

A comprehensive guide to the facts about WBV therapy

The amazing wellness benefits
of Whole Body Vibration Therapy

© 2009 Jackie Cooper

Written for: www.wholebodyvibrationsystem.com

604.852.3555 | 1.877.252.6151

03

Introduction

04

Where did WBV
come from

05

Key wellness
benefits

07

The truth about
weight loss & WBV

08

Actual case histories

10

Different types
of WBV equipment

11

What you
need to know

12

Who should
not use WBV

13

Additional
resources



Introduction

Whole Body Vibration Therapy is one of the most amazing and most beneficial technologies that has been developed and released to the public in recent years.

It's such an amazingly beneficial technology that we truly believe that everyone should experience the benefit of whole body vibration on a daily basis (unless they are unable due to specific health conditions – see *Who should not use WBV.*)

Whole body vibration therapy, when used correctly, will help you to gently and safely ease into a higher level of fitness, health, well-being and weight loss in far less time than with conventional exercise. Even better – this wonderful wellness technology is now affordable enough that you can enjoy it in the privacy and convenience of your own home!

In this guide, we will give you the facts about whole body vibration. We'll tell you about when and how it was first used and the kinds of results you can realistically expect when you use it.

There is so much hype out there today that it's difficult to know what is fact and what is fiction – or at least what is a typical result versus an exaggeration or hyped up claim. You deserve to know the truth. In this ebook, we've provided a balanced and objective overview of the technology, the products and the information. It gives you all you need to decide if this is something that you feel will truly enhance your wellness and your lifestyle. Although this book has been commissioned by Vibetronix, we want to make it clear that its purpose is to provide you with verifiable facts on the technology and available products. Information which you can check. It is not a sales pitch for Vibetronix – although of course, we'd be delighted if you decide to own a Vibetronix platform.

Because we actually use whole body vibration therapy ourselves, we can speak from personal experience about the technology and the results you can expect. We will also dispel some of the crazy claims and inaccurate information you may have heard in the past.

In actual fact, we were complete sceptics when we first heard of whole body vibration. Then we researched and tested it ourselves. In this ebook, we'll share the reasons we changed our minds and became firm believers in the benefits of whole body vibration technology.

Where did WBV come from?

Whole body vibration is not a new technology. Many sellers of whole body vibration equipment say that the technology was developed by N.A.S.A. This is incorrect. The technology began being developed long, long ago... and N.A.S.A. only later began testing it with a view to incorporating it into their space program.

Vibration as a therapy is first mentioned in records from Ancient Greece. It was used as a therapy to enhance the performance of the body when specific areas were not functioning well. The Ancient Greeks were very concerned with physical performance (remember, they were the ones who invented the Olympics!) and were did a fair amount of medical research.

Somehow, they discovered that vibration helped enhance muscle performance and they experimented with this concept by wrapping a saw in a cotton padding, then running the saw back and forth over the part of the body where they wanted to enhance performance. They found that this was beneficial.

The next instance that we're aware of where vibration was experimented with as a health therapy was in a sanitarium in Battle Creek, Michigan where Dr. John Harvey Kellogg (yes, it is the guy who invented cornflakes!) practised some experimental therapies. He focused primarily on exercise and nutrition. He also advocated phototherapy and hydrotherapy. Although Kellogg's ideas were at times rather strange, he was onto a winning idea with vibration therapy.

During the 1960's, the effect of vibration on the body was being researched simultaneously in East Germany by Dr. Biermann and in Russia by a Dr. Nazarov. Nazarov's interest was in the effects of vibration on athletes. The Russians realized that vibration therapy was not only beneficial to their athlete's performance, but it was also of huge benefit to their astronauts who were experiencing severe loss of muscle mass and bone density from spending long periods of time in a zero gravity environment.

For some time now, whole body vibration platforms have been used by Olympic athletes, major sports teams, universities, celebrities, chiropractors, physiotherapists, gyms, weight loss clinics, spas and other wellness organizations.

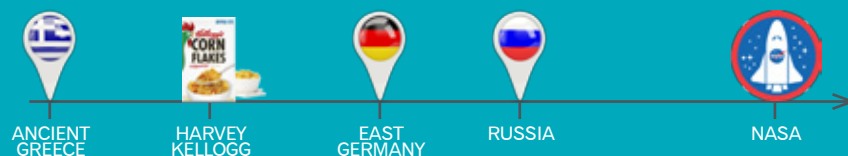
Muscle strength and bone density are created by the friction caused by exercise. We all know that exercise strengthens muscles, but many are not aware that the action of muscle movement increases bone density, keeping bones strong and healthy. This is why it's so important to exercise, especially the older you get. Women particularly lose calcium as they age, and if they do not do vigorous exercise regularly will often end up with osteoporoses or osteo arthritis. Anyway... back to our history...

