

The Healthy Way to Sit and Exercise at the Same Time

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Did you know that low back pain is the most common orthopedic disorder in the world? Amazingly, one of the major causes of back pain is sitting. For many of you, this is quite a problem because today, more people work seated than any other position. Typically, people get up and sit to eat, sit to drive to work, sit at work, sit on the drive home, sit to eat dinner and sit in front of a TV until they go to bed. That's a lot of sitting!

Do we have some strange affinity for chairs? It would appear so, yet as I will show you, this affinity is misguided.

While it's quite likely back pain was a problem even before chairs were invented, the arrival of the chair in our lives certainly did nothing but increase the incidence of back pain. This was demonstrated by Dr. Harry Fahrni who studied the Bihl tribe of India. The Bihl didn't use chairs and, at the time of Fahrni's visit, were very primitive. Dr. Fahrni had X-rays taken of the lumbar spines of 450 Bihl tribesmen ranging in age from 15-44. He then took a comparable series of X-rays of heavy laborers in Sweden and an additional series of X-rays of light workers in San Francisco.

Fahrni's studies only confirmed what he knew from experience: The more active Bihl who didn't use chairs had healthier spines than other groups (see [Figure 1](#) for images of healthy and degenerative spines). He found heavy laborers in Sweden had a high incidence of lumbar disc narrowing of 80 percent by age 55. Light workers showed an incidence of 35 percent narrowing by the same age. In stark contrast, the images of the primitive Bihl tribesmen showed an incidence of only 9 percent disc narrowing.¹

Dr. Fahrni's findings ([Figure 2](#)) show avoiding chairs and having an active lifestyle may be significant contributions to maintenance of a healthy spine. However, being active alone is not enough to avoid back problems.

From a movement perspective, there is no doubt both the light workers in San Francisco and the heavy workers in Sweden were active, so what may account for the difference there? My clinical experience suggests, in the heavy workers, the patterns of movement would be quite repetitious while the light workers may simply not have gotten enough exercise.

Among the Bihl tribesmen and women, the activities of hunting and gathering would ensure adequate movement as well as a myriad of movement patterns. Such consistent,

dynamic activity would serve to pump fluids through the spinal discs, keeping them well nourished. The Swedish and American participants also came from industrialized nations where sitting is commonplace.

However, when we squat the way native tribesmen do ([Figure 3](#)), the torso is supported by the thighs, allowing relaxation and decompression of the spinal column, which can only keep it well hydrated and healthy ([Figure 4](#)).

I Can't Escape My Chair: What Can I Do?

When you sit in chairs for hours each day, the spine doesn't get enough movement and fluid is leached out of the discs. This minimizes incoming nourishment because the discs have no direct blood supply and are fed by a process of absorption facilitated by pressure changes in the case of the spine.

Since the primary constituent of a spinal disc is water, it only makes sense to keep properly hydrated to prevent your discs from dehydrating. This means drinking at least half your body weight in ounces of water daily. A person weighing 200 pounds would need 100 ounces of water daily. I know for a fact drinking water can decrease pain in degenerative spines because I've seen it happen over and over again in my own practice.

When we sit much of the day, we typically don't get enough movement or exercise to keep the muscles and ligaments of the spine healthy. As our spinal discs dehydrate they narrow. This causes the ligaments of the spine to become progressively more lax.



This condition is a very common cause of spinal instability that typically leads to more serious lumbar pathology such as pinched nerve roots, disc herniations or arthritic changes that crowd the spinal cord and nerve roots. Symptoms suggestive of spinal instability include:

- Sensing the need to manipulate or adjust your own joints (i.e. popping your own back or neck).
- Pain or discomfort that is relieved by adjusting your own spine, particularly when the same or similar symptoms return and can again be alleviated by self-manipulation or manipulation by a trained manipulator. In addition to pain, such symptoms as tingling, numbness, spasm, muscle weakness and a sense of tension around a joint that are repeatedly alleviated by manipulation indicate spinal instability.
- Popping or clunking sounds coming from a spinal joint(s) when performing a characteristic movement, such as rotating the spine in one direction, yet this symptom does not result with rotation in the opposite direction.
- A trained professional will notice washboarding, which is hyper-activation of the deep spinal stabilizers in the region of the lax joint.

But, there is a solution to minimize the detriments of sitting too much -- the Swiss ball ([Figure 5](#)). As a sphere, the Swiss ball has a reduced base of support, moves easily underneath you and requires both the activation of your postural muscles and your balance mechanisms.

