

TV and Movies

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From Superhero To Superfoods: Chris Hemsworth Explores How To Be Superhuman In "Limitless"

Chris Hemsworth may look like a picture of health, but like the rest of us, he's concerned he's not doing enough to keep his body and mind running into old age.



by **Rhianna Campbell**
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***Limitless* with [Chris Hemsworth](#) recently landed on Disney+.**



Monica Schipper / Getty Images for National Geographic



The show sees Chris being put through a series of taxing challenges to explore a variety of techniques that experts say could help us live longer, healthier lives. I learned a lot from the show, and will definitely be trying some of the techniques in a bid to keep my body running smoothly.

That said, the show does feature high-risk activities and health plans that are done under supervision and in consultation with medical professionals, so definitely check in with your doctor before making any major changes to your lifestyle.

So, what were my takeaways from *Limitless*? Well, let me take you on a journey through what I learned in each episode. Needless to say, spoilers ahead!

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Episode 1: "Stress-Proof"

Working with stress psychologist Modupe Akinola, Chris works through a series of tasks designed to test his brain and body, equipped with the new skills he's been taught to combat stress.

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1. Despite our remarkable evolution, our stress system still thinks like our ancestors did.

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According to *Limitless*, when the brain senses something stressful, it's like a switch is flipped inside of us. Our nerves send our whole system into overdrive, triggering a flood of hormones into the bloodstream. Our breathing speeds up and our hearts start racing — we feel on edge, uncomfortable, and not in control.

This bodily response is from our ancestors, who needed this reaction in the body to get them wired and ready to fight potential dangers, or to run away — something we know as "fight or flight." For our ancestors, it was simpler in a way — maybe they fought a scary creature, and when they emerged triumphant, the stress circuit closed and the hormones stopped flooding in.

However, in modern-day life, we're unlikely to be bracing ourselves to fight a bear and more likely to be stressing about things without black-and-white, bodily endings to give our system the closure it needs to stop pumping

hormones into our bodies. As a result, the cortisol keeps flowing into our bloodstream, and our fight or flight circuit can't properly shut down.

Over time, this leads to burnout, causing high blood pressure, a weakened immune system, and elevated blood sugar, all increasing the risk of deadly disease. So, when they say stress is a killer, it really can be!

2. The fight-or-flight system is impacted by our own thoughts and emotions.

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We've all been there — you're thrown into an unexpected, potential emergency situation, and pressure is laid on you to solve it. If we believe we're in over our heads and not equipped to deal with it, our brain hits the panic button. It tells our fight or flight circuit that we're in danger and to prepare for the very worst as we discussed above.

Going back to our ancestors' needs, our bodies are equipped to anticipate injury, so our arteries tighten and send blood in toward our core, lessening the risk of us bleeding to death in dangerous situations. That's all well and good if we really are being chased by a bear, but chances are the modern-day predator kicking us into this state is something like a sudden work deadline, and this rerouting of blood to the core means less blood is now reaching our muscles and brain. Needless to say, this means both our mental and physical strength start to flag.

So, how can we tell our body that today's predator isn't a grizzly bear? *Limitless* suggests you can do it by thinking more positively. Yes, I know, there's nothing worse than someone telling you to just "calm down" or "cheer up" when you're stressed, but if your internal voice soothes your fight or flight system, it can override it. Doing this can cause our fight or flight system to close up shop and stop wreaking havoc on our bodies.

Soothing ourselves in this way can flip our physical response, opening our blood vessels back up so our brains and muscles get the power they need, and we can get through whatever situation we've been thrown into.

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3. Breathing exercises can have a huge impact.

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According to [Modupe Akinola](#), who works with Chris during this episode, breathing techniques demonstrate that the stress signals connecting our brain and body aren't just one way. The body can send signals back, helping us to tell our brain that things are actually okay.

The more stressed we are, the faster we breathe. The faster we breathe, the more stressed we become. But if we breathe slowly and deeply, the nerve fibers in our chests will detect the change in movement and flood our brains with signals to calm down. This, in turn, short-circuits the fight or flight system, and all the stress responses across our body — from heart rate to stress hormone release to anxiety — are dialed down.

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4. Mindful meditation is extremely powerful.

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Breathing techniques and mindful meditation can help with reducing our stress levels. They work as a way to tell your body to be aware of only what is in the moment.