The Russians experimented with what is known as "biomechanical stimulation" in which vibration was applied directly to the muscles and tendons that were being treated. This is different to today's application of whole body vibration in that in whole body vibration, vibration is applied to the entire muscular skeletal system through standing on a vibration platform.

It wasn't long after the Iron Curtain came down that this research caught the attention of both the European Space Agency as well as N.A.S.A. Soon Russia's western counterparts were also investigating how to use this vibration for the benefit of their respective space programs. The eventual result was the development of whole body vibration platforms.

Unfortunately, until recently, whole body vibration platforms were high priced items, affordable only to larger organizations or the very wealthy. But the good news is that recently, more and more platforms are available at prices which make them accessible to ordinary people like you and me.

We'll discuss more about what's available in *Different types of Whole Body Vibration Equipment*.



Key wellness benefits

For the past several years, whole body vibration has been recognized as a highly effective therapy with many wonderful benefits including:

- Muscle toning and strengthening within 3 weeks
- Increased bone density in approximately 6–8 weeks
- Increased production of human growth hormone, serotonin, neurophin, endorphins, and testosterone. All of which contribute to keeping you looking and feeling younger, fitter and more vital.
- Decrease of cortisol (hormone produced when we are stressed)
- Decrease of cellulite
- Tightening of skin
- Lowering of blood pressure
- Increased metabolism and fat-burning
- Increased blood circulation (causes the blood flow to virtually double and widens the diameter of the capillaries).
- Provides cardio stimulation because of increased blood flow
- Increased flexibility
- Increased mobility
- Improves co-ordination
- Improves balance
- Stimulates lymphatic system (which is involved in removing toxins and cannot be stimulated except by walking, running or massage).
- Assists in removal of toxins
- Relieves joint and back pain
- Can relieve headaches
- Relieves stress

Besides these benefits, whole body vibration has also been found to help:

- Prevent and treat osteoporosis and osteo arthritis
- Prevent and treat incontinence in as little as 6 weeks
- Treat peripheral neuropathy in 6–8 weeks
- Weight loss
- Treat depression
- Treat parkinsons disease
- Recovery from injury and surgery

Whole body vibration truly appears to be a 'miracle' therapy that enhances quality of life and brings wellness to almost anyone of almost any age in almost any physical condition. As a general rule, anyone over the age of 12 years should be able to benefit from whole body vibration.

Whole body vibration is especially beneficial to people over 60 who can now 'reverse' common symptoms of aging such as stiffness, osteoporosis and osteo arthritis, incontinence, decreased mobility, lack of flexibility and other symptoms that make life very difficult.

Having said that, it's our belief that everyone should use whole body vibration therapy. Whatever your age, physical well being is extremely important. Some of us are fitness buffs and will very much appreciate the benefits of whole body vibration in speeding up our results, enhancing our performance and increasing our physical power when used as a warm up to prepare our muscles for intense physical activity such as sports or gym work outs.

Others of us are busy all day, almost every day, in sedentary occupations. For us, our days consist of rushing to get ready for work, rushing at work to do our daily assignments, then rushing home to spend our precious 'home' time with family and friends. For us, exercise is often a luxury. Some of us don't even enjoy exercise because we have so little time for it that it generally results in a lot of pain, sweat and general discomfort. For us, whole body vibration is an absolute blessing because it is sweat and pain free, quick and easy.

Just 10 minutes of WBV and we enjoy the benefits of a vigorous 60 minute workout. What could be better? No time – no problem. We can all find at least 10 minutes 3 or more times a week. For those of us who are older and perhaps suffering the consequence of lack of exercise, we can now enjoy freedom from incontinence, increased mobility and much more flexibility in as little as 4–6 weeks. Beats surgery and pharmaceuticals hands down if you ask us!

When you consider the physical and financial consequences of not exercising and staying active, whole body vibration presents an affordable and even enjoyable alternative. One of the most pleasing things we've discovered about whole body vibration is that not only does it provide amazing benefits, but it is also very easy, relaxing and enjoyable.

Simply stand on the platform and experiment with speed and posture. Different speeds target different muscle groups. Lower speeds target higher in the body while higher speeds target lower on the body. Adjusting your foot position and posture you'll find that you feel the vibration in different areas of the body. It's like having your own personal masseuse at your beck and call.

If that's too tame for you, don't worry, you can do a vigorous work out incorporating stretches, push ups, weights and all your other exercise routines – all of which will have a much more powerful effect when combined with whole body vibration. Whole body vibration actually accelerates your work out exponentially!

The truth about weight loss & WBV

Many people first become interested in whole body vibration because they hear that using it will help them lose weight. While this is true, it is not true that you'll experience dramatic weight loss within a few days or even two weeks. Here's why:

Weight is lost when you burn more energy than you consume. Whatever you eat or drink is in fact either latent energy or if not burned, will be stored as fat. Activity burns energy. Being alive is an activity in itself that uses energy i.e. burns fuel. Muscles burn energy. The greater your muscle mass, the greater amount of energy that is burned.

