



Effective Health Care

COMPARING TWO KINDS OF BLOOD PRESSURE PILLS:

ACEIs and ARBs

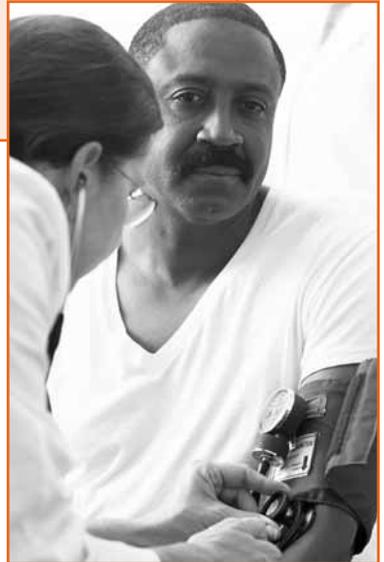
A Guide for Adults



Agency for Healthcare Research and Quality
Advancing Excellence in Health Care • www.ahrq.gov

Fast Facts

- ACEIs and ARBs are two of the many kinds of blood pressure pills.
- Both kinds of pills (ACEIs and ARBs) do a good job of lowering blood pressure.
- ACEIs and ARBs rarely cause serious problems. The main difference in side effects is that ACEIs are more likely than ARBs to cause a dry cough.
- ACEIs and ARBs do not affect cholesterol levels or blood sugar levels.
- Some ACEIs are available as generics, which cost less.



What does this guide cover?

High blood pressure is treated with different kinds of pills, like diuretics (water pills), beta blockers, ACE inhibitors (ACEIs), and ARBs. In fact, people often take more than one kind of pill to bring blood pressure down.

This guide can help you talk with your doctor or nurse about two of the many kinds of blood pressure pills. It compares the benefits, side effects, and prices of drugs called ACEIs (pronounced “aces”) and ARBs.

The information in this guide comes from a government-funded review of research comparing ACEIs and ARBs.

What are ACEIs and ARBs?

Both ACEIs and ARBs relax blood vessels, and that lowers blood pressure. The names of ACEI drugs and ARB drugs are listed in the chart below. If you don’t find your drug in the chart, you are probably taking a kind of blood pressure pill not covered in this guide.

ACEIs			ARBs		
GENERIC NAME	BRAND NAME	GENERIC AVAILABLE	GENERIC NAME	BRAND NAME	GENERIC AVAILABLE
Benazepril	Lotensin®	Yes	Candesartan	Atacand®	No
Captopril	Capoten®	Yes	Eprosartan	Teveten®	No
Enalapril	Vasotec®	Yes	Irbesartan	Avapro®	No
Fosinopril	Monopril®	Yes	Losartan	Cozaar®	No
Lisinopril	Prinivil®, Zestril®	Yes	Olmesartan	Benicar®	No
Moexipril	Univasc®	No	Telmisartan	Micardis®	No
Perindopril	Aceon®	No	Valsartan	Diovan®	No
Quinapril	Accupril®	Yes			
Ramipril	Altace®	No			
Trandolapril	Mavik®	No			

Why treat high blood pressure?

High blood pressure is one of the most common medical problems. Most people with high blood pressure have no symptoms. That's why it's called "the silent killer."

Blood pressure is the stress that blood puts on the inside walls of the arteries (blood vessels) as it flows through the body. High blood pressure means that blood is pushing too hard on the blood vessels. If high blood pressure is not treated, people can have a stroke, a heart attack, or problems with their kidneys.

Some people can lower their blood pressure by changing to healthier habits. Losing weight, eating healthy, and getting active can help. Most people also need medicines to bring their blood pressure under control. Work with your doctor or nurse to find medicines that are right for you.

How do benefits of ACEIs and ARBs compare?

- When taken regularly, both ACEIs and ARBs do a good job of lowering blood pressure. ACEIs and ARBs work equally well.
- They do not affect cholesterol levels or blood sugar levels.
- They rarely cause serious problems.

Which drug is right for you may depend on what you think about the side effects and cost.

How do costs compare?

Cost is often a major factor in using a medicine. The charts on pages 4 and 5 can help you compare the costs of these pills. If medicines are part of your health insurance plan, check with your plan about the cost to you.

- Brand name ACEIs and ARBs have similar costs.
- Some of the ACEIs are available as generics, which cost less.

How do side effects of ACEIs and ARBs compare?

Both ACEIs and ARBs can cause cough, dizziness, and headache. The chance of dizziness or headache is about the same with ACEIs and ARBs. The main difference is that ACEIs are more likely to cause a dry cough. Sometimes this cough is bad enough that people need to switch drugs. In research studies:

- 8 out of 100 people taking an ACEI stop taking it because of side effects.
- 3 out of 100 people taking an ARB stop because of side effects.

