

# Zoledronic Acid

Names	Zoledronic acid (ZOE-le-dron-ik AS-id) is the generic drug name. Zometa® and Reclast® are brand names. There may be other names for this medication.
How is it Administered?	Your medicine will be given intravenously (IV), which means it will be given through a tube placed in a vein, usually in your arm, wrist, hand or chest.
Why am I Receiving Zoledronic Acid ?	This drug is used to treat high blood calcium levels (hypercalcemia) that sometimes occur in patients with cancer. It is also used to treat bone damage caused by multiple myeloma and cancers that spread to the bone.
How Does it Work?	<p>There are two kinds of bone cells. Osteoblasts create bone and osteoclasts break down bone. The creation and destruction of bone is generally kept balanced, though we do tend to lose bone mass as we age.</p> <p>Some cancers cause the osteoclasts to accelerate their destruction of bone. In addition to bone weakness, increasing the risk of a fracture, this can also cause pain and excess calcium to be released into the bloodstream. Calcium can affect your heart rate, among other bodily functions.</p> <p>Zoledronic acid is a bisphosphonate; these drugs slow down the osteoclasts and may help prevent the complications mentioned above.</p>
What Should I Tell My Doctor Before I Begin?	<p>Tell your doctor if you:</p> <ul style="list-style-type: none"><li>• are allergic to zoledronic acid, any of the ingredients in zoledronic acid injection, mannitol, aspirin, or other bisphosphonates such as alendronate (Fosamax®), etidronate (Didronel®), pamidronate (Aredia®), risedronate (Actonel®), or tiludronate (Skelid®)</li><li>• are taking diuretics or "water pills" (such as furosemide, Lasix®), antibiotics (such as amikacin (Amikin®), gentamicin (Garamycin®), streptomycin, tobramycin), or thalidomide (Thalomid®)</li><li>• have been treated with zoledronic acid or other bisphosphonates in the past</li><li>• have problems with your mouth, teeth, or gums</li></ul>

- have or have ever had kidney disease, heart failure, anemia, asthma, or low blood levels of calcium, magnesium, or potassium
- have any signs of dehydration (dry mouth, dark urine, decreased sweating, dry skin) or recent diarrhea, vomiting or infection

**This drug can interact with other medications. Tell your doctor and pharmacist about all prescription or over-the-counter medications, vitamins, and supplements that you are taking.**

## Osteonecrosis of the Jaw

Osteonecrosis (OSS-tee-oh-ne-KRO-sis) of the jaw is a rare condition that involves the loss, or breakdown, of the jaw bone. It can be a serious condition. Symptoms include:

- pain, swelling, infection, or poor healing of the gums
- loosening of teeth
- numbness or the feeling of heaviness in the jaw

Some other possible risk factors for osteonecrosis include:

- radiation therapy to the head or neck
- chemotherapy or steroid therapy (i.e. cortisone)
- anemia (low blood count) and other blood disorders (i.e. poor circulation)
- infection
- history of poor dental health, gum disease, or dental surgery
- alcohol abuse or cigarette smoking
- poor nutrition

Diagnosis is made by x-rays or tests for infection. Treatments may include antibiotics, oral rinses, and removable mouth appliances. Rarely, minor dental work may be necessary to remove injured tissue and reduce sharp edges of the bone. Once your cancer treatment has started, if you experience pain in your mouth, teeth, jaw, or any other symptom of possible dental problems, tell both your oncologist and dentist immediately.

## Cancer Treatment and Dental Health

Your dentist is an important part of your cancer treatment. You should schedule a dental exam and cleaning before treatment begins and periodically during the course of your treatment.

It is especially important to practice good dental hygiene. Remember to:

- brush your teeth and tongue after every meal and at bedtime. Use a

soft toothbrush and gentle stroke

- gently floss once a day to remove plaque. If your gums bleed or hurt, skip those teeth until bleeding stops
- rinse your mouth with water and avoid mouthwash containing alcohol

Cancer treatments and medications can affect your teeth and gums. These complications may include:

- inflammation of the mucous membranes in the mouth (mucositis)
- infections and sores inside your mouth
- loss of minerals from your teeth that can cause sensitivity
- taste changes, dry mouth, tooth decay (cavities), difficulty chewing, pain
- gum disease

What Are Some Possible Side Effects?

- Fever
- Back and joint pain
- Nausea or vomiting
- Lower belly pain, diarrhea, and/or constipation
- Changes in kidney function
- Trouble breathing or cough
- Dizziness, nervousness, confusion
- Anemia/fatigue

How Can I Manage These Side Effects?

- Drink 2-3 quarts of fluid a day, particularly water, unless your doctor has told you to limit your fluid intake.
- For constipation, ask your doctor or nurse about medicines and diet changes.
- Ask your doctor about medication to help prevent or lessen nausea, vomiting, diarrhea and/or back and joint pain.
- Let your doctor or nurse know if you feel anxious or have trouble sleeping.

When Should I Call the Doctor?

**Call your doctor immediately if you have:**

- any sign of an allergic reaction: itching, hives, swelling in your face or hands, swelling or tingling in your mouth or throat, chest tightness, trouble breathing, dizziness, or palpitations
- difficulty catching your breath or chest pain
- a decrease in how much or how often you urinate
- confusion
- pain in the mouth or jaw

**Call your doctor as soon as possible if you have:**

- lower belly pain or nausea that is not helped by prescribed medication, vomiting more than 3 times in one day, or nausea that prevents you from eating or drinking
- no bowel movement for 3 days (or if you feel uncomfortable)
- white spots on your lips, tongue, or inside your mouth
- diarrhea of 5-6 stools in 1 day or diarrhea with weakness
- headache that prescribed medication doesn't help
- cough that is bothersome

**What Else Should I Know Zoledronic Acid?**

- You may have flu-like symptoms during the first few days after your injection such as fever, headache, and bone or muscle pain. These symptoms may last up to 3-14 days.
- Zoledronic acid may cause severe bone, muscle, or joint pain. Symptoms may appear within 1 day or may be delayed for several months after your first dose. These symptoms usually subside after you stop using zoledronic acid.
- Call your doctor right away if you experience severe pain at any time. Your doctor may stop the injections and your pain may go away.
- Do not get pregnant or father a child while on zoledronic acid. Use a reliable method of birth control as this medication may cause harm to a fetus. Call your doctor if you become pregnant or if you plan to become pregnant in the future. Zoledronic acid may remain in your body for years after treatment ends.
- Your doctor may recommend you take a calcium supplement or a multivitamin with vitamin D. Take them exactly as directed.
- **Common dosing:**
  - To treat osteopenia – given once every other year;
  - To treat osteoporosis – given once a year;
  - For bone health and prevention of bone brittleness in metastatic disease in bones – given once every 4-12 weeks;
  - To prevent recurrence of disease in bones and improve survival in post-menopausal patients with non-metastatic breast cancer – given once every 6 months.
- If you have any other questions, please talk to your doctor or pharmacist.