



NOTES

# Designed To Move

THE SCIENCE-BACKED PROGRAM TO FIGHT SITTING DISEASE & ENJOY LIFELONG HEALTH

DR. JOAN VERNIKOS  
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125 PAGES



## KEY POINTS

### Gravity:

It's Awesome

### Too Much Sitting:

Is the problem!

### Movement or Exercise?

Movement

### Health or Fitness?

Health

### Health Problems and Sitting.

Stand Up.

### Warning: Children not moving.

### Stand Up,

Sit down

*“Designed to move is for those who want to regain control over their long term health and well-being with a natural solution. I wrote it to bring you up to speed on the latest research from NASA and the scientific community on the physiological benefits of moving and to offer workable solutions for using gravity, our ever-present friend, to strengthen your body and improve your life. As we struggle to find the best ways to help astronauts explore and live on Mars one day, why not at the same time choose to live well on Earth? This book shows you how.”*

Joan Vernikos from Designed To Move

I could summarise this book very simply by saying stand up every 30 mins. If you want to really improve your health it really is as simple as that. No I'm not kidding! This book is full of research that says exactly that. We want to reduce the amount of time we sit without changing position. It's not the sitting that's bad it's the fact that we are not moving. We need to break up sitting (with standing aka moving) as much as possible. We need to move and indeed we are designed to do so.

This is a fun book by Dr. Joan Vernikos. Joan is an incredible human. She was the Life Sciences Director at NASA for a large chunk of her career and discovered that what happens to astronauts in space is similar to what happens to humans on earth when we remove ourselves from gravity (aka sit down).

Part one is about why we don't want to sit too much and part two is about the behaviours we can install to “Enjoy lifelong health through smart and frequent movement.”

## Gravity

*“As we progress through life in today's society, we become more and more sedentary. We call the changes “aging”, as if they are natural and unavoidable. It does not have to be that way. Our genes may predispose us but how healthy your aging might be is at your disposal. Learning how to live in gravity is what children do as they learn to move in the earliest months and years of life. Relearning how to live in gravity, as an adult is what this book is all about. Gravity is more than our friend—it is our lifeline.”*

Gravity. When was the last time you took a moment to think about how your use (or lack thereof) of gravity might be affecting your health. This book is all about movement and how we need to move in gravity most of the time to reap the benefits. Modern hunter-gatherers such as the Tsimane tribe in Bolivia have some of the best heart health in the world and they constantly move. They take between 14,000 and 17,000 steps a day. And they never exercise. Joan makes the distinction that it is not that we need to replace our sitting with ‘exercise’, but that we need to remember that we have other options. Standing up, folding the clothes, digging in the garden, washing the car, stretching, walking and chatting, standing in meetings, walking to work and so on. She also wants us to know that these other options for moving our bodies may be more beneficial for our health than exercise.

*“Physiological changes in highly fit astronauts in the near-zero gravity of space, or those caused in healthy men and women by continuous sitting or lying in bed, are similar to those in the elderly. These conditions, which afford negligible use of gravity both in space and here on Earth, produce aging changes and accelerate the aging process. The common denominator of these changes, whether on Earth or in space, is gravity deprivation of one form or another: near-zero gravity in space, reduced influence of gravity when lying down, reduced sensing of gravity or minimal use of gravity here on Earth—in spite of being constantly surrounded by gravity—by habitual prolonged sitting and immobility.”*

When we don’t move in gravity our bodies begin to break down. When astronauts are completely removed from gravity their bodies begin to lose function much more rapidly than here on earth.

*“We have learned at NASA that all of the changes astronauts undergo are reversible when gravity-using movement is re-introduced upon their return to Earth”*

Similarly changes in sedentary earth dwellers (including older-age earth dwellers) can be reversed when gravity-using movement is increased. So use gravity, move in it. Don’t be still.

