“Palpitations”

explained by:

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PALPITATIONS

Palpitations are very common complaints in the old and young alike. So we will be speaking the same language, let’s define what palpitations actually mean.

Palpitations stand for the presence or the sensation of an irregular heartbeat, skipped beats or a racing heart without provocation. Note we said sensation. Please understand that it is normal to feel your heart beat hard after doing strenuous exercise. After some rest, however, the heavy beating should subside.

If you are in your late teens or early twenties or thirties, then anxiety and panic attacks are frequent causes of palpitations. To be certain, however, you might have to wear a monitor of your heart rhythm. If you know how to check your pulse, if it is regular and less than 120 beats a minute and you are young, it is likely anxiety.

Anxiety and panic attacks do not explain all palpitations, however, so we will focus on the more organic causes of palpitations. The list is not going to be complete, but it will be a very good overview of the causes of palpitations.

We will cover the more frequent, but less ominous causes of the sensation of a rapid heartbeat or palpitations. The most common causes of palpitations are premature ventricular or premature atrial contractions.

Premature ventricular contractions, as the term implies, are heartbeats that occur early, hence the word premature, and they originate in the lower half of the heart, in the ventricular area. Premature atrial contractions are early beats that originate in the upper half of the heart within the right or left atrium. The patient cannot distinguish between the two. To distinguish between PVCs and PACs, an EKG will have to be performed while they are happening, or a heart monitor will have to be worn.

Isolated PVCs (or premature ventricular contractions) generally are harmless. In some cases, isolated PVCs can be the harbinger of something more serious, but that is the exception, not the rule. Isolated premature atrial contractions (also called PACs) are usually harmless. Premature atrial
contractions and premature ventricular contractions that run together in a short or long sequence are generally not as benign and need attention. Either of these early beats can be caused by alcohol or caffeine or nicotine, decongestants, and some other medications of which the list is long.

It is the rare individual that does not note a skip of a heartbeat every now and then, sometimes even on a daily basis. In either case, whether the early beats or fast beats come from the upper part of the heart or the lower part of the heart, if they run together they become more serious. Isolated events are typically not serious. We will now focus on the upper half dysrhythmias and then the lower half dysrhythmias.

**Upper half dysrhythmias** (early beats that occur in the two atria) in their simplest form occur as isolated premature atrial contractions. Alcohol, tobacco, nicotine, stimulants, and untreated sleep apnea can precipitate these. Also, electrolyte disorders such as low potassium or low magnesium as a result of diuretic pills used to treat hypertension or high blood pressure, can cause these. Too much caffeine and/or alcohol are the most common culprits. Too much thyroid hormone, called hyperthyroidism, can trigger them. Anxiety and panic attacks can also make them worse. Of course, if you are older and have high blood pressure, heart disease or known clogged or leaky heart valves, these issues can cause abnormal heart rhythms.

If the premature atrial contractions occur at an inappropriate time, this can stimulate atrial flutter, which is an electrical short circuit in the upper half of your heart that results in heart rates of approximately 150 beats a minute that are sustained from seconds to minutes to hours to days to weeks if there is no intervention. If you have a spell of a rapid heartbeat of about 150 beats a minute that does not go away, and you are short of breath, then a trip to the hospital might be the wise option. If it lasts for seconds, you can probably wait to see your doctor the next day. Your doctor will then check all your blood chemistries and do the appropriate monitoring of your heart rhythm. If you have atrial flutter, you will probably need to be referred to a cardiologist. Please realize that all patients with atrial flutter do not have a heart rate of 150 beats a minute. Some have higher rates, and some have slower rates. Every patient is an individual.

Sometimes PACs can trigger atrial fibrillation. This is a condition in which the upper half of the heart develops electrical chaos, and it quivers like a bowl full of jelly and bombards the lower half with too many electrical impulses, causing the lower half to beat unpredictably and usually entirely too fast. Though many people can sense this or feel it, some cannot. This would have to be diagnosed by
wearing a heart monitor or having the symptoms when you are in the physician’s office while an EKG is run. If you have atrial fibrillation, you will likely need to see a cardiologist to pinpoint the cause and to discern a treatment protocol that is appropriate for your particular situation.

Other dysrhythmias that occur in the upper half are called **AV nodal reentry tachycardia**. This is where an electrical short-circuit is formed in the mid-section of your heart, between the upper and lower chambers. This generally results in periodic heart rates between per **160 and 190 beats minute, and sometimes faster**. Sometimes maneuvers, such as straining, or submerging your hand, or face, in cold water can break these rhythm abnormalities. These symptoms tend to come and go. They are also triggered by stimulants such as caffeine or alcohol, untreated sleep apnea, or untreated hypertension. Many people with this disorder have family members with the same. The condition is caused by an additional electrical wire you were born with and can usually be fixed with medication or other means.

