



How to “Shake” Your Back Pain Away!

How NASA Scientists Accidentally Discovered A Miracle Cure For Back Pain Sufferers

Today you’re going to learn a secret about relieving back pain that you’ll never hear from any personal trainer, doctor or chiropractor.

It doesn’t involve addictive pain pills, exercise or risky, questionable surgery. And if it wasn’t for a few amazing studies conducted by NASA scientists, I wouldn’t have believed something so easy, so effortless and so quick could really be this effective at fixing back pain.

Here’s the story...

Shortly after NASA launched their first manned mission into space, scientists discovered a problem with their astronauts. The lack of gravity in space caused these normally hearty individuals to lose muscle mass at alarming rates (a recent study found 6 months in space caused astronauts to become as frail as an 80-year old.¹)

How did NASA fix this?

It’s not like astronauts can lift weights, run on a treadmill or do any of the other “normal” exercises that are possible on earth. So, NASA dedicated part of its annual budget (currently at \$18.7 Billion per year) to studying how muscles waste away in zero-gravity

And one of the solutions they found not only retained muscle size and strength, it also fights one of the main causes of back pain!²

While the science behind it is complicated, the basic theory behind how it works is simple. In fact, you can prove it to yourself right now. Here’s how. First – with your right hand – clench your fist. Now, flex the muscles in your right arm as hard as you can.

Did you notice something?

If you flexed hard you should have noticed your arm shaking. That “shaking” is the key behind this incredible NASA technology.

And it’s the key to ridding yourself of nagging back pain...so you never again worry about waking up with a stiff back...never again worry about how you’re going to tie your shoes...get comfortable at work...or play with your kids.

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What exactly is this machine, and how does it work? To answer that question, you need to know a little bit about how your muscles work and what happens when they cause you pain.

The Root Cause of Pain

Here's a quick experiment for you.

Lightly pinch the fold of skin between your index finger and your thumb. You can feel it, but it doesn't hurt that bad. Now imagine if that fold of skin was caught in the jaws of a huge steel vice. That would hurt a lot more, right? It's quite possible the pain would be excruciating.

Why? Because *pressure* can cause pain. Not all pain, mind you. There are other forms of pain, such as "thermal" (hot or cold), "mechanical" (cuts, scrapes and tears) and "chemical" (such as a pepper spray or iodine in a cut). But for our discussion of back pain, we can focus solely on pain from pressure.

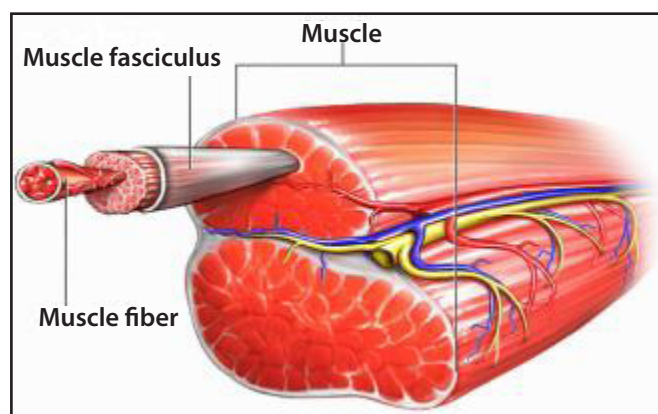
Specifically, when pressure increases...so does the pain.

This simple concept is vital to your understanding of back pain...and...how to get rid of it. But it's only the first step. The next thing you must know is how muscles work (and how they can sometimes put lots of pressure on the pain receptors in your back.)

Muscle Function in Relation to Pain

Entire books have been written on muscles and how they work. But this is not going to be a college level physiology lecture. In fact, there are only two things you must be clear on.

1. First, each major muscle (the quadriceps, the bicep, your forearm) is made up of thousands of tiny muscle fibers. These muscle fibers are small – usually no bigger than the size of a single strand of hair.
2. Second, each tiny muscle fiber is either fully engaged or fully relaxed.



Muscle Composed of Muscle Fibers

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The easiest way to wrap your head around this concept is to imagine a simple scenario.

Imagine walking into a room and flicking on a light switch. What happens? A light bulb goes on, right? Flip the switch off and what happens? The light bulb goes off, right? Well, this is exactly how individual muscle fibers work. They are either totally “on” or totally “off”.



While individual fibers work this way, this is NOT how your *major muscles* operate. They work more like a dimmer switch, where you can choose if the light is off, barely on, comfortably lit or blindingly bright. (Imagine if you couldn’t control if your muscles were full on or full off. You wouldn’t be able to stand still, walk, jog or sprint...you’d only be able to stand still or sprint at full speed!)

The main point is the intensity of your muscle contractions is completely dependent on *how many* fibers contract. When more muscle fibers turn “on” you have a stronger muscular contraction.

