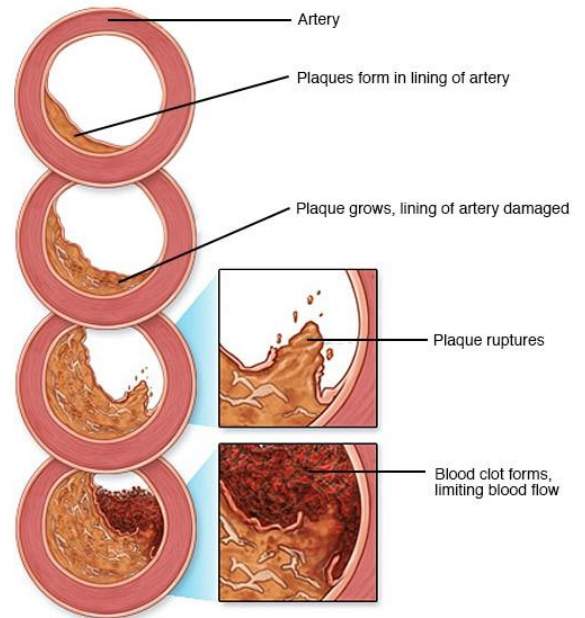


Cardiovascular disease includes conditions that affect the structure or function of the heart and is the number one cause of death in the United States. Many conditions fall under this category: coronary artery disease, heart valve disease, myocarditis, pericarditis, endocarditis, arrhythmia, congestive heart failure.

Coronary Artery Disease (CAD)

CAD occurs when the coronary arteries become damaged or diseased due to plaque. Plaque is cholesterol-containing deposits that buildup and cause the arteries to become narrow, decreasing blood flow to the heart. Over time, the decreased blood flow can cause angina with symptoms of chest pain, shortness of breath, and arrhythmias. Such chest pain can be described as pressure, heaviness, numbness, or squeezing of the chest which could be mistaken for indigestion or heartburn. Although angina is usually felt in the chest, it can also cause pain in the shoulders, arms, neck, or back^{1,2}. A complete blockage can cause a heart attack.

The cause of CAD is thought to begin with an injury to the inner layer endothelial cells of a coronary artery. This injury or damage could begin as early as childhood. Injury to the inner layer of the arteries can occur from smoking, high blood pressure, high cholesterol, diabetes, infections, or a sedentary lifestyle. Once the inner layer of an artery becomes damaged, plaque accumulates at the site of the injury in a process called atherosclerosis. Normal endothelium cells produce anti-coagulation factors such as heparin and nitric oxide to prevent blood clotting formation. However, the injured endothelium cells produce pro-coagulant proteins and pro-inflammatory cytokines which can destabilize the plaque. If the plaque ruptures, platelets clump at the site of injury which can block the artery, leading to a heart attack.



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Mitral valve prolapses

Mitral valve prolapse is one of the most common forms of valvular heart disease in which one or both mitral leaflets are stretched or prolapsed, that balloon back into the left atrium during the contraction of the left ventricle causing heart valve insufficiency. Because the valve is not able to close completely, blood flows back to the left atrium. Such reversed flow can result in thrombi formation in the left atrium causing stroke or infarctions in other places when the thrombi block the blood flow. The structure of the heart valve is similar to joint cartilage and does not contain a blood supply. Mitral valve prolapse is caused by degenerative changes of the mitral valve. Most patients are asymptomatic. A minority of patients may experience palpitations, dyspnea, or atypical chest pain. Patients with mitral valve prolapse or valvular insufficiency are at increased risk for developing infective endocarditis and sudden death caused by ventricular arrhythmias. Stroke or other systemic infarction may occur from an embolism of thrombi formed in the left atrium.

Myocarditis, Endocarditis, and Pericarditis

Myocarditis is the inflammation of the myocardium that affects the heart muscles and the electrical system, reducing the heart's ability to pump, causing abnormal heart rhythms. Inflammatory infiltrates such as lymphocytes, neutrophils, eosinophils, and granulomas have all been identified in these patients. Along with inflammation, there is also necrosis of cardiac myocyte cells.

