



# Choosing Pain Medicine for Osteoarthritis



*A Guide for  
Consumers*



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## Fast Facts on Pain Relievers

- Acetaminophen (Tylenol®) works on mild pain and has fewer risks than other pain pills.
- Prescription (Rx) pain relievers may work better than over-the-counter (OTC) pain pills. They also have a higher chance of serious problems like stomach bleeding and heart attacks.
- NSAID pills, like ibuprofen (Motrin®, Advil®), naproxen (Aleve®), or aspirin, reduce pain but can cause stomach bleeding. You can lower your risk by taking the lowest dose you can for the shortest time you can.
- Aspirin can cause stomach bleeding even at low doses.
- Capsaicin skin cream, like Theragen® or Zostrix®, can help with mild pain. Capsaicin cream also has fewer risks than pain pills.
- Salicylate skin cream, like Aspercreme® or Bengay Arthritis®, does not work for osteoarthritis pain.

# Choosing Pain Medicine for Osteoarthritis

## What does this guide cover?

This guide can help you work with your doctor or nurse to choose pain-relief medicine for osteoarthritis.

- It describes the different kinds of pain relievers.
- It also gives information about the trade-offs between pain relief, risks of problems, and the price of the medications.

This guide is based on a government-funded review of the research about pain-relief medicines for osteoarthritis. It includes over-the-counter (OTC) medications and some prescription (Rx) drugs.

Each of the medicines in this guide comes with benefits and risks.

- On the up side, they reduce pain and swelling. They can also help you stay active.
- On the down side, they may cause stomach bleeding or raise your chance for a heart attack.

People are different in how they weigh benefits and risks. Some people feel that a small increased chance of heart attack would be okay if they could get the pain relief they need. Other people would not want this kind of trade-off.

This guide can help you learn about the benefits and risks of pain-relief medicines for osteoarthritis. Knowing about the benefits and risks can help you decide what is right for you.

## What is not covered?

This guide does not include all the ways to reduce osteoarthritis pain. Exercise, losing weight, acupuncture, and surgery are some other ways to help you feel better and stay active. It also does not cover Rx opiate medications like morphine, Tylenol-3®, and Vicodin®.



# Understanding the Benefits of Pain Medicines

## OVER-THE-COUNTER (OTC) PAIN RELIEVERS

### ACETAMINOPHEN (TYLENOL®)

- Most people can take acetaminophen (Tylenol®) without problems as long as they follow the directions on the bottle.
- Research shows that acetaminophen (Tylenol®) reduces mild pain. It probably does not help with inflammation or swelling.

### OTC NSAIDs

- Non-steroidal anti-inflammatory drugs are called NSAIDs (pronounced “EN-seds”). They include aspirin, ibuprofen (Advil®, Motrin®), and naproxen (Aleve®). These pills work by blocking pain enzymes.
- Research shows that NSAIDs reduce pain caused by swelling. They also give general pain relief.
- Aspirin is also an NSAID, but there is not much research about using aspirin for osteoarthritis pain.

### GLUCOSAMINE AND CHONDROITIN

- Glucosamine and chondroitin are supplements. They are not regulated as drugs in the United States, so their quality may vary. There is no way to be sure that the supplements you get in the store are as good as the ones used in the research studies.
- Research shows that the combination of glucosamine hydrochloride plus chondroitin sulfate may reduce moderate to severe pain without causing serious problems.

### SKIN CREAMS

- Capsaicin (pronounced “cap-SAY-sin”) cream, like Zostrix® or Theragen®, is made from chili peppers. Research shows that it reduces mild pain. Five out of 10 people using it will have warm, stinging, or burning feelings. The burning feelings fade away over time.
- Salicylate (pronounced “sa-LI-si-late”) cream includes Aspercreme® and Bengay Arthritis®. Research shows that salicylate cream does not work for osteoarthritis pain.



## **PRESCRIPTION (RX) PAIN-RELIEF PILLS**

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Rx pain pills include prescription-strength NSAIDs and opiates (morphine, Tylenol-3®, Vicodin®). This guide does not cover opiates. There are three kinds of Rx NSAID pills:

### **TRADITIONAL RX NSAID PILLS**

- These are Rx pills like ibuprofen (Motrin®), diclofenac (Voltaren®), and indomethacin (Indocin®).
- Rx NSAID pills are stronger and often cost more than OTC NSAIDs.
- Research shows that they relieve pain and swelling.

### **COX-2 INHIBITORS**

- Celecoxib (Celebrex®) is a kind of NSAID called a COX-2 inhibitor. It relieves pain as well as other NSAIDs do.
- Short-term research studies found that celecoxib (Celebrex®) is safer on the stomach than other NSAID pills.
- Two other COX-2 inhibitors (Vioxx® and Bextra®) were taken off the market in 2005 because they have a high risk of causing heart attacks.

