

## THE ABC's Of CARDIAC MEDICATIONS

**A** is for Aspirin and other Antiplatelet medications. As you know a blood clot forming in blood vessels causes heart attacks and strokes. Aspirin at 80 mg to 325 mg a day or higher doses helps decrease the chance of having a heart attack and stroke. The major side effect is stomach upset. Often a coated Aspirin taken at supper time eliminates the problem. Newer Antiplatelet medications such as Tic lid (Ticlopidine) or Plavix (Clopidogrel) are newer, more potent Antiplatelet medications. The strongest blood thinner available is Coumadin (Warfarin). This is rat poison and obviously at controlled doses is a life-saving drug. Failure to monitor the blood levels of Coumadin may lead you to bleed to death. The blood test is called an INR and for most of us, the therapeutic level is between 2 and 3.

### **BLOOD THINNERS**

ASA (Acetylsalicylic acid)	ASA should be taken with food usually at the end of the meal. This helps protect against stomach upset. Lower dose, such as a baby Aspirin or the coated form, may also help.
Tylenol (Acetaminophen)	Tylenol has no protective value for the heart.
Ticlid (Ticlopidine hydrochloride) Plavix (Clopidogrel)	Ticlid and Plavix are newer and stronger Antiplatelet drugs.
Coumadin (Warfarin)	Coumadin is the strongest blood thinner available and must be monitored with frequent blood testing called INR (rat poison).

**A** is also for ACE inhibition. These categories of medication block a hormone pathway in your body called the renin angiotensin system. These hormones are involved in causing high blood pressure and damaging vessel walls. In patients who have damaged hearts and prone to fluid in the lungs called "congestive heart failure", these medications delay the progression of the disease. Most physicians realize that ACE inhibition is a valuable blood pressure lowering medication and used for the treatment of fluid in the lungs called "heart failure". More recent data demonstrates in patients who have diabetes or have previous heart disease, the medication by blocking the hormone pathway prevents another heart attack or stroke in the order of 25%. Again it is not the blood pressure lowering effect that's important but the blockage of hormones called renin Angiotensin. Newer drugs are constantly being developed; one is called AT1 blockers. Again these drugs lower blood pressure, are well tolerated and block a hormonal pathway in the body. However these have not been extensively studied as ACE inhibition, however as a class, show tremendous promise. They should not be considered first-line therapy for heart disease patients at this stage. These drugs include Avapro (Irbesartan), Atacand (Candesartan), Cozaar (Losartan), Diovan (Valsartan), Micardis (Telmisartan), and Teventan (Eprosartan). However if you cannot

take ace blockers because of side affects such as cough, they should be used. In addition, they can be combined for extra protection if monitored. In individuals with Diabetes, AT1 blockers clearly protect the kidneys.

### ACE INHIBITION

<p>Lotensin (Benazapril) Capoten (Captopril) Inhibace (Cilazapril) Vasotec (Enalapril) Monopril (Fosinopril) Zestril (Lisinopril) Coversyl (Perindopril) Accupril (Quinapril) Altace (Ramipril) Mavik (Trandolapril)</p>	<p>ACE inhibiting drugs have multiple effects:</p> <ul style="list-style-type: none"> <li>• lower blood pressure.</li> <li>• protect damaged hearts.</li> <li>• prevents first, second heart attacks and strokes (independent of its blood pressure effect) by blocking a hormonal pathway in the heart called renin angiotensin.</li> </ul>
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**B** is for beta blockers. These medications are used for blood pressure lowering and also to protect the heart from your body's catecholamine system. They block the sympathetic discharge that's produced in your body. These medications in addition to lowering blood pressure prevent future heart attack and reduce the risk of sudden deaths in the order of 25%.

### BETA BLOCKERS

<p>Lopressor (Metoprolol) Blocadren (Timolol) Corgard (Nadolol) Tenormin (Atenolol) Monacor (Bisoprolol) Sectral, Monitan (Acebutolol) Coreg (Carvedilol) Inderal (Propranolol)</p>	<p>Beta blockers have multiple properties</p> <ul style="list-style-type: none"> <li>- lower blood pressure</li> <li>- protect damage hearts</li> <li>- prevents sudden death</li> <li>- prevents heart complication going for surgery</li> <li>- controls heart rate</li> </ul>
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**C** is for cholesterol management. Ideally one would want an HDL greater than 1, triglycerides less than 2 and LDL less than 2.5. With the help of your health care team you will decide what's appropriate. The combination of lifestyle changes and medications has had a dramatic impact and decreases the risk for repeat heart attacks, bypass surgery, angioplasty up to one-third. There are many cholesterol medications available. They must be taken daily as well.

