



Phenytoin

Generic Name: phenytoin (oral) (FEN i toyn)

Brand Names: *Dilantin, Phenytek*

What is phenytoin?

Phenytoin is an anti-epileptic drug, also called an **anticonvulsant**. It works by slowing down impulses in the brain that cause seizures.

Phenytoin is used to control **seizures**. Phenytoin does not treat all types of seizures, and your doctor will determine if it is the right medicine for you.

Important information

You should not use phenytoin if you also take delavirdine (Rescriptor), or if you are allergic to phenytoin, ethotoin (Peganone), fosphenytoin (Cerebyx), or mephenytoin (Mesantoin). If you are pregnant, **DO NOT START TAKING** this medicine unless your doctor tells you to. Phenytoin may cause harm to an unborn baby, but having a seizure during pregnancy could harm both the mother and the baby. If you become pregnant while taking phenytoin, **DO NOT STOP TAKING** the medicine without your doctor's advice. Seizure control is very important during pregnancy and the benefits of preventing seizures may outweigh any risks posed by using phenytoin.

Report any new or worsening symptoms to your doctor, such as: mood or behavior changes, depression, anxiety, or if you feel agitated, hostile, restless, hyperactive (mentally or physically), or have thoughts about suicide or hurting yourself.

Before taking this medicine

You should not use this medicine if you are allergic to phenytoin or similar medicines such as ethotoin, fosphenytoin, or mephenytoin, or if you have:

- a history of liver problems caused by phenytoin;
- a heart condition called 2nd or 3rd degree "AV block";
- a history of slow heartbeats that have caused you to faint; or
- a condition for which you also take delavirdine (Rescriptor).

To make sure phenytoin is safe for you, tell your doctor if you have:

- liver disease;
- a history of abnormal heart rhythm found on an EKG (electrocardiograph);
- diabetes;
- a history of depression;
- a history of suicidal thoughts or actions;
- a vitamin D deficiency or any other condition that causes thinning of the bones;
- porphyria (a genetic enzyme disorder that causes symptoms affecting the skin or nervous system); or
- if you drink large amounts of alcohol.

You may have thoughts about suicide while taking this medicine. Your doctor will need to check your progress at regular visits while you are using phenytoin. Your family or other caregivers should also be alert to changes in your mood or symptoms.

Patients of Asian ancestry may have a higher risk of developing a rare but serious skin reaction to phenytoin. Your doctor may recommend a blood test before you start the medication to determine your risk of this skin reaction.

Seizure control is very important during pregnancy. Do not start or stop taking this medicine without your doctor's advice if you are pregnant.

Phenytoin may cause harm to an unborn baby, but having a seizure during pregnancy could harm both mother and baby. Tell your doctor right away if you become pregnant while taking this medicine.

If you become pregnant while taking phenytoin, your name may be listed on a pregnancy registry. This is to track the outcome of the pregnancy and to evaluate any effects of phenytoin on the baby.

Phenytoin can make birth control pills less effective. Ask your doctor about using non hormonal birth control (condom, diaphragm with spermicide) to prevent pregnancy while taking this medicine.

Phenytoin can pass into breast milk and may harm a nursing baby. You should not breast-feed while you are using this medicine.

How should I take phenytoin?

Take phenytoin exactly as prescribed by your doctor. Follow all directions on your prescription label. Do not take this medicine in larger or smaller amounts or for longer than recommended.

Do not crush, chew, break, or open an **extended-release capsule**. Swallow it whole. **Do not use any phenytoin capsule that has changed colors**. Call your doctor for a new prescription.

The **chewable tablet** must be chewed before you swallow it.

Shake the oral suspension (**liquid**) well just before you measure a dose. Measure liquid medicine with the dosing syringe provided, or with a special dose-measuring spoon or medicine cup. If you do not have a dose-measuring device, ask your pharmacist for one.

While using phenytoin, you may need frequent blood tests. You may also need a blood test when switching from one form of medicine to another. Visit your doctor regularly.

If you are taking phenytoin to treat seizures, **do not stop using it suddenly**, even if you feel fine. Stopping suddenly may cause increased seizures. Follow your doctor's instructions about tapering your dose.

Tell your doctor if this medicine does not seem to work as well in treating your condition.

Wear a medical alert tag or carry an ID card stating that you take phenytoin. Any medical care provider who treats you should know that you take seizure medication.

Phenytoin can cause swelling in your gums. Brush and floss your teeth and visit your dentist regularly to help prevent this problem.

Store at room temperature away from moisture, light, and heat.

See also: Dosage Information (in more detail)

What happens if I miss a dose?

Take the missed dose as soon as you remember. Skip the missed dose if it is almost time for your next scheduled dose. Do not take extra medicine to make up the missed dose.

