

# BEST BUY DRUGS™

Drugs to prevent bone fractures in people with:

## Osteoporosis

COMPARING EFFECTIVENESS, SAFETY, AND PRICE



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# Our Recommendations

Several types of medication are used to prevent fractures in people with osteoporosis, or “thinning” bones. They include brand-name and generic drugs, and they all pose a risk of side effects. Some are more effective at preventing certain types of fractures than others.

There’s little evidence that medication will help if you have osteopenia, sometimes called “pre-osteoporosis,” which is bone density that’s lower than normal but not severe enough to be called osteoporosis.

Instead of medication, consider lifestyle changes. That includes making sure that your diet has adequate amounts of calcium and vitamin D, and doing weight-bearing exercise, such as walking or lifting weights. Also take precautions to prevent falls in the first place, such as limiting how much alcohol you drink and avoiding sleeping pills if possible. Consider medication only if your bone density worsens to the point where you have osteoporosis—although it’s still important to continue the lifestyle changes.

If your doctor diagnoses osteoporosis and recommends medication, we suggest the following *Best Buy Drug* after taking into account effectiveness, safety, convenience, and cost:

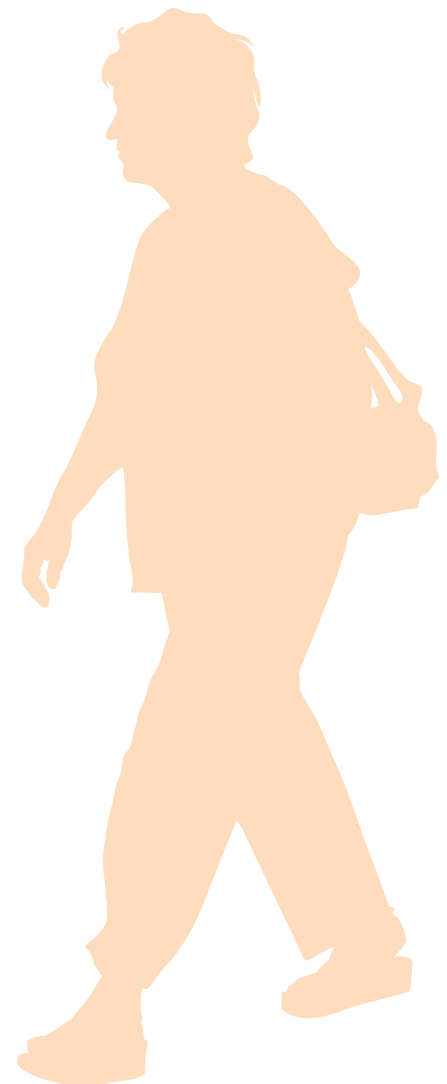
## ■ Generic alendronate

The drug is available as a generic that costs \$39 to \$63 a month depending on the dose. It has been shown to help prevent fractures of the hip, spine, and other bones in those with osteoporosis. It’s usually well-tolerated, but as with all bisphosphonates, the most common side effects include diarrhea, nausea, vomiting, heartburn, esophageal irritation, and bone, joint, or muscle pain. Bisphosphonates can also cause rare but serious side effects that include permanent

bone deterioration of the jaw (osteonecrosis) and, when taken for more than five years, a possible increased risk of thigh fracture. So talk with your doctor about how to reduce your risk of side effects.

Most studies of alendronate and the other osteoporosis medications have involved postmenopausal women with osteoporosis, so it’s not clear how well they work for men or younger women.

*This report was published in September 2013.*



# Welcome

This report on drugs to prevent fractures in people with low bone density, or osteoporosis, is part of a Consumer Reports project to help you find safe, effective medication that gives you the most value for your health care dollar. To learn more about the project and other drugs we've evaluated, go to [www.CRBestBuyDrugs.org](http://www.CRBestBuyDrugs.org).

We focus on the medication most often prescribed to treat osteoporosis, a condition in which the inside of bones becomes thin and less dense, weakening them and making them more likely to fracture. There are usually no symptoms of osteoporosis, so people can be unaware that they have the condition until they break a bone. The danger of osteoporosis is that it can lead to fractures of the hip, spine, and wrist, which can be permanently disabling. And fractures have other consequences: One in five women age 50 and older who break a hip will die in less than a year, according to the Agency for Healthcare Research and Quality.