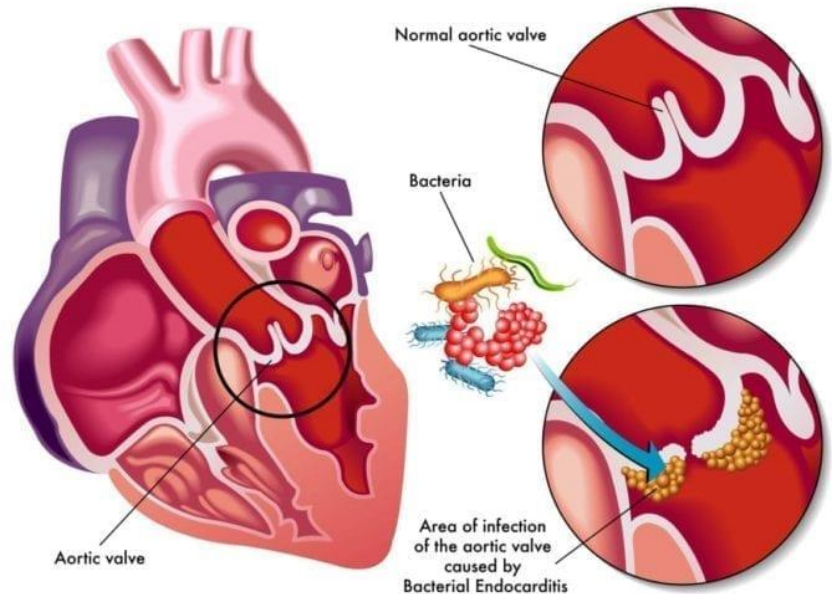
The cause of myocarditis is usually due to a viral infection such as adenovirus, hepatitis B and C, parvovirus, and herpes simplex virus. Although viruses are the most common cause, myocarditis can also occur due to other types of infections such as a bacterial infection, parasites, or fungal infection. Pathophysiology remains a subject of

research but the potential mechanism is that these infectious agents could cause direct cardiomyocyte injury. Chronic myocarditis can cause dilated cardiomyopathy, or an enlarged heart which leads to heart failure.

Symptoms can vary and some patients may not exhibit any symptoms while others may experience heart murmur, shortness of breath, chest pain, and poor sleep. Symptoms of heart failure include fatigue, dyspnea, and edema of the legs and feet.

Endocarditis is the inflammation of the inner lining of the heart chambers and valves, the endocardium. It is usually caused by an infection from pathogenic microorganisms other than viruses that lodge in the heart valves and infect the endocardium. Such microorganisms include bacteria, fungi, and intracellular parasites. These types of pathogenic microorganisms typically spread from the mouth or another part of the body and enter into the bloodstream where they travel to and attach to abnormal or damaged valves or tissues of the heart.

Deformity of the heart valves due to rheumatic heart disease, mitral valve prolapses, and aortic stenosis with uneven surfaces increases the risk greatly because the germs can adhere to the uneven surface more easily. The heart valves are made of cartilage and do not have a blood supply and therefore have poor protection from the immune system rendering them vulnerable to all kinds of infections.



Depending on the virulence of the microorganism, the manifested symptoms usually cover a wide range of symptoms and aren't always severe. Symptoms may develop slowly over time. In the early stages, the symptoms are similar to many other illnesses including the flu or general infections such as pneumonia and many cases go undiagnosed. In acute cases, patients may experience symptoms that appear suddenly including pale skin, fever, chills, night sweats, muscle or joint pain, nausea, decreased appetite, full or pressure feeling in the upper-left part of the stomach. In severe cases, symptoms include swollen feet and legs, shortness of breath, cough, heart murmur, blood in the urine, and broken blood vessels that appear as red spots on the chest or on the whites of the eyes.

Pericarditis refers to the inflammation of the two thin layers of a sac-like tissue that surround the heart, called the pericardium. The pericardium, separated from the heart by a small amount of fluid, holds the heart in place and helps with heart function. In pericarditis, the inflammation can cause the tissue to rub up against the heart which causes chest pain, a common symptom. Pericarditis can be either acute or chronic and can be caused by viral, bacterial, or fungal infections. In reoccurring pericarditis cases, it is usually the result of an autoimmune condition that causes systemic inflammation such as lupus or rheumatoid arthritis.

Other health disorders can also cause pericarditis such as kidney failure or other chronic heart conditions. In these cases, pericardial effusions can occur in which there is a gradual or sudden increase of fluid accumulation in the pericardial sac. The amount of liquid can increase from 30-50mL to as large as 1000mL. Fluid accumulation can cause symptoms of chest pain, lightheadedness, heart palpitations, shortness of breath, coughing, and fatigue.