What happens if I overdose?

Seek emergency medical attention or call the Poison Help line at 1-800-222-1222. **An overdose of phenytoin can be fatal.** Overdose symptoms may include twitching eye movements, slurred speech, loss of balance, tremor, muscle stiffness or weakness, nausea, vomiting, feeling light-headed, fainting, and slow or shallow breathing.

What should I avoid while taking phenytoin?

Avoid drinking alcohol while you are taking this medicine. Alcohol use can increase your blood levels of phenytoin and may increase side effects. Daily alcohol use can decrease your blood levels of phenytoin, which can increase your risk of seizures.

Avoid taking antacids at the same time you take phenytoin. Antacids can make it harder for your body to absorb the medication.

Phenytoin may impair your thinking or reactions. Be careful if you drive or do anything that requires you to be alert.

Phenytoin side effects

Get emergency medical help if you have any **signs of an allergic reaction to phenytoin**: hives; difficulty breathing; swelling of your face, lips, tongue, or throat. You may be more likely to have an allergic reaction if you are African-American.

In rare cases, phenytoin may cause a severe drug reaction that can affect many parts of the body. This type of reaction can start several weeks after you begin using this medicine.

Seek medical treatment if you have new or worsening symptoms of fever, sore throat, mouth sores, facial swelling, a red or blistering skin rash, flu symptoms, swollen glands, feeling weak or tired, easy bruising, unusual bleeding, upper stomach pain, nausea, vomiting, loss of appetite, jaundice (yellowing of the skin or eyes), weight loss, pain or burning when you urinate, lower back pain, swelling in your legs or feet, cough, chest pain, or trouble breathing.

Report any new or worsening symptoms to your doctor, such as: mood or behavior changes, anxiety, panic attacks, trouble sleeping, or if you feel impulsive, irritable, agitated, hostile, aggressive, restless, hyperactive (mentally or physically), more depressed, or have thoughts about suicide or hurting yourself.

Call your doctor at once if you have:

- fever, swollen glands, sore throat, trouble breathing, painful mouth sores, sores around your eyes;
- skin rash, easy bruising or bleeding, severe weakness;
- severe muscle pain;
- nausea, vomiting, upper stomach pain, loss of appetite, dark urine, jaundice (yellowing of the skin or eyes);
- bone pain (especially in your hips, legs, or lower back), trouble with walking; or
- severe skin reaction--fever, sore throat, swelling in your face or tongue, burning in your eyes, skin pain, followed by a red or purple skin rash that spreads (especially in the face or upper body) and causes blistering and peeling.

Common phenytoin side effects may include:

- dizziness, drowsiness, confusion, nervousness;
- nausea, vomiting, constipation;
- tremors, slurred speech, loss of balance or coordination;
- rash;
- abnormal eye movement;
- headache; or
- sleep problems (insomnia).

This is not a complete list of side effects and others may occur. Call your doctor for medical advice about side effects. You may report side effects to FDA at 1-800-FDA-1088.

See also: Side effects (in more detail)

Phenytoin dosing information

Usual Adult Dose for Seizures:

Oral (except suspension) Loading dose: Only when indicated for inpatients.

1 g orally divided in 3 doses (400 mg, 300 mg, 300 mg) given at 2 hour intervals. Then normal maintenance dosage started 24 hours after loading dose.

Initial dose: 100 mg extended release orally 3 times a day.

Maintenance dose: 100 mg orally 3 to 4 times a day. If seizure control is established with divided doses of three 100 mg capsules daily, once-a-day dosage with 300 mg of extended release phenytoin sodium may be considered. Alternatively, the dosage may need to be increased up to 200 mg orally 3 times a day, if necessary.

Suspension: Patients who have received no previous treatment may be started on 125 mg (one teaspoonful) of the suspension three times daily, and the dose is then adjusted to suit individual requirements. An increase to five teaspoonfuls daily may be made, if necessary.

IV: Do not exceed the infusion rate of 50 mg/min.

Loading dose: 10 to 15 mg/kg IV slowly.

Maintenance dose: 100 mg IV every 6 to 8 hours.

IM: Avoid the IM route due to erratic absorption.

Usual Adult Dose for Arrhythmias:

Loading Dose:

1.25 mg/kg IV every 5 minutes. May repeat up to a loading dose of 15 mg/kg, or 250 mg orally 4 times a day for 1 day, then 250 mg twice daily for 2 days

Maintenance Dose:

300 to 400 mg/day orally in divided doses 1 to 4 times a day

Usual Adult Dose for Status Epilepticus:

IV:

Loading dose: Manufacturer recommends 10 to 15 mg/kg by slow IV administration (at a rate not exceeding 50 mg/minute). Alternatively, generally accepted guidelines suggest 15 to 20 mg/kg by slow IV administration (at a rate not exceeding 50 mg/minute).

