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Paragon Pharmacy



Epilepsy

Throughout history, epilepsy has been thought to be caused by everything from evil spirits, to one's diet. Today, about 1% of the population is affected and epilepsy is recognized as a seizure condition which occurs when the nervous system "misfires". Seizures vary in their nature, intensity, and duration; but they most often affect the very young or individuals over 65. Fortunately, a wide variety of anti-seizure medications are available to effectively control epilepsy.

Your Health And Epilepsy

This document is intended to be a reliable source of information. However, it is not a substitute for professional advice. We recommend that you consult a physician or a pharmacist to understand how this information applies to any specific case.

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Your Health And Epilepsy

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How The Nervous System Works

The History Of Epilepsy

Historically, epilepsy was thought to be caused by factors like demonic possession, witchcraft, or even poisoning. Today, fear and stigma are still attached to the disease in spite of the fact that many people have lived very productive lives with it - Vincent Van Gogh, Sir Isaac Newton, Alexander the Great, Michelangelo, Richard Burton, Truman Capote.

In the early 20th century, epilepsy was finally recognized as a disease and the first drugs were developed to reduce seizures. By the late 1990's, more than a dozen different medications had become available and today they are used in various combinations that can effectively control epilepsy.

About 60% of epilepsy cases are idiopathic in nature, that is, have no known cause, and cannot be cured, only managed. About 25% of the time, it is older people - 65 plus - that are affected. Fortunately, if a cause can be identified and treated, the seizures will stop.

March is Epilepsy Awareness Month

The nervous system is composed of two parts: the central nervous system, or the brain; and the peripheral nervous system, which is, the spine and various nerves throughout the body, e.g., the nerves in your fingers that give you the sensation of "touch". The nervous system contains unique nerve cells or neurons, which specialize in carrying nervous system messages throughout the body.

Nerve cells are affected by neurochemicals, which are substances that move throughout the complete nervous system producing specific responses in your body - think of the wiring in your home with electricity moving throughout the wiring. Some neurochemicals cause excitation - glutamate, aspartate, acetylcholine, cytokines; others cause inhibition - gamma aminobutyric acid or GABA, dopamine.

For example, you want to turn a page in a book. You form the idea or thought in your brain that you want to move your hand to the book and flip the page. Because you have turned pages previously, your brain knows which neurochemicals to release and it releases them. The neurochemicals travel through your nervous system to the muscles in your fingers. Then you reach out, take the corner of the page, and turn it. All of this happens in a fraction of a second and you do not even need to think about it!

In seizure conditions, neurochemicals are not in balance and/or do not move as they should. Anti-seizure drugs work by affecting neurochemical levels, but unfortunately it is not possible to identify the specific neurochemicals involved in a specific seizure condition. This means if you are affected by seizures, you may need to try several drugs, or combination of drugs, until you find the ones that work for you.

What Happens During A Seizure

It is thought that a seizure results when there is an imbalance of neurochemicals. Unfortunately, it is not possible to measure specific neurochemical levels, so you cannot identify which specific ones are involved and what their concentration is. The symptoms depend upon the neurochemicals involved and the area of the brain affected. Some common symptoms include:

- Muscle spasms, rhythmic movements, tremors
- Loss of consciousness
- Eyes remaining open, rolling up
- Altered senses - hearing, smelling, seeing
- Dizziness
- Fainting, blackouts

An aura may occur before a seizure and, for some people, warns them that a seizure is about to occur - a feeling of déjà vu; changes in smells, sounds, taste, and vision; racing thoughts; tingling sensations. After a seizure, some people experience deep sleep, headache, confusion, and muscle soreness.

A diagnosis of epilepsy is based upon your medical history, neurological examination and tests such as electroencephalography (EEG), magnetic resonance imaging (MRI), and computerized tomography (CT) scans.

Risk Factors For Epilepsy

It is difficult to identify who is at risk for seizures and epilepsy; however, some triggers have been identified:

- Strobe lights and/or changes in lighting
- Emotional stress
- Lack of sleep, or changes in sleep patterns
- Fever, especially a high fever
- Monthly cycles in women

A family history of epilepsy will increase your risk for the condition; and sometimes, people who have specific medical conditions seem to be more susceptible for seizures and epilepsy:

- A medical history of depression and/or anxiety seems to increase the risk and may be related to a neurochemical imbalance.

- People with migraine headaches seem to have more seizures.
- Seizures occur more often in adults and children with attention deficient disorder or ADD conditions.
- Children with autism are more likely to have seizures.
- Drug abuse interferes with neurochemical action and can cause seizures.
- Among older people, a head injury many years ago may be the cause of seizures.

For More Information:
Epilepsy Canada at www.epilepsy.ca



Some Causes Of Seizures That May Be Remedied

A seizure is a brief, sudden and involuntary alteration in nervous system function, which is presumed to be a result of an imbalance in neurochemicals. Epilepsy is characterized by seizures, but not every seizure is epilepsy. Sometimes, treating an underlying condition will treat the seizure:

- Swelling in the brain - reducing the swelling will reduce the seizures.
- Lack of oxygen in the brain, e.g., strokes, carbon monoxide poisoning; can be treated.
- Head injury or trauma - medical interventions such as surgery may help.
- Infections in the nervous system, e.g., AIDS, meningitis, encephalitis, malaria, syphilis, rabies; however, sometimes the damage is too severe to be treated.

- Birth defects can result in seizures and surgery may correct the defect and resolve the seizures.
- Tumors in the brain can produce seizures - if caught early, chemotherapy and/or surgery will help.
- Dangerously high temperatures, e.g., heat stroke - cooling the body will help treat the seizures.
- Severe changes in metabolism, e.g., hypoglycemia in diabetes - good control of conditions like diabetes will prevent seizures.
- Drug abuse, e.g., alcohol, cocaine - treatment of the drug abuse and, of course, avoiding drug abuse.
- Poisons, e.g., lead, strychnine - treating the poisoning will also treat the seizures.

