## How I slow down my heart rate

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## Help your heart

One very common health concern for people, is a fast heart rate. Our hearts are built to race at times, when we're excited or stressed. That gets ample oxygen to our cells and keeps our bodies going. But we don't always want our hearts to go a mile a minute.

In the short-term, a racing heart is not necessarily cause for concern. But chronically, over the long-term, an elevated heart rate can do a job on your system, so it's worth finding ways to address this kind of situation.

The heart is what keeps us going. It takes care of us, so we have to take care of it. And sometimes our hearts need a little help.

## Why do our hearts race?

Our hearts can begin to pound when our bodies need more oxygen - when we're being chased, or we're chasing something or someone. Sexual activity ups your heart rate, as does getting bent out of shape over something that's happened.

Stress raises the heart rate, as adrenalin and its hormonal relatives course through our system All Systems Go! Sometimes this is good. Other times, it's not necessary. Oftentimes, it's just habit that gets us going - we're accustomed to getting worked up over matters at work or at home, and our systems switch $\mathbf{O N}$, because we've trained them by habit to respond in that way.

Tachycardia (pronounced tacky-CAR-dee-uh) is the official medical term for a faster than normal heart rate. According to the Mayo Clinic*, if you have tachycardia, the rate in the upper chambers or lower chambers of the heart, or both, are increased significantly. Our heart rate is controlled by electrical signals that get transmitted through heart tissues. Tachycardia can occur when there is an abnormality in the heart which produces rapid electrical signals.

Sometimes, tachycardia doesn't have any unusual symptoms or complications. Unfortunately, it can interfere with your heart's normal function and increase your risk for conditions like cardiac arrest or stroke.

Depending on your situation, a higher than normal heart rate can mean a number of different things. It can be annoying or it can be alarming. It can mean that you're just excitable, or it can mean that there's a serious problem. Remember, only a qualified medical professional can tell you if your heart racing is tachycardia or a serious medical condition, so if your heart rate is elevated, and it's a concern to you, see your doctor as soon as possible.

* See http://www.mayoclinic.org/diseases-conditions/tachycardia/basics/definition/con$\underline{20043012}$ for more details


## My Story

I have a history of a wildly elevated heart rate. It's been happening to me, ever since I was a teenager, and it has usually been during times of high stress. I have worked in fast-paced workplaces for over 20 years, and all that racing around takes a toll on you, after a while. Many times, I have woken up to my heart racing a million miles a minute - I felt like it would leap out of my chest. My whole body would pound along with my heart - BAM! - BAM! - BAM! and it felt like I was running for my life while being chased by an angry rhino... a hungry cheetah... and my in-laws.

That's a terrible way to wake up.
I also have plenty of experience with this happening before I go to bed. Something about going to sleep at night just doesn't appeal to me. I often feel as though there is a lot that's been left undone, and I start thinking about everything I have to do in the morning, and then - whammo the heart starts racing, and ... we're off.

That's a terrible way to get ready for bed.
Additionally, I have had plenty of experiences where my heart would just start pounding for no apparent reason. I will just be sitting on the couch after dinner, watching t.v. ... or sitting in my cubicle at work, composing an email... or driving down the road, to or from work... or even finishing up a workout that left me feeling great... and my heart will suddenly leap into action, like it thinks the rhinos and cheetahs and in-laws are coming. They're not... but for some reason, my heart thinks they are.

This can happen to me at just about any time.
And it's a terrible way to live your life.
I actually have a little bit of a heart murmur (no big deal, according to my doctor), so that makes managing my heart rate even more important to me. In any case, being at the mercy of my racing heart is not my idea of a good time, so I've had to find something that works for me and gets my heart rate under control.

## My Solution

Fortunately, I have a technique that works. Many years ago, I actually learned how to slow my heart rate from pounding a mile a minute to a beating at a regular pace.

Back in high school, when I was training for track and field, after a particularly hard workout, my heart would feel like it was beating out of my chest. It was pretty disconcerting. I actually felt ill when it was happening. So I had to do something.

Here's what I did:
First, I tried slowing down my breathing, but my heart would still race, and my body would feel like it was starving for air. That's a terrible feeling. I felt like I was drowning and would start to panic. So, I'd start breathing heavier again, and my heart rate would stay elevated.

Then I tried taking in a deep breath and holding it... But for some reason, that just made it beat even harder. Yikes! I have been told, that is because inhalation is linked with the sympathetic nervous system, which is all about pumping up your system and getting it going on overdrive with adrenalin and fight-flight-freeze responses. Taking a deep breath seemed to activate the very thing I was trying to calm down.

Then I tried exhaling completely, and holding my breath for a count of 3-5, or as long as I could hold it.... then slowly inhaling... and then exhaling and holding it for as long as I could count. The exhalation is what worked for me.