As with conventional exercise, it takes time to build muscle mass. Of course, with wbv, you'll see results a LOT quicker than with conventional exercise. But even so, you will not see weight loss for the first little while.

What you will see is that after a week of using Whole Body Vibration Therapy for 10 minutes a day, you will feel stronger and fitter. You'll notice increased ability to bend and stand up from sitting down.

You'll find that you have more energy and more stamina. You'll be able to walk faster and further. You won't get tired so quickly. You'll feel more alert. You may even notice that your muscles are feeling tighter and more toned.

Within a month, you'll feel much healthier and you'll certainly be noticing a leaner, slimmer looking body.

During this time you may weigh yourself on a weekly basis. Don't panic if your weight does not go down or increases a bit. The reason for this is that muscles weigh more than fat. As you increase muscle mass you will weigh more. You would have to lose much more volume in fat than you put on in muscle in order to begin seeing your weight drop on the scale.

This is why you'll lose inches before you lose pounds. Rather than being too concerned with what your scale says, look at your measurements. Take note of how you feel and how you look. That's where you'll see the biggest differences to begin with.

Of course, if you use WBV as a means to maintain your weight while you increase what you eat – or begin to add all kinds of junk food, desserts and other unhealthy things to your diet, you may even find that your weight increases. This is not a good idea. For your own health, it's a good idea to adopt a healthy eating program while you enjoy the benefits of whole body vibration.

Personally, we have found a healthy, balanced, low carbohydrate eating plan together with whole body vibration exercise produces remarkable results very quickly. These results do include weight loss, but all increased wellness and well being. But as with anything, it has to be a consistent program – a lifestyle rather than a crash program a few weeks prior to a big event such as a vacation or a social occasion.

Actual case histories

There's nothing like a bit of proof to demonstrate the veracity of claims made about a product or service. With the types of claims about whole body vibration, we feel it's a good idea to include some case histories of real people who have used this technology. Of course there is a lot of scientific evidence available and you'll find studies on the subject that you can download at www.vibetronix.com Here are 3 case histories that we can personally verify.



50 Year old male

Weight: 180lb (about 10lb overweight)
Height: 5'10"
Condition: Unfit, beginning to develop pot belly, hardly ever exercised, beginning to look and feel old

Began using whole body vibration platform 10 minutes a day approximately 5 days a week. A week after beginning WBV exercise, I decided to replace retaining wood borders around garden perimeter using large landscaping rock. Was able to physically carry rocks, place them and move them down a steep slope without strain. No muscle strain or pain afterwards. No fatigue. Worked consistently at this task for several days. Would not have been able to do this as quickly or easily without WBV and would've suffered severe muscle pain and fatigue. Not only did I feel fitter and healthier but also very quickly dropped 10lbs and began to sleep better.



48 Year old female

Weight: 126lb
Height: 5'2"
Condition: No exercise until using WBV

Works all day on computer so very sedentary. Could not walk up flight of stairs or a small hill without panting and feeling dizzy. Used PowerVibe 6 times a week for 10 minutes per session for 30 days. Went on trip to Ecuador and was able to walk uphill in temperatures of 26 degrees C for over 45 minutes without getting tired or out of breath.

49 Year old female

Weight: 135lb (about 20lb overweight)
Height: 5'1"
Condition: Extremely unfit. 20lbs overweight, flabby upper arms, heavy jowls, sagging neck / chin line, always fatigued, beginning to show age



Began using whole body vibration platform 10 minutes a day approximately 3-4 days a week just standing on platform plus 3 minutes at moderate speed sitting on platform with palms down on platform and arms bent outwards.

At this time subject was not dieting and was actually eating all kinds of things that they shouldn't have been eating such as breads and desserts. If they had eaten more healthily we believe that these results would be even more dramatic

Take a look at this:

	20th May	20th June	30th June
Upper arm (left)	33cm	29cm	28cm
Upper arm (right)	32cm	30.25cm	30cm
Waist	78cm	79cm	76cm
Thighs (left)	54cm	52cm	49cm
Thighs (right)	55cm	51cm	49cm
Calf (left)	37cm	32cm	31.5cm
Calf (right)	34.5cm	33.5cm	33cm
Weight	136lb	132lb	130lb

Different types of WBV equipment

Essentially whole body vibration platforms allow one to target specific muscle groups – in other words, it will allow you to train your skeletal muscles which produces a variety of effects as we've previously discussed.

There have been several hundred studies done on whole body vibration by various medical and academic organizations. You'll find a few of these on the Vibetronix site www.vibetronix.com.