The network in our brain that fires up our fight or flight circuit has to be hypersensitive to keep us safe, but we have progressed a lot since our ancestors, and our brains aren't exactly equipped to deal with the nuances of everyday life these days. It used to be a simple case of either being safe or not being safe, but there are millions of gray areas presented by the way we live today, and our bodies don't always know how to respond appropriately. We're still learning on the job!

Meditation can help us feel less stressed in the moment, and regular practice can actually alter our stress response over time. Scientists believe eight weeks of regular meditation can rewire connections in key parts of the brain, making us less likely to become stressed by the things we encounter day to day. So, overall, it can offer moments of peace if done sporadically, but real long-term benefits when it comes to stress response and reduction if done consistently. (However, if you do happen to be stuck in a room with that angry bear we've discussed, let your fight-or-flight circuit do its thing!!)

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Episode 2: "Shock"

Shock doesn't have the best connotations, and it's highly likely that if someone suggested deliberately putting your body into shock, we'd run in

the opposite direction!

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Episode 2 sees Chris exploring shock and its benefits to the body, looking into how many evolution and modern developments may have made us *too* comfortable. Heading to the Arctic with brothers Luke and Liam in tow, Chris investigates the health benefits of extreme temperatures with sports scientist, [Ross Edgley](#).

5. New science says embracing the extremes of temperature could force our bodies to evolve.




Disney+ / Via [youtu.be](#)




According to new research that Chris references in the show, exposing our bodies to extreme heat and extreme cold could force our bodies to upgrade their defenses and power up repair systems, potentially cutting the risks of disease and adding years to our lives.

6. Some scientists believe that taming our reactions to the cold may have huge health benefits down the line.



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As we age, our built-in defense systems can get a little trigger-happy, sending surges of immune cells which cause collateral damage and ultimately do more harm than good. The resulting breakdown in tissues and organs is called "[inflammageing](#)," and it fuels two of the biggest killers in the modern world; heart disease and diabetes.

But there's a theory that dialing down our reactions to the cold could help to reset that haywire immune system and cut the risks of deadly disease in old age.

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7. Extreme heat can also help our bodies improve.





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Deep in our cells, heaps of molecular junk can pile up from the process of aging. Hoarding all that buildup can lead to a ton of problems, namely cancer, heart disease, and dementia.

Subjecting yourself to extreme temperatures, like that in a sauna, triggers your body to produce a cleanup crew in the form of "heat shock proteins," which get to work clearing all this debris and giving an internal spring clean.

Episode 3: "Fasting"

A four-day fast? No, thank you! But some research suggests that fasting could be key to unlocking a whole multitude of health benefits. Working with longevity physician Dr. Peter Attia, Chris explores if fasting can help in his quest to live longer.

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8. Periodic fasting may be effective in increasing our longevity.





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When we eat, glucose from our food feeds the healthy cells in our bodies. But there's a catch — it also fuels "zombie cells," otherwise known as old, damaged cells that have lingered beyond their useful life.

Spewing toxic sludge, these cells can affect healthy cells and speed up the aging process. This affects everything from hair loss and wrinkles to the onset of arthritis, cancer, and dementia. Some scientists suggest that when we fast, that zombie army is starved of their power as they have no access to the glucose our food provides. They are therefore starved of their energy, and ultimately sapped of their power.

9. When our bodies don't have food, our ketone production ramps up.



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When we have lots of food, our body stores fat under the skin and around the internal organs. When food is scarce, that fat goes to the liver where it's turned into an alternative fuel source called a [ketone](#). These ketones provide emergency power sources for both our bodies and our brains.

It's also said that ketones sharpen mental focus and heighten senses and perception, meaning hunters running low on food are able to sense things in their environment that they wouldn't normally, leading to an increased likelihood of securing their next meal.

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Episode 4: "Strength"

We all know Chris Hemsworth as someone definitely not in short supply when it comes to muscles, but in Episode 4, he gets back together with sports scientist Ross Edgley and longevity expert Peter Attia to focus on not just how his muscles look onscreen, but how they can help him stay young.

10. Our muscles do way more than just keeping us moving.





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When we see someone with visible muscles, it's easy to assume they're in tip-top condition. But while muscles can often be the sign of leading a healthy and active life, they're also tools to keep us young in the long term. Each muscle fiber of our body is crammed with mitochondria, tiny power plants that can help us fend off visible decline. With every flex, our muscles release chemicals that fight all kinds of diseases. So, the more you work them, the more these chemicals are released, and the greater the benefit on our bodies.

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11. Mitochondria is the power house of the cell.





