

Welcome to this lesson today on cardiovascular disorders and health. Today we will be discussing various different cardiovascular disorders, factors that can affect cardiovascular health, and then treatment for some of these types of disorders. So we're just going to briefly go through this list here on different types of disorders. So the first type of disorder we're going to discuss is arterial sclerosis, which is basically just the hardening of arteries, which can lead to atherosclerosis, which is blockage in the arteries.

An aneurysm is another type of cardiovascular disorder, in which a weak spot on an artery can burst and cause blood loss. So sometimes there'll be a weakened spot on this artery. And when too much pressure builds up on it over time, that spot will burst. And then blood will leak out of that vessel. Heart attack is the next type of disorder we're going to discuss, which is just damage to the heart muscle leading to less blood being able to flow to the heart, and therefore the heart receiving an insufficient amount of oxygen, and therefore not being able to function properly. So that's what a heart attack is. Part of the muscle becomes damaged. Blood isn't flowing to it as much as it should be. Less oxygen is going to the heart. And therefore, the heart cannot function properly because muscles need oxygen in order to be able to function.

A plaque is a mass that will clog an artery, formed by the buildup of cholesterol. And we'll discuss cholesterol in just a moment here. But basically, it's this mass that will build up in an artery and clog that artery. So therefore, blood is not able to flow through the arteries freely because of that clog. A thrombus is a clot that forms and sticks to a plaque. So you'll have a blood clot that will form and then will stick to that plaque. And again, this is not allowing blood to flow as freely through that vessel as it should be able to. And if blood isn't flowing the way that it should, it's not delivering the oxygen to the tissues that need it.

An embolus is kind of tied with thrombus a little bit. It's a clot that forms at the site of a plaque, but then rather than sticking to that plaque and staying there, it will float off throughout the bloodstream. And this can also be very dangerous. Because as it's floating through the bloodstream, it could get caught in another vessel somewhere and then block flow of blood to vital organs. If it blocks the flow of blood to vital organs, those organs aren't going to get the oxygen they need. And then those organs could eventually shut down, which can be extremely dangerous. An embolus could lead to something like a stroke, for example, which is where the clot blocks the flow of oxygen to the brain.

So high cholesterol is when blood is too high in low density lipoproteins. So this is basically just another word for bad cholesterol. So doctors can actually draw your blood. They can measure the amount of bad cholesterol in your blood. And if that cholesterol is too high, you have a condition known as high cholesterol. So basically, the reason why this is bad is because it can build up in artery walls. So this fatty cholesterol will build up in artery walls

and clog those arteries, leading to those arteries, or those vessels, not being able to deliver oxygenated blood to tissues or organs as efficiently as they should be able to. OK.

So different things, various lifestyle choices, the foods that you eat, how often you exercise, and also genetics and other lifestyle issues come into play here, determining how at risk you are for some of these different disorders here. So we're going to take a look at some of the treatments for blocked arteries. And I think these two are actually extremely interesting. Coronary bypass is one treatment for blocked arteries. And basically what happens in this type of treatment is that a section of the artery is stitched to the aorta and to the artery below the blocked area.

So let me give you a little bit of a visual here. Pardon my drawings skills. OK. So we're going to pretend that this is the heart and this is our artery. Let's say that we have these vessels running through like this. So let's say we have a block in our artery right here. Let's say we have a big block in our artery right there. So what is going to happen is that a section of the artery is going to be stitched, like it says here, to the aorta and to the artery below the blocked area. So we're going to have basically just a bypass, as the name says.

So what's going to happen is part of the vessel is going to be stitched up here to the aorta. And then that way blood will be able to go through this part of the vessel. And it will bypass where that clog is. So rather than the blood flowing here, it's going to flow here. And it's going to bypass that clog. So it can still get to the rest of the vessels and then still be delivered throughout the body, wherever it needs to go.

Balloon angioplasty is another example of a treatment for blocked arteries. So what is going to happen here is that a balloon is inflated inside the artery. And what that does is it opens up the artery. And it will help to flatten the plaque so it takes up less space in the artery, and blood can flow more freely. So if we're to take an example, let's see, of this one. Let's pretend that this is our vessel. And we have this plaque that's building up inside. OK. So you'll notice that blood has limited space by that plaque to go by. So it's going to slow the flow of blood. And blood's not going to be able to deliver oxygen as efficiently as it would.

So then what's going to happen is a balloon would actually be inserted into the artery and then inflated. Now as that balloon inflates, it's going to push up on that plaque. And it's actually going to cause that plaque to become compressed. So then what it's going to look like after that is maybe something like this. So they'll insert that balloon in. They'll inflate it. And then as the balloon inflates, it's going to press on that plaque and eventually flatten it down. So you're not eliminating the plaque, but you're flattening it or compressing it so that blood can flow a little bit more freely. And also sometimes stents are used in order to make sure that the vessel will stay open with a balloon angioplasty process.

So this lesson has been an overview on various cardiovascular disorders and on cardiovascular health.