Arrhythmia – Bradycardia and Tachycardia

An arrhythmia is an abnormal rate or rhythm of a heartbeat. This typically falls under a heart that beats too quickly (tachycardia), too slowly (bradycardia), or has an irregular pattern with missing heartbeat or premature heartbeat. The most common type of arrhythmia is atrial fibrillation (AFib), which causes a fast heartbeat or tachycardia of more than 100 bpm. In AFib, the hearts atria beat irregularly and out of coordination from the ventricles. This causes

symptoms of heart palpitations, shortness of breath, and weakness. The major concern with AFib is the potential to form blood clots within the atria which may then circulate to other organs and lead to ischemia.

Bradycardia is a slowed heart rate of less than 60 bpm at rest. Bradycardia usually occurs due to problems with the sinoatrial node, otherwise known as the heart's natural pacemaker. Problems within the conduction pathways of the heart may also cause a slowed heart rate. Metabolic issues, damage to the heart and certain heart medications can also cause bradycardia. Symptoms include dizziness, shortness of breath, fatigue, chest pain, and heart palpitations.

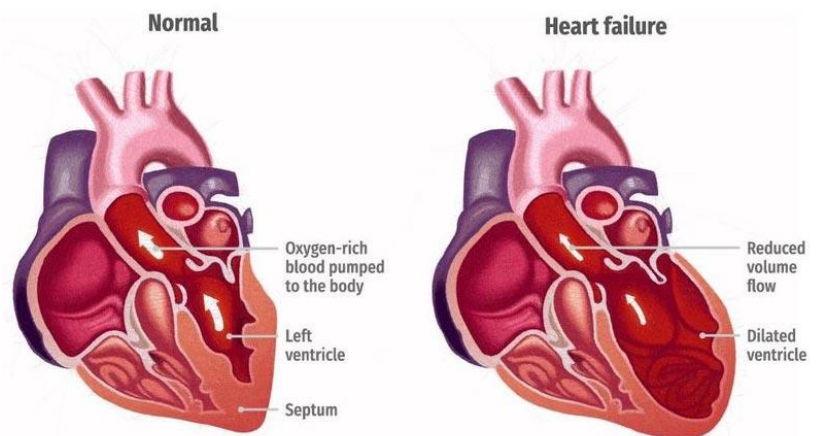


Heart Failure

Heart failure is a condition in which the heart can no longer pump enough blood to meet the body's needs for oxygen and nutrients. There are three main types of heart failure which include left-sided heart failure, right-sided heart failure, and congestive heart failure.

Left-sided heart failure is a result of heart diseases such as heart attack, hypertension, mitral or aortic valve disease, and primary myocarditis. Early-stage symptoms include breathlessness and cough as the blood transudate into the lung causing pulmonary congestion and edema.

As further impairment develops, patients experience dyspnea when lying down because of increased venous return from the lower extremities and elevation of the diaphragm. Symptoms can be relieved by sitting or standing and patients usually sleep while sitting upright. In severe cases, patients may be awakening from sleep with attacks of extreme dyspnea or suffocation.



Right-sided heart failure usually occurs as a result of left-sided failure. Pure right-sided heart failure is caused by pulmonary congestion due to pulmonary disease including COPD, emphysema and pulmonary fibrosis. Symptoms include peripheral edema, portal vein congestion with enlarged spleen and liver, pleural effusion and ascites.

Congestive heart failure occurs when the blood flowing out of the heart slows and blood returning through the veins backs up which causes congestion in the body's tissues. Fluid can eventually collect in the lungs and interfere with breathing, causing shortness of breath. Other symptoms of congestive heart failure include enlarged heart, tachycardia and AFib.

Wellness Recommendation

Coronary Artery Disease (CAD) – CV, B-2, Qi Booster, Myogen

TCM views atherosclerotic plaque as a type of Blood Stasis caused by Qi and Blood deficiency. Wei Laboratories CV Formula helps remove blood stasis and nurture heart Qi and Blood. It helps improve heart blood circulation, reduce blood vessel restriction, remove the atherosclerotic plaque, and repair artery damage. Radix Salviae, an herb used in CV Formula, has been shown to have many cardiovascular benefits including decreasing the development of atherosclerosis. Radix Salviae has the ability to inhibit oxidative stress which disrupts adhesion molecules and prevents low-density lipoprotein from oxidation, which in turn reduce atherosclerotic areas in the abdominal and

thoracic aorta.³ Radix Salviae also has been shown to decrease levels of pro-inflammatory cytokines which decrease the susceptibility of plaque formation. ³ B-2 is also required to help remove toxins from the surrounding muscles due to the dissolving plaque. Without B-2, patients may experience fatigue, muscle weakness, body heaviness, headache, and insomnia since the toxins released from the heart remain in the muscles. Qi Booster is also recommended to enhance middle jiao's Qi and improve blood flow to the upper body. Myogen is also recommended to enhance heart yang and reduce heart inflammation especially for patients who have complications of chronic myocarditis, bradycardia, or pericarditis. Patients should have symptom improvement with 1-3 days of treatment. 4-6 weeks of treatment is required for significant improvement. To prevent the plaque formation in the coronary artery in the future, it is recommended to keep taking the CV Formula at a lower dose after finishing the initial treatment.