Be advised that any of the dysrhythmias that we are speaking of can be brought about by the presence of **congestive heart failure**, whether systolic or diastolic, and the presence of **valvular heart disease**, all of which can be diagnosed by a simple **echocardiogram**. They can also be precipitated by the presence of a **pulmonary embolus** (which is a blood clot that usually dislodged from the legs and went to the lungs) or precipitated by the presence of **unknown blocked arteries of your heart or a heart attack** or an impending heart attack. Note that these are rare, but they do occur, and you need to be aware.

Palpitations associated with chest pain should lead to a trip to the emergency room to be on the safe side. Sporadic palpitations that do not last long can generally wait until an office visit, provided the office visit can be obtained rather quickly. Blood work should be done at that visit to check your thyroid and your electrolytes. Obviously, an EKG will be obtained and you may or may not wear a heart monitor. An echocardiogram will be done at the discretion of your physician and a cardiology referral the same.

Palpitations that occur as a result of irregular heartbeats in the **lower half** of your heart will now be addressed.

The simplest of these are isolated **premature ventricular contractions**, usually called PVCs. **If they are isolated and rare, they are usually of little concern**. PVCs that run in sequence, either in short bursts or longer bursts, are called **ventricular tachycardia**. This can be the harbinger of intrinsic heart
disease, whether congestive heart failure, valvular heart disease, or blocked arteries of the heart, commonly referred to as ischemic heart disease. This can be diagnosed through various tests including a stress test, stress echo, or nuclear stress test, or worst case scenario, a heart catheterization. Be advised that toxic agents mentioned above can play a role also.

Untreated sleep apnea can make heart rhythm issues worse. Sleep apnea tends to occur in patients who are overweight or are on replacement therapy for low T, or can even sometimes occur in thin individuals. A spouse normally will complain that the other one snores quite a bit during sleeping and might note that they quit breathing while sleeping. The patient is generally very sleepy during the day. Untreated sleep apnea is not only unhealthy, it is potentially very dangerous.

Anxiety and panic attacks can cause symptoms very similar to palpitations. Please, if you have anxiety and panic attacks, understand that does not always mean you do not have a heart dysrhythmia. The odds are that the heart dysrhythmia is not life-threatening and is treatable, if it needs to be treated.

Generally, we treat isolated PVCs with lifestyle changes after we have done a thorough investigation for the presence of underlying heart disease. If this fails, we usually add a blood pressure medicine called a beta blocker. Many patients get on magnesium supplementation if indicated and potassium supplementation if the serum potassium level is low. This is particularly true in hypertensive patients who are on diuretics to control the hypertension. Certainly, any abnormalities in thyroid function hormone production should be addressed and corrected.

Palpitations associated with passing out or dizziness are particularly worrisome and will require very quick attention by your personal physician. If you happen to have palpitations and pass out, call 911 or go immediately to the hospital, whichever is the quickest.

Also note that as congestive heart failure progresses, the risk of ventricular dysrhythmias, in the form of ventricular tachycardia or ventricular fibrillation, increases. If you have congestive heart failure and your ejection fraction, which is a measure of how well your heart squeezes, is very low, then you likely need to be evaluated by a cardiologist for the need to implant a defibrillator. Please be advised that though many defibrillators are implanted in the United States every year, if you just have rare palpitations, you will probably not need one of these unless your heart function is moderately severely poor.
There are other causes of palpitations including Wolff-Parkinson-White syndrome, where there is an additional electrical connection between the upper and lower chambers of the heart. A cardiologist or your primary care physician can make this diagnosis usually by looking at your EKG. This will require careful planning of a treatment modality because of the complexity of this illness. Please realize that many patients with Wolff-Parkinson-White can be cured by radiofrequency ablation procedures that are somewhat complex and will come under another heading in a different talk.

In summary, most palpitations are benign, but some of them not so benign. They occur in the upper half of the heart or the lower half of the heart, or in between, within the AV node. They can be of brief duration, isolated, or run in long sequence. Sustained fast heartbeats that go at a rate well greater than 100 beats a minute could be the harbinger of something systemic or intrinsic within the heart muscle itself. These will need to be addressed very quickly by your physician, and perhaps a cardiologist. Anxiety and panic attacks are real and can mimic symptoms of palpitations. Generally, this situation needs to be diagnosed through wearing a heart monitor and is more of a diagnosis of exclusion. Treating the anxiety and the panic disorder usually mitigates the palpitation symptoms over time.

If you have PACs or PVCs or any dysrhythmias, we encourage you to steer clear of alcohol, tobacco, caffeine, and stimulants. We also encourage you to get your blood levels checked for thyroid hormone and electrolyte deficiencies, particularly potassium and magnesium. You will also need an evaluation for the presence of hidden cardiovascular disease in general, though oftentimes no disease is noted.

Palpitations are a very common symptom that primary care physicians and cardiologists see on a daily basis. The majority of people with them have benign issues that cause no long term consequence. If you do have a more ominous type, your doctor will likely make the appropriate diagnosis and get your situation improved one way or another.

We hope you found this information very useful. As a parting statement, if you are overweight and have untreated sleep apnea, we encourage you to get that treated, as we have seen many causes of palpitations completely abate with properly treated sleep apnea and lifestyle changes.