Ok, now that you understand a little bit about pain and how muscles work, let’s move on to the root cause of lower back pain.

The Real Cause of 99% of Back Pain

All of your muscle fibers don’t have to work all of the time for you to move. In fact, the only time you recruit all of your muscle fibers at once is during all-out effort.

For example, only a few of your muscle fibers do any actual work when you lift a ten pound weight. But lift a one hundred pound weight and thousands of fibers must fire at once.

Does this make sense?

Well, when you “suddenly” use all of these muscle fibers that have laid dormant you can easily pull or strain a muscle. If you’ve ever “thrown out” your back during a weekend round of golf after sitting behind a desk all week, you know exactly what I’m talking about.

That’s one example of how back pain can occur in the first place.

That explains pain caused by an event. But what about chronic back pain? Where your back hurts all day every day for seemingly no reason? That’s got nothing to do with weak or pulled muscles...or does it?

What Researchers Have Discovered About Back Pain

Scientists who live and breathe back pain have unearthed mountains of research linking weak or dysfunctional muscles (actually a *specific* area of muscle, more about that in a moment) to back pain. Here’s a few interesting tidbits that scientist have found about people with back pain.

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Back Pain Discovery #1: Increased Body Sway – According to Yale University School of Medicine’s Manohar Panjabi, a peculiar trait of people with low back pain is increased body sway. In a journal titled *Clinical Spinal Instability and Low Back Pain*, Mahonar explains how “The spinal muscles provide significant stability to the spine... Concerning the role of neuromuscular control system, increased body sway has been found in patients with low back pain, indicating a *less efficient muscle control system* with decreased ability to provide the needed spinal stability.”³

Back Pain Discovery #2: Lack of Coordination – A group of scientists from the Laboratory for Experimental Pain Research injected test subjects with saline and discovered that “Chronic lower back patients showed significantly increased EMG activity in the swing phase; a phase where the *lumbar muscles are normally silent*. These changes correlated significantly to the intensity of the back pain.”⁴

Back Pain Discovery #3: Reoccurs if Not Treated With Exercise – In the December 1996 issue of the trade journal Spine, researchers explored the reoccurrence of back pain after an episode of “acute, first-episode, unilateral low back pain”. Two groups were involved in the study. Group 1 received medical treatment after an episode of back pain. Group 2 received medical treatment and localized exercise. After the ten week trial they concluded that “Multifidus muscle recovery is not spontaneous on remission of painful symptoms. *Lack of localized, muscle support* may be one reason for the high recurrence rate of low back pain following the initial episode.”⁵

Read those emphasized phrases again - *Less efficient muscle control system...lumbar muscles are normally silent...lack of localized, muscle support.*

All that scientific jargon basically means that if you want to get rid of lower back pain you need strong lower back muscles. (That’s why surgery doesn’t work, it doesn’t fix the underlying cause of weak muscles. See Appendix A on page 9.)

The fact that exercise helps reduce pain isn’t exactly breaking news. Doctors and personal trainers have been spouting the health benefit (not only for reducing pain, but for weight loss, disease prevention, etc.) of exercise for years.

But what you may not know is that the *wrong exercises* may actually make back pain *worse*, and that there are specific exercises that are the key to curing back pain today, tomorrow and for the rest of your life.

The Type of Exercises that Hurt Your Back

It’s common sense that you need a strong back to be free of back pain. But that’s not the whole story.

Remember at the beginning of this report how we talked about pain? And how greater pressure leads to greater pain? Well, if your back is *too strong* you could be creating an imbalance that puts more pressure on your back...causing you to be in pain!

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If your back is so strong that it actually pulls your other muscles out of whack, you could actually be *increasing your back pain!*

And that's exactly why the advice of so many doctors and personal trainers to practice "isolation" type exercises is fundamentally flawed. Isolation exercises (exercises where you isolate and train just one muscle) train just one part of the body...sometimes making much stronger than other muscles that surround it.

While this may be good for body builders looking to build a monster like physiques, it doesn't help everyday back pain suffers one iota.

Why?

Because isolation exercises don't train your body to work in the real-world. Think about it. When you bend over to pick up a bucket of paint are you just using your back? If you are in the garden digging out weeds do you only use your arms? Mowing the lawn do you just use your legs or your whole body?

The point to those questions is that your muscles are designed to be used together, not in isolation.

The Exercise Machine Hustle

With that in mind here are 4 machines that isolation your muscles and throw your body way out of whack. Avoid these exercises or you may make your back pain worse.



The Leg Press Machine



Inverted Press Machine

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Isolation Squat Machine



Lower Back Machine

The general rule here is that you want to steer clear of ANY machine that isolates your movement and focuses all of the force on just one part of your body.