More than 8 million women and 2 million men have osteoporosis, according to our analysis of figures from the National Institute of Arthritis and Musculoskeletal and Skin Disease. Another 30 million men and women are at risk of developing osteoporosis due to low bone mass.

Osteoporosis generally strikes older adults, beginning at around 50, with the highest prevalence seen in men and women over 80. Bones are continually remodeling themselves, shedding old bone and making new bone. After about age 30, bones begin to lose more tissue than they make, so they can become less dense over time. If they become too thin, it's considered osteoporosis. Doctors use a special X-ray, called a bone mineral density test (DXA)—more about it in

the next section—to help determine if a patient has osteoporosis.

The 13 medications evaluated in this report are used to prevent thinning bones and fractures due to osteoporosis (see Table 1). They are bisphosphonates—alendronate (Fosamax and generic), ibandronate (Boniva and generic), risedronate (Actonel, Atelvia, and generic), and zoledronic acid (Reclast)—denosumab (Prolia), menopausal hormone therapy (estrogen or estrogen plus other hormones), raloxifene (Evista), and teriparatide (Forteo).

Most studies of these medications have involved postmenopausal women with osteoporosis, so it's not clear how well they work for men or younger women.

All of these drugs except teriparatide work by preventing the destruction of bone. Teriparatide works by stimulating the formation of new bone tissue, but it's approved only for a maximum of two years of treatment.

As Table 1 shows, several of these medications are available as generics; others are available only as relatively expensive brand-name drugs. The monthly retail cost can be \$5 to more than \$1,500. Certain generic osteoporosis medications might cost as little as \$4 for a month's supply through generic-drug programs run by major chain stores, such as Kroger, Sam's Club, Target, and Walmart. For an even better bargain, you might be able to obtain a three-month supply for \$10 through those programs. (We note in the price chart starting on page 11 which generic medications are likely to be available through them.) Some stores, such as CVS and Walgreens, require a membership fee to participate, and they might charge higher prices. There might be other restrictions too, so check the details carefully to make sure your drug and dose are covered.

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**Table 1. Osteoporosis Medications Evaluated in This Report**

Generic Name	Brand Name(s)	Available as a generic?
<b>Bisphosphonates</b>		
Alendronate	Fosamax	Yes
Ibandronate	Boniva	Yes
Risedronate	Actonel, Actonel with calcium, Atelvia	Yes
Zoledronic acid	Reclast	Yes
<b>Selective estrogen receptor modulator</b>		
Raloxifene	Evista	No
<b>Parathyroid hormone</b>		
Teriparatide	Forteo	No
<b>Biologicals</b>		
Denosumab	Prolia	No
<b>Menopausal hormone therapy for women</b>		
Estrogen	Premarin	No
Estrogen/medroxy-progesterone	Prempro	No
Estradiol/norgestimate	Prefest	Yes
Estradiol/norethindrone	Activella, Femhrt	Yes (Activella)
Estradiol/levonorgestrel patch	Climara Pro	No
Estradiol patch	Climara, Menostar, Vivelle	Yes (except for Menostar)

# Welcome

Most of the drugs are available as tablets, but some come in other formulations. Alendronate (Fosamax), for example, is available as a tablet and a liquid; ibandronate (Boniva) comes in tablet form and as an injectable; denosumab (Prolia), teriparatide (Forteo), and zoledronic acid (Reclast) are injectables; and Premarin is available as a tablet, an injectable, and a cream. The so-called “injectables,” which require either an injection or intravenous infusion, tend to be more expensive, but they might be options if you are unable to take or tolerate pills.

The medications also vary in how often they are taken (see Table 6). Alendronate tablets come in lower strengths that are taken daily and higher strengths that are taken weekly; ibandronate pills are taken monthly, and the injectable medications range from once a day, to once every three months, to once a year.

That’s important, because studies have found that how often you have to take a medication can make a difference in whether you continue to take it. Only about half of the people who start a fracture-prevention drug continue with it after a year, but

those who take a once-a-week drug are more likely to continue compared with those taking a drug daily. There’s not enough evidence to know whether a monthly or less frequent regimen is better than a weekly course.