There are a number of whole body vibration platforms on the market. Some are great quality while others aren't. Some will produce the results you want while some will not. Different platforms vibrate differently, so it's important that you select a machine that will produce the results you want, bearing in mind that every human being has muscles with a different frequency which means that you will need to work the platform at different frequencies until you find your own particular 'sweet spot'. One of key characteristics of using WBV as an exercise activity is that it exerts no 'load' on the musculoskeletal system. In other words, it does not create strain and is actually good for joints.

There are two specific factors that play a role in the effectiveness of a platform. They are amplitude and frequency or hertz.

As human beings, our bodies are designed to operate under gravity which by extrapolation means that we can absorb vertical vibrations reasonably well.

Most of the vibration platforms available fall into the following categories:

- **Sideways (x)** – The sideways (x) vibration which provides vibration sideways as well as up and down, this method has not been researched in terms of long term side-effects.
- **Front and back (y)**
- **Up and down (z)** – Of these, the most desirable is the up and down vibration which is available in three primary forms.
 - **Triangular Oscillating** – The first is what is often called 'triangular oscillating' which means that the platform moves in a see-saw motion where one side goes up and the other down i.e. left down, right up. This movement mimics your natural walking action and is therefore works with your body's natural mechanics. This movement has the largest amplitude: usually 1–10 mm. These platforms normally operate at frequencies of 5–35 Hz.
 - **Vertical** – The second up and down vibration is where the platform surface remains perfectly horizontal moving up and down like a piston. This means that as you stand on it your feet move up or down simultaneously. This produces a very harsh action which can be extremely uncomfortable – reminiscent of standing on a jackhammer. The amplitude is less than with triangular oscillating platforms, but the frequency is usually higher: 20–50Hz.
 - **Sonic** – Then you have the sonic or sound vibration which uses sound to transmit vibration throughout the body. In this case, the platform is actually stationary.

Personally, we much prefer the triangular oscillating movement as it is a more natural and far more comfortable action with plenty of documented research to substantiate the benefits of this type of vibration therapy in strengthening bones, muscles and joints.

What you need to know

Using whole body vibration for exercise, therapy and general improved wellness is one of the best things you can do for yourself and your family. Not only will you lower your risk for all kinds of debilitating issues such as osteoporosis, but you will also feel better and enjoy life more.

However, whole body vibration is not a silver bullet. It's not a magic wand. Just because you own a whole body vibration system does not mean that you will automatically experience all the benefits.

In order to experience the benefits of whole body vibration, you actually have to use it – and by 'use it', we mean follow a consistent program on a regular basis.

Just the same as buying a gym membership will not make you fit unless you actually pitch up at the gym and systematically exercise – using whole body vibration will only work if you work it.

The best thing that you can do is to get hold of an exercise chart for your platform that demonstrates the different exercise options. Decide what results you want and then target your use of the platform to achieve these results.

Your work out can be as aggressive or as passive as you like. The thing that's most important is that you do whatever routine you decide upon regularly.

For us, that means 10 minutes first thing in the morning. Those 10 minutes can be broken into segments devoted to different exercises or it can simply mean standing on the platform. Aim at doing this at least 3 to 5 or 6 times a week. Don't overdo it. You may wish to do a 10 minute session in the morning and another in the evening. But do not exceed this. For most people, 10 minutes 3x per week is enough.

If you have some disability and you're using WBV as therapy, get your doctor's advice on the length of time and the frequency per week that you should use it. Some conditions such as incontinence improve with just a few sessions of a few minutes per week.

Who should not use WBV

There are a few conditions which may preclude you from using WBV therapy. If you have any of these conditions, please do not use a whole body vibration platform unless you receive specific approval from your doctor.

- If you have a thrombosis or have had one recently
- If you have open wounds or have very recently had surgery with open wounds that may be disturbed, or if you have stitches.
- If you are pregnant
- Advanced arthrosis, arthropathy, acute RA
- Artificial Joints (recent)
- Nephrolithiasis
- Pacemaker and Implantable Cardioverter Defibrillator
- Foot, knee or hip implants
- Type I Diabetes
- Recently Paced IUD's, Metal Pins, or Plates
- Epilepsy
- Acute Hernia, Discopathy, or Spondylosis
- Severe Migraines
- Retinal Detachment, Known Retinal Conditions
- Tumors (cancerous)
- Head Injuries, Known Neurological Conditions
- Pulmonary Embolism
- Lumbar disc problems
- Acute inflammations or infections
- Serious Cardiovascular Disease / complaints e.g. valve disorder
- Poor Samato Sensory Receptor on Feet Planar Surfaces

Sample Studies

The following are just a sample of the “Over 300 Clinical Studies” that have been conducted on Whole Body Vibration showing the positive benefits of this outstanding therapy.

55 year old + age range and post-menopausal women: evidence of improved balance, strength, mobility, general health/quality of life, fall prevention, bone density, pelvic floor and pain relief.