Instead, you need to focus on exercises that combine strings of muscles together...so that you are working major muscle groups like your back, hips and legs *all at the same time*. Specifically to relieve back pain, you should work all of the muscles in your posterior chain (the muscles from the tip of the back of your head down to the back of your heels.)

Here are three exercises (in increasing levels of difficulty) that work all of the muscles in your posterior chain.



Overhead Dumbbell Squat – Using a weight that is comfortable for you (or no weight at all) start in a squatting position with your hands near your shoulders. Push up with your legs and your arms at the same time. Squat low and repeat.

Kettlebell Swings – If you're just starting out use a light weight (or no weight at all). Begin with the weight on the ground and – from a squatting position – push up with your legs and launch the kettlebell out in front of you. Try to not “life” the weight with your arms as much as use the momentum of your legs to swing it up. Lower the weight down to the floor again and repeat.



Turkish Get Up – Again, use a light weight or none at all if you've never done these before. Lying flat on your back hold the weight above you in one hand (keeping your arm completely vertical during the entire movement). Next, perform a “half” sit up so you are propped up on your elbow. Then, sit up further so you are propped up on your hand.

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From this position pull one leg underneath you and stand up...with the weight raised straight overhead. Return to the floor and repeat.

While these exercises are a good starting point, I've saved the best for last. This is the exercise discovered by NASA researchers that targets the muscles that are causing your suffering...and literally "shakes" the pain right out of you.^{6,7}

And while some of these solutions cost as much as a new car, I'm going to show you one that is absolutely free and that you can try in the comfort of your own home right now.

The Wildly Expensive Solution (And Two Downright Cheap Alternatives!)

I'm warning you, these exercise may look, well, "weird". But, I guarantee you haven't seen all of these in your local gym.

The "Shake" Machine

Also known as "Whole Body Vibration", it's basically a machine with a flat platform that oscillates beneath your feet. The basic theory is that this vibration disrupts your balance...causing even the smallest muscle fibers to react.



The Upside – According to www.powerplate.com (one of the first manufacturers in this category), these machines offer a range of benefits "from an immediate improvement in blood circulation, to a variety of other measurable outcomes: such as increased muscle strength and flexibility, improved range of motion, decreased cellulite, increased bone mineral density, reduced pain and soreness and faster recovery."

The Downside – The price. With high end models selling for as much as \$11,500 (yikes!) you need deep pockets if you plan on getting one for personal use. Cheaper models sell in the \$300, but with all that vibration I'm sure you need something durable to stand up to the abuse.

What People are Saying – Celebrities are going all a gaga over these new shake machine. On the Power Plate website (one of the more popular manufacturers) you can find testimonials from Actor Clint Eastwood, Super Model Claudia Schiffer, Tennis Star Serena Williams and singer Sting.

All of them say it delivers a fast and effective workout.

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Where You Can Find Them

- www.powerplate.com
- www.powervibeusa.com
- www.wholebodyvibration.net

Balance Exercise Equipment



There are a few variations of “balance” exercise equipment that activate the small stabilizer muscles without breaking the bank. And they are probably 99% as effective at relieving back pain as the more expensive machines. They come in many shapes and forms. There are cushions, discs and balance boards.

My favorite is the Bosu ball. It’s basically one of those big plastic balls cut in half with a plastic base attached to the bottom. Since it is made of pliable rubber, when you stand on it you wobble around – activating your stabilizer muscles in your back.

The most common way to use them is to perform squats while standing on the ball. But I’ve found that if you flip it over, stand on the plastic base and then do squats you get a much better workout (albeit it’s a little more dangerous though).

You can find them at www.bosu.com, or a simple internet search using the term balance ball, cushion or disc should turn up plenty of options.

The Free Solution

The basic theory behind all of this is that disrupting your balance forces all of your muscles fibers to fire...which in turn balances your muscles...and reduces your back pain.

And while all of these exercise accessories help you do this, there is one simple exercise that accomplishes all of this without you spending a dime. And that is by standing up straight and balancing on one foot.

This exercise will give you more muscular control...will activate your lumbar muscles...and force you to build localized, muscle support. All of which is lacking in people with back pain.

This is a simple, easy and free solution to an otherwise widespread problem. Spend 15 minutes every balancing on each leg and watch your back pain disappear.

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Appendix A – Why Back Pain is a Money Making Scam

We're taught to respect and trust authority figures like teachers and priests. But that trust is never more sacred than with doctors... After all you literally trust them with your life. When you consult a doctor, you trust they have your best interests at heart.

But a new phenomenon in spinal surgery may make you revise that thinking.

The back pain business is a billion dollar industry that offers enormous financial rewards for savvy doctors. The next time you're laid up in bed with back pain and you think a trip to the doctor's is your best bet... think again. There's a very good chance that the pill she prescribes... the device she promotes... or the surgery she suggests... may not be necessary at all. And the best solution might have been something else entirely... something cheap, simple and safe.