Side effects are another important consideration. People often stop taking a fracture-prevention drug because of them. The side effects associated with these medications are discussed in more detail beginning on page 8.

The report is based on a comprehensive, expert analysis of the medical evidence available on fracture-prevention drugs. There’s more information on page 16 and at [www.CRBestBuyDrugs.org](http://www.CRBestBuyDrugs.org) about how we conducted our evaluation.

*This report was published in September 2013.*

# Who Needs Drugs to Prevent Fractures?

Deciding whether you need a medication should begin with determining your risk of having a bone fracture. You and your doctor should consider factors that increase your risk, such as your age and race, whether you smoke, your alcohol consumption, and family and medical history (see Table 2).

Your doctor will probably arrange for a test called a DXA scan, which uses an X-ray beam to measure bone density at your hips, spine, and possibly your wrists.

But not everyone requires a DXA scan. Consumer Reports medical advisers say that women should have one at age 65, and men at age 70. Postmenopausal women under that age and men 50 and older should be screened only if they:

- Are unusually thin or smoke.
- Have had a fracture from a minor trauma or have a parent who had an osteoporosis-related fracture.

## Table 2. Factors that raise the risk of fracture

- Alcohol use (three or more drinks per day)
- Caucasian
- Female, especially after menopause
- Long-term use of certain medications, such as steroids
- Low body weight
- Low bone mineral density (osteopenia or osteoporosis)
- Low calcium intake
- Older age
- Previous fracture
- Rheumatoid arthritis
- Smoking
- Vitamin D deficiency

- Have a disease (thyroid or parathyroid disorders, celiac disease, adrenal hyperactivity) or regularly take medication, such as steroids or certain antiseizure drugs, that causes bone loss.

The DXA score is compared with the average score of 30-year-old women. The comparison, called a T-score, is expressed as standard deviations (SD) from that average. The lower the score, the higher the fracture risk. A T-score of minus 2.5 SD or less is considered osteoporosis; a score between minus 1 and minus 2.5 SD is considered osteopenia (or pre-osteoporosis), or bone density that's lower than normal but not severe enough to be called osteoporosis. To make diagnoses more standard, the World Health Organization developed a calculator that uses DXA results plus other risk factors to predict a person's 10-year probability of having a fracture. Known as FRAX, it is expected to shift treatment toward those who really need it. You can determine your risk of having a bone fracture by going to: <http://www.shef.ac.uk/FRAX/>.

People who learn from the test that they have osteopenia can usually skip taking the medications evaluated in this report. There's little evidence that they help if you have low bone density but not low enough to have osteoporosis. Instead, most people with low bone density are usually better off trying lifestyle changes to help preserve bone mass and prevent the development of osteoporosis (see Table 3, next page). Consider medication only if your bone density worsens.

Lifestyle changes include a diet that contains adequate amounts of calcium and vitamin D, which help form and maintain strong bones. Calcium has been shown to prevent fractures of the hip but not other bones. Some research suggests that calcium supplements might increase the risk of a heart attack, but more studies are needed to determine if that is a real risk. Studies of

# Who Needs Drugs to Prevent Fractures?

whether vitamin D reduces fractures have had mixed results depending on the dose and the form of the vitamin used. But the evidence suggests that 700 to 800 I.U. of vitamin D daily, particularly when given with calcium, reduces the risk of hip and non-spine fractures.

Other steps to help prevent osteoporosis include doing weight-bearing exercises, such as walking or lifting weights, which can help strengthen your bones and reduce your chance of falling. And don't smoke, because evidence shows that the habit can worsen bone loss.

Certain medications can also increase bone loss, including corticosteroid medications such as

prednisone, the blood thinner heparin, and some drugs for epilepsy—carbamazepine, phenobarbital, phenytoin, primidone, and valproate, according to [www.UpToDate.com](http://www.UpToDate.com), a physician website. Talk with your doctor about decreasing your dose or switching to a different medication if you take any of those.

Certain diseases, such as celiac disease, lupus, and rheumatoid arthritis, may worsen bone loss and increase the risk of osteoporosis, according to the National Institute of Arthritis and Musculoskeletal and Skin Diseases. So if you suffer from other conditions, talk with your doctor about whether it increases your chance of developing osteoporosis and ways to reduce your risk.