Types of Seizures

Seizures can be partial or generalized, i.e., affected only part of the body or the whole body. A simple partial seizure may only involve the muscles causing twitching, but not a loss of consciousness. A generalized seizure usually affects the consciousness, along with a sudden loss of muscle tone. Here are some of the common terms used with seizures:

- Tonic and clonic are terms used to describe seizures. Tonic refers to a state of tension; and clonic a state of relaxation. In tonic-clonic seizures, stiffness then relaxation occur, which results in an appearance of "jerkiness".
- Primary seizures occur on their own; secondary seizures occur as the result of some other condition, e.g., head trauma.
- Absence seizures are brief episodes of loss of consciousness - the individual looks like they are staring.

- Myoclonic seizures are characterized by sporadic muscle jerks known as myoclonic jerks.
- Atonic seizures result in sudden loss of muscle tone.

At one time, partial and generalized seizures were not differentiated, nor were primary and secondary seizures. However, today with the increased number of anti-seizure drugs available, differentiating among the types of seizures can lead to better control of the condition, and with secondary seizures, an underlying cause can be sought and treated. Atonic and myoclonic seizures have their own diagnosis criteria and drugs of choice. Atypical seizures, because of their very nature, require specialized investigations and treatment approaches.

Therapy For Epilepsy

Today, medications for seizures, i.e., anti-seizure drugs are numerous and effective. Several types may need to be tried, or a combination of drugs is used for better control. Some drugs require ongoing blood tests to ensure blood levels are correct; over time, changes in therapy are needed for the best control. Some examples of drugs include:

- Benzodiazepines, e.g., clonazepam, diazepam - often used when other drugs are not effective
- Ethosuximide - reserved for uncomplicated seizures; however, newer drugs have largely replaced it
- Phenytoin - widely used for a variety of types of seizures
- Gabapentin and pregabalin - often used with other drugs
- Lamotrigine - often used in conjunction with other drugs

- Levetiracetam - can be used in combination or sometimes on its own
- Carbamazepine - effective for a variety of seizures
- Phenobarbital - has largely been replaced by other drugs
- Topiramate - can be used on its own, or along with other drugs
- Valproic acid and divalproex - both affect the same neurochemicals in the body

All anti-seizure drugs can cause drowsiness and bone loss - if you take these drugs remember to make sure your daily calcium intake is sufficient. Birth defects are often associated with anti-seizure drugs; and during pregnancy, drug therapy may be altered to reduce the risk. Sometimes, brain surgery or vagus nerve stimuli is used, along with anti-seizure medications - the idea is to physically alter the nervous system.



Q & A Ask Your Helpful Paragon Pharmacist

Q. I've heard of a diet that will help my epilepsy. What is it?

A. Called the ketogenic diet, it is high in fat, low in protein, and uses very few carbohydrates. The diet mimics fasting which helps some people reduce their seizures. However, the diet has not been very effective and was used before drug therapies were widely available. Today, with the numerous anti-seizure drugs, you are sure to find a combination that will provide good seizure control.

Q. Why do I need to take care of my teeth with anti-seizure drugs?

A. Gingival hyperplasia is a side effect of phenytoin. Inflammation, gum disease, and tooth decay can occur. Good dental hygiene - brushing, flossing, and regular check-ups - will reduce your risk for these problems, but sometimes you may need to change to another anti-seizure drug.

Q. Are there any natural remedies for epilepsy?

A. The natural remedies that are touted for epilepsy are, in theory, supposed to aid brain function, e.g., amino acids, vitamin B compounds. Some herbs which impact the nervous system are sometimes recommended for seizure control. However, before using any natural remedies for epilepsy, you need to check with both your physician and pharmacist for potential side effects and interactions with drugs that you may be taking for seizure control.

A Healthy Position

Anti-Seizure Drugs Used In Other Conditions

Anti-seizure drugs affect the neurochemicals in the nervous system and can be of benefit in other conditions that also involve neurochemicals. Often, these uses were discovered by accident, e.g., someone taking drugs for their epilepsy noted that their chronic pain or migraine headaches improved.

- Chronic pain is often treated with pain relievers, but anti-seizure drugs either improve the nervous system response to these pain relievers, or alternatively, relieve the pain on their own.
- Menopausal symptoms, such as, hot flashes and sleeplessness sometimes responds to gabapentin - the dose is usually lower for seizure control.
- Diabetic neuropathy is the painful burning and tingling that occurs in the legs and feet of people with diabetes - gabapentin and pregabalin are often used.
- Migraine headaches may be prevented in some people by taking divalproex on a regular basis.
- Fibromyalgia is often treated with pregabalin.
- Bipolar disorder is treated with drugs that affect the nervous system and anti-seizure medications are sometimes included.

Take The Check-Up Challenge

Try drinking at least eight 8 ounce cups of fluid each day - remember to count juices and other liquids, but not coffee or alcohol. Take the check-up challenge and check each day that you succeed.

Ask about our Preferred private label products!

Next Month's Feature!

Oral Health

Oral health not only impacts your mouth, it also can lead to nutritional problems, infections, and poor overall health. Cavities, or caries, are the most common dental problem, but a range of conditions may occur - dry mouth, bad breath or halitosis, impaired taste, gum disease. Drugs can have adverse oral effects and even drugs absorbed in the mouth can impact oral health; however, your most important defense is good oral hygiene - and not forgetting to floss!

In Next Month's Feature Find Out More About:

- Cavities
- Gum disease
- Dry mouth
- Bad breath
- Changes in taste

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