It can be uncomfortable to hold my breath, while my entire body is screaming out for OXYGEN! MORE OXYGEN!!, but if I exhale completely and keep myself from inhaling for a count of $1 \ldots$
2... 3... 4... 5... and then inhale very, very slowly, that's what does the trick.

I just need to hang in there. And convince my panicking mind that I'm not going to suffocate while I'm doing this.

## Why It Works - Some Explanations

I've come across a number of other people talking about the mechanics behind this technique. There are two different explanations that I've found, both of which work for me.

## 1 From Fight-Flight to Rest-Digest

As I've said, my elevated heart rate usually coincides with times of intense stress - when my fight-flight wiring is all-systems-go, and I'm barreling through life a mile a minute. We've all been there. It's how a lot of us live, each and every day. But it can take a toll. And in my case, it can lead to my heart pounding out of control. So, if I can manage to take the edge off my fightflight response, it can help my heart not have to race so often.

According to Coherence and The New Science of Breath (see
http://www.coherence.com/science_full_html_production.htm)
Parasympathetic (rest and digest) nervous system activity is related to:

- exhalation
- bronchi (lungs) constriction
- carbon dioxide transferring out of the bloodstream
- decreased heart rate
- reduced arterial pressure and blood flow
- arterial relaxation and elastic contraction

And Sympathetic (fight-flight-freeze) nervous system activity is related to:

- inhalation
- bronchi (lungs) dilation
- transferring oxygen into the bloodstream
- increased heart rate, arterial pressure, and blood flow

These two systems are complimentary, so when we do things that strengthen one, we balance out the effects of the other. Too much of either one without the other is unhealthy. It can make us sick.

The Parasympathetic and Sympathetic nervous systems also both affect and are affected by the functions of our bodies, some of which we can control ourselves. Like our breath. So, we can actually get our systems to calm down - or speed up - by changing our breathing.

So, if I'm feeling stressed and on edge and in a fight-flight state of mind, by changing my breathing and activating my Parasympathetic nervous system, I can take the edge off my Sympathetic response.

It works the other way, too. If I'm feeling a bit too rest-and-digest-y, speeding up my breathing causes my Sympathetic nervous system to kick in and all systems come online in an alert state.

We're all walking around in biological feedback machines. Our bodies respond to what we do, and we do things in response to what our bodies send back to us.

## 2 The Body Keeping Itself Going on Less Oxygen

Additionally, I've learned from a freediver (the intrepid people who go diving without oxygen tanks and learn to hold their breath underwater for as long as 11 minutes at a time) that when you hold your breath, your heart rate will necessarily lower, "because its a defense mechanism to prevent hypoxia (critically low blood oxygen). As your blood oxygen level is lowered, your heart rate will slow in order to conserve what little oxygen you have left." (See the comments section at http://brokenbrilliant.wordpress.com/2010/04/02/how-i-learned-to-slow-my-heart-rate/)

I checked out a freediving website (http://www.impulseadventure.com/freedive/) and learned that holding your breath causes your body to slow the heart rate, so that it doesn't use up all the oxygen. It also shunts blood away from the extremities so the brain still has enough oxygen and does not kill brain cells.

On the site, they show a graph that shows how the heart rate decreases over the course of a 5:30 minute breath hold (which seems superhuman to me), then increases with the inhalation... and then decreases again to even lower than it was during the prior breath hold. I encourage you to check out the graph at http://www.impulseadventure.com/freedive/ -- it's very interesting.

## 3 The Best of Both Worlds

But all the science aside, based on my experience, focusing on exhalation and holding my breath after breathing out is what helps me slow down my heart rate.

## To recap, here's what I do, step-by-step:

## 1 Exhale slowly...

2 Hold my breath and count to 3 or 5 ... or as long as I can go...

## 3 Don't panic.

4 Slowly inhale...
5 Hold my breath for a little bit, till my panic subsides...
6 Exhale slowly again, and repeat the count to 3 or 5...

## 7 Keep doing this until I feel my heart slow to a normal rate usually within a few minutes

If I keep doing that, I can slow my heart rate from pounding a mile a minute, to a regular thump-thump-thump. Sometimes I've done it in the space of a few minutes. Sometimes it takes me longer. It's pretty cool when that happens and all of a sudden, my heart just switches over to a normal steady beat. It feels a little strange and unexpected, but it's also very reassuring.

I can't guarantee it will work for everyone, and please don't take chances with your health and safety if you have cardiac/respiratory issues. See a doctor, if you have a health concern don't just take my word for it.

But I do want to share what I've learned for others like me. It just might help.
Nowadays, I have far fewer episodes of a racing heart beat than I did before, but I still use this sometimes - and it works for me. Like a charm.

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