**Table 3. Lifestyle Changes to Help Prevent Fractures**

Lifestyle change	Comment
Ensure that your diet contains adequate calcium and vitamin D.	<ul style="list-style-type: none"> <li>■ Adults ages 18-50 should have 1,000 mg of calcium a day, according to the Institute of Medicine. Women older than 50 and men older than 70 should increase it to 1,200 mg a day.</li> </ul> <p>As noted on page 7, studies of whether vitamin D reduces fractures have had mixed results, but the Institute of Medicine recommends:</p> <ul style="list-style-type: none"> <li>■ Adults should have 600 IU (international units) of vitamin D a day up to age 70.</li> <li>■ Those older than 70 should increase it to 800 IU a day.</li> </ul>
Do weight-bearing exercises.	<ul style="list-style-type: none"> <li>■ Any activity that puts pressure on the bones, such as walking, dancing, and strength training.</li> <li>■ Exercises such as tai chi and yoga may also help by improving balance.</li> </ul>
Quit smoking.	<ul style="list-style-type: none"> <li>■ Smoking worsens bone loss.</li> </ul>
Take precautions to prevent falls.	<ul style="list-style-type: none"> <li>■ Limit alcohol.</li> <li>■ Avoid sleeping pills if possible.</li> <li>■ Have your eyes checked to make sure you can see where you're going.</li> <li>■ Ensure that the areas of your home where you walk have plenty of light.</li> <li>■ Keep clutter that can cause falls, such as extension cords, out of the way.</li> <li>■ Install grab bars and rubber mats in the bathtub.</li> <li>■ Remove or secure loose rugs.</li> </ul>

# Choosing a Drug to Treat Osteoporosis— Effectiveness and Safety

The bisphosphonates, denosumab (Prolia), raloxifene (Evista), and teriparatide (Forteo) can help prevent fractures (see Table 4) in women with osteoporosis. But they pose a risk of side effects (see Table 5) and some are more effective at preventing fractures than others. They also differ in price (see Table 6), ranging from as little as \$5 for a month’s supply to \$1,500 or more a month. Menopausal hormone therapy has not been shown to reduce fractures in women with osteoporosis and it carries a risk of serious side effects.

Most studies have been conducted in postmenopausal women; there is less information about how well the drugs prevent fractures in men or younger women with low bone density.

As you can see in Table 4, all of the bisphosphonates have been shown to reduce the risk of fractures of the hip, spine, and other bones (with the exception of ibandronate; there’s no information on whether it prevents other fractures besides those of the spine). But there isn’t enough evidence overall to judge whether any of the bisphosphonates are superior than the others in preventing fractures.

The most common side effects associated with bisphosphonates include diarrhea, nausea, vomiting, heartburn, esophageal irritation, and bone, joint, or muscle pain (see Table 5). Those medications can also cause rare but serious side effects that include osteonecrosis, or permanent bone deterioration of the

**Table 4. Effectiveness of Drugs to Prevent Fracture in Postmenopausal Women**

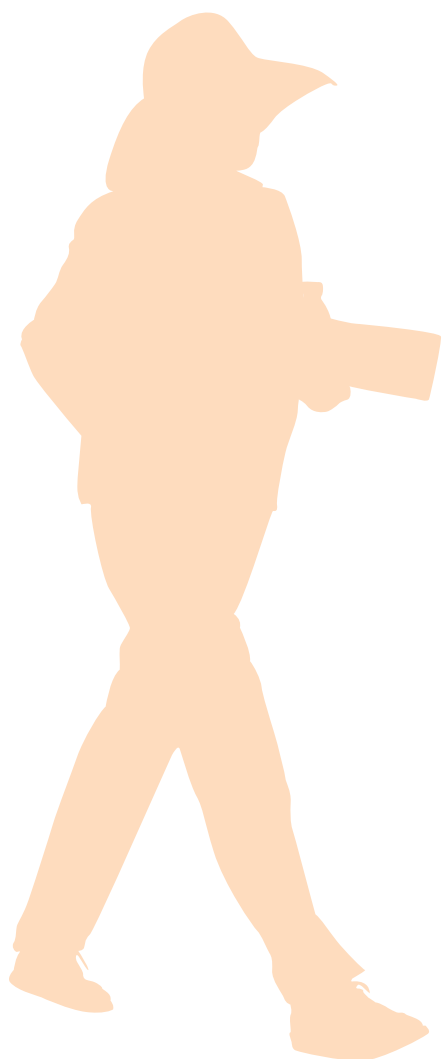
Drug	Reduced risk of spine fractures	Reduced risk of non-spine fractures	Reduced risk of hip fractures
Alendronate	Yes	Yes	Yes
Risedronate	Yes	Yes	Yes
Ibandronate	Yes	No information	No information
Zoledronic acid	Yes	Yes	Yes
Denosumab	Yes	Yes	Yes
Teriparatide	Yes	Yes	No information
Raloxifene	Yes	No	No
Estrogen* (menopausal hormone therapy)	No	No	No