Tell your doctor or nurse if you are bothered by one of these side effects. But **do not stop taking your medicine on your own.**

What about serious risks?

It is rare, but sometimes people get a drug reaction called angioedema (pronounced “AN-gee-o-uh-DEE-muh”). In research comparing ACEIs and ARBs, about 1 out of 10,000 people gets angioedema.

The most common symptom of angioedema is swelling of the tongue or lips. Call your doctor or nurse right away if you start to swell. This might mean you are having a reaction to your medicine.



Warning: If you are taking an ACEI or an ARB and become pregnant, call your doctor or nurse to ask for advice. ACEIs and ARBs can cause serious birth defects.

ACEIs

GENERIC NAME	BRAND NAME	DOSE FOR HIGH BLOOD PRESSURE ¹	PRICE FOR 1-MONTH SUPPLY ²	
			GENERIC	BRAND
Benazepril	Lotensin®	10 mg every day	\$30	\$45
		20 mg every day	\$30	\$45
		40 mg every day	\$30	\$45
Captopril	Capoten®	25 mg twice a day	\$40	\$115
		50 mg twice a day	\$75	\$200
Enalapril	Vasotec®	5 mg every day	\$30	\$45
		10 mg every day	\$30	\$45
		20 mg every day	\$45	\$65
		20 mg twice a day	\$90	\$135
Fosinopril	Monopril®	10 mg every day	\$35	\$45
Lisinopril	Prinivil®, Zestril®	10 mg every day	\$30	\$35
		20 mg every day	\$30	\$40
		40 mg every day	\$45	\$55
Moexipril	Univasc®	7.5 mg every day	No generic available	\$45
		15 mg every day		\$50
		15 mg twice a day		\$95
Perindopril	Aceon®	2 mg every day	No generic available	\$50
		4 mg every day		\$55
		8 mg every day		\$70
Quinapril	Accupril®	10 mg every day	\$35	\$45
		20 mg every day	\$35	\$45
Ramipril	Altace®	2.5 mg every day	No generic available	\$50
		5 mg every day		\$50
		10 mg every day		\$60
Trandolapril	Mavik®	1 mg every day	No generic available	\$40
		2 mg every day		\$40

¹Doses are similar to those used in the research studies. ²Average Wholesale Price from *Drug Topics Redbook*, 2007.

Where can I get more information?

For an electronic copy of this guide and materials about comparing treatments and medicines for other medical conditions, visit this Web site: www.effectivehealthcare.ahrq.gov

For a free print copy, call the AHRQ Publications Clearinghouse (800) 358-9295

Ask for AHRQ Publication Number 08-EHC003-2A

For more information about high blood pressure, visit the Medline Plus Web site:

<http://www.nlm.nih.gov/medlineplus/highbloodpressure.html>

ARBs

GENERIC NAME	BRAND NAME	DOSE FOR HIGH BLOOD PRESSURE ¹	PRICE FOR 1-MONTH SUPPLY ²	
			GENERIC	BRAND
Candesartan	Atacand®	4 mg every day		\$55
		8 mg every day		\$55
		16 mg every day		\$55
Eprosartan	Teveten®	400 mg every day		\$65
		600 mg every day		\$75
		400 mg twice a day		\$130
Irbesartan	Avapro®	150 mg every day	No	\$55
		300 mg every day		\$70
Losartan	Cozaar®	25 mg every day	generic	\$55
		50 mg every day		\$60
		100 mg every day		\$80
Olmesartan	Benicar®	20 mg every day	available	\$50
		40 mg every day		\$60
Telmisartan	Micardis®	20 mg every day		\$50
		40 mg every day		\$60
		80 mg every day		\$65
Valsartan	Diovan®	80 mg every day		\$60
		160 mg every day		\$65

¹Doses are similar to those used in the research studies. ²Average Wholesale Price from *Drug Topics Redbook*, 2007.

What is the source of this guide?

The information in this guide comes from a detailed review of 61 research reports. The review is called *Comparative Effectiveness of Angiotensin-Converting Enzyme Inhibitors (ACEIs) and Angiotensin II Receptor Antagonists (ARBs) for Treating Essential Hypertension* (2007), and was written by the Duke Evidence-based Practice Center.

The Agency for Healthcare Research and Quality (AHRQ) created the Eisenberg Center at Oregon Health & Science University to make research helpful for consumers. This guide was prepared by Bruin Ruggie, M.D., Sandra Robinson, M.S.P.H., Martha Schechtel, R.N., Theresa Bianco, Pharm.D., Valerie King, M.D., and David Hickam, M.D., of the Eisenberg Center. People with high blood pressure helped them write this guide.

AHRQ Publication Number 08-EHC003-2A
October 2007