A study conducted by Swedish Naprapath Joakim Dettner and his colleagues found, when compared to massage therapy, simply balancing on a Swiss ball in a seated position for one-minute intervals with 30 seconds rest seven times in a row, in place of any other form of treatment, significantly decreased pain and disability. ²

Using The Swiss Ball Effectively As a Chair

To get the most benefit from your Swiss ball as a chair, follow these four suggestions:

1. Always choose a ball at least one size too large. For exercising, when sitting on the ball, your thighs should be parallel or slightly inclined with the hip no more than 10 degrees above the knee relative to the horizontal plane. To use the Swiss ball as a chair, you will use the same guidelines, but start with one size too large (the person that would exercise on a 55 cm ball should sit on a 65 cm ball) and deflate it until your hip is slightly elevated relative to your knee. This will give you a soft ball to sit on, whereas if you sit on a ball properly inflated for exercising, you may suffer compression of your sciatic nerve and related discomfort.
2. Use only [an anti-burst Dura Ball Pro ball](#). If a traditional Swiss ball is punctured by a staple or any sharp object, it can explode and you can easily get injured hitting the ground, the wall or furniture! Anti-burst Duraballs will deflate slowly and safely.
3. Always check the floor daily and remove any potentially offending objects.
4. Don't get rid of your chair just yet! Sitting on a Swiss ball requires full activation of your postural muscles and if they fatigue, you will just be someone sitting on a Swiss ball with poor posture, which defeats the purpose. Therefore, I recommend only sitting on the Swiss ball as long as you can hold good posture, like you see James doing in [Figure 5](#). When you're tired, switch to the chair for an equal time period and rotate back and forth between the Swiss Ball and chair. For example, you may sit for 15 minutes on the ball and 15 minutes on a chair. As your postural muscles get stronger, reduce the amount of time you sit on the ball.

Exercise As You Sit

While sitting on the ball, you can pump nutrition into and remove waste from your spinal muscles, ligaments and discs as you work by using the following fun and effective movements on the ball:

The Seated Posture Trainer ([Figure 6](#)): Sitting with good posture, simply lift one foot off the ground for a second or two and alternate from left-to-right repeatedly for 30 -- 60 seconds intermittently throughout the day.

Seated Balancing ([Figure 7](#)): When you are comfortable lifting one foot and then the other and can do it with good posture, try lifting both feet off the floor and balancing on the ball. Again, work at keeping good upright posture just the way you see C.H.E.K Practitioner J.P. Sears doing here. The first few times you try this, I suggest moving the ball away from furniture so you have room to move if you lose your balance. Remember, the harder it is to balance on a Swiss ball, the more you need the exercise!

Forward and Backward Tilting of the Pelvis ([Figure 8a and 8b](#)): Here you see me demonstrating how to tip the pelvis forward. Imagine the pelvis is a bowl and you are pouring the fluid in the bowl out over your belt buckle and then backwards. As you do this exercise, keep your head and shoulders as still as possible to encourage the pumping motion in your low back region. This is a good abdominal and back muscle exercise too! Performing 20 repetitions two to four times an hour can be very beneficial.

Side-To-Side Tilting ([Figure 9a and 9b](#)): Keeping your head and shoulders still, rock your pelvis side to side 10-20 times two to four times an hour.

Pelvic Circles ([Figure 10](#)): Moving your pelvis in circles is very effective too! Again, keep the head and shoulders very still to encourage lumbar pumping and muscle coordination. This will also improve your performance on the dance floor! Do pelvic circles at random throughout the day for good results.

Pelvic Figure 8s ([Figure 11a and 11b -- Front to Back & Side to Side](#)): As you can see in the images below, you can make figure 8 movements in a front to back motion or a side-to-side motion. This is a better, more comprehensive coordination exercise. You may perform this at random or complete 10-20 figure 8s in each direction each hour for great results.

By using a Swiss ball (Duraball) as a chair, I'm positive you will enjoy the same benefits that my staff and I at the C.H.E.K Institute, as well as thousands of patients seen by C.H.E.K practitioners around the world, do every year.

To get your anti-burst Duraball, or for more information, books and videos on how to use your Swiss Ball for improved health and vitality, please click on the links below or [visit the C.H.E.K Institute Web site](#).

- [How To Eat Move & Be Healthy](#) (Book)
- [Swiss Ball Exercises for Better Abs, Buns and Backs](#) (Video)
- [Swiss Ball Exercises For Athletes](#) (Video)
- [10 Tips For A Healthy Back](#) (Instructional Handout)
- [Dura Ball Pro](#) (Swiss Ball)

References:

1. Backache: Assessment and Treatment W. Harry Fahrni, M.D., Mosqueam Publishers, Vancouver, BC, 1976

2. ["Treatment of Chronic Low Back Pain by Co-ordination Training -- A Randomized, Controlled Pilot Study"](#) Joakim Dettner, DN, Dag Elmfeldt, M.D., PhD, Kurt Svärdsudd M.D., PhD; Department of Public health and Caring Sciences, Family Medicine; Kroppsinvest Kliniken, Ronneby, Sweden; AstraZeneca, R&D, Mölndal, Sweden (For more information about this study, contact Dr. Joakim Dettner at joakim.dettner@kroppsinvest.se)

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Paul has produced more than 60 videos, 17 correspondence courses and is the author of several books, audio programs and articles. For more information on Paul's popular "You Are What You Eat" audio/workbook program, or for any of his other health/exercise courses, videos and books, call 800/552-8789, 800/552-8789 (New Zealand or Australia), 44 (0)1273-856-860 (Great Britain) or visit online at [the CHEK Institute Web site](#). Please feel free to request a catalog of CHEK