Mitral valve prolapses - CV, B-2, Qi Booster, Myogen (Optional: Kardinin)

The wellness recommendation for mitral valve prolapse includes CV, B-2, Qi Booster, and Myogen to help address the valve degeneration. The herbal ingredients in Wei Labs cardiovascular formulas have been shown to have protective effects on endothelial, smooth muscle cells, and myocardial cells.³ Patients can experience symptom improvement with 2 weeks of treatment. 6 weeks to 3 months of treatment is required to have significant improvement and sustained results. If patients also have chronic endocarditis, Kardinin is also required.

Myocarditis, Endocarditis, and Pericarditis – Myogen, B-2, Qi Booster, CV, (Optional: Amber, Kardinin, Anginen, M-2, M-F, Pericardum, Xcel Plus)

The wellness recommendation includes CV, B-2, Qi Booster, and Myogen. Wei Lab's Myogen formula nurtures heart Yang and helps clear cold damp in the heart, and remove the accumulated metabolic wastes in the heart. Used in combination with CV, B-2 and Qi Booster, it helps clear the myocardium, endocardium and pericardium inflammation, improve the strength of the heart and resume the normal heartbeats.

For myocarditis caused by viral infection, Amber is also recommended to clear the virus from the heart. For endocarditis caused by mycobacterial infection, Kardinin is also required to help clear the infection. Radix Astragali, an herb used in Kardinin, has been shown to reconcile impaired myocardial contractile function, a symptom in myocarditis, as well as decrease myocardial inflammation and fibrosis induced by myocarditis. ⁴ Anginen is also required in combination with the Kardinin if there is scar formation in the heart which causes symptoms of angina. For endocarditis caused by gram-negative bacterial infection M-2 is also recommended to clear the gram-negative germs from the heart. For endocarditis caused by fungal infections, M-F is also recommended to clear the fungus from the heart.

If the pericarditis has caused pericardial effusion, Pericardum and Xcel Plus are also recommended. Pericardum helps remove excess fluids as well as the toxins and waste from the pericardial space and Xcel Plus supports the kidneys to secrete large molecular wastes released from the pericardial fluid.

Arrhythmia – Bradycardia and Tachycardia – Myogen, B-2, Qi Booster, CV, Pacekeeping, Millennium, King Formula
In TCM, an arrhythmia is caused by heart Qi deficiency. Wei Lab's PaceKeeping Formula enhances heart Qi and helps the heart muscles contract coordinately. Patients can experience symptom improvement in 1 week. 2-6 weeks of treatment is required to have significant improvement and sustained results.

In TCM, tachycardia is caused by Heart Yin deficiency. Wei Lab's Millennium Formula can help bring the heartbeat to the normal range by nurturing the heart Yin and improving the electrical flows. Patients can experience symptom improvement in 1 week. 1 - 3 months of treatment is required to have significant improvement and sustained results.

In TCM, bradycardia is caused by cold damp accumulation in the heart due to heart yang deficiency. Wei Lab's Myogen formula nurtures heart Yang and helps clear cold damp in the heart and remove the accumulated metabolic wastes in the heart. Used in combination with B-2 and Qi Booster, it helps clear the myocardium and pericardium inflammation, improve the strength of the heart and increase the heartbeats to normal range. CV is also required if there are atherosclerotic conditions. Patients can experience symptom improvement in 3-7 days. 3-6 weeks of treatment is required for significant improvement and sustained results.

For AFib involving heart structure damage including the sinoatrial node, King Formula is also recommended to nurture the sinoatrial node and repair damage.

Heart Failure:

The wellness recommendation for left-sided heart failure and congestive heart failure includes Myogen, CV, B-2 and Qi Booster. Patients can experience symptom improvement with 1 week of treatment. Depending on the severity of the condition, 2-6 months of treatment is required to have significant improvement and sustained results. PaceKeeping, and King Formula are recommended if the patient has atrial fibrillation. Millennium is recommended if the patient has tachycardia.

For pure right-sided heart failure, the pulmonary treatment recommendation includes Soup A, Soup B and LC Balancer. Java is required to improve the lymphatic circulation to lower the burden to the heart. Patients can experience symptom improvement with 1 week of treatment. Depending on the severity of the condition, 2-6 months of treatment is required to have significant improvement and sustained results. If the patient still experiences symptoms of congested heart failure with the Soup and Java treatments, the heart formulas including Myogen, CV, B-2 and Qi Booster are recommended.

