



## **COPING**

**'A newsletter from COPN'**

**December 10, 2010**

***Remember: You can live well with osteoporosis!***

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### **DRUG TREATMENTS**

**Their role in fracture reduction and treatment of osteoporosis**

#### **Part 1**

The major problem in osteoporosis is fractures (broken bones). Without proper treatment, patients with osteoporosis are more likely to fracture. Osteoporotic fractures have major consequences such as pain, disability and sometimes death. Therefore, drugs that reduce fracture risk are a crucial part of the overall management of osteoporosis.

The primary aim of osteoporosis drug treatment is to reduce the risk of fractures. Osteoporosis Canada therefore recommends medications that have proven, in good clinical trials, that they can indeed decrease a person's risk of fracture. We discuss these osteoporosis drugs in this article.

Osteoporosis medications are generally not recommended for people who are at low risk of fracture.

### **HOW OUR BONES WORK**

Bone is living tissue. It is constantly being repaired. Old bone is removed and replaced by new bone. Cells called osteoclasts chew up the old bone (this is called resorption), creating small cavities; bone-forming cells called osteoblasts then fill in the cavities with new bone. This is nature's way of restoring bones and keeping them healthy.

In younger people with healthy bones, the osteoclasts and osteoblasts work together, in perfect balance, maintaining healthy bones. However, after our mid 30s, this balance is shifted and we begin to gradually lose bone. In someone with osteoporosis, bone loss occurs even more rapidly, causing the bones to become thinner and weaker over time.

If you have osteoporosis, you have already lost a significant amount of bone and you may be at increased risk for fractures.

## **FINDING THE MEDICATION THAT'S RIGHT FOR YOU**

You and your physician need to review the various osteoporosis drug treatment options, assessing the risks and benefits each offers and choosing the best treatment for you, based on current scientific evidence. Each person is different. Some people respond better to one drug than another. Some people have side effects on one drug and not another. (Any side effects should be reported to your doctor immediately.)

Cost may also be a factor. Provincial drug plans may not cover all available osteoporosis medications.

The important thing is to find a drug treatment that works for you. The following brief descriptions of drug treatment options may help you to discuss with your doctor the most appropriate treatment for you.

## **BISPHOSPHONATES**

Bisphosphonates are one of the commonest family of drugs used to treat osteoporosis. Four bisphosphonates are used for osteoporosis in Canada: alendronate (Fosamax®, Fosavance® and generics), etidronate (Didrocal® and generics), risedronate (Actonel®, Actonel® Plus Calcium and generics) and zoledronic acid (Aclasta®).

### **HOW DO THEY WORK?**

Bisphosphonates bind to the surfaces of the bones and slow down the bone resorbing action of the osteoclasts. This alters the balance between the osteoclasts and the osteoblasts such that bone loss is usually halted and bone strength is improved.

### **HOW EFFECTIVE ARE THEY?**

All four bisphosphonates can reduce the risk of fractures in the spine (vertebral fractures). Alendronate, risedronate and zoledronic acid can also reduce the risk of hip and other osteoporotic fractures and are therefore considered the more effective options in this family of drugs.

### **WHO CAN TAKE THEM?**

Bisphosphonates can be used to reduce the risk of fractures in men and in postmenopausal women with osteoporosis as well as in people who are on steroid medications such as Prednisone®.

### **HOW ARE THEY TAKEN?**

There are very specific instructions about how bisphosphonates must be taken. Following the directions will allow your body to absorb the drug properly and may help you avoid side effects. Make sure you understand these instructions. Bisphosphonates should not be taken at the same time as your other medications. You should also ensure that you wait at least one hour after your bisphosphonate before you take any calcium supplements. For more details, see the table below.

HOW TO TAKE A BISPHOSPHONATE

	<b>Frequency</b>	<b>Time of Day</b>	<b>Instructions</b>
Alendronate (Fosamax®) 10 mg	every day	first thing in morning, at least 1/2 hour before eating	Take with 250 ml (8 oz.) glass of plain water. Can't lie down for 1/2 hour <u>AND</u> until after the first food of the day.
Alendronate (Fosamax®) 70 mg (Fosavance®) 70 mg + 2800 IU or 5600 IU vitamin D	once a week	same as above	same as above
Etidronate (Didrocal®) 400 mg	every day for two weeks followed by 10 weeks (76 days) of 500 mg calcium supplements (provided in package)	White etidronate tablet: mid-morning, mid-afternoon or evening (at least two hours before and after eating)  Blue calcium tablet: anytime, but best taken with food.	Take with glass of water No calcium supplements/vitamins for two hours before or after
Risedronate (Actonel®) 5 mg	every day	first thing in morning, at least 1/2 hour before eating	Take with 125 ml (4 oz.) glass of water. Can't lie down for 1/2 hour <u>AND</u> until after the first food of the day.
Risedronate (Actonel®) 35 mg (Actonel® Plus Calcium) 35 mg + 500 mg elemental calcium	once a week  Actonel® Plus Calcium: calcium carbonate 6 days/week	first thing in morning, at least 1/2 hour before eating  The calcium tablet: anytime, but best taken with food.	Risedronate tablet: Take with glass of water. Can't lie down for 1/2 hour <u>AND</u> until after the first food of the day.

Risedronate (Actonel®) 150 mg	once a month	first thing in morning, at least 1/2 hour before eating	Take with glass of water. Can't lie down for 1/2 hour <u>AND</u> until after the first food of the day.
Zoledronic acid (Aclasta®) 5 mg	once a year	not applicable	Given as a 15-minute intravenous (IV) infusion by a certified healthcare professional

### ARE THERE SIDE EFFECTS?

The most common side effects from the bisphosphonate pills are nausea, abdominal pain and loose bowel movements. The most common side effects of zoledronic acid, which usually only last a few days, are low grade fever, pain and stiffness in the muscles, bones or joints, and headache.

Some bone, joint and/or muscle pain has been reported infrequently in patients taking bisphosphonates. There is a small risk of ulcers in the esophagus with both alendronate and risedronate, especially if taken incorrectly.

There have been rare cases of acute renal dysfunction following infusions of zoledronic acid.

In very rare cases, alendronate, risedronate and zoledronic acid have been linked to a breakdown of the jaw bone (called osteonecrosis of the jaw) following dental surgery such as dental extractions. Rare cases of atypical fractures of the femoral (thigh) bone have been reported with bisphosphonates. Notify your physician if you experience pain in the groin or thigh that is present for a few weeks.

Be sure to watch for Part 2 of this article on Drug Treatments in the December 23 edition of COPING.

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### **Funny bone –**

What's a good holiday tip?

Never catch snowflakes with your tongue until all the birds have gone south for the winter.

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### **Notices/references**

i. Remember: It is important for you to eat a healthy diet, get some appropriate exercise, take your calcium and vitamin D and if your doctor has prescribed a medication, remember to take it as directed.

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ii. COPING Weekly will come to you every second Friday. We hope you enjoy it and find the information useful. Remember to log on to [www.osteoporosis.ca](http://www.osteoporosis.ca) for up-to-date information.

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iii. The material contained in this newsletter is provided for general information only. It should not be relied on to suggest a course of treatment for a particular individual or as a substitute for consultation with qualified health professionals who are familiar with your individual medical needs. Should you have any healthcare-related questions or concerns, you should contact your physician. You should never disregard medical advice or delay in seeking it because of something you have read in this or any newsletter.

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