- 1. Effect of whole-body vibration exercise on mobility, balance ability and general health status in frail elderly patients: a pilot randomized controlled trial.**
Conclusion: Whole-body vibration exercise is a safe and effective method that can improve the mobility, knee extensor strength, balance and the general health status in the frail elderly.
URL: <https://www.ncbi.nlm.nih.gov/pubmed/?term=Effect+of+whole-body+vibration+exercise+on+mobility+%2C+balance+ability+and+general+health+status+in+frail+elderly+patients>
Short URL: <http://tinyurl.com/wbv-elderly>
- 2. Controlled Whole Body Vibration to Decrease Fall Risk and Improve Health Related Quality of Life of Nursing Home Residents**
Conclusion: Controlled Whole Body Vibration can improve elements of fall risk and HRQOL in elderly patients.
URL: <http://www.motionhealth.com/pdf/article10.pdf>
- 3. Effect of 6-month whole body vibration training on hip density, muscle strength, and postural control in postmenopausal women: a randomized controlled pilot study.**
Conclusion: WBV training may be a feasible and effective way to modify well-recognized risk factors for falls and fractures in older women and support the need for further human studies.
URL: <http://www.ncbi.nlm.nih.gov/pubmed/15040822>
- 4. Whole-body vibration training improves balance, muscle strength and glycosylated hemoglobin in elderly patients with diabetic neuropathy.**
Conclusion: Significant improvements were noted in the static balance, dynamic balance, muscle strength, and HbA1c in the WBV group, compared to the BE and control groups ($P < 0.05$).
URL: <http://www.ncbi.nlm.nih.gov/pubmed/24334483>
- 5. Effect of 6 months of whole body vibration on lumbar spine bone density in postmenopausal women: a randomized controlled trial.**
Conclusion: This study found that 6 months of high-frequency and high-magnitude WBV yielded significant benefits to the BMD of the lumbar spine in postmenopausal women, and could therefore be provided as an alternative exercise.
URL: <http://www.ncbi.nlm.nih.gov/pubmed/24348029>
- 6. Effects of a short-term whole body vibration intervention on physical fitness in elderly people.**
Conclusion: In conclusion, a short-term WBV training is beneficial for physical fitness among elderly people.
URL: <https://www.ncbi.nlm.nih.gov/pubmed/23312489>
- 7. Whole-body vibration training increases physical fitness measures without alteration of inflammatory markers in older adults.**
Conclusion: Our data confirm the usefulness of WBV training for counteracting the loss of muscle strength associated with sarcopenia in older adults and show that WBV training could be a safe training method which induces no inflammatory effects.
URL: <http://www.ncbi.nlm.nih.gov/pubmed/24237186>
- 8. Effect of whole-body vibration exercise on lumbar bone mineral density, bone turnover, and chronic back pain in post-menopausal osteoporotic women treated with alendronate.**
Conclusion: The results of this study suggest that whole-body vibration exercise using a Galileo machine appears to be useful in reducing chronic back pain, probably by relaxing the back muscles in post-menopausal osteoporotic women treated with alendronate.
URL: <http://www.motionhealth.com/pdf/article15.pdf>
- 9. Bone strength and density via pQCT in post-menopausal osteopenic women after 9 months resistive exercise with whole body vibration or proprioceptive exercise.**
Conclusion: This study provided evidence that a twice weekly resistive exercise program with either additional balance or vibration training could increase bone density at the distal tibia after a nine-month intervention period in post-menopausal women with low bone mass.
URL: <https://www.ncbi.nlm.nih.gov/pubmed/23445916>

Weight Loss/Obesity/Cellulite

1. Ten-week whole-body vibration training improves body composition and muscle strength in obese women.

Conclusion: These preliminary results suggest that WBV training may improve body composition and muscular strength in obese women and may be a useful adjuvant to lifestyle prescriptions.

URL: <https://www.ncbi.nlm.nih.gov/pubmed/23423629>

2. Effect of long-term whole body vibration training on visceral adipose tissue.

Conclusion: Combining aerobic exercise or WBV training with caloric restriction can help to achieve a sustained long-term weight loss of 5–10%. These preliminary data show that WBV training may have the potential to reduce VAT more than aerobic exercise in obese adults, possibly making it a meaningful addition to future weight loss programs.

URL: <http://www.karger.com/Article/PDF/301785>

3. Effects of whole body vibration plus diet on insulin-resistance in middle-aged obese subjects.

Conclusion: In middle-aged sedentary obese subjects, WBV added to hypocaloric diet for 8 weeks improved body composition, insulin-resistance, glucose regulation and adiponectin levels to a greater extent compared with diet alone.

URL: <https://www.ncbi.nlm.nih.gov/pubmed/?term=Effects+of+whole+body+vibration+plus+diet+on+insulin-resistance+in+middle-aged+obese+subjects>

Short URL: <http://tinyurl.com/wbv-insulin>

4. Combination of external load and whole body vibration potentiates the GH-releasing effect of squatting in healthy females.