\* In studies of postmenopausal women with osteoporosis, estrogen did not reduce the risk of fractures. However a large, good quality study that included women whether or not they had osteoporosis showed it reduced the risk of hip and vertebral fractures, but was associated with serious harms.



# Choosing a Drug to Treat Osteoporosis— Effectiveness and Safety

jaw. Studies have found that this occurs in one to 28 people for every 100,000 taking the drug. Some studies have suggested that bisphosphonates increase the risk of esophageal cancer and certain types of thigh fractures when taken for more than five years, but more research is needed to determine whether those risks are due to the medication. Zoledronic acid can cause kidney failure in people with impaired renal function, and some research has found that it might increase the risk of a serious heart problem called atrial fibrillation, but it's not clear if this is due to the medication.



Menopausal hormone therapy does not reduce the risk of fractures in women diagnosed with osteoporosis. And it actually increases the risk of stroke, heart disease, and breast cancer, so it's generally not used solely to treat or prevent osteoporosis.

Only a few studies have compared bisphosphonates head-to-head with other fracture-prevention drugs, so we can't say whether bisphosphonates are more or less effective than raloxifene or teriparatide in preventing fractures. But those other medications have not been shown to prevent as many different types of fractures as bisphosphonates, and they also cause side effects that rule them out as first options for osteoporosis.

Raloxifene has been shown to reduce the risk of spine fractures, but it's no better than a placebo at preventing other kinds of fractures. Also, it increases the risk of life-threatening blood clots, hot flashes, and muscle pain.

Teriparatide reduces the risk of spine fracture and other non-spine fractures, but there's no evidence that it helps prevent hip fractures specifically. Side effects include headaches, high calcium levels in the blood, and an increased risk of bone cancer when taken at high doses.

Denosumab reduces the risk of spine, hip, and other fractures compared with a placebo, but it hasn't been compared head-to-head with other drugs for fracture prevention. Denosumab is associated with an increased risk of serious infection of the skin, abdomen, urinary tract, and ear; osteonecrosis of the jaw (similar to bisphosphonates); and low calcium levels.

