

or chronic narrowing of arteries. The side effect is that blood is thinned throughout the body and can lead to easy bruising and bleeding.

ACE Inhibitors (e.g. Accupril, Inhibace)

- These medications I would simplistically suggest inhibit the progression of hardening of the arteries. They interfere with the process of plaque progression over the long term and have been proven not only in coronary disease but also in the retardation of disease in stroke and renal disease.
- The main side effect is a dry cough in one in 20 individuals (often more annoying to the partner than the patient!). If suspected, discontinue the medication for two weeks to determine if the cough settles with drug withdrawal. If the cough settles, then reintroduce the medication to determine if the cough recurs. If it does, then the medication is the culprit. Advise your Doctor and application can be made for an alternative available on restricted funding via Pharmac. (i.e. an Angiotensin receptor blocker e.g. candesartan)
- Very rarely it can affect renal function or cause a generalized swelling or gut upset. A kidney blood test should routinely be done 2-3 weeks after starting this medication.

LOOKING AFTER YOURSELF

Dealing with angina is not just a matter of dealing with the symptoms.

- Look at all the risk factors for coronary heart disease, including: raised blood pressure, cigarette smoking, raised blood cholesterol, diabetes, excess weight and lack of physical activity
- Lifestyle changes which will improve heart health include:
 - Reducing the intake of saturated (animal) fats
 - Increasing the intake of fruit and vegetables and wholegrain cereals
 - Being smoke free
 - Having regular blood pressure checks
 - Enjoying regular physical activity
 - Maintaining a healthy body weight
 - Developing ways to cope with stress.

WHAT ELSE CAN BE DONE FOR ANGINA?

Coronary artery bypass surgery or angioplasty and stenting (opening up the arteries with a special balloon and propping them open with a scaffold) can also help control angina. An X-ray of the coronary arteries (angiogram) is required to decide whether surgery or angioplasty is necessary or possible.

WHAT IS THE DIFFERENCE BETWEEN ANGINA AND A HEART ATTACK?

- Angina symptoms are associated with a temporary reduction in blood flow to part of the heart muscle leaving no damage to the muscle. Angina pain is relieved by rest and GTN spray. Angina that lasts more than 15 minutes will need more treatment.
- A heart attack results from a blockage in a coronary artery and causes permanent damage to the heart muscle. The pain associated with a heart attack usually lasts longer than fifteen minutes and is not relieved by GTN spray.
- **If the angina is not relieved after three doses in 15 to 20 minutes, call an ambulance.**

DIAL 111 IMMEDIATELY.



Dr. Brandon Wong

General Physician and Cardiology

18 September 2009

The Clinic

167 Maunu Road

Maunu

Whangarei

Ph/fax (09) 438 8073

DR. BRANDON WONG PATIENT INFORMATION:

ANGINA

Angina is a common symptom of heart disease. It is usually described as a discomfort or unpleasant feeling (like indigestion), tightness, pressure or weight on the chest. Sometimes it is not a pain or discomfort at all, but a feeling of breathlessness or profound lethargy. Angina is usually not prolonged and can be relieved by rest and/or medication.

Angina can affect people in different ways.

The symptoms may differ at various times. It is usually felt across the centre of the chest. It may also be felt in either or both shoulders, the neck or jaw, down one or both arms and in the hands. Some people experience it in only one of these areas and not in the chest at all.

Angina is usually brought on by predictably the same exertion or emotion. It can occur after a heavy meal or in cold weather. It can occur at rest or even during the night. It can often be experienced at particular times of the day, e.g. first thing in the morning or late afternoon.

WHAT CAUSES ANGINA?

In most cases angina is caused by coronary artery disease. This occurs when fatty deposits build up under the inner lining of the coronary arteries which supply the heart muscle. As a result, these arteries become narrowed and the blood flow to the heart muscle is reduced. Angina occurs when the blood flow to the heart muscle is insufficient for the extra demands made on it. There is no damage to the heart muscle from an episode of angina.