Conclusion: The results of our study demonstrate that the combination of squatting+external load+vibration (SEV) could represent the most suitable modality to potentiate the somatotrophic function and, indirectly, to obtain an increase in muscle strength and positive changes in the body composition.

URL: <https://www.ncbi.nlm.nih.gov/pubmed/23589230>

5. Local metabolic rate during whole body vibration.

Conclusion: The substantial changes in local metabolic rate indicate that WBV may represent a significant local training stimulus for particular leg muscles.

URL: <https://www.ncbi.nlm.nih.gov/pubmed/23493356>

6. Acute effects of resistance training with local vibration.

Conclusion: These data indicate that local vibration increases the metabolic and anabolic response to the resistance training, without changing the training volume.

URL: <https://www.ncbi.nlm.nih.gov/pubmed/23444091>

7. Low-Level Laser Therapy and Vibration Therapy for the Treatment of Localized Adiposity and Fibrous Cellulite

Conclusion: The study demonstrated the safety and efficacy of using vibration therapy to reduce fibrous cellulite and adipose tissue (fat) and that it works effectively with low-level laser therapy.

URL: <http://link.springer.com/article/10.1007/s13555-013-0026-x>

Rehabilitation, Strength and Recovery

1. Effect of Whole-Body Vibration on Delayed Onset Muscular Soreness, Flexibility, and Power

Conclusion: These results suggest that WBV is equally as effective as light exercise in reducing the severity of DOMS. Thus, WBV may be used as a recovery option in addition to current treatments.

URL: http://journals.lww.com/nsca-jscr/Abstract/2013/09000/Effect_of_Whole_Body_Vibration_on_Delayed_Onset.22.aspx

Short URL: <http://tinyurl.com/wbv-delayed>

2. Does whole body vibration training affect knee kinematics and neuromuscular control in healthy people?

Conclusion: Results suggest that WBV can help to acutely enhance knee neuromuscular control, which may have clinical significance and help in the design of rehabilitation programmes.

URL: <http://www.ncbi.nlm.nih.gov/pubmed/22894146>

3. Whole-body vibration training improves flexibility, strength profile of knee flexors, and hamstrings-to-quadriceps strength ratio in females

Conclusion: A short-term side-to-side WBVT program improved flexibility, the strength profile of knee flexors, and the "functional" hamstrings-to-quadriceps ratio in moderately active females. Coaches and clinical practitioners should consider this type of training as an effective exercise mode for improving the strength asymmetry of reciprocal muscles at the knee joint.

URL: <http://www.sciencedirect.com/science/article/pii/S1440244012010997>

4. Impact of an acute bout of vibration on muscle contractile properties, creatine kinase and lactate dehydrogenase response.

Conclusion: In conclusion, a 6-min bout of WBV results in an increase of muscle stiffness in RF and increased CK levels 1 h after intervention (returning to baseline within 48 h).

URL: <https://www.ncbi.nlm.nih.gov/pubmed/24251744>

5. Varying whole body vibration amplitude differentially affects tendon and ligament structural and material properties.

Conclusion: High vibration caused an increase in collagen expression and a trend for an increase in IGF-1 expression suggesting a potential anabolic response to prevent tendon overuse injury.

URL: <https://www.ncbi.nlm.nih.gov/pubmed/23623311>

6. The effect of early whole-body vibration therapy on neuromuscular control after anterior cruciate ligament reconstruction: a randomized controlled trial.

Conclusion: Early WBVT started from 1 month postoperatively was an effective training method without compromising knee ROM and stability. It improved postural control, isokinetic performance, single-legged hop, and shuttle run but not knee joint position sense, triple hop, and carioca.

URL: <https://www.ncbi.nlm.nih.gov/pubmed/23460328>



Cardio-Vascular System (including Stroke)

1. Low-magnitude whole body vibration with resistive exercise as a countermeasure against cardiovascular deconditioning after 60 days of head-down bed rest.

Conclusion: Low-magnitude whole body vibration with resistive exercise prevented an increase of the sympathetic index (reflecting the sympathovagal balance of cardiac autonomic control) and limited the decrease of the spontaneous baroreflex sensitivity induced by 60 days of head-down bed rest.

URL: <https://www.ncbi.nlm.nih.gov/pubmed/21900640>

2. The influence of whole body vibration on the central and peripheral cardiovascular system.

Conclusion: The results suggest a high level of sensitivity of the peripheral vascular system to vibration exposure.

URL: <https://www.ncbi.nlm.nih.gov/pubmed/?term=The+influence+of+whole+body+vibration+on+the+central+and+peripheral+cardiovascular+system>

Short URL: <http://tinyurl.com/wbv-cardiovascular>

3. Effects of intensive whole-body vibration training on muscle strength and balance in adults with chronic stroke: a randomized controlled pilot study.

