



Calcium Channel Blockers (CCBs) are used by millions of Americans to treat high blood pressure, angina, and certain heart rhythm abnormalities. There are eight medicines in this class of drugs, five of which are available as low-cost or moderately priced generic drugs in some dosage forms. The cost for CCBs varies from about \$20 to more than \$120 a month. (See page 2.)

To help you and your doctor choose which CCB is best and most cost-effective for you, *Consumer Reports* has evaluated the drugs in this category based on their effectiveness, safety, and price. This two-page brief is a summary of a 22-page report you can access on the Internet at www.CRBESTBUYDRUGS.org. You can also learn about other drugs we've analyzed on this free Web site. Our independent evaluations are based on scientific reviews conducted by the Oregon Health and Science University-based Drug Effectiveness Review Project. Grants from the Engelberg Foundation and National Library of Medicine help fund *Consumer Reports Best Buy Drugs*.

DO YOU NEED A CALCIUM CHANNEL BLOCKER?

CCBs are typically not prescribed as initial treatment for people who have high blood pressure but no other form of heart disease. Instead, CCBs are often used as a second or third drug to help lower blood pressure when other medicines have failed to bring it down enough. CCBs should be considered as first-step medicine, however, for people with high blood pressure who also have angina and/or are at high risk of stroke or coronary heart disease. In this case, CCBs are usually used along with other medicines such as diuretics or beta-blockers. CCBs should not be taken by people with heart failure (a weakening of the heart muscle).

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Our Recommendations

Calcium channel blockers are effective and generally safe medicines with more than 20 years of widespread use. Your choice of a CCB depends on your needs. Studies have shown that certain CCBs are more effective and safer than others for selected conditions.

Taking effectiveness, safety, dosing convenience, and cost into account, we have chosen four CCBs as *Consumer Reports Best Buy Drugs*. They can save you \$1,000 to \$1,700 a year if you are already taking or have been prescribed an expensive brand-name CCB. The four are:

- For high blood pressure—Diltiazem SR and Diltiazem CR, Felodipine SR, Nifedipine SR, Verapamil SR
- For angina—Nifedipine SR
- For heart rhythm abnormalities—Diltiazem SR and Diltiazem CR, Verapamil SR

All of these medicines are available as low-cost or moderately priced generics. And all are as effective as other CCBs. All are long-acting pills that need to be taken just once a day.

CCBs can cause some side effects, most commonly dizziness, headache, flushing, and swollen ankles. Bleeding gums may also occur. Serious side effects include breathing problems; an irregular, fast heart beat; or a dangerously slow heart rate. Starting with as low a dose as possible can reduce your risk of side effects.

The information in this brief was last updated in June 2005.

Summary of Evidence on the CCBs

Generic Name and Daily Dose Range	Brand Name(s)	Proven to Lower High Blood Pressure?	Proven to Reduce Angina?	Proven to Reduce Heart Rate?	Approved for Treatment of:
Amlodipine 5-10mg	Norvasc	Yes	Yes	No	HBP ¹ , angina
Diltiazem 180-240mg	Cardizem, Cartia, Dilacor, Diltia, Taztia, Tiazac	Yes	Yes	Yes	HBP, angina, irregular heart rhythms
Felodipine 5-10mg	Plendil	Yes	Likely ²	No	HBP
Isradipine 5-10mg	Dynacirc	Yes	Likely	No	HBP
Nicardipine 60-120mg	Cardene	Yes	Yes	No	HBP, angina
Nifedipine 30-60mg	Adalat, Nifedical, Procardia	Yes	Yes	No	HBP, angina
Nisoldipine 10-40mg	Sular	Yes	Likely	No	HBP
Verapamil 120-240mg	Calan, Covera-HS, Isoptin, Verelan	Yes	Yes	Yes	HBP, angina, irregular heart rhythms

(1) HBP stands for high blood pressure.

(2) "Likely" means that studies have not yet proved effectiveness, but doctors may prescribe it for this condition.

Calcium Channel Blocker Cost Comparison and Best Buy Indications—Examples¹

	Generic Name and Dose	Brand Name (s) ²	Generic (Yes) or Branded Generic (BG) ²	Frequency of Use (Per Day) ³	Average Monthly Cost ⁴	Best Buy Indication
	Amlodipine 5mg	Norvasc	No	One	\$55	
	Diltiazem 120mg SR capsule	Cardizem SR	No	Two	\$78	
CR BEST BUY	Diltiazem 120mg SR capsule	Generic	Yes	One	\$27	HBP ⁵ , HRAs ⁶
CR BEST BUY	Diltiazem 120mg SR capsule	Dilt-XR	BG	One	\$27	HBP, HRAs
	Diltiazem 180mg CR capsule	Cardizem CD	No	One	\$58	
CR BEST BUY	Diltiazem 180mg CR capsule	Generic	Yes	One	\$37	HBP, HRAs
CR BEST BUY	Diltiazem 180mg SR capsule	Diltia XT	BG	One	\$27	HBP, HRAs
	Felodipine 5mg SR tablet	Plendil	No	One	\$46	
CR BEST BUY	Felodipine 5mg SR tablet	Generic	Yes	One	\$37	HBP
	Isradipine 10mg SR tablet	Dynacirc CR	No	One	\$102	
	Nicardipine 20mg capsule	Cardene	No	Three	\$70	
	Nicardipine 20mg capsule	Generic	Yes	Three	\$33	
	Nifedipine 60mg SR tablet	Procardia XL	No	One	\$94	
CR BEST BUY	Nifedipine 60mg SR tablet	Afeditab CR	BG	One	\$56	HBP, Angina
CR BEST BUY	Nifedipine 60mg SR tablet	Generic	Yes	One	\$60	HBP, Angina
	Nisoldipine 20mg SR tablet	Sular	No	One	\$51	
	Nisoldipine 30mg SR tablet	Sular	No	One	\$68	
	Verapamil 120mg SR capsule	Calan SR	No	One	\$53	
CR BEST BUY	Verapamil 120mg SR tablet	Generic	Yes	One	\$27	HBP, HRAs
	Verapamil 180mg SR tablet	Calan SR	No	One	\$66	
CR BEST BUY	Verapamil 180mg SR tablet	Generic	Yes	One	\$22	HBP, HRAs

UNDERSTANDING GENERICS: A generic is a copy of a brand-name drug whose patent has expired. Generics are usually sold under their generic (chemical) names. For example, in this table, diltiazem is the generic name and Cardizem is the brand name. But in some cases, generic manufacturers also give a “brand” name to their products; such drugs are often referred to as “branded generics.” Branded generics contain the same active ingredient as generics. Column three in this table tells you which of the drugs listed here are generics (“Yes”) and which are branded generics (BG).

(1) For the complete list of CCBs at various doses and their prices, go to www.CRBestBuyDrugs.org to download the full 22-page report.

(2) “Generic” indicates that this drug is sold as a generic under the generic or chemical name. “Yes” means it is a generic, sold under the chemical name. “BG” means it is a branded generic, which is a generic copy of an original drug but one given a special name by its generic manufacturer. “No” means it is a brand-name drug not yet available as a generic or a branded generic.

(3) Frequency of use reflects usual frequency; some medicines may be used more or less frequently.

(4) Prices reflect nationwide retail averages for April 2005, rounded to the nearest dollar; data provided by NDCHealth, a health-care information company.

(5) “HBP” stands for high blood pressure.

(6) “HRAs” stands for heart rhythm or heart rate abnormalities.