Maintenance rate: 100 mg orally or IV every 6 to 8 hours

Maximum rate: 50 mg/minute

Maintenance dose: IV or Oral: 100 mg every 6 to 8 hours

Usual Adult Dose for Neurosurgery:

Neurosurgery (prophylactic): 100 to 200 mg IM at about 4 hour intervals during surgery and the immediate postoperative period. (Note: While the manufacturer recommends IM administration, this route may cause severe local tissue destruction and necrosis. Some clinicians recommend the use of fosphenytoin if IM administration is necessary.) If IM administration is not necessary, accepted protocol has been 100 to 200 mg IV at about 4 hour intervals during surgery and the immediate postoperative period.

Usual Pediatric Dose for Seizures:

Status Epilepticus: Loading Dose:

Infants, Children: 15 to 20 mg/kg IV in a single or divided doses

Anticonvulsant: Loading Dose:

All ages: 15 to 20 mg/kg orally (based on phenytoin serum concentrations and recent dosing history). The oral loading dose should be given in 3 divided doses administered every 2 to 4 hours.

Anticonvulsant: Maintenance Dose:

(IV or oral) (Note: May initially divided daily dose into 3 doses/day, then adjust to suit individual requirements.)

Less than or equal to 4 weeks: Initial: 5 mg/kg/day in 2 divided doses

Usual: 5 to 8 mg/kg/day IV in 2 divided doses (may require dosing every 8 hours).

Greater than or equal to 4 weeks: Initial: 5 mg/kg/day in 2 to 3 divided doses

Usual: (may require up to every 8 hour dosing)

6 months to 3 years: 8 to 10 mg/kg/day

4 to 6 years: 7.5 to 9 mg/kg/day

7 to 9 years: 7 to 8 mg/kg/day

10 to 16 years: 6 to 7 mg/kg/day

Usual Pediatric Dose for Arrhythmias:

Greater than 1 year:

Loading Dose: 1.25 mg/kg IV every 5 minutes. May repeat up to a loading dose of 15 mg/kg.

Maintenance Dose: 5 to 10 mg/kg/day orally or IV in 2 to 3 divided doses

What other drugs will affect phenytoin?

Sometimes it is not safe to use certain medications at the same time. Some drugs can raise or lower your blood levels of phenytoin, which may cause side effects or make the medicine less effective. Phenytoin can also affect blood levels of certain other drugs, making them less effective or increasing side effects.

Many drugs can interact with phenytoin. Below is just a partial list. Tell your doctor if you are using:

- antibiotics such as cycloserine (Seromycin), doxycycline (Doryx, Vibramycin, Adoxa), isoniazid (for treating tuberculosis), linezolid (Zyvox), rifampin (Rimactane, Rifadin, Rifamate), or sulfa drugs (Bactrim, Septra, Sulfatrim, SMX-TMP, and others);
- an antidepressant (such as Elavil, Vanatrip, Limbitrol, Sinequan, Silenor, Pamelor, Paxil, Zoloft, Desyrel, and others);
- aspirin or other salicylates;
- birth control pills or hormone replacement therapy;
- a blood thinner such as warfarin (Coumadin, Jantoven);
- certain sedatives (Librium, Librax, Limbitrol, Valium) or antidepressants (Desyrel, Luvox, Zoloft, Prozac, Rapiflux, Sarafem, Selfemra, Symbyax);
- heart medication such as amiodarone (Cordarone, Pacerone), digoxin (digitalis, Lanoxin), furosemide (Lasix), or quinidine (Quin-G);
- prochlorperazine (Compazine, Compro), promethazine (Pentazine, Phenergan, Anergan, Antinaus), and other phenothiazines;
- steroid medicines (prednisone and others);
- seizure medicine (such as Carbatrol, Equetro, Tegretol, Solfoton, Depakene, or Depakote);
- stomach acid reducers (such as Tagamet, Prilosec, Zegerid, Zantac, Pepcid, or Axid); or
- theophylline (Elixophyllin, Theo-Dur, Theo-Bid, Theolair, Uniphyll).

This list is not complete and there are many other medicines that can interact with phenytoin. Tell your doctor about all medications you use. This includes prescription, over-the-counter, vitamin, and herbal products. Do not start a new medication without telling your doctor. Keep a list of all your medicines and show it to any healthcare provider who treats you.

Where can I get more information?

- Your pharmacist can provide more information about phenytoin.
- Remember, keep this and all other medicines out of the reach of children, never share your medicines with others, and use this medication only for the indication prescribed.
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