Conclusion: These preliminary results suggest that intensive WBV might potentially be a safe and feasible way to increase some aspect of lower limb muscle strength and postural control.

URL: <http://www.ncbi.nlm.nih.gov/pubmed/?term=Effects+of+intensive+whole-body+vibration+training+on+muscle+strength+and+balance+in+adults+with+chronic+stroke%3A+a>

Short URL: <http://tinyurl.com/wbv-stroke>

4. Feasibility of using whole body vibration as a means for controlling spasticity in post-stroke patients: a pilot study.

Conclusion: The modified Ashworth scale was significantly decreased, active and passive range of motion (A-ROM, P-ROM) for ankle dorsiflexion and straight leg raising increased, and walking speed and cadence both improved during the 5-min intervention. Our proposed therapeutic approach could therefore be a novel neuro-rehabilitation strategy among patients with various severities.

URL: <https://www.ncbi.nlm.nih.gov/pubmed/24439649>

5. Whole-body vibration exercise training reduces arterial stiffness in postmenopausal women with prehypertension and hypertension.

Conclusion: Our findings indicate that WBV exercise training improves systemic and leg arterial stiffness, BP, and leg muscle strength in postmenopausal women with prehypertension or hypertension. WBV exercise training may decrease cardiovascular and disability risks in postmenopausal women by reducing legPWV and increasing leg muscle strength.

URL: http://journals.lww.com/menopausejournal/Abstract/2014/02000/Whole_body_vibration_exercise_training_reduces.6.aspx

Short URL: <http://tinyurl.com/wbv-hypertension>

6. Effects of whole body vibration training in patients with severe chronic obstructive pulmonary disease.

Conclusion: WBVT provided significant improvements in functional capacity in severe COPD patients without changes in muscular force.

URL: <https://www.ncbi.nlm.nih.gov/pubmed/23692550>

7. The Effects of Whole-Body Vibration on Cardiovascular and Autonomic Function in Overweight-Obese Premenopausal Women.

Conclusion: The study found that 6 weeks of WBV training produced significant decreases in resting systolic and diastolic blood pressure, as well as a significant decreases in resting heart rate and mean arterial pressure for overweight-obese premenopausal women.

URL: <https://www.ncbi.nlm.nih.gov/pubmed/23692550>

Diabetes

1. Whole body vibration therapy for painful diabetic peripheral neuropathy: a pilot study.

Conclusion: WBV appears to be an effective, non-invasive treatment for pain associated with DPN.

URL: <https://www.ncbi.nlm.nih.gov/pubmed/24139013>

2. The effectiveness of a single session of Whole-Body Vibration in improving the balance and the strength in type 2 diabetic patients with mild to moderate degree of peripheral neuropathy: a pilot study.

Conclusion: A session of WBV had positive effects on muscle strength and the balance in patients with type-2 diabetes associated with neuropathy.

URL: <https://www.ncbi.nlm.nih.gov/pubmed/?term=The+effectiveness+of+a+single+session+of+Whole-Body+Vibration+in+improving+the+balance+and+the+strength+in+type+2+diabetic+patients> |

Short URL: <http://tinyurl.com/wbv-neuropathy>

3. Whole body vibration training improves leg blood flow and adiposity in patients with type 2 diabetes mellitus.

Conclusion: WBV training can be considered an effective means to increase leg blood flow and to reduce adiposity in patients with T2DM.

URL: <https://www.ncbi.nlm.nih.gov/pubmed/23657766>

Sports Performance

1. Adding whole body vibration to preconditioning exercise increases subsequent on-ice sprint performance in ice-hockey players.

Conclusion: Preconditioning exercise performed with WBV at 50 Hz seems to enhance on-ice sprint performance in ice-hockey players. This suggests that coaches can incorporate such exercise into the preparation to specific sprint training to improve the quality of the training.

URL: <https://www.ncbi.nlm.nih.gov/pubmed/24263654>

2. Whole body vibration and post-activation potentiation: a study with repeated measures.

Conclusion: Thus, it is suggested that WBV be used before explosive events competition because WBV promotes post-activation potentiation.

URL: <https://www.ncbi.nlm.nih.gov/pubmed/24408766>

3. Chronic effects of whole-body vibration on jumping performance and body balance using different frequencies and amplitudes with identical acceleration load.

Conclusion: An 8-week identical acceleration vibration training regimen with various frequencies and amplitudes can significantly improve jumping performance and body balance, but the specific neuromuscular adaptation is possibly induced by different training settings.

URL: <https://www.ncbi.nlm.nih.gov/pubmed/23523540>

Neuromuscular Disorders

1. Effect of whole-body vibration on muscle strength and balance in diplegic cerebral palsy: a randomized controlled trial.

Conclusion: Whole-body vibration training may be a useful tool for improving muscle strength and balance in children with diplegic cerebral palsy.