### **SALICYLATES**

- Salicylates, pronounced “sa-LI-si-lates,” are Rx NSAID pills like sal-salate, pronounced “SAL-sa-late” (Disalcid®).
- We do not know how salicylates compare to other osteoarthritis pain relievers because there is very little research.

**Warning—If you have ever had stomach bleeding, high blood pressure, heart attack, liver or kidney problems, you have higher risk for serious problems. Talk to your doctor or nurse before taking any pain pills.**

# Understanding the Risk of Problems



## WHAT IS THE RISK OF STOMACH BLEEDING WITH NSAID PILLS?

All NSAID pills, including aspirin, block enzymes that protect the stomach. This can cause stomach bleeding. It is not possible to predict any one person's risk. Research can't tell how long you can use NSAID pills without bleeding. In general, stomach bleeding is more likely for people taking NSAIDs who:

- Are older, especially more than 75 years old.
- Take higher doses.
- Use NSAIDs for a longer time.
- Also take medicine to help prevent blood clots, like aspirin or warfarin (Coumadin®).



## Older people taking NSAID pills have higher risk of stomach bleeding

### For people age 16-44:

5 out of 10,000 people taking NSAIDs will have a serious bleed  
1 out of 10,000 people taking NSAIDs will die from a bleed

### For people age 45-64:

15 out of 10,000 people taking NSAIDs will have a serious bleed  
2 out of 10,000 people taking NSAIDs will die from a bleed

### For people age 65-74:

17 out of 10,000 people taking NSAIDs will have a serious bleed  
3 out of 10,000 people taking NSAIDs will die from a bleed

### For people age 75 or older:

91 out of 10,000 people taking NSAIDs will have a serious bleed  
15 out of 10,000 people taking NSAIDs will die from a bleed



### **WHAT ARE THE SIGNS OF STOMACH BLEEDING?**

Call your doctor or nurse right away if you:

- Vomit blood.
- See blood in your bowel movement, or your bowel movement is black and sticky like tar.
- Feel very weak.



### **WHAT IF I HAD STOMACH BLEEDING IN THE PAST?**

If you have ever had stomach bleeding, do not take any of the NSAID pills, including aspirin. If your doctor or nurse recommends NSAID pills, be sure to tell him or her that you had stomach bleeding in the past.



### **WHAT ABOUT THE RISK OF HEART ATTACK?**

NSAIDs can increase the chance of a heart attack. For every 10,000 people taking NSAIDs, 30 of them will have a heart attack that they would not have had if they were not taking NSAIDs. Recent research found that:

- Some NSAIDs increase the chance of a heart attack:
  - Celecoxib (Celebrex®).
  - Ibuprofen (Motrin®) in high doses (800 mg three times a day).
  - Diclofenac (Voltaren®) in high doses (75 mg twice a day).
- Naproxen (Aleve®, Naprosyn®) does not increase the chance of a heart attack.
- We do not know how other NSAIDs compare when it comes to the chance of a heart attack.



### **WHAT ABOUT RISK TO THE LIVER?**

Liver problems are rare with acetaminophen (Tylenol®) and the other pain pills described in this guide. However, taking too much acetaminophen (Tylenol®) can lead to liver problems. Be sure to follow the directions on the bottle. Keep in mind that other medicines contain acetaminophen (Tylenol®). Be sure to check the labels so that you do not take too much.



### **WHAT ABOUT RISK TO THE KIDNEYS?**

The risk is low, but all NSAID pills and acetaminophen (Tylenol®) can cause or worsen high blood pressure and kidney problems. Two out of 1000 people stop their medicine because of kidney problems.

# Sorting it Out

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## 1. BENEFIT

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The first step in choosing pain medicine is to sort out what kind of pain relief you need.



### **DO YOU WANT TO BE MORE ACTIVE?**

Pain-relief medicine can help you keep moving. Start low. Use lower strength and lower dose pills for mild pain. Try capsaicin skin cream (Theragen®, Zostrix®) or acetaminophen (Tylenol®), because they have fewer risks than other pain relievers.



### **DO YOU WANT TO REDUCE SWELLING OR INFLAMMATION?**

Try NSAID pills such as naproxen (Aleve®) or ibuprofen (Advil®, Motrin®). You can lower your risk of problems by using the lowest dose you can for the shortest time you can.

## 2. RISK

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The second step is to know your risks for problems, like stomach bleeding and heart problems.



### **HAVE YOU EVER HAD STOMACH BLEEDING OR WERE TOLD YOU ARE AT HIGH RISK FOR BLEEDING?**

Do not use NSAID pills, including aspirin, unless they are recommended by your doctor or nurse. The best way to avoid stomach bleeding is to use acetaminophen (Tylenol®) as your pain pill, or use capsaicin skin cream (Zostrix®, Theragen®).



### **HAVE YOU EVER HAD A HEART ATTACK OR WERE TOLD YOU ARE AT HIGH RISK FOR ONE?**

Most people can take acetaminophen (Tylenol®), aspirin, or naproxen (Aleve®, Naprosyn®). There is a chance of heart problems with other pain-relief pills, so talk to your doctor or nurse before trying them.