## **Too Much Sitting**

*“We move less today than at any time in human history. Modern comforts, conveniences, and forms of electronic entertainment deprive us of the simple everyday movement of our recent ancestry. We have no need to move the way we used to. In fact, modern conveniences have robbed people of the many opportunities for movement they once spontaneously encountered by simply going about their lives.”*

Do you sit too much? How have modern conveniences robbed you of movement? Do you still hang the clothes on the line or do you put them in the dryer? Do you walk to work or do you drive? Do you cook your own

meals or buy fastfood on the way home? Do you grow your own food (dig, squat, crouch, reach) or do you buy it from the supermarket? Do you spend your weekends moving or do you sit on the couch? You don't have to go to the gym to reap the benefits of movement you simply have to get out of your chair. Are you in a chair right now? STAND UP!

## **Movement Or Exercise!**

*"Americans have struggled in recent decades to exercise more and eat less, but one thing hasn't changed: we spend hour after hour everyday virtually immobile in our chairs or cars, and we're heavier, sicker, and more tired as a result. The way we live is killing us and we can't seem to stop it. We seem to have had the choice of either sitting or exercising, with nothing—like routine daily movement—in between."*

You have more than two options. For years we have been told that in order to be healthy we must exercise. In this book Joan is trying to get you to see that you have other options. Movement involves moving your body (no gym required). Hanging up the clothes is movement. Walking is movement. Gardening is movement. Playing with your kids is movement (unless you are playing video games). Instead of thinking that you must exercise how about changing your view and choosing to see that movement is really good for you.

*"In America, our big problem comes from not moving enough as we go about our daily lives. Such smart moving is needed to keep the body tuned and oiled, ready to respond as needed. Its absence makes us heavy, stiff and rusty. Simple everyday moving is the foundation of health. It's what keeps us alive, resilient, and feeling good. It is very different from working out at the gym."*

Joan gets more movement into her life by always taking the stairs, walking her dogs twice per day, cooking meals from scratch, replacing one trip per week with human power, catching up with friends while walking, dancing and continuing to be involved in sport.

How can you get more movement today?

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*"Ultimately, we're talking about a shift in mindset from looking at exercise as the only saviour to understanding and relishing that simply changing one's posture along the G axis and moving in more effective ways will create the foundation for your health. Let's get moving!"*

## Health or Fitness!

*"Bear in mind that health is different from fitness. Health is the absence of disease whereas fitness must be defined by what one is fit to do, presumably with exertion. Problems arise with social expectations about the universal value of exercise. And government guidelines push us in the direction that doesn't necessarily work or solve the sitting problem. The solution is simple, frequent, beneficial daily movement, which is readily available to all anywhere, and is already, to one degree or another part of our daily lives."*

If you want to be healthy you must move. Government guidelines may suggest that exercise after work is what we need to stay healthy but the science shows that exercising after work does not undo the detrimental consequences of all day sitting. The key is to interrupt your long bouts of sitting with movement, simply standing up every 30 mins will have more positive benefits for your health than going to the gym every day after work, although Joan suggests you might want to do that too.

Modern hunter-gatherers don't exercise and they have some of the best heart health in the world. Katy Bowman suggests that understanding the idea that MOVEMENT is what the body needs and that EXERCISE is simply the invention of a sedentary society will help you to see why EXERCISE is not the answer to all our health troubles. And that restoring a huge variety of movement to your life will be very beneficial for your health.

If you want to be healthy you must move. If you want to be fit for a specific sport you must move and do specific training for your sport. EXERCISE is not necessary for your health but MOVEMENT is. Remember modern hunter-gatherers NEVER EXERCISE and simply move all day and they have super healthy hearts.

## Health Problems and Sitting

*"Most of us spend as much as 55 percent or more of our waking hours each day sitting. We sit at the table during meals, we sit while driving our cars, we sit working at a desk at the office or at school, and we finish off the day sitting on the couch watching TV in the evening."*

Joan spends a few pages discussing scientific papers that show links between too much sitting and cancer, reproductive disorders, cardiovascular disorders, metabolism issues, reduced cognitive function, balance and coordination issues, dementia and back pain. Get the book for the specifics of the science BUT start reducing your sitting time now by standing or better yet download the audio version of this note (or get it from the mind in movement podcast) and walk while you listen. Sitting for long periods has got to be eliminated from our lives. Humans simply weren't designed to sit for long at all.

