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## Spring Health Update 2010

### What's New:

1. **Sitting Ducks for Major Health Risks**
2. **Back Pain When Sitting: Common Causes**
3. **Getting a Grip on Thumb & Wrist Pain**
4. **New Website Upgrades and Additions**

### Sitting Ducks for Major Health Risks

We are at a unique moment in the evolutionary history of mankind. Our knowledge of health and the human body has advanced by leaps and bounds over the past centuries, yet, perhaps for the first time, the youngest generation may not look forward to greater longevity and quality of life than prior generations.

The great dichotomy of our modern technology is that new medical procedures and techniques are saving lives but our sedentary computer-driven existence is also killing us. Two-thirds of adults in the U.S. are over-weight or obese, diabetes and cardiovascular disease are on the rise, and most people sit longer each day for work, play, commuting, and socializing than ever before.

Years ago a field of medical science emerged called exercise physiology that studied the effects of physical activity on the body. New methods were developed to optimize human performance that resulted in great achievements in individual and team sports. Nowadays, the emerging science is *inactivity* physiology—the study of a lack of physical activity on the body.

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#### Are we facing a new paradigm of inactivity physiology?

Elin E Bak, Mai-L Hellénus and Björn Ekblom

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doi: 10.1136/bjism.2009.067702

It is now known that prolonged sedentary periods characterized by a lack of whole-body movements are associated with obesity, cardiovascular disease, metabolic syndrome, diabetes, cancer, and a greater death risk generally, regardless of physical activity.

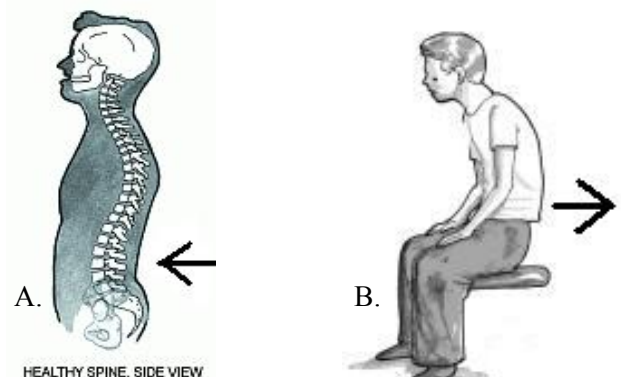
If you are a weekend athlete or morning gym rat, that sits behind a desk eight hours a day in addition to the hour commute each way between home and work, your intermittent exercise sessions (compared to the frequent long-duration sitting) does not offset the downside of prolonged sedentary periods.

It must be understood that the benefits of exercise, which are many, are separate from the detriments related to extended periods of non-movement. A healthy body needs cardiovascular fitness, strength training, *and* the avoidance of prolonged sedentary periods. This combination gives the best chance at maintaining stamina, lean mass, good bone density, proper levels of fat burning enzymes, and natural resistance against disease. Don't be a sitting duck for major health risks—avoid inactivity for long periods with simple whole body movements (such as standing up onto your toes and reaching up with your arms for ten reps) to interrupt continuous sitting every thirty minutes or so.

### Back Pain When Sitting: Common Causes

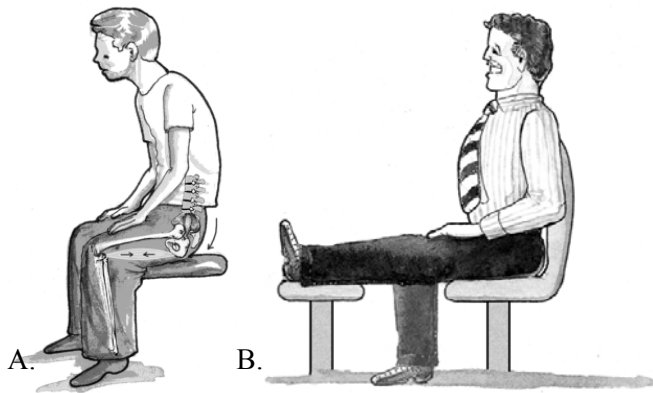
Back pain among people that sit a lot is common. Here is a list of the top three reasons why:

1. **Lack of proper support for the arch of the lower back** The normal shape of the lower spine has a forward arch called the lumbar lordosis (A). Unsupported sitting allows the lower back to round outward, deforms the lumbar lordosis, and increases lumbar disc compression (B). Always support the normal arch to avoid undue back and neck strain.



HEALTHY SPINE, SIDE VIEW

**2. Tight leg muscles** The major leg muscles in the thigh, including the hamstrings, attach to the pelvis. When the leg muscles are tight, they pull from their attachments on the pelvis and prevent normal pelvic tilt/alignment when sitting and when arising after sitting (A). The result will be increased lumbar disc compression. You can safely stretch your hamstrings by resting your leg straight out in front of you at the same level as your seat (B). Keep your back firmly against the seatback and hold for thirty seconds. Repeat for the other side.



**3. Sitting continuously for too long before getting up** Good sitting posture minimizes lumbar disc compression and muscle strain but does not totally avoid them, and prolonged sitting is hazardous to your systemic health regardless of how you sit. So try to interrupt continuous sitting after thirty minutes whenever possible with some whole body movements that engage large muscle groups and increase blood flow to circulate the gravitational pooling of fluids out of your legs.

### Getting a Grip on Thumb & Wrist Pain

Pain at the thumb side of the wrist made worse with grasping or holding objects, or with movements of the hand, is common among with computer users. Increasingly, these symptoms are also becoming common among people that use Personal Data Assistants (PDA's) and cell phones with texting.

Often this type of pain is due to a condition called De Quervain's Tenosynovitis—or inflammation of the tendons that extend the thumb. There are two possible tendon groups that can be involved, and more specifically, it is the delicate tissue that wraps the tendons like a sheath which becomes irritated. The mechanism of injury has to do with the fact that the base of the thumb joint has to be braced in extension while the mid-thumb joint flexes when we hold objects, type or mouse. The prolonged bracing of the base of the thumb creates stress along the extensor tendon sheaths.



As you can see from the picture to the left, the thumb extensor tendons run under a band on the back of the wrist on their way to the muscles in the forearm that pull the tendons. When the tendon sheaths are inflamed, the friction of the sheath rubbing back and forth under the band becomes painful.

As long as people continue using computer keyboards, mice, PDA's, cell phones, and handheld gaming devices, wrist and thumb pain is likely to be prevalent. The first line of defense in combating this condition is to stop or modify the offending activity. Rest, repeated brief applications of ice, very mild stretching, and short-term splinting is the recommended self-care. Some people may choose to take medication as well if they can tolerate it.

Conservative care can be successful in many cases by treating the thumb extensor muscles and ensuring that the tendon groups are sliding well under the wrist band. This is accomplished with Active Release Techniques® (ART) treatment which focuses on taking the tension off the tendons by treating the thumb extensor muscles and the tunnels under the band that the tendons run through.

Kinesio® taping has also proven to be an effective tool in treating this painful condition. The Kinesio® tape is applied to create a slight recoil effect that helps to inhibit extensor muscle tension. The V application over the tendons furthermore slackens the underlying tissue around the irritable tendon sheaths providing relief. It seems that people who wear the tape are able to more consistently avoid activities that aggravate their thumbs as the tape serves as a visual reminder to be careful during hand use.



Finally, for those people that do not respond well with conservative care, corticosteroid injection and surgery are some of the more aggressive options available for advanced cases.

### New Website Upgrades and Additions

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