

Mitral valve prolapse

What is mitral valve prolapse?

Mitral valve prolapse is a fairly common medical problem that is the focus of some controversy and even confusion among both physicians and those who suffer from it. There is at the same time less to it and more to it than at first appears. Mitral valve prolapse is named for a heart valve and is usually first diagnosed as a faint heart “click” or murmur, though it isn’t a form of “heart disease” in any conventional sense. It’s a relatively benign condition, though it is linked to a confusing array of seemingly unrelated symptoms, from shortness of breath to panic attacks. Mitral valve prolapse is generally the most benign of the various types of heart murmurs and is probably genetic in origin. It is the most common valvular disorder in industrialized nations at the present, since the risk of heart murmurs from rheumatic fever has been reduced. Mitral valve prolapse is thought to affect five percent of the population, or nearly seven million people, though the number of borderline cases may be much higher.

What is the mitral valve?

Mitral valve is one of the valves of the heart, whose function is to keep the blood flowing in one direction through the left side of the heart and to prevent backflow of blood when the heart contracts. It’s named for its shape, which resembles a tall bishop’s hat called a miter. It’s made up of two triangular-shaped fibrous membranes, thin but tough, which are attached to strong cords like parachute cords, in turn attached to muscles. When the heart contracts, the two leaves billow up to close off the opening between the upper atrium and the lower ventricle on the left side of the heart. “Prolapse” means that the two leaves are a little loose, a little floppy, so that the valve doesn’t close as firmly as it might. It may close with a faint click, or may permit a tiny amount of blood to leak through, producing a heart murmur.

Though mitral valve prolapse was first identified as an anatomical abnormality of the heart, it’s not simply a heart disease in the conventional sense. Cardiologists are beginning to look at this not as a single variation of heart anatomy, but as a whole spectrum of abnormalities, many benign and harmless, but some troubling. Curiously, most of the abnormalities seem related to an underlying instability of the autonomic nervous system. This is the part of our nervous system that regulates the internal, visceral functions of the body—such as blood pressure, heart rate, sweating, body temperature, gastrointestinal activity and emptying of the urinary bladder.

People with mitral valve prolapse seem somehow to be wired differently. Their autonomic response can be much more volatile and unstable, as if set on hair-trigger, so that normal stresses and surprises set off an exaggerated response, flooding their systems with stress hormones called the catecholamines. In fact, there may not be a specific stressor—autonomic fluxes may occur unpredictably like internal weather changes. In some ways this could be defined as a catecholamine disorder. The principal catecholamines are epinephrine and adrenaline. People with mitral valve prolapse are intermittently and unpredictably awash in their own catecholamines. This leaves them alternately innervated and exhausted—“wired but tired” is a common feeling.

If the sympathetic nervous system of a person with MVP is aroused, they can suddenly feel crushing chest pain, with heartbeat racing and pounding. They may begin to hyperventilate, feel short of breath and break out into a cold sweat. Certain people

with mitral valve prolapse sometimes experience this with no apparent warning or immediate threat. There can be sensations of chest pain, a feeling of doom or detachment, a fear of dying or a desire to flee. If you don't know why this is happening, the symptoms themselves are scary, and the fear of the unknown can prompt an even greater release of stress hormones, driving you into the kind of meltdown of the autonomic nervous system that we call a panic attack. This is an intense, visceral, and scary experience, and the sensations can easily be confused with those of a heart attack. Emergency room physicians see a great number of people who come in believing that they are having a heart attack, when they are actually experiencing a panic attack. Once people experience this, they generally have a persistent fear of having another attack, which puts them on edge, ready to respond to the slightest symptoms by releasing the very stress hormones that induce the panic attacks, thus escalating a new attack.

It may seem odd that all of these symptoms should be somehow related to a heart abnormality. In fact, it's not that the mitral valve abnormality causes these other symptoms, but it is a physical trait that is a marker of the underlying condition. The valve abnormality was spotted first, and is the name given to the syndrome, but we are now beginning to be able to identify the underlying problem that is manifested in other ways than the heart murmur. The good news is, once we've identified it for what it is, we can effectively manage the condition, and the symptoms.

What are the symptoms of mitral valve prolapse condition?

Instability of the autonomic nervous system can cause or influence a dizzying variety of seemingly unrelated symptoms and conditions, affecting many different systems of the body. These include:

- Migraine headaches
- Dizzy, spacey feeling
- Difficulty concentrating
- Balance problems, vertigo
- Insomnia, sleep disturbances
- Hyperventilation, shortness of breath
- Palpitations of the heart, skipped or irregular heartbeat
- Panic attacks, with pounding heart beat
- Phantom chest pain with no apparent physiological cause
- Hypersensitive startle reflex
- Cold sweats
- Cold hands and feet
- Numbness or tingling in the fingers or toes
- Bowel urgency, diarrhea, constipation
- Sensitivity to drugs, including alcohol, caffeine and medications. (Caffeine prevents the natural absorption of catecholamines, so that they linger in the body. Caffeine and theobromines in chocolate are related to medications used to treat asthma, which work by inhibiting the absorption of catecholamines.) People with mitral valve prolapse are especially sensitive to all kinds of drugs and medications.

