Angina: Squeezing or pressure-like pain in the chest occurring immediately after exertion. Other precipitating factors include emotional tension, cold weather, or large meals. Pain may radiate t the left shoulder blade, left arm, or jaw. The pain typically lasts for only one to twenty minutes

Stress, anxiety, and high blood pressure typically present. An abnormal electrocardiographic reading (transient ST segment depression) in response to light exercise (stress test). QUICK REVIEW

Angina is a serious condition that requires careful treatment and monitoring.

As many as ninety percent of all bypass procedures may be unnecessary. The two primary therapeutic goals in the natural treatment of angina are:

- 1. Improving energy metabolism within the heart
- 2. Improving the blood supply to. the heart

Carnitine and coenzyme Q10 (CoQ10) have been shown to improve angina in well-designed double blind clinical trials.

## TREATMENT SUMMARY

The primary therapy is prevention, since angina is usually the result of hardening of the arteries (atherosclerosis). Follow the general guidelines given in HEART AND CARDIOVASCULAR HEALTH and, if cholesterol levels are elevated, CHOLESTEROL.

Once angina has developed, restoring proper blood supply to the heart and enhancing energy production within the heart are the primary goals. In mild to moderate cases, the natural approach is usually sufficient. But in more serious cases, the natural approach should be used in conjunction with the use of conventional prescription drugs. Patients with unstable angina pectoris (characterized by progressive increase in the frequency and severity of pain, increased sensitivity to precipitating factors, progression of symptoms over several days, and prolonged coronary pain) should be hospitalized.

## Diet

Increase dietary fiber especially the gel-forming or mucilaginous fibers (flaxseed, Oat bran, pectin etc.) Onions and garlic Magnesium deficiency plays a major role in angina.

Hawthorn extracts improve the supply of blood and oxygen to the heart.

• Since the late 1940s, there have been numerous scientific studies that demonstrate the clinical effectiveness of khella (Ammi vsnaga) extracts in the treatment of angina.

EDTA chelation therapy is an alternative to coronary artery bypass surgery and angioplasty; it may prove to be more effective, and it is definitely safer and less expensive.

should eat regular meals and avoid all simple carbohydrates (sugar, honey, dried fruit, fruit juice, etc.).

## Lifestyle

Stop smoking and drinking alcohol and coffee. Use stress-management techniques such as progressive relaxation, meditation, or guided imagery. A carefully graded, progressive aerobic exercise program (thirty minutes three times per week) is a necessity. Walking is a good exercise with which to start.

## Nutritional Supplements

Coenzyme  $Q_{10}$ : 150-300 mg per day

L-carnitine: 500 mg three times per day Pantethine: 300 mg three times per day

Magnesium (preferably bound to aspartate, citrate, or other Krebb's cycle intermediate): 200-400 mg three times per day Ascorbic acid Highest tolerated dose, start with 5,000 mg twice daily, if bowels loosen, back off to the lowest dose tolerated without loose bowels

Vitamin E 450-2,000 iu/d Vitamin D3 1000-4000 iu/d

Niacin (B3) 1 gm tid (Adequate Vitamin C helps prevent flush). Inosotol hexanicotinate prevents flush/metabolized to B3 Botanical Medicines

• Hawthorn (Crataegus sp.) three times per day Berries or flowers (dried): 3-5 grams or as a tea Tincture (1:5): 4-6 ml (1-1.5 tsp) Fluid extract (1:1): 1-2 ml (0.25-0.5 tsp) Solid extract