (calcitonin gene-related peptide. CGRP is known to cause headaches and dizziness. CGRP inhibitors, specifically CGRP monoclonal antibodies (MABs), block the CGRP itself. CGRP inhibitors, also known as "gepants," block the receptors to which CGRP binds, thereby blocking its effect. CGRP inhibitors may be effective vestibular migraine treatments for both rescue and prevention. Although CGRP inhibitors were originally developed to reduce headache symptoms, recent studies have shown that these medications can reduce vertigo episodes in patients who didn't respond to older treatments; however, more dedicated studies in vestibular migraine are needed.[15,16] (Sharon, 2024)

CGRP MABs:

- erenumab (Aimovig®)
- galcanezumab (Emgality®)

- fremanezumab (Ajovy®)
- eptinezumab (Vyepti®)

CGRP Gepants:

- atogepepant (Qulipta®)
- rimegepant (Nurtec®)
- ubrogepant (Ubrelvy®)
- zavegepant (Zazpret®)

Treating VM Attacks as They Happen
There isn't much evidence yet on how to treat an attack of vestibular migraine. Instead, doctors use medications intended to treat other conditions, like nausea, to try to reduce VM symptoms. Many doctors recommend using a combination of medications, for example:

- An anti-inflammatory medication like ibuprofen
- An anti-nausea drug or benzodiazepine like ondansetron, prochlorperazine, or diazepam

Even though this approach is based more on experience than research, many patients report relief with this combination. Triptans usually don't help with the dizziness in vestibular migraine, so if they're used, it's mostly to treat the headache part, not the balance or motion symptoms. (JAMA, 2025)

MÉNIÈRE'S DISEASE

Ménière's disease happens when too much fluid builds up in the inner ear. This irritates the inner ear and causes symptoms such as:[17]

- Spinning attacks (vertigo)
- Hearing loss in one ear that comes and goes
- A feeling of fullness in one ear
- Ringing in one ear (tinnitus)

Treatment focuses mainly on controlling vertigo. Unfortunately, treatments for hearing are not very effective. Over time, 60% to 80% of patients may get better, even without long-term treatment.18,19
Treatment During a Meniere's Attack
During a vertigo attack, the goal is to treat the symptoms. Doctors usually use vestibular suppressants and anti-nausea medications, just as they do for other types of sudden vertigo.

Prevention of Meniere's
First, doctors recommend simple lifestyle changes:

- Limit salt in your diet (1500-2000 milligrams per day)
- Stay hydrated (about 35 mL of water per kilogram of body weight)
- Limit caffeine
- Quit smoking
- Work on stress management since stress is a major cause of Meniere's

Doctors often use diuretics (water pills) like hydrochlorothiazide, triamterene-hydrochlorothiazide, spironolactone, or acetazolamide to help prevent attacks. These are often used along with a low-salt diet. Even though studies haven't fully proven these drugs or low-sodium diets work, they are still commonly used and included in many medical guidelines.

CAUTION:

Diuretics can cause low sodium levels, low potassium levels, and low blood pressure, especially in older people or those already on a low-salt diet.

MEDICATIONS USED TO PREVENT MENIERE'S

Betahistine
Betahistine is a popular medication in Europe for preventing Ménière's attacks, but studies show mixed results. A large study (the BEMED trial) found no difference between betahistine and a sugar pill (placebo).[20] Other reviews suggebe helpfult might help,atspecially in higher doses, but the evidence isn't strong.[2]1 Still, many doctors use it because it's safe, affordable, and many patients improve on it.[22] In the U.S., doctors don't often use betahistine because it's not FDA approved and the results of studies have been unclear; however, betahistine can be made at specialty pharmacies in the US called "compounding pharmacies," though costs can be high.

Steroid and Gentamicin Injections
Steroid injections, especially dexamethasone placed directly into the ear through the eardrum (called intratympanic or transtympanic injections), have become more popular. Studies show that this helps control vertigo in 60–70% of cases and may also improve hearing. Another injection option is gentamicin, which is even more effective at stopping vertigo (approximately 80–90%

effective) — but it can cause permanent damage to the balance system of the inner ear and may lead to permanent hearing loss. Because of this, doctors often try steroids first, especially if the person still has good hearing. Gentamicin is typically only used if:

- The vertigo is very severe
- Other treatments didn't work
- Hearing is already poor

Newer gentamicin methods use very low doses, which may reduce the risk of inner ear damage. One study showed an 84% drop in vertigo attacks with just one dose.[25] An international group of experts in 2018 said gentamicin is the best choice for people with one-sided, disabling vertigo. Still, because of the risk to balance and hearing, doctors usually try steroids first.[26]

Vestibular Paroxysmia

Vestibular paroxysmia is a condition caused by irritation of the inner ear nerve. This may occur due to something touching the nerve, such as a blood vessel, but most of the time, it's caused by the nerve lining wearing down over time and the nerve short-circuiting on its own. The main treatment involves administering a nerve medication that decreases nerve irritation or reduces short-circuiting. Low-dose anti-seizure medicines are used, like:

- Carbamazepine (Tegretol®)
- Oxcarbazepine (Trileptal®)

These medicines don't just help the symptoms;

they can also help confirm the diagnosis. A major medical group (the Bárány Society) included a positive response to these drugs as part of the criteria for diagnosing this condition in 2016.[28] Because these medications are intended to reduce nerve activity, many people experience sleepiness or drowsiness when they first start taking them. This improves over the course of a few days. Rarely, they may cause low sodium levels or double vision, so it's important to monitor for side effects with your doctor.

Some newer anti-seizure medications, such as lacosamide and eslicarbazepine , have been tried when patients can't take carbamazepine. But there isn't enough data yet to make them standard treatments. Other medications like gabapentin and pregabalin have been used in mild cases or with older patients, but again, the research is limited. It's important to know that vestibular suppressants (the drugs used for other kinds of vertigo) do not help in this condition.

CONCLUSION

Doctors work with patients to choose medications based on the type and severity of the balance problem, as well as the potential side effects of the medications. Vestibular suppressants should only be used for short-term relief during an intense attack. Using them for too long can make balance problems worse in the long run.

Preventive medications don't cure the disorder, but they can reduce or stop the number of vertigo attacks. Most drugs used for vertigo work by targeting specific brain chemicals or nerve pathways. Understanding how these systems work has helped doctors create better treatments for certain balance disorders, like:

- Ménière's disease
- Vestibular migraine
- Vestibular paroxysmia
- Central nystagmus (a type of uncontrolled eye movement)

But no matter what, the most important first step is always finding the correct diagnosis. Only then can doctors create an effective treatment plan for people living with dizziness and vertigo.

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