

*Front Cover – Left*

## **Vibration Training And The Effects of High G-Forces On The Human Body**

*(Insert picture of several vibration trainers)*

**An Explanation Of Optimal G-Forces In Vibration Training, What You  
Should Know Before Purchasing a High G-Force Trainer And Its Relevance  
For Everyday Health And Fitness Training**

***Bottom of front cover should include call to action with tagline*** Read this important white paper  
NOW – it might just save your spine

## **Executive Summary**

There has been a recent trend among manufacturers of vibration trainers to produce machines with very high G-force ratings of 25 G's + and then tout these machines as being 'better than the competition.'

This trend is unfortunately being misinterpreted by the general public; the general consensus indicates consumers are duped into buying expensive, high G-force producing vibration trainers which are actually not only dangerous to use, but which numerous studies have pointed out the contrary - that LOWER G-forces are more beneficial for the body, whereas high G-force machines are harmful.

Research indicates and concludes that a G-force of around 8 is the optimal for achieving strength and muscle toning, while a G-force above 10 is considered to be uncomfortable for the average gym goer who is simply looking to stay fit.

G-forces between 10 and 16 are only recommended for use with serious athletes, while G-forces above 16 are considered a serious safety hazard for non-athletes with notable damage to the spine and jarring of the head. Stabilization of the body on a high G-force machine is seriously compromised, causing feet to dangerously bounce on the plates and is therefore a safety risk.

The findings in this report contradict the claims of vibration machine manufacturers who claim that high G-force training is better for the body, with research pointing to a strong incidence of injury and safety issues as a direct result of high G-force training.

*Inside Left Panel and continuing onto middle panel...*

## **BACKGROUND**

### **What Is Vibration Training and How Does It Work?**

Vibration training uses an intensely vibrating platform to create an unstable surface. This throws you off balance, causing your muscles to contract just to stabilize the body. This is known as whole body vibration (WBV) because it affects your entire body.

The platforms vibrate up to 50 times a minute triggering a 'stretch reflex' which continuously contracts and relaxes muscles, increasing strength and blood circulation and aiding weight loss.

Other benefits include:

- Tightens and tones entire body
- Stimulates collagen and elastin to prevent aging
- Improves lymphatic drainage and reduces puffiness
- Reduces stress levels and induces wellbeing
- Increases flexibility
- Strengthens muscles and bones and great for the elderly

### **What Are G-Forces And How Do They Affect The Body ?**

The vibrations create a gravitational force or 'G-force' from the inertia of the moving plates. For example, G-force is when your body gets a 'heavy feeling' when taking off in an airplane. G-force increases the load on your muscles, helping build muscular strength.

This extra gravitational load is why NASA and the Russian space program use WBV to train their astronauts for space missions. Space has no gravity and doesn't provide any resistance for your muscles, essentially wasting them away. The increased G-force on the muscles prevents muscle wastage and increases bone density.

#### ***How Many G-Forces Can A Human Comfortably Take?***

An airplane take-off means a sudden increase in G-forces which pushes you back into your seat and makes you body feel heavier, exerting a G-force of around 2. A G-force of 9 in an aircraft can easily induce unconsciousness and is known as G-LOC.

#### ***G-Forces And Vibration Training***

The intensively vibrating plate of a vibration trainer moves in different directions to create a G-force on the body. The optimal G-force range on a vibration trainer is 8 for maximum health benefits\*. At this G-force, you can actively feel your muscles working hard as they flex and stretch dozens of times a minute to help train your muscles. A G-force of 10 is good for those who like to push themselves and have a tougher workout.

For serious sports professionals who rely on vibration training to strengthen and condition muscles, the maximum G-force that can safely be used is around 15. It's important to note that G-forces above 10 are uncomfortable for the majority of people, and that **high G-force ratings on vibration machines pose a safety risk because feet literally bounce on the platform increasing the incidence and likelihood of injury.**

A G-force of around 22 could easily knock someone to the floor! \*\* The potential for injury on a machine like this is too easy to ignore.

