MICHIGAN MEDICINE
UNIVERSITY OF MICHIGAN

Transition for Adolescents, Youth, and Young Adults with Epilepsy

Managing Medications

Until now, perhaps your parent or caregiver has been helping you with your anti-seizure medications. It can be a little scary to feel like you have to know your medicines and your medicine schedule. Here are some tips to help you to know your anti-seizure medications, and to take charge of taking your own medicines.

What do I need to know about managing my medications?

1. Discuss the name(s) of the medicines used to treat your epilepsy with your family and with your doctor.
2. Learn your medicines' generic and brand names. The generic name is the name of the actual drug. A brand name is given by the company that makes the medicine. Discuss both names, as they could sound different.
3. Review the number of tablets and the dose in milligrams (or mgs) that you are taking. If you are taking a liquid medicine, review the dose in milligrams and quantity (usually in "ml's" or "cc's").
4. Review the schedule and times of taking your medicines. Talk to your doctor about ways to simplify your medicine schedule (like extended-release medicine so you can take it once a day).
5. Discuss side effects with your doctor and with your parent or caregiver. Make a plan with your doctor about what to do if you think you are having a serious reaction to your medicine. This includes calling your doctor's office and speaking with a doctor, even if it's in the evening or on a weekend or a holiday.
6. Know which pharmacy is used to fill your prescriptions. Keep the pharmacy information easily available (on your smartphone, or written down where you can find it easily)
7. Identify and use a system to remind you to take your medicines. Here are some ideas:

a. Use your smartphone or device to set an alarm
b. Put reminders on your calendar
c. Associate the time you take your medicine with an activity like breakfast or dinner
d. Use a pillbox
e. Ask your pharmacy to package your pills in bubble packaging (also called “blister packs”) according to your schedule.

What are rescue medicines?

Many people with epilepsy take a rescue medicine to treat a long seizure or back-to-back seizures. These medications are different than the anti-seizure medications you take every day and are only used as needed. Rescue medications can be taken by mouth, or as a spray in the nose. Your doctor may provide a Seizure Action Plan so you know when and how to use the rescue medicine. Review the action plan with your doctor at least once a year, or if needed at every appointment.

How does alcohol interact with anti-seizure Medications?

Although alcohol is legal and commonly used, it is associated with significant health risks. If you drink too much alcohol, you may need to see your doctor more often for diseases caused by excessive alcohol use, and there is a higher risk of death when compared to people that do not use alcohol.

People living with epilepsy who also use alcohol have all these risks, plus some risks caused by the effect that alcohol has on seizures and treatments used to control seizures. For example, alcohol use can reduce the level of anti-seizure medications in the bloodstream, which can cause breakthrough seizures. This is especially true for medications removed from the body by the liver, which is true for most anti-seizure medications.

Even using alcohol just some of the time can cause problems because alcohol may worsen side-effects caused by anti-seizure medications, such as

drowsiness, dizziness, and balance problems. Additionally, alcohol use can cause seizures to become worse for people with certain types of epilepsy, such as juvenile myoclonic epilepsy. Talk to your doctor about how risky it is to drink alcohol based on your anti-seizure medications and type of epilepsy. If you want to play it safe, do no use any alcohol at all.

How do anti-seizure medications and other medications interact?

It is common for people with epilepsy to be prescribed more than just anti-seizure medications, and it's important to know that anti-seizure medications (ASMs) commonly interact with other medications that don't treat seizures. Examples of medications that interact with ASMs:

- Anti-depressants, such as Zoloft (sertraline) or Pamelor (nortriptyline)
- Anti-psychotics, such as Zyprexa (olanzapine)
- Hormonal birth control pills containing ethinylestradiol or estradiol
- Cholesterol-lowering medications, such as Zocor (simvastatin)
- Blood thinners, such as Coumadin (warfarin)

People with epilepsy that take ASMs along with other medications, including some of those above, may have worse seizure control. The interaction can also work both ways and some ASMs may make it more likely that other medications don't work as well, or cause more side effects.
Examples of ASMs that commonly interact with other medications:

- Dilantin (phenytoin)
- Tegretol (carbamazepine)
- Trileptal (oxcarbazepine)
- Depakote (divalproex sodium), valproate, and valproic acid
- Phenobarbital

Although ASMs and other medications can interact, it does not mean that you should stop taking them. You should tell your epilepsy doctor immediately if you start or stop any medications, including medications not used to treat seizures. The interaction between ASMs and other medications can be fast or

slow but could take effect in just a few days. Tell your epilepsy doctor about any medication changes right away – don't wait until your next appointment

Also, some over-the-counter medications may trigger seizures, such as antihistamines, decongestants, and sleep aids. Ingredients in these medications that might trigger seizures include diphenhydramine, pseudoephedrine, and phenylephrine. Look at the ingredients on the box, as many cold and flu medications contain a combination of these medicines, including common brands such as Benadryl, Tylenol PM, Sudafed, NyQuil, and DayQuil.

How do epilepsy and seizure medications affect bone health?

People with epilepsy have an increased risk of fractures, or broken bones, which can happen during a seizure or unrelated to seizures. For example, unexpected seizures can cause falls, but there are also some conditions associated with epilepsy, such as hemiparesis (weakness on one side of the body), which can cause difficulty walking safely. Additionally, anti-seizure medications can cause imbalance as a side effect, making falls a bigger risk for people with epilepsy.

One cause of the increased risk of fractures in people with epilepsy is the effect of anti-seizure medications on bone health and bone density. When bones are low density, they are more brittle and likely to break. Certain anti-seizure medications, when taken over long periods of time, impact vitamin D metabolism, which is important for bone health. Problems with vitamin D metabolism and low vitamin D raise the risk of low bone density, also known as osteoporosis.

Anti-seizure medications known to raise the risk of osteoporosis with long term use include:

- Dilantin (phenytoin)
- Phenobarbital
- Topamax (topiramate)

Smoking, low physical activity, family history of osteoporosis, and treatment with glucocorticoids (steroids) are also associated with osteoporosis. The overall length of time someone has taken anti-seizure medications, as well as women with epilepsy, have a higher risk of low bone density and risk of fractures.

What can I do to improve bone health and reduce my risk of a fracture?

- Don't smoke! Ask your doctor if you need help. To learn more about Tobacco Consultation Service outpatient programs at Michigan Medicine contact (734) 998-6222 or email quitsmoking@med.umich.edu.
- Keep physically active and follow a regular exercise schedule
- Take calcium and vitamin D supplements – ask your doctor how much to take
- Ask your doctor if there is a way to limit long-term use of anti-seizure medications that have a higher risk of osteoporosis

Your doctor will recommend that you have bone density testing periodically – this is important to check if you might have low bone density or osteoporosis. If you do, there are treatments available to improve bone density and reduce the risk of fractures.

Where can I learn more about taking medications?

Visit https://www.epilepsy.com/living-epilepsy/parents-and-caregivers/about-kids/managing-seizure-medications for additional medication tips.

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