Various systematic health problems and imbalances can act as triggers that set off

or amplify the autonomic instability. These include:

- Hypoglycemia
- Adrenal instability, with hyperactivity followed by adrenal exhaustion
- Hypothyroidism
- Chemical sensitivities
- Food reactions
- Fluctuating sex hormones, especially estrogen, causing worsened symptoms of PMS and menopause
- Magnesium deficiency

Who has mitral valve prolapse, and how is it diagnosed?

Women are far more likely than men to be diagnosed with mitral valve prolapse and, oddly, there is even a typical body type. The typical profile is a slender young female with long, tapering fingers and a model's figure. Men can have the condition, and people with a different physique, but the majority of the mitral valve prolapse patients I see fit the standard profile.

People often arrive in my office in a state of panic and confusion, either with or without the diagnosis of mitral valve prolapse. I can offer these people a lot of mental comfort. When I tell them, "sure, I see this all the time in mitral valve prolapse people," they greet this with complete amazement and relief. It's no longer "in their heads," no longer their isolated burden. They ask, "You mean all this stuff is to be expected?" And I assure them it is.

The diagnostic process

We currently have a high-tech system for evaluating conditions that cause heart murmurs, called echocardiography. But in the days before echocardiography, listening to the heart was quite an art. Doctors would listen to it or "auscultate" it directly with the stethoscope. By evaluating heart sounds at different locations on the chest and back, and whether they were stronger here or weaker there, they would come up with a diagnosis of a particular kind of heart murmur. Now the diagnosis can be confirmed by taking an echocardiogram, which uses ultrasound to give you a picture of the chambers of the heart.

Multiple chemical sensitivity and MVP

In the new field of environmental medicine we are identifying a type of patient we call a "universal reactor." This is a person who appears to be reacting with hypersensitivity to many environmental influences, including food additives, chemicals in the environment, dry cleaning chemicals, smells from plastic or vinyl, or the detergent aisle in the grocery store. These stimuli can set off a cascade of distressing reactions. Conventional medicine views this as a delusional state, and suggests that these people are becoming phobic to foods or smells, and suffering from depression or panic disorder.

A more enlightened view is that these patients have suffered various environmental insults, such as living or working in an unventilated space with overwhelming paint or new carpet fumes, which have triggered their multiple sensitivity. People with mitral valve prolapse may have an underlying susceptibility to environmental stimuli that helps trigger this condition.

Diagnosis and follow-up

One of the worst results of making the diagnosis of mitral valve prolapse is that people become very apprehensive about their hearts, since they don't completely understand the syndrome. They will often tend to avoid exercise, because they are afraid of some kind of reaction from their "weak heart," when actually proper exercise is what they really need.

"Preventive" antibiotic treatment

One treatment that's universally pressed on people with mitral valve prolapse is preventive or prophylactic antibiotic treatment. The typical setting is the dentist's office. You go to see a new dentist, and you conscientiously check off the box for heart murmur on the questionnaire that's handed you. The dentist then refuses to do any work on your teeth unless you take a course of antibiotics and will repeat this every time you have a dental procedure.

Why the concern? Some heart murmurs and valve implants are associated with some increased risk of a bacterial infection of the heart, called endocarditis. It's a devastating disease that before the antibiotic era usually led to death and even now normally requires a six-week course of very powerful intravenous antibiotics.

The fact is that there is a very, very slight statistical increase of rates of endocarditis in people with mitral valve prolapse. It's barely statistically significant, something like four cases per one million dental procedures, but it's enough to scare the whole medical and legal system into decreeing that everyone with the condition needs prophylactic antibiotics in a variety of situations. So these people tend to get bombarded with antibiotics. As a result, they often have some of the predictable side effects, including disruption of the intestinal flora, candida infection. And ultimately the antibiotic overuse will aid the spread of antibiotic-resistant bacteria.

Now, if someone has a serious heart murmur of a different type or a heart valve replacement, there is some justification for the prophylactic antibiotic treatment. But in my opinion, this is not required for most people with mitral valve prolapse. It should only be necessary in the most pronounced cases, where there is a clearly diagnosed backflow (regurgitation) of blood through the heart.