Condition	Products
CAD	CV, B-2, Qi Booster, Myogen
Mitral valve prolapses	CV, B-2, Qi Booster, Myogen (Optional: Kardinin)
Myocarditis, Endocarditis, Pericarditis	CV, B-2, Qi Booster, Myogen, (Optional: Amber, Kardinin, Anginen, M-2, M-F, Pericardum, Xcel Plus)
Arrhythmia	Pacekeeping
Tachycardia	Millennium
Bradycardia	CV, B-2, Qi Booster, Myogen
Heart Failure – Left-Sided	CV, B-2, Qi Booster, Myogen
Heart Failure – AFib	CV, B-2, Qi Booster, Myogen, Pacekeeping, King Formula
Heart Failure – Right-Sided	Soup A, Soup B, LC Balancer, Java
Heart Infection	Viral – Amber Myco – Kardinin Gram (-) – M-2 Fungal – M-F

Selected Case Studies

Case 1: Successful Resolution of Emphysema and COPD with Heart Complications

Gregory Lind, DC, Milpitas, California

Dr. Lind had a 69-year-old male patient with very severe lung degeneration. Dr. Lind recommended a protocol consisting of internal treatment for lung regeneration. For the first month of treatment, the patient used Soup A to regenerate lung tissue, Soup B to break down scar tissue in the lungs, LC Balancer to support microcirculation and kidney function as well as Java to support the lymphatic system and help the body in waste removal.

After two weeks, the patient still had not noticed any significant improvement; however, the patient was taking 3 forms of blood pressure medication and was concurrently suffering with gout which indicated a kidney deficiency. Dr. Lind recommend Xcel formula to strengthen kidney function and help the kidneys in balancing minerals. After a few weeks of continued treatment, the patient had shown small signs of improvement. Blood test indicated signs of kidney failure with BUN levels of 40, Creatine at 1.4, GFR at 50 and blood glucose at 120. These results further explained the slow lung progress due to kidney inflammation. Dr. Lind recommended pursuing kidney treatment and taking a break with the lung treatment since the patient would need to improve the kidneys before seeing further

improvement with the lungs. Dr. Lind added Formula C to the protocol to aid kidney support on a cellular level as well as the BI formula and KS formula to rid both bladder and kidney inflammation. After a few weeks, the doctor added Brown Juice to help stabilize the patient's blood glucose levels. After two further weeks of treatment the patient reported that his sole symptom of lung irritation was shortness of breath with no phlegm production and oxygen support at night.

Upon further review of patient's history and overall health condition, Dr. Lind then recommended heart treatment, since the shortness of breath could possibly be related to poor heart function. Congestive heart failure is a common complication of chronic lung diseases and the patient had history of atherosclerosis and bypass surgery. The patient started taking CV to remove blood stasis in the arteries, B2 to support spleen and lymphatic function, Myogen to strengthen heart function, and Qi Booster to improve blood flow to the heart. All products were used at 2/3 the normal dose. After one month of treatment the patient reported that the shortness of breath had significantly improved. The patient is continuing treatment for further results.

Case 2: Successful Treatment of Upper Respiratory Infection with Myocarditis Complication

Ronald Mullen, AP, Stuart, Florida

Dr. Mullen had a 70-year-old male patient with an acute upper respiratory infection. Using his own formulas, Dr. Mullen helped the patient clear the cough. However, the patient experienced low energy, had difficulty breathing cold air, and had edema in the lower legs.

The patient used Soup A to strengthen the lungs, Java to strengthen the spleen, and LC Balancer to improve microcirculation for one and a half weeks but did not see any results. Dr. Mullen examined the heart, and an electrocardiogram showed signs of arrhythmia. Dr. Mullen suspected the patient may have chronic myocarditis or pericarditis since the patient also experienced extreme fatigue.

Dr. Mullen recommended Myogen to strengthen heart function and PaceKeeping at a half dose to support the electrical function of the heart. After just two days the patient had already noticed improvement. Dr. Mullen also recommended Qi Booster to improve blood flow to the heart. Although the patient had experienced improvement initially, they reported that their symptoms were reoccurring. Dr. Mullen recommended a combination of B2 and Qi Booster to clear the waste accumulation that was saturating the muscles surrounding the heart. After two more weeks of treatment the patient reported that he was doing much better and had not experienced any further relapse in symptoms.

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