## **Warning: Children Not Moving.**

*“Anyone who spends even short periods of time with young children knows that they have an amazing amount of energy and are by nature constantly moving. During the first five to ten years of development, their basic metabolism is changing at a very high rate, for their young bodies need energy not just for movement and internal functions like blood circulation and nervous system reactions, but also for the growth of muscles, bones, nerve fibers, and so forth. Yet as adults we often find children’s constant moving about to be an annoyance. It can be tempting to park children in front of the TV or video game console and instruct them to sit still for however long is convenient for the adult.”*

PLEASE DON'T BE AN ADULT WHO RESTRICTS THE MOVEMENT OF CHILDREN!

Joan shares a lot of research emphasising how detrimental it is for children to be still. Children who watch TV are likely to be overweight and have poor bone density. Screen time also negatively effects childrens self-worth and self-esteem.

*“It is important to recognize that the spontaneous activity of a child is nothing like the structured physical activity provided in a school curriculum. G. D. Myers, Director of Research at the Human Performance Laboratory for the Division of Sports Medicine at Cincinnati Children’s Hospital Medical Center, and his team point out that current recommendations for physical activity overlook the critical importance of motor skills acquired early in life. Instead, they focus on quantifying how much physical activity children should engage in (e.g. sixty minutes of daily moderate to vigorous physical activity, aerobic fitness, muscular strength, muscular endurance, flexibility, and body composition).”*

Children need to be constantly moving. Keeping children still in any position for long will interfere with their developmental movement patterns especially when they are babies and toddlers. Children must move so they can experience their changing body in gravity and learn how to move. When you are still you are not practicing interacting with gravity and so you become less skilled at it, your muscles weaken and your balance fails. To practise balance is simply to move in gravity. If your balance is poor you need to move more.

*“Gravity has determined how we evolved, develop, grow, look, and function. How we use gravity determines our health and longevity. The benign neglect that comes with too much sitting has taken away our health, our ability to move about easily, and our ability to retain a youthful life. Essentially, the input to our central nervous system that moving in G is designed to provide is reduced by sitting. When the vestibular system, the brain’s G-perceiving balance center, goes silent or is*

*damaged, the rest of the body atrophies and prepares metabolically to shut down."*

LET YOURSELF MOVE AND MAKE IT YOUR MISSION TO HELP THE CHILDREN IN YOUR LIFE GET AS MUCH PLAYFUL MOVEMENT AS POSSIBLE.

## **Stand Up**

*"What we want to do is tap into a virtuous cycle based on each person's starting point and begin to move more frequently and more effectively. As you do this, I guarantee your levels of energy and strength will begin to increase, your confidence will be raised, and you will start to seek out opportunities to move more. You may suffer from a disability or be handicapped by obesity or age, but there is always something you can do."*

Sitting for a long time makes you sick. The solution is to stand up, that is move, the more movement the better. So stand up, move around and sit back down but make sure you stand up again soon.

## **About the Author of 'Designed To Move' Joan Vernikos**

Dr. Joan Vernikos is a research scientist who pioneered space medicine. She worked at NASA as Director of Life Sciences for many years. In her research at NASA, Joan spearheaded groundbreaking medical studies on the effects of weightlessness on health. She has written many books on the subject. You can find out more about Joan at [www.joanvernikos.com](http://www.joanvernikos.com).

## **About the Author of this Move Note Hazel Boot**

Hazel has a degree in Exercise and Sports Science. She is also an Anatomy Trains Structural Integrator and a Restorative Exercise Specialist. She works with clients to improve movement and reduce pain. She loves reading and geeking out on movement books. She writes notes on the books she loves to help others learn faster.

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I hope you enjoyed the content of this note but please remember that it is not medical advice and should not be used as such.