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Our muscles are full of mitochondria, and in addition to what we just learned above, these tiny power plants provide the energy to keep our bodies moving smoothly. As we get older, these mitochondria begin to malfunction and break down, which accelerates the aging process.

However, it's been [shown that exercise](#), particularly endurance training, stimulates our muscles to overhaul our broken mitochondria and even produce new ones, which can lead to revitalized energy and slower aging. According to sports scientist, Ross Edgley, two hours a week could add years to your life!

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12. Using your muscles sends signals to the rest of your body, helping it stay healthy in a whole host of ways.



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So, we know the mitochondria provide us with energy, and that muscles release chemicals to benefit us. But what are these chemicals, and what do they do?

Well, they're called myokines, and these chemical messengers travel all around the body like tiny post people delivering packages of goodness to our cells. They can prevent the buildup of unwanted fat, suppress certain cancers, and stimulate the immune system to work better and longer. In the words of Peter Attia: "We don't stop moving because we get old. We get old because we stop moving."

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Episode 5: "Memory"

There are gyms for our bodies, but what about workouts for our brains? Chris uses this episode to challenge his brain health after finding out he is eight to 10 times more likely than the average person to develop Alzheimer's disease, due to two copies of a gene passed on from both parents.

13. Our brain's peak is in our 20s, and our brain begins to degenerate after the age of 30.



Disney+ / Via youtu.be



According to renowned neurologist [Dr. Sharon Sha](#), we can't wait until we're in our 60s before we begin to think about our brain health. We need to enhance and maintain as much as possible from 30 onwards. She says that diseases like Alzheimer's can develop 15 to 20 years before the memory symptoms show, so vigilance with our brain health is key to reducing our risk.

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14. We need to take time to stimulate our brains.

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In the age of easy info and mindless scrolling, it's even more crucial that we make an active effort to engage in what Dr. Sha calls "novel challenges" to stimulate neuronal connections to spread "[neural plasticity](#)" to enhance cognitive function.

In order to protect our memories, Dr. Sha says it's important to unplug from all our devices and distractions and really challenge our brains. For Chris, she dumps him in the outback with no phone and no GPS, and gives him the challenge of navigating his way to a set point using only his brain!

Beforehand, Chris could plan his route via maps and photos, but it was up to his memory to lead them to their campsite and his ultimate destination over a period of days.

Dr. Sha says the process of figuring out the right direction to go in is one of the most complex tasks our brains can perform, relying on an integral part of the brain called the hippocampus. This region of our brain is also known as our memory center and is located on both the left and right sides of the brain.

15. The importance of stimulating our hippocampus.

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As we age, the little seahorse-shaped structure known as the hippocampus shrinks and is one of the first areas to be hit by diseases like Alzheimer's. When we stimulate it with activities like navigation, it becomes stronger and healthier, as new connections are forged and more brain cells added.

Scientists think that the stronger our hippocampus is, the less likely we are to experience the cognitive losses that commonly come in old age.

Whilst we may not fancy being dumped off in the middle of the outback to navigate, Dr. Sha says ditching the GPS is a simple and effective way to keep our brains active, which should help our brains stay strong and resilient. So, next time you know you need to find your way to a certain coffee shop to meet a friend in a new town, perhaps look at the route in advance and try to memorize your way there.

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16. Our brains evolved in nature, and studies show why we find the natural world so refreshing.



Research suggests that when we're in urban settings, all the manmade visual patterns, intrusive noises, and distractions take a lot of mental energy for key parts of the brain to process. As you can imagine, trying to focus when our brains are already trying to drive with half a tank already gone means that memory, problem-solving, and concentration all take a hit.

Scientists believe that since we evolved in nature, our brains are naturally attuned to finding the sights and sounds of the natural world much easier to process. This could be why a simple walk or a playlist of rainfall and bird calls can be so relaxing.

Instead of being overloaded as they are in a setting like an office, for example, our cognitive abilities are restored to full strength when immersed in nature. Spending time in nature also lowers stress, which in turn is good for our longevity and could lessen our [Alzheimer's risk](#). According to Dr. Sha, just a 20-minute stroll in the park without checking your cell phone has been shown to significantly reduce levels of the stress hormone cortisol. So, as the saying goes — go touch some grass!

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17. Sleep is crucial for brain health.

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As I'm sure many of us can relate to, Chris talks about his struggle to wind down in the evening, even if he feels exhausted. Talking to [Peter Attia](#), a longevity expert, he says: "I remember even from a very young age — there's something about the nighttime and sleeping that would really amplify any sort of concerns, or if I felt guilty about something, or I felt like I did something wrong, or there was something I was concerned about — and that still, you know, is definitely there."

