

Langford Chiropractic Clinic

Clinic Newsletter

May/June 2005

SLEEP DEPRIVATION EFFECTS IN ATHLETES (and what we can learn from them)

By Dr. Heather Karls

A 1999 study of 15,000 college students aged 18-22 reported that the average college student sleeps only 6.1 hours per night. Student athletes reported even less sleep and have increased difficulty sleeping before competition. Now, look at your own life. Are you the mother of 4 that stays up late to "catch up" on the housework? Or are you the international business person that gets up at 4:00 am to start your calls? Or maybe you are the paramedic that works the 12 hour overnight shift 4 days in a row. These are actual patients of mine and they are all sleep deprived.

What happens during sleep? There are 5 different levels of consciousness associated with sleep. The first is Stage 1 sleep which lasts from 10 seconds to 10 minutes. It is in this stage that breathing becomes shallow and muscles relax rapidly. In fact, muscles can relax so quickly that some people may experience a feeling of falling and wake themselves up by jerking their arms or legs. We are generally aware of environmental changes and can respond quickly to them if woken during this initial stage. (Just ask any new mom or dad).

Stage 2 sleep lasts from 10-20 minutes and it is during this stage of sleep that most individuals are virtually deaf and blind to their external environment.

At Stage 3 sleep there is a mix of theta

and delta brain waves. At stage 4 sleep there is only delta waves. Stage 4 sleep is the deepest stage of sleep and the closest thing to hibernation we humans ever achieve.

After 30-40 minutes of delta sleep (stage 4) then stages 3 and 2 are repeated and REM sleep begins. In the rapid eye movement (REM) sleep stage, pulse, blood pressure, breathing, blood flow, body temperature all elevate and the eyes move back and forth under your eyelids as if they were searching the landscape. This is the dream stage of sleep. Beta brain waves appear but the motor cortex of our brain is busy blocking neurological messages at the brain stem. So we have an active mind and a motionless body. Which is a good thing because otherwise we would be in danger of acting out our dreams each night!

These cycles are repeated approximately 6 times per night. So what happens if sleep is interrupted or we get less than the needed amount of cycles?

Although the body is continuously repairing itself, we find that the process is at its greatest during stage 3 and 4 sleep. This is because metabolic activity is at its lowest point and the endocrine system increases the secretion of growth hormone.

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Protect Your Back and Body in the Garden

According to the National Gardening Association, there are 40 million households that garden. A hobby for many people, gardening can also be an intense exercise routine, using all of the major muscle groups in the human body.

If you have a green thumb, you probably have also had a sore back, aching muscles and stiff joints. A recent Harris Interactive Poll found that outside of sports, gardening is the leading cause of muscle strain and soreness.

Like sports, gardening requires balance, strength, flexibility and endurance. To enjoy gardening for a lifetime without suffering from aches and pains that can nip your activity in the bud, you

must prepare your body for the rigors of gardening. Follow these recommendations made by the International Chiropractors Association (ICA) to help prevent injuries while gardening.

Warm up with light movement or a brisk walk to loosen your muscles and increase your flexibility. **TIP:** Lengthen your muscles before activity by doing some easy stretches. Remember to stretch both sides to create balance.

Know your strengths and limitations. Do not over-exert, and take regular rest breaks.

Avoid bending over repeatedly while standing

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GOOD POSTURE



IS
SOUND ADVICE!

May is Correct Posture Awareness Month!

The American Chiropractic Association designated May as Correct Posture Month in order to promote awareness of the importance of maintaining proper spinal posture. Good posture is an essential way to prevent future back and neck pain.

Good posture is very important for maintaining the health of your spine, spinal cord, and back and neck muscles. Contrary to what many of us were taught, good posture does not mean standing with shoulders thrust back, chin forward, and spine straight as an arrow. Actually you're using good posture when your ears, shoulders, hips, knees, and ankles are "stacked" in a straight line, with your shoulders relaxed and your knees slightly bent. When seated, you should have your back against the back of the chair and feet flat on the floor.