### **DO YOU TAKE LOW-DOSE ASPIRIN?**

Aspirin, even at low doses, can cause stomach bleeding. If you want to take low-dose aspirin, consider a pain reliever that is not an NSAID pill, like capsaicin skin cream (Theragen®, Zostrix®), acetaminophen (Tylenol®), or glucosamine and chondroitin.

**Warning – Combining aspirin and other NSAID pills makes bleeding more likely.**

## **3. COST**

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The third step is to find out about the cost.



### **IS COST AN ISSUE FOR YOU?**

Use the charts on pages 8 and 9 to compare the prices of different drugs. If Rx drugs are included in your health insurance plan, check with your plan about the cost to you.



OTC PAIN RELIEVERS*				
DRUG NAME	BRAND NAMES	STRENGTH**	PRICE for 100 PILLS or 1 TUBE***	
			GENERIC	BRAND
Acetaminophen	Tylenol®	325 mg	\$2	\$7
		500 mg	\$3	\$8
ORAL NSAIDs				
Aspirin	Bayer®, Ecotrin®	325 mg	\$2	NA
		325 mg EC	\$2	\$5
Ibuprofen	Advil®, Motrin®	200 mg	\$4	\$10
Naproxen	Aleve®	220 mg	\$7	\$8
TOPICAL CREAMS				
Capsaicin	Theragen®, Zostrix®	60 gm tube (.025%)	\$8	\$12
		60 gm tube (.075%)	NA	\$17
SUPPLEMENTS				
Glucosamine hydrochloride plus chondroitin sulfate		500 mg/ 400 mg three times a day	\$55	NA

\* This chart includes pain relievers from the research studies. OTC brand names are just a few examples of those sold in 2005.

\*\* EC = enteric coated (helps prevent stomach damage).

\*\*\* Average Wholesale Price from Drug Topics Redbook, 2006.

NA = Not available.

## Where can I get more information?

For an electronic copy of this guide and materials about choosing treatments and medications for other medical conditions, visit this Web site: [www.effectivehealthcare.ahrq.gov](http://www.effectivehealthcare.ahrq.gov)

For a free print copy, call (800) 358-9295

Ask for AHRQ Publication Number 06(07)-EHC009-2A

For more information about osteoarthritis, visit the Medline Plus Web site: [www.nlm.nih.gov/medlineplus/osteoarthritis.html](http://www.nlm.nih.gov/medlineplus/osteoarthritis.html)

PRESCRIPTION NSAID PAIN RELIEVERS*				
DRUG NAME	BRAND NAMES	DOSE**	PRICE for 1-MONTH SUPPLY***	
			GENERIC	BRAND
TRADITIONAL NSAIDS				
Diclofenac	Cataflam®, Voltaren®	75 mg twice a day	\$70	\$160
		50 mg three times a day	\$85	\$175
		100 mg XR once a day	\$85	\$160
Etodolac	Lodine®	400 mg twice a day	\$90	\$110
		400 mg three times a day	\$130	\$170
Ibuprofen	Motrin®	400 mg three times a day	\$20	\$30
		800 mg three times a day	\$35	\$45
Indomethacin	Indocin®	50 mg three times a day	\$65	NA
		75 mg SR twice a day	\$130	\$140
Ketoprofen	Oruvail®	75 mg three times a day	\$95	\$115
		200 mg ER once a day	\$85	\$100
Meloxicam	Mobic®	7.5 mg once a day	NA	\$100
		15 mg once a day	NA	\$155
Nabumetone	Relafen®	1000 mg once a day	\$85	\$125
		1500 mg once a day	\$100	\$150
Naproxen	Anaprox®, Naprelan®, Naprosyn®	250 mg three times a day	\$70	\$105
		500 mg twice a day	\$80	\$110
		500 mg three times a day	\$120	\$165
Piroxicam	Feldene®	20 mg once a day	\$75	\$115
COX-2 INHIBITOR				
Celecoxib	Celebrex®	100 mg twice a day	NA	\$125
		200 mg twice a day	NA	\$200
		400 mg twice a day	NA	\$300
SALICYLATES				
Salsalate	Disalcid®, Salflex®	750 mg twice a day	\$20	\$30

\* This chart includes pain relievers from the research studies.

\*\* XR/ER = extended release, SR = sustained release.

\*\*\* Average Wholesale Price from Drug Topics Redbook, 2006.

NA = Not available.

## What is the source of this guide?

The information in this guide comes from a detailed review of 351 research reports called *Comparative Effectiveness and Safety of Analgesics for Osteoarthritis* (2006). The Agency for Healthcare Research and Quality (AHRQ) created the Eisenberg Center at the Oregon Health and Science University to make research helpful for consumers. The Eisenberg Center developed this guide, and it was reviewed and tested by consumers.

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