# Choosing a Drug to Treat Osteoporosis— Effectiveness and Safety

**Table 5. Side Effects of Fracture-Prevention Medication**

Medication	Side Effects	Special Notes
<b>Bisphosphonates:</b> Alendronate (Fosamax) Ibandronate (Boniva) Risedronate (Actonel or Atelvia) Zoledronic acid (Reclast)	<ul style="list-style-type: none"> <li>■ Diarrhea, nausea, vomiting, heartburn, esophageal irritation.</li> <li>■ Low calcium levels in your blood (can be reversed by taking calcium supplements).</li> <li>■ Possible increased risk of breaking a thigh bone if taking these medications for five years or longer.</li> <li>■ Bone, joint, or muscle pain.</li> <li>■ Permanent bone deterioration of the jaw (osteonecrosis).</li> </ul>	<ul style="list-style-type: none"> <li>■ Following the detailed instructions on the package insert on how and when to take the medication can help reduce the chance of side effects related to your esophagus, and improve the chance the drug will work.</li> <li>■ Tell your doctor if you experience any side effects.</li> </ul>
<b>Zoledronic acid</b> (Reclast)	<ul style="list-style-type: none"> <li>■ Associated with kidney problems, including kidney failure.</li> </ul>	<ul style="list-style-type: none"> <li>■ Your doctor may recommend blood or urine tests to monitor for this side effect.</li> </ul>
<b>Denosumab</b> (Prolia)	<ul style="list-style-type: none"> <li>■ Low calcium levels in your blood.</li> <li>■ A rash.</li> <li>■ Serious infections that can lead to hospitalization in some cases.</li> <li>■ Permanent bone deterioration of the jaw (osteonecrosis).</li> </ul>	<ul style="list-style-type: none"> <li>■ Following the detailed instructions on the package insert on how and when to take the medication can help reduce the chance of side effects related to your esophagus, and improve the chance the drug will work.</li> <li>■ Call your doctor if you have a rash or blisters that don't go away or get worse.</li> </ul>
<b>Menopausal Hormone Therapy</b>	<ul style="list-style-type: none"> <li>■ Breast cancer.</li> <li>■ Heart disease.</li> <li>■ Stroke.</li> </ul>	<ul style="list-style-type: none"> <li>■ In studies of postmenopausal women who were diagnosed with osteoporosis, estrogen did not reduce the risk of fractures.</li> <li>■ Given the serious side effects, it is generally not used solely to treat osteoporosis.</li> </ul>
<b>Raloxifene</b> (Evista)	<ul style="list-style-type: none"> <li>■ Arm or leg pain, muscle pain, or cramps.</li> <li>■ Hot flashes.</li> <li>■ Blood clots.</li> </ul>	<ul style="list-style-type: none"> <li>■ Tell your doctor if you experience any of those side effects.</li> </ul>
<b>Teriparatide</b> (Forteo)	<ul style="list-style-type: none"> <li>■ Headaches.</li> <li>■ High calcium levels in your blood.</li> <li>■ Increased risk of bone cancer (when taking very higher doses than typically used).</li> </ul>	<ul style="list-style-type: none"> <li>■ Tell your doctor if you experience any of those side effects, especially if the headaches are intense or happen often.</li> </ul>

Source: The Agency for Healthcare Research and Quality. *Reducing the Risk of Bone Fracture: A Review of the Research for Adults With Low Bone Density.*

# Our Best Buy Pick

If your doctor diagnoses osteoporosis—not osteopenia or “pre-osteoporosis”—and recommends a medication, we suggest the following *Best Buy* after taking into account effectiveness, safety, convenience, and cost:


- Generic alendronate









It’s available as an inexpensive generic from \$39 to \$63 a month depending on the dose. It has been shown to help prevent fractures of the hip, spine, and other bones. It’s usually well-tolerated, but as with all bisphosphonates, the most common side effects include diarrhea, nausea, vomiting, heartburn, esophageal irritation, and bone,

joint, or muscle pain. Bisphosphonates can also cause rare but serious side effects that include permanent bone deterioration of the jaw (osteonecrosis) and when taken for more than five years, a possible increased risk of having a thigh bone fracture. So talk with your doctor about how to reduce your risk of side effects.

If you’ve taken any bisphosphonate for five years or more, ask your doctor about taking a drug “holiday”—stopping temporarily—to encourage normal bone remodeling and to reduce the risk of side effects. At present, there’s no consensus among medical experts about the optimal length of time patients should take a bisphosphonate.

**Table 6. Cost Comparison of Drugs to Prevent Fractures**

Note: If the price box contains a , that indicates the dose of that drug may be available for a low monthly cost through programs offered by large chain stores. For example, Kroger, Sam’s Club, Target, and Walmart offer a month’s supply of selected generic drugs for \$4 or a three-month supply for \$10. Other chain stores, such as Costco, CVS, Kmart, and Walgreens, offer similar programs. Some programs have restrictions or membership fees, so check the details carefully for restrictions and to make sure your drug is covered.