***G-Forces Work Your Body At Varying Degrees Of Intensity...***

The intensity of your workout is determined by how strong the G-force is:

<b>G-Force Rating</b>	<b>Used For</b>	<b>Ideal For</b>
< 4	Light massage and relaxation	Older people, those recovering from illness and injury
Between 7-10	Strengthening muscles	Anyone wanting to keep fit and healthy and looking to get a good workout
Between 10-16	Building explosive strength	For serious athletes only
Over 16	Maximum strength building	Seasoned pro's only – not recommended for non-Pros professionals for safety reasons

\*<http://www.vibrationtrainingdevice.com/>

\*\*[http://sitecreator.com/VibrateorHike/pivotal\\_models.html](http://sitecreator.com/VibrateorHike/pivotal_models.html)

**Problem**

Some fitness companies create and market vibration trainers which produce G-forces as high as 25 G-forces (some even higher). In short they:

- claim that a higher G-force rating makes for a better workout
- Use a high G-force rating as a reason to purchase their machine
- Push high G-force machines as the only viable fitness solution above their competitors
- Use aggressive marketing tactics to advertise machines with a high G-force rating as being superior to machines which aren't as powerful

Moreover, some of these companies compare the power outages of their vibration machines with others in the industry, and present this as 'proof' in a downloadable report that their machines are better.

**However, comparing power outages of different vibration machines DOES NOT conclude that a more powerful vibration machine is better for you.**

In fact, showing or proving that a company's machine is more powerful than its competitors doesn't actually mean anything. For instance, the reports do not address health implications associated with higher outage machines – instead, the customer is left to draw their own conclusions by being swayed into believing that a more powerful machine is better value for money.

Noted scientist Bosco et al<sup>3</sup> conducted many studies into vibration training over several years. **The conclusion from the research conducted found that the high intensity machines can be damaging.** Moreover, scientists have noted that with some vertical machines at a high G-force level, there was considerable jarring of the spine and vibrations to the head.

*Insert graph showing the healthy G-force range – colour code with green for the optimal range and red for danger range. Suggest plotting where the Health station Pro fits in, and where Hypervibe fit in on the graph (should be in the red or danger zone)*

## *Inside Right Panel*

### **Summary and Conclusion**

G-force ratings of vibration trainers have always been an issue of manufacturer's using these ratings as a marketing ploy to help them sell more units. The concern over high G-force machines is not unfounded.

Several researchers and scientists have observed how high G-force ratings have inadvertently affected the human body. More notably, there is a serious issue of safety concerns for machines which fall in the 17-25G range – a range which is extremely uncomfortable for all but the most serious of athletes who are trained to deal with such high extremities in G-force.

In fact, the conclusion reached by the overwhelming evidence against high G-force training from vibration training is:

**Research shows that the optimal G-force for vibration training is around 8 G-forces<sup>1</sup>. Vibration trainers with very high G-force ratings above 10 are uncomfortable and are disliked by most people as they are really only suited to serious athletes. High G-force machines are a safety issue as feet literally bounce on the plate<sup>2</sup>, leading to possible injury.**

Manufacturers who claim that vibration machines with a high G-force rating are better than their competitors have a lot to answer for. Their machines can cause serious injury in untrained users and therefore these heavy duty machines should not be adopted by any consumer or fitness establishment unless it is being used to train serious athletes.

It is always better to err on the side of caution when purchasing a vibration trainer and choose a trainer which will benefit you for years to come with progressive health benefits, rather than go for a high G-force machine which may claim to give faster results at a cost of damage to your health with long-term use.

## **Recommendations**

This report has already highlighted the problem with high G-force machines, and as a result, you should be wary of any sales representatives who present their machines as being better than others based on power outage or G-force alone.

The **Health Station Platinum** is a high-end vibration trainer which has a maximum G-force rating of just under 8 – the safety limit mentioned in clinical papers. The Health Station Platinum is the world's first vibration machine to combine the two different types of Whole Body Vibration in one machine. This creates 3 completely different functions making Health Station Platinum truly unique.

This has a distinct advantage over other machines which only provide one type of vibration. It also eliminates the problems of whether to keep a vertical machine or an oscillation machine on your premises, thereby addressing potential space issues.

In fact, the Health Station Platinum gives your clients the following benefits:

- Increases fat loss and boosts metabolism
- Tightens and tones your entire body
- Stimulates collagen and elastin to prevent aging
- Stretches and flexes muscles for an intense workout
- Improves lymphatic drainage and reduces puffiness
- Increases circulation
- Reduces stress levels and induces wellbeing
- Increases flexibility
- Strengthens muscles and bones and great for the elderly
- Gentle on joints – perfect for all ages

Once clients feel the difference and experience the benefits of training with the Health Station Platinum, they will come back repeatedly, ultimately putting more money into your back pocket and boosting your profits.

The Health Station Platinum allows your clients to experience the best of both types of vibration. More importantly, the Health Station Platinum falls well within the recommended safety range of G-force output compared to other types of vibration trainers.

To find out more, simply visit [www.vibrationtrainer.com.au](http://www.vibrationtrainer.com.au) or call us +61 29310 1136 and ask about the Health Station Platinum for your business.