## CHOLESTEROL MEDICATIONS

<b>STATINS</b> Mevacor (Lovastatin) Pravachol (Pravastatin) Zocor (Simvastatin) Lipitor (Atorvastatin) Lescol (Fluvastatin) Crestor (Rosuvastatin)	Their best effect is to lower the lousy LDL cholesterol.
<b>FIBRATES</b> Lopid (Gemfibrozil) Lipidil micro supra (Fenofibrate) Bezalip (Bezafibrate)	Predominantly lower triglycerides and boost HDL cholesterol.
<b>OTHER</b> Niacin	Lowers triglycerides, boosts HDL, modest lowering of LDL, and many side effects.
<b>RESINS</b> Questran (Cholestyramine) Colestid (Colestipol)	Lowers LDL cholesterol.
Absorption Inhibitors Ezetrol (Ezetimibe)	Lowers LDL cholesterol.

**C** is also for calcium blockers. These are blood pressure agents that should not be considered first-line therapy for most patients. They are extremely valuable for the prevention of angina pectoris, i.e. chest pains coming from the heart that occur with activity. Like other cardiac medications they have undergone significant testing and more research is necessary to prove whether or not in addition to controlling blood pressure and treating the symptoms of angina, it is still unclear whether or not they modify the progression of heart disease. A list of these medications includes Norvasc (Amlodipine), Apotex (Diltiazem, Diltiazem SR and CD), Tiazac (Diltiazem CD), Plendil Renadil (Felodipine), and Adalat XL (Nifedipine), (Verapamil SR), Chronovera (Verapamil).

**D** is for Diet. The backbone of good health is lifestyle changes and appropriate low fat diet rich in fiber, poor in white flour, makes so much sense. If your weight is elevated please try to lose it. Don't ignore nutrition.

**E** is for Exercise. It has been demonstrated that individuals who walk 2 miles a day live longer by preventing cancer and heart disease. For those individuals who want to lose weight and keep it off, exercise is the number 1 determinant of success. Most of us should be aiming for 30 minutes to an hour a day. That is a lot more than most of us are willing to put into it. Individuals who walk or run 10 miles a week decrease the chance of future heart attacks or strokes by 25%.

**F** is for Follow-up. Most of us need guidance and we will fall off the wagon from time to time. This is human nature. Good Health is like riding a bike. Once you learn how to ride it becomes easier. However there will times of stress when we will drift back to old habits. Having follow-up with your health care team or joining a group or club involved in health makes a lot of sense.

## **CONCLUSION**

There are many steps to maintaining good health. One is the proper use of medications. Millions of dollars are spent for each drug development. As you see, your physician has at his or her disposal many drugs that have been well tested and studied to both improve the quality of your life and, in many circumstances, to make you live longer. Constant breakthroughs are happening each day. Nitro spray pump should be carried by all patients who have heart disease. Oral and patch form nitrates are useful in improving the symptoms of angina. More importantly there are drugs that modify the progression of heart disease. Remember this disease will progress over time with an 80% probability of future cardiac and stroke events if left untreated. The ABC's of delaying the progression of heart disease include:

- a) A form of Antiplatelet drug such as Aspirin and ACE inhibition prevent future heart attacks and strokes;
- b) A beta blocker for patients who survived a heart attack;
- c) Cholesterol management decreases the risk of another event by at least one-third;
- d) Proper diet and exercise are the backbone and foundation of good health.

A simple way of looking at the problem is that your roof has sprung a leak. You can put on new shingles which act like cardiac medications and/or you can choose to fix the structural problem of the house by replacing the rotten wood, i.e. exercise and diet are the backbone to good health. In summary, you must do both. You should know what you are getting. It's up to you to get the proper information to maintain your health.