Generic Name	Brand Name(s) <sup>A</sup>	Generic?	Formulation and Frequency of Dose <sup>B</sup>	Average Cost for a Month’s Supply <sup>C</sup>
<b>Bisphosphonates</b>				
 Alendronate 5 mg tablet	Generic	Yes	One pill daily	\$63 
 Alendronate 10 mg tablet	Generic	Yes	One pill daily	\$61 
 Alendronate 35 mg tablet	Generic	Yes	One pill weekly	\$39 
 Alendronate 70 mg tablet	Generic	Yes	One pill weekly	\$41 
Alendronate 70 mg tablet	Fosamax	No	One pill weekly	\$132
Ibandronate 150 mg tablet	Generic	Yes	One pill monthly	\$130
Ibandronate 150 mg tablet	Boniva	No	One pill monthly	\$183
Ibandronate 3 mg/3 mL injectable	Boniva	No	3 mg IV every three months	\$200
Risedronate 5 mg tablet	Actonel	No	One pill daily	\$163
Risedronate 35 mg tablet	Actonel	No	One pill weekly	\$181
Risedronate 150 mg tablet	Actonel	No	One pill monthly	\$189
Risedronate 35 mg delayed-release tablet	Atelvia	No	One pill weekly	\$174
Zoledronic acid 5 mg/100 mL injectable	Reclast	No	5 mg infusion once a year	\$107
Zoledronic acid 5 mg/100 mL injectable	Generic	Yes	5 mg infusion once a year	\$47

# Our Best Buy Pick

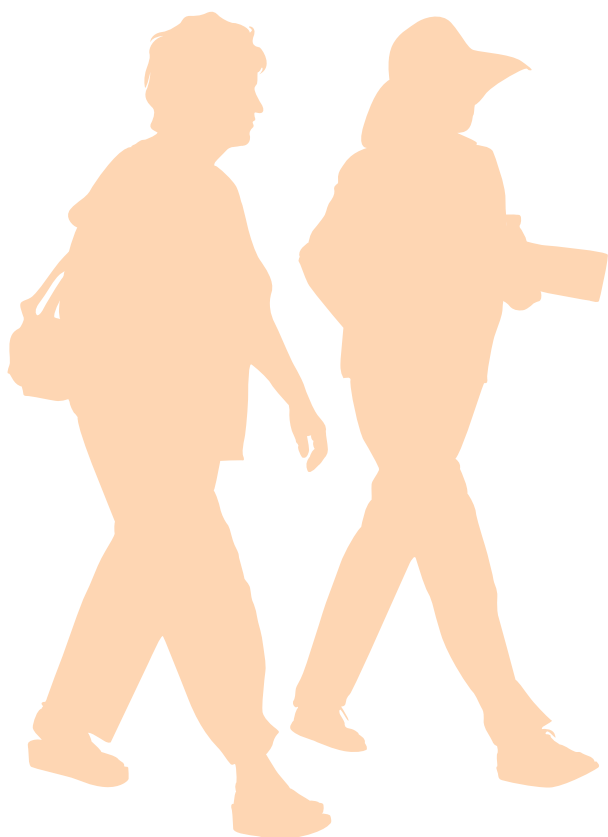
**Table 6. Cost Comparison of Drugs to Prevent Fractures (continued)**

Generic Name	Brand Name(s) <sup>A</sup>	Generic?	Formulation and Frequency of Dose <sup>B</sup>	Average Cost for a Month's Supply <sup>C</sup>
<b>Selective estrogen receptor modulator</b>				
Raloxifene 60 mg tablet	Evista	No	One pill daily	\$213
<b>Parathyroid hormone</b>				
Teriparatide 600 mcg/2.4 mL unit	Forteo	No	20 mcg injection once daily	\$1,573
<b>Biologicals</b>				
Denosumab 60 mg/mL injection	Prolia	No	60 mg/mL injection every six months	\$220

A. "Generic" means this is a generic drug, as noted in column three as well.

B. As commonly recommended or prescribed.

C. Prices reflect nationwide retail average in May 2013, rounded to the nearest dollar. Information derived by *Consumer Reports Best Buy Drugs* from data provided by Symphony Health Solutions, which is not involved in our analysis or recommendations.



# 5 Tips to Talking With Your Doctor

It's important for you to know that the information we present here is not meant to substitute for a doctor's judgment. But we hope that it will help you and your doctor arrive at a decision about which osteoporosis medication and dose is best for you, if one is warranted at all, and which will give you the most value for your health care dollar.

