



Why **Sedentary Disruption** is paramount to good health

Too much sitting is as much a health issue as too little exercise.

And, *both* demand attention.

Good health requires breaking up sitting time.

Sedentary behavior has become an integral part of our lifestyle. Sitting, lying down, and expending little energy have become, unfortunately, some of the things we do best.

Sitting at a desk, in front of a TV, and riding in automobiles increase premature mortality risk, according to an *Exercise Sport Science Review* study. And, even when adults are getting enough physical exercise, prolonged sitting can compromise metabolic health. Study after study confirms that people need to take breaks from sedentary behavior.



Too much sitting is not the same as too little exercise.

Two major obstacles we face today are too little exercise and too much sitting. They are different issues, and both demand attention.

A Mayo Clinic report indicates, "Work sites, homes, and public spaces have been re-engineered in ways that minimize movement and muscular activity," resulting in moving less and sitting more. In fact, 1 in 4 adults today spends 70% or more of their waking hours sitting. And, the problem is humans were designed to move.

According to 2014 research by the *International Journal of Environmental Research and Public Health*, movement has always been necessary for human survival, but "Sitting has become the new norm despite the fact that we have not genetically adapted to this sedentary lifestyle."

The benefits of light physical activity

Breaking up sedentary time with light-intensity physical activity is important for increasing movement (e.g., making sure we get a certain number of steps per day). Current physical activity guidelines don't focus on daily movement and non-movement behaviors.

Understanding and promoting movement would help address our public health crisis of physical inactivity.

People can change sedentary time into light physical activity time and reap health benefits. Movement and activity don't have to be about breaking a sweat or increasing your heart rate. Moderate-to-vigorous activity is important to our health, but so is breaking up sitting, treading lightly, and moving.

Cell phone use promotes sedentary behavior

According to the *International Journal of Behavioral Nutrition and Physical Activity*, today's cell phones promote sedentary behaviors, such as surfing the internet and playing video games. Cell phones are also called mobile phones for a reason, but walking while talking may not always be front of mind for many. Fortunately, this is a lifestyle behavior that can be changed.

People who are sedentary most of the time tend to be less physically active, not as fit, and at greater risk for health problems. Those who use their cell phones a lot might stay away from physical activity, which can result in higher triglycerides, glucose levels, and well as cardiovascular disease, and other health conditions. Fortunately, we are seeing trends with smart phone apps and games centered around movement, such as Pokemon GO and others.

Don't sit all day. Don't stand all day.

Don't just sit there!

We know sitting too much is bad, and most of us intuitively feel a little guilty after a long TV binge. But what exactly goes wrong in our bodies when we park ourselves for nearly eight hours per day, the average for a U.S. adult? Many things, say four experts, who detailed a chain of problems from head to toe.

REPORTED BY BONNIE BERKOWITZ; GRAPHIC BY PATTERSON CLARK

HEART DISEASE
Muscles burn less fat and blood flows more sluggishly during a long sit, allowing fatty acids to more easily clog the heart. Prolonged sitting has been linked to high blood pressure and elevated cholesterol, and people with the most sedentary time are more than twice as likely to have cardiovascular disease than those with the least.

Overproductive pancreas
The pancreas produces insulin, a hormone that carries glucose to cells for energy. But cells in the muscle don't respond as readily to insulin, so the pancreas produces more and more, which can lead to diabetes and other diseases. A 2011 study found a decline in insulin response after just one day of prolonged sitting.

Colon cancer
Studies have linked sitting to a greater risk for colon, breast and endometrial cancers. The reason is unclear, but one theory is that excess insulin encourages cell growth. Another is that regular movement boosts natural antioxidants that kill off damaging — and potentially cancer-causing — free radicals.

MUSCLE DEGENERATION
Muscle atrophy
When you stand, move or even sit up straight, abdominal muscles keep you upright. But when you slump in a chair, they go unused. Tight back muscles and weak core form a posture-wrecking alliance that can exaggerate the spine's natural arch, a condition called hyperlordosis, or swayback.

Tight hips
Flexible hips help keep you balanced, but chronic sitting so rarely extends the hip flexor muscles in front that they become short and tight, limiting range of motion and stride length. Studies have found that decreased hip mobility is a main reason sedentary people tend to fall.

Limp glutes
Sitting recruits your glutes to do absolutely nothing, and they get used to it. Soft glutes hurt your stability, your ability to push off and your ability to maintain a powerful stride.

LEG DISORDERS
Poor circulation in legs
Sitting for long periods of time slows blood circulation, which causes fluid to pool in the legs. Problems range from swollen ankles and varicose veins to dangerous blood clots called deep vein thromboses (DVT).

Soft bones
Weight-bearing activities such as walking and running stimulate hip and lower-body bones to grow thicker, denser and stronger. Scientists partially attribute the recent surge in cases of osteoporosis to lack of activity.

Mortality of sitting
People who watched the most TV in an 8.5-year study had a 65 percent greater risk of dying than those who watched less than one hour per day.

Hours of TV per day	Relative Risk of Death
1-2	4%
3-4	14%
5-6	31%
7+	61%

TROUBLE AT THE TOP
Friggy brain
Moving muscles pump fresh blood and oxygen through the brain and trigger the release of all sorts of brain and mood-enhancing chemicals. When we are sedentary for a long time, everything slows, including brain function.

Strained neck
If most of your sitting occurs at a desk at work, craning your neck forward toward a keyboard or tilting your head to read a smartphone screen can strain the cervical vertebrae and lead to permanent imbalances.