URL: <http://www.ncbi.nlm.nih.gov/pubmed/24434887>

2. Effect of a trunk-targeted intervention using vibration on posture and gait in children with spastic type cerebral palsy: a randomized control trial.

Conclusion: A trunk-targeted intervention using vibration can improve posture and gait in children with STCP without any known side effects. It is recommended that vibration and specific trunk strengthening is included in training or rehabilitation programmes.

URL: <https://www.ncbi.nlm.nih.gov/pubmed/23477461>

3. Whole-body vibration alters blood flow velocity and neuromuscular activity in Friedreich's ataxia.

Conclusion: WBV is an effective method to increase blood flow and to activate muscle mass in patients with Friedreich's ataxia, and could therefore be considered to be incorporated in rehabilitation programs of this collective.

URL: <http://www.pubfacts.com/detail/21078065/Whole-body-vibration-alters-blood-flow-velocity-and-neuromuscular-activity-in-Friedreichs-ataxia>

Short URL: <http://tinyurl.com/wbv-ataxia>

Lower Back Pain/Pain Relief

1. Treatment of Chronic Lower Back Pain with Lumbar Extension and Whole-Body Vibration Exercise

Conclusion: Different types of exercise therapy tend to yield comparable results. Interestingly, well controlled vibration may be the cure rather than the cause of lower back pain.

URL: <http://www.motionhealth.com/pdf/article37.pdf>

2. Stochastic resonance whole-body vibration, musculoskeletal symptoms, and body balance: a worksite training study.

Conclusion: WBV seems to be an efficient option in primary prevention of musculoskeletal complaints and falls at work.

URL: <http://www.ncbi.nlm.nih.gov/pubmed/24106645>

3. Six Weeks of Whole-Body Vibration Exercise Improves Pain and Fatigue in Women with Fibromyalgia.

Conclusion: Fibromyalgia is a rheumatic condition characterized by muscular or musculoskeletal pain with stiffness and localized tenderness at specific points on the body. Results suggest that a 6-week traditional exercise program with supplementary WBV safely reduces pain and fatigue, whereas exercise alone fails to induce improvements.

URL: <http://online.liebertpub.com/doi/abs/10.1089/acm.2008.0050>

Cystic Fibrosis

1. The effect of whole body vibration exposure on muscle function in children with cystic fibrosis: a pilot efficacy trial.

Conclusion: WBV may be a potentially effective exercise modality to safely increase leg strength and explosive power in children with CF.

URL: <https://www.ncbi.nlm.nih.gov/pubmed/23671546>

Multiple Sclerosis

1. Effects of whole-body vibration training on physical function in patients with multiple sclerosis.

Conclusion: Determinants of walking ability in patients with MS that are specific to walking endurance tasks are most affected by vibration training designed to improve strength endurance.

URL: <https://www.ncbi.nlm.nih.gov/pubmed/23648620>

Pelvic Floor/Incontinence

1. Influence of pelvic position and vibration frequency on muscle activation during whole body vibration in quiet standing.

Conclusion: The study of 18 WBV users on three different frequencies and in three pelvic positions suggest that a higher WBV frequency (20 Hz) should be used to strengthen most muscles, and that using the posterior pelvic tilt during WBV is much more effective at strengthening and training muscles related to core stability and pelvic floor strength.

URL: <https://www.ncbi.nlm.nih.gov/pubmed/25995555>

2. Incontinence after radical prostatectomy and cystectomy: are combined training with mechanical devices and whole body vibration effective?

Conclusion: WBV was found more effective than physiotherapy alone and found continuous improvement in continence depends on the consistent continuation of the WBV training at home.

URL: <https://www.ncbi.nlm.nih.gov/pubmed/21472620>

3. Effect on muscles of mechanical vibrations in treating femal stress urinary incontinence.

Conclusion: Muscle stimulation by vibration training improves the subjective and objective parameters of stress urinary incontinence.

URL: http://vibrattech.co.il/_Uploads/dbsAttachedFiles/301.-Effect-of-muscles-of-mechanical-vibration-in-combination-.pdf

Short URL: <http://tinyurl.com/wbv-incontinence>

Additional resources

http://en.wikipedia.org/wiki/Whole_body_vibration

Warning

Please consult a physician or physical therapist before using the whole body vibration machine if you suffer from any of the conditions listed above. This device may not be suitable for all users. Strong vibration affecting the neck and head can occur when using positions other than standing, consulting a physician for approval is recommended. Failure to use appropriate caution could result in serious injury. Misuse of this machine may result in serious injury. User weight must not exceed 350lbs. Failure to follow these safeguards may result in serious injury or health problems.

Caution

Stop exercising if you feel pain, faint, dizzy, or short of breath. Begin using the whole body vibration platform at lower speeds until you have become used to it. Make increases slowly and if you begin to feel at all uncomfortable stop use immediately by pressing the orange button on the remote control. Ensure the control is pointed toward the LED console otherwise it will not work.