## 1. Mention cost to your doctor.

Bear in mind that many people are reluctant to discuss the cost of medicines with their doctor, and that studies have found that doctors do not routinely take price into account when prescribing medicines. Unless you bring it up, your doctor may assume that cost is not a factor for you.

## 2. Ask about older medications.

Many people (including physicians) think that newer drugs are better. While that's a natural assumption to make, it's not always true. Studies consistently find that many older medicines are as good as, and in some cases better than, newer medicines. Think of them as "tried and true," particularly when it comes to their safety record. Newer drugs have not yet met the test of time, and unexpected problems can and do crop up once they hit the market. Of course, some newer prescription drugs are indeed more effective and safer. Talk with your doctor about newer vs. older medicines, including generic drugs.

## 3. Consider generic drugs.

Prescription medicines go "generic" when a company's patents on them have lapsed, usually after about 12 to 15 years. At that point, other companies can make and sell the drugs. Generics are much less

expensive than newer brand-name medicines, but they are not lesser quality drugs. Indeed, most generics remain useful medicines even many years after first being marketed. That is why more than 75 percent of all prescriptions in the U.S. today are written for generics.

## 4. Keep up-to-date records.

Another important issue to talk with your doctor about is keeping a record of the drugs you take. There are several reasons for this:

- First, if you see several doctors, each may not be aware of medicines the others have prescribed.
- Second, since people differ in their response to medications, it's common for doctors today to prescribe several medicines before finding one that works well or best.
- Third, many people take several prescription medications, nonprescription drugs, and dietary supplements at the same time. They can interact in ways that can either reduce the benefit you get from the drug or be dangerous.
- Fourth, the names of prescription drugs—both generic and brand—are often hard to pronounce and remember.

For all these reasons, it's important to keep a written list of all the drugs and supplements you take and periodically review it with your doctors.

## 5. Know the facts.

Finally, always be sure that you understand the dose of the medicine being prescribed and how many pills you are expected to take each day. Your doctor should tell you this information. When you fill a prescription at a pharmacy, or if you get it by mail, check to see that the dose and the number of pills per day on the bottle match the amounts your doctor told you.

# How We Picked the *Best Buy* Drugs for Preventing Fractures

Our evaluation is primarily based on an independent scientific review of the evidence on the effectiveness, safety, and adverse effects of drugs for preventing fractures. A team of physicians and researchers at the Agency for Healthcare Research and Quality conducted the analysis as part of the Comparative Effectiveness Program.

A synopsis of AHRQ's analysis of fracture-prevention drugs that was written by Oregon Health & Science University's Drug Effectiveness Review Project, or DERP, forms the basis for this report. A consultant to *Consumer Reports Best Buy Drugs* is also a member of the Oregon-based research team, which has no financial interest in any pharmaceutical company or product.

The full AHRQ review of fracture-prevention drugs is available at [http://effectivehealthcare.ahrq.gov/ehc/products/160/1007/CER53\\_LowBoneDensity\\_FinalReport\\_20120823.pdf](http://effectivehealthcare.ahrq.gov/ehc/products/160/1007/CER53_LowBoneDensity_FinalReport_20120823.pdf). (It's a long and technical document written for physicians.)

The drug costs we cite were obtained from a health care information company that tracks the sales of prescription drugs in the U.S. Prices for a drug can vary quite widely, even within a single city or town.

The prices in this report are national averages based on sales of prescription drugs in retail outlets. They reflect the "cash" or retail price paid for a month's supply of each drug in May 2013. As noted in the table on page 11, some of the osteoporosis medications are available through discount generic-drug programs run by chain stores. But these programs can change which medications are covered, so those prices are not used when selecting the *Best Buy* picks.

*Consumer Reports Best Buy Drugs* selected the *Best Buy* picks using the following criteria. The drug (and dose) had to:

- Be approved by the FDA for treating osteoporosis.
- Have a safety record equal to or better than other osteoporosis medications.
- Have an average price for a 30-day supply that was substantially lower than the most costly fracture-prevention drug meeting the first two criteria.

The *Consumer Reports Best Buy Drugs* methodology is described in more detail in the methods section at [www.CRBestBuyDrugs.org](http://www.CRBestBuyDrugs.org).

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