ANGINA ACTION PLAN	
Angina Symptoms Occasional	Action
When you get angina, stop what you are doing and sit down. When the angina is relieved by rest, or by your GTN spray, you can resume your activities gently.	Take one or two puffs of your GTN spray. If the angina persists, you can repeat the dose safely every five minutes. If the angina is not relieved after three doses within 15 to 20 minutes, call an ambulance.

Angina Symptoms Regular Pattern	Action
If you get angina as part of your everyday life, for example: <ul style="list-style-type: none"> Cold temperatures Walking up hills Mowing lawns While showering During sexual activity While at work. 	Use your GTN spray a few minutes before attempting the activity that triggers your angina. If you are experiencing angina symptoms every day consult your doctor so that further treatment can be planned.

Change In Angina Symptoms	Action
If the pattern of your angina changes significantly in one or more of the following ways: <ul style="list-style-type: none"> Frequency, severity More prolonged Occurs when you are doing very little or resting. 	Consult your doctor within 24 hours. In the meantime, continue to use your GTN spray. If the angina is not relieved after three doses in 15 to 20 minutes, call an ambulance. DIAL 111 IMMEDIATELY.

MEDICATIONS

Glyceryl Trinitrate (GTN) Spray

- Nitrates relax the blood vessels, causing them to dilate and allow the blood to flow more freely.
- A metered dose of nitrate is given with each squirt. The spray droplets are absorbed quickly and give an almost immediate effect
- Do not shake the canister
- Hold the canister upright
- Spray one or two puffs on, or under, the tongue, close the mouth
- If the angina is not relieved after three doses within 15 to 20 minutes call an ambulance. Dial 111 immediately.**
- GTN spray sometimes produces flushing, Headaches, a feeling of fullness in the head, dizziness or palpitations.
- GTN spray may also cause a burning or tingling feeling in the mouth
- GTN spray may temporarily lower the blood pressure and may cause a feeling of faintness when using them for the first time or taking too large a dose. It is best to be seated when taking GTN spray for the first time
- Feeling faint can also be caused by taking the spray or a tablet when hot, e.g. after a shower
- Despite the side effects that can occur with these medications, they are safe to use and are not habit-forming
- Alcohol may be consumed while taking these medications. However, alcohol may increase the likelihood of faintness and dizziness]
- Check expiry date on all medications
- Nitrolingual spray lasts for five years
- Store spray in a cool place
- If you keep a spare spray in the car it should be replaced after three years
- Carry a GTN spray at all times

LONG ACTING ANTI ANGINAL MEDICATIONS

Beta-Blockers (e.g. Metoprolol)

Beta-Blocker medication reduces the frequency of angina attacks. They slow the heart rate letting the heart pump more efficiently which results in improved physical activity levels.

Calcium Antagonists (e.g. Diltiazem)

These are further options for preventing angina symptoms. Calcium antagonists help to relax the arteries, allowing more blood to flow through so that the heart beats more efficiently. A common side effect is swollen ankles.

Nitrate Tablets (e.g. ISMN, Duride)

These are a long acting form of the spray and are absorbed through the stomach instead of the mouth and have a longer-acting effect. It is important to have a nitrate free interval to avoid the development of tolerance (the development of immunity to the effect of the medication). This is achieved by taking the medication ONLY ONCE A DAY.

OTHER MEDICATIONS USED IN ANGINA

Statins (e.g. Simvastatin, Atorvastatin)

- These act on the liver and stop the production of cholesterol that in turn retards, and even regresses the build up of fatty deposits in the arteries, of not only the heart, but through out the bodies circulation.
- Muscle aches and pains are not uncommon and although statins can cause muscle and liver damage, the actual incidence of this is rare. If symptoms persist a blood test may help to clarify whether there are significant enzyme changes before discontinuing potentially life saving therapy.

Aspirin

- This time proven medication impairs the clotting of platelets (clotting cells in the blood) that can contribute to acute