Attia tells Chris that so much of what he describes as his limitations in sleep is known as "the monkey mind," which everyone has — the neuroses and the rumination of thought that ensure our thoughts are loud enough to keep us awake. He explains that sleep is not a passive activity. It's not about being unconscious; it's an active time for the brain to heal. A single night of missed sleep leads to the accumulation of some of the toxins in the brain that predispose people to Alzheimer's, so for Chris and his increased risk of the disease, it's even more crucial he optimizes that healing time each night.

But how does our brain heal while we sleep? In a nutshell, the junk that builds up during the day is cleared up by a kind of trash disposal service called the lymphatic system. But as we age, and especially if we don't sleep well, our internal cleaning crew gets a little sloppy, and harmful waste builds up faster than it can be cleared out. All of this trash affects the workings of our brain, causing inflammation and potentially leading to Alzheimer's.

18. A workout for the body can be a workout for the brain, too.

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In the words of neurologist Dr. Sharon Sha: "When we exercise, our body produces a chemical that acts like a fertilizer for the brain. It encourages neurons to grow and stay healthy — and we know from [multiple studies](#) that regular exercise in midlife can reduce our chances of getting Alzheimer's disease by almost 50%.

Exercise combined with a cognitive challenge is proving to be an extremely powerful tool in the fight against dementia, even when we grow older."

Episode 6: "Acceptance"

For his final challenge, Chris attempts to live three days in the shoes (literally) of an 80-year-old in an immersive setup designed to really amplify the experience of old age, and ultimately, death.

19. To live longer, it may be beneficial to embrace our mortality.

Disney+ / Via youtu.be



Wearing an "age simulation suit" designed at MIT, and precisely calibrated to his physique, this challenge saw Chris carry an extra 30 pounds, have bungee cords limit his movements, and wear shoes that deliberately messed with his balance. He also wore glasses that limited his vision and a helmet that reduced his hearing, and moved into a fake retirement village

where everyone there was an actor instructed to treat him as an 80-year-old man!

Why you may ask? Well, longevity experts believe that in our fight against aging, embracing it may actually be in our favor. The architect of "Sunset Pines," Chris' simulated retirement village, is [Dr. BJ Miller](#), a world-renowned palliative care physician whose work centers on unlocking the transformative power of aging and death.

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20. There's such a thing as death doulas.

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Much like a birth doula, a death doula provides non-medical support and care to the person and their family throughout the process. In the show, Chris meets death doula [Alua Arthur](#), who coaches him in the acceptance of death and our own mortality, with the aim of avoiding the taboos around the subject and allowing us to live full, fearless lives.

Alua talks about how we live in denial of death and view it as a faraway notion, something that happens far, far away in the future — but in reality, none of us know how much time we have left. The sooner we can accept our mortality and be at peace with it, the freer we'll feel during life, and the fear of death, whenever it does arrive, won't be as hard to deal with.

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21. Live every day to the fullest.



After speaking to Alua, Chris also talks to Natalie, who has been living with stage four cancer since a diagnosis of melanoma at age 20. After seven years of not knowing how much time she has left, Natalie has learned to throw herself in headfirst and do all the things she wants to do as soon as possible, as tomorrow is not guaranteed. She also talks about reframing our view of aging, explaining that old age is a gift that not everyone gets to experience, so we shouldn't fear it and should instead try to feel happiness and gratitude toward the idea of aging.

Coming to terms with death, its inevitability, and its unpredictability can unlock something in us that allows us to live our fullest, happiest lives.

Dr. Miller explains that most people have a subconscious feeling of a "right" to a tomorrow, but in reality, every day is a gift because it's not guaranteed. Alua says that people tend to see their lives as starting after "they finally find the right person, or lose that weight, or stop working so much, or get that job," but don't take a moment to step back and realize that it's happening now — we're living our lives right this moment. So, make the most of every second!

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Did you watch the show? What were some of the takeaways you got from it? Will you make any changes to the way you

live your life after watching?

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wgolden130

8 months ago

I love Chris Hemsworth but the concept of this show really weirds me out.

♡ 1



manaspunj370

7 months ago

Great Show. Highly recommended. 9.5/10

♡



A Panda

8 months ago

This show was weird at times, but interesting. The last episode when he meets with his wife made up as an old lady was really sweet. You can see the love in their eyes.

♡