Back Pain Is Big Business

Have no doubt: back pain is big business. Approximately 90 percent of all Americans suffer from back pain during their lives. In fact, more Americans stay home from work because of back pain than any other reason. And an estimated half-million Americans opted for spinal fusion surgery in 2006 alone.

Do you know what all these figures add up to? Fifty billion dollars. That's right... we spend \$50 billion on back operations each year.

That's a huge revenue stream, and it adds up quickly. Did you know that a single spinal screw sells for about \$1,000? And do you know how much it costs to make that spinal screw? About \$65!

Spinal equipment and devices are huge business. And in a new twist... the doctors who prescribe those surgeries and devices are the same ones who are actually invested in the products themselves. One doctor had over \$500 million invested in a spinal device that he actively prescribed.

And what's really disturbing is that many good doctors and several studies suggest those operations don't do any good.

"In terms of unconscionable benefit-cost ratios and treatments that are more harmful than helpful, we have a system that is simply unsupportable," says Dr. Norton M. Hadler. "Back pain has little to do with ruptured discs or spinal pathology."

Instead, he says that the spinal surgery industry is driven by personal profit opportunities – both for the device makers... and the doctors who invest in them and prescribe them.

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Honesty and the Hippocratic Oath

And he's not alone in what he's saying. If you're looking, you will see that the news is crowded with high profile cases of surgeons being paid huge sums to promote spinal devices and surgery.

Here's just one harrowing case – first reported in the *Boston Globe* and later picked up by news services across the nation.

Arkansas neurosurgeon Patrick Chan pleaded guilty to soliciting and accepting kickbacks from medical device maker Blackstone.

Blackstone paid him monies in the form of "bogus consulting contracts, fake research studies, and gifts." Those payouts were in return for Chan prescribing and using the company's devices in spinal surgeries.

The suit also revealed that Chan told a young trucker that he needed surgery. Chan told him that if he didn't get it he'd be a quadriplegic. Terrified, the trucker agreed. Chan went ahead with surgery and implanted a spinal device in his back.

A later independent evaluation of the pre-surgery MRI showed the procedure was completely unnecessary.

This is just one well-reported case of doctors trading your interests for fat payouts. But it's emblematic of a disturbing phenomenon in spinal surgery.

High Profile Scams

Plenty of other cases focus on the deals that the device makers themselves are making.

MSN reported that device maker Medtronic Inc. paid \$40 million to settle government charges that they were giving kickbacks to doctors in exchange for using their spinal implants.

The *Wall Street Journal* reports that the same company paid over \$15 million – in just the first quarter of this year alone – to spinal surgeons for "consulting and royalty" fees.

One Tennessee neurosurgeon was paid \$3.97 million for a "range of surgical plates, rods and screws used in spine surgery."

The *Wall Street Journal* concluded that it's difficult to break down "whether payments are legitimate royalties or inducements to sell products."

Kicking up Expense

"In run-of-the-mill cases, doctors aren't even supposed to do an X-ray or MRI unless the pain lingers for six weeks," says Dr. Ray Sahelian. "Yet a study in 2009 found nearly one in three patients get some kind of back scan within that first month."

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Another doctor showed that this is happening all the time.

Dr. Roger Chou of Oregon Health and Science University in Portland reviewed six studies involving 1,800 people with lower back pain.

He found that patients with no serious underlying causes who received imaging tests fared no better than patients who received standard treatment without the imaging.

That's obviously significant: imaging tests are expensive. Worse, X-ray and CT scans expose patients to unnecessary doses of radiation.

"Routine use of costly X-ray, MRI and CT scans on patients with lower back pain may be unnecessary," says Dr. Sahelian. "While most patients have no serious underlying condition causing the low back pain, doctors often order imaging procedures that can check for problems like herniated disks, muscle injuries, arthritis or broken bones."

Alternative Treatments

"Many people with back pain need not resort to surgery for relief," says Dr. Sahelian. "Non-invasive treatments should be the first – and often only – measure for most people with the problem."

Dr. Sahelian is wary of drugs or surgery to relieve back-pain. He instead recommends any of the following all-natural, safe options.

- Use cold compresses immediately after injury to reduce swelling. (You can get them at any local drugstore for about \$10)
- Apply heat pads for several days after injury. This will relax muscles and ensure proper blood circulation.
- Try a short period of bed rest to allow muscles to heal.
- Opt for gentle exercise to stretch and strengthen back muscles. Specific exercises can strengthen the muscles around the lumbar region.
- Exercise your abs to strengthen your back.
- Try Yin or relaxation yoga to relieve pain and realign the spine.
- Lie upside down on an inverted board for self-traction.
- Start using a course of fish oil supplements.

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Endnotes

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