Sore shoulders and back
The neck doesn't stretch alone. Slumping forward overextends the shoulder and back muscles as well, particularly the trapezius, which connects the neck and shoulders.

BAD BACK
Inflexible spine
Spines that don't move become inflexible and susceptible to damage in muscles, vertebrae, such as when you reach for a coffee cup or bend to tie a shoe. When we move around, soft disks between vertebrae expand and contract the sponges, soaking up fresh blood and nutrients. When we sit for a long time, disks are squashed unevenly and lose sponginess. Collagen molecules around supporting tendons and ligaments.

Disk damage
People who sit more are at greater risk for herniated lumbar disks. A muscle called the psoas travels through the abdominal cavity and, when it tightens, pulls the upper lumbar spine forward. The weight of the torso rests entirely on the lumbar tubercles (sitting bones) instead of being distributed along the arch of the spine.

THE RIGHT WAY TO SIT
If you have to sit often, try to do it correctly. As Mom always said, "Sit up straight."

- Neck leaning forward
- Shoulders relaxed
- Elbows bent 90 degrees
- Arms close to sides
- Lower back fully supported
- Feet flat on floor

The experts
Scientists interviewed for this report:
James A. Levine, professor of medicine, dean and director of Obesity Solutions at the Center for Human Health University
Charles E. Matthews, National Cancer Institute investigator and author of several studies on sedentary behavior
Joe DeStefano, director of the Step Biomonitoring Lab at Baylor, Drexel, and author of *Restless for Business*
Tal Anshary, locomotionist at Baylor University's Department of Sport and Exercise Sciences.

So what can we do? The experts recommend...

- Sitting on something wobbly** such as an exercise ball or wobble stool to force your core muscles to work. Sit up straight and keep your feet flat on the floor. Sort of, so they support about a quarter of your weight.
- Stretching the hip flexors** for three minutes per side once in a while. Use this: Even a small ball would foam before the calories of sitting and more vigorous exercise would be even better.
- Walking during commercials** when you're watching TV. Even a small ball would foam before the calories of sitting and more vigorous exercise would be even better.
- Alternating between sitting and standing** at your work station. If you can't do that, stand up every half hour or so and walk.
- Trying yoga poses** — the cow pose and the cat — to improve extension and flexion in your back.

Illustrations: Proper alignment of cervical vertebrae, Lumbosacral junction, Hip flexor, Gluteus, Hamstring, Tibial tuberosity, Ankle, Foot, Hip, Pelvis, Sacrum, Coccyx, Cervical vertebrae, Thoracic vertebrae, Lumbar vertebrae, Sacrum, Coccyx, Hip, Pelvis, Sacrum, Coccyx, Cervical vertebrae, Thoracic vertebrae, Lumbar vertebrae, Sacrum, Coccyx.

The Washington Post January 20, 2014

The *Washington Post* published a 2014 infographic illustrating the impact of poor posture and the health hazards of sitting. Some of these include: organ damage, mental sluggishness, muscle degeneration, strained neck, poor circulation, and weak bones.

Alan Hedge, a professor of ergonomics at Cornell University indicates in a *WSJ* article, "For every half-hour working in an office, people should sit for 20 minutes, stand for 8 minutes and then move around and stretch for 2 minutes."

Furthermore, *The British Journal of Sports Medicine* published "sitting guidelines," recommending 2 to 4 hours of standing and light activity over the course of the workday. NASA research weighs in as well, indicating that standing for 2 minutes 16 times a day, while at work, can effectively help maintain bone and muscle density.

As we already know, it is all about moderation. Don't sit all day and don't stand all day.

There are benefits, however, to the right amount of standing. John Buckley, a professor of applied exercise science at the University of Chester in England says in the same *WSJ* article that people who are in jobs where they are required to stand for 2 or more hours a day have a reduced risk of developing key chronic diseases. (And, not to mention, you can burn almost twice as many calories from standing as you do from sitting).

UtiliFIT® sedentary disruption activities – an integral part of wellness

Strategic Health Services (SHS) brings sedentary disruption activities to the thousands of members who use SHS wellness every day. Employees receive push email notifications asking them to join a game of the day, or opt to choose among hundreds of activities available to them. These activities can be done over an 8-hour work day, or grouped and completed within much shorter periods of time.



IPCS* research shows that many shoulder injuries, resulting in high worker's compensation claims, are the result of sedentary behaviors. A Physical Strength Risk Assessment™ (PSRA), as part of your wellness program, (that evaluates muscle fitness and strength-to-BMI) can indicate shoulder injury risk, among others. Health coaches can refer employees to additional programs, sedentary disruption activities, and exercises, to help prevent injury and possible claims costs.

UtiliFIT® is geared towards various types of jobs and functions, including employees sitting at desks for long periods, travelers, those on their feet all day, remote workers, laborers, and employees in non-traditional roles. Games are mentally energizing, and encourage flexibility and light resistance. Activities also help build strength and endurance. And, no equipment or device is ever required.

Today's employee wellbeing programs need to incorporate sedentary disruption activities to ensure we move, and then move some more. **Our health depends upon it.**

To learn more about UtiliFIT® sedentary disruption activities and the Physical Strength Risk Assessment™ (PSRA) as part of your comprehensive wellbeing program, call Strategic Health Services at 800.550.2427 or email info@strategichealthservices.com.

*Industrial Physical Capability Services, Inc.

Sources:

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