Recent studies confirm that antibiotic treatment for mitral valve prolapse patients is neither cost-effective nor useful. One suggests that the risk of endocarditis is lowered from four in one million to 1.8 in one million, which is about equivalent to the risk of a fatal penicillin reaction to the antibiotic. The studies agree that antibiotic treatment should be limited to those with murmurs.

What are the alternative treatments?

The good news is that there is a whole array of "natural" therapies for people with mitral valve prolapse, which can help alleviate the multiple symptoms. They range from behavioral therapies to diet modifications and nutritional supplements.

Cognitive therapy—This is the basic ground for the holistic approach to mitral valve prolapse. It's important for everyone with this condition to seek out a sympathetic or holistic physician who can clearly explain the variety of possible symptoms, confirm that they are not imaginings or hypochondriasis, and provide a program of treatment. If you understand clearly what is happening, you can learn ways to block the feedback loops that can lead to panic attacks or hyperventilation, and break the cycle. By performing a "reality check," you can learn to break the conditioned

response you have acquired to your own physical symptoms.

There are a number of books that can help you with meditation and relaxation techniques, and there are centers at some hospitals and clinics that offer courses of instruction. Many people find they benefit from taking yoga classes, which combine peaceful relaxation with physical stretching. Dr. Herbert Benson, founder of the Mind-Body Institute of Harvard Medical School and Deaconess Hospital, has written a useful book on these techniques called *The Relaxation Response*.

Exercise—Mitral valve prolapse is not at all the sort of “heart condition” that should make anyone apprehensive about engaging in exercise. In fact, exercise is one of the best therapies we have for deconditioning learned sensitivities and relieving neurological symptoms. Studies have shown that people who engage in regular aerobic exercise report a decline in symptoms of chest pain, fatigue, dizziness, mood swings and panic attacks.

Diet—Proper diet is essential to stabilization of MVP symptoms. Avoidance of stimulants, sugar, and artificial flavoring agents like MSG and NutraSweet are mandatory. The effects of hypoglycemia must be blunted with frequent small meals and interval snacks; complex carbohydrates may be combined with protein to avoid precipitous rises and falls of blood sugar. Adequate hydration with plenty of liquids maintains blood volume to counteract low blood pressure and “wooziness.” Moderate salt intake is usually encouraged to stimulate adrenal function.

Nutritional therapy—There are several key nutrients that can affect the underlying causes of mitral valve prolapse symptoms.

Magnesium is probably the most significant of these. **Magnesium** deficiencies are associated with migraine headaches and are common in people with epilepsy and mitral valve prolapse. **Magnesium** seems to affect everything from breathing patterns to reflex muscle tension. Oral dosage: magnesium oxide or **magnesium citrate**, 150-200 mg. two-three times daily. Diarrhea is a possible side effect.

L-carnitine is an amino acid that acts as a shuttle for fat that is required for cellular metabolism. It can be used as a “cellular equalizer” and also acts to strengthen the heart. Dosage: 500-1,000 mg. two-three times daily.

Acetyl-l-carnitine is a related nutrient that may be more bio-available. Dosage: 120 mg. three times daily.

Coenzyme Q10 appears to improve disturbed bioenergetic function at the molecular level. **Coenzyme Q-10** enhances pumping action of the heart, output of blood, speed of heart muscle contraction and general cardiac efficiency. It also may prove helpful for patients suffering from profound fatigue. Dosage: 60-120 mg/day.

Several of the **B vitamins** can help with symptoms of mitral valve prolapse. Among other things, they can reduce high levels of lactic acid in the blood that are associated with anxiety and panic attack. Alcohol, caffeine and sugar all contribute to higher lactic acid levels, and the **B vitamins** niacin and thiamin can help reduce them. Dosage: **vitamin B1 (thiamine)** 100 mg./day; **vitamin B3 (niacin)** 50 mg./day.

Vitamin B6 (pyridoxine) can favor the production of higher levels of the neurotransmitter serotonin in the brain, which are relaxing and sedating. (Prozac and Prozac-like drugs are prescribed to achieve the same effect.) Dosage: 50 mg./day.

Inositol is another B vitamin that acts as a calming agent. Dosage: 3-6 grams/day.

Natural relaxants—Kava (*Piper methysticum*) belongs to the pepper family. Kava has been shown in therapeutic doses to be useful in dampening the symptoms of anxiety, without risk of dampening alertness or of addiction. Dosage: 100-200 milligrams of the standardized preparation of kava lactones per day.

Valerian (*heliotrope*), calms the central nervous system, relaxes muscle tissue and is effective for insomnia, with no morning-after effects. Dosage: Valerian is commonly available in capsule form or as an infusion. For acute conditions, 2-10 ml. tincture of valerian up to every two hours.

Hops can be helpful in calming nervous excitement, and treating hysteria and insomnia. Dosage: .5-1 gram of powder or 2-4 ml. tincture as needed.