Drs. Langford, Karls and Hansen perform a postural evaluation

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This means that during sleep our bodies maximize growth and repair by stopping all but the most essential functions. An example of this is demonstrated in our skin which cells multiply two times its normal rate during slow wave sleep..

If a person does not get adequate sleep, he or she is said to be in a state of sleep deprivation. It is important to keep in mind that the deficit accumulates over time. For example, if you lose one hour of sleep per night for a week, you have accumulated 7 hours of "sleep debt".

One study compared the reaction time between subjects who were adequately rested and those who were sleep deprived. The results showed a dramatic difference between the two groups. The sleep deprived group had a 20% reduction in detecting visual stimuli and reaction performance.

Sleep deprivation was also found to reduce your mental ability to process information. One of the primary activities of the brain during sleep is the organization of data that we have gathered during the day. Researchers found that cognitive functions such as learning, memory, auditory and visual vigilance, arithmetic calculation, logical reasoning, and decision-making decline twice as rapidly as motor performance. Therefore, a problem for sleep deprived athletes (as well as the mom, businessperson and paramedic mentioned previously) is a compromised ability to reason logically and make decisions effectively.

One of the first symptoms associated with sleep deprivation is a re-

duced ability to deal with emotions. With even minimal sleep deprivation, perceived exertion is increased and a person's ability to contain anger is lowered. Also, lack of sleep consistently exacerbates the levels of stress, depression, anxiety, worry and frustration.

Importantly, a person needs to be in balance physically, mentally and chemically for optimal health. So as you can see, the effects of sleep deprivation on your nervous system are enough to make your chiropractor stay up late at night worrying about you.

To remedy sleep deprivation here are my suggestions.

Get adjusted. As shown previously, the nervous system controls sleep and Chiropractic effects this system!

Exercise. People who are physically active have a greater sleep duration and a deeper sleep. Even moderate exercise has benefit. Exercise increases the quality of sleep, too. The more you exercise, the deeper your sleep.

Keep a regular sleep schedule. The circadian rhythm isn't made up, it is real and not to be tampered with. Inconsistent sleep schedules also increase the amount of time it takes to get to sleep.

I would be happy to discuss other effects of sleep deprivation if you are interested. Please call to set up an appointment at 651-699-8610.

"Growing Pains": A Spinal Problem?

by Dr. Anne Langford

Most of us have heard the term, but what exactly are "growing pains"? This condition occurs in children from 3 to 4 years of age up until adolescence. These children often complain of relatively severe, vague pains usually in the thighs or calves, and most often at night. Often these complaints of deep leg pain are on a recurrent basis and last anywhere from 30 minutes to 2 hours. The pains are intermittent and do not occur every night, but seem to be more likely to occur after a day of increased activity. The child will have no systemic signs that anything is wrong; the x-ray findings and blood tests are normal.

Growing pains can be eased somewhat by rubbing the legs or icing the area, but this does not fix the underlying problem causing the pain.

Unfortunately, there appears to be no detailed research studies outlining the cause of growing pains, but there are multiple case reports

recorded in chiropractic literature that suggest the pain associated with this condition can frequently be linked to sacroiliac misalignment on the side of the leg pain.

The clinical case studies report that growing pain symptoms respond very quickly, sometimes instantaneously, with the chiropractic adjustment to realign the ilium, the larger bone of the SI joint.

Therefore, it is recommended that any child who has been either diagnosed with "growing pains", or who complains of intermittent leg pains in bed at night, should have a thorough check-up with a chiropractor to ensure that the spinal problems are not the underlying cause.

"The doctor of the future will give no medicine but will interest his patients in the care of the human frame, in diet and in the cause and prevention of disease."

--Thomas Edison

Protect your back and body in the Garden...

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upright when performing ground-level work like weeding. Get down closer to the task by kneeling or sitting on the ground or a gardening bench.

Keep your back protected when you stand up from a sitting or crouching position. Rise up by straightening your legs at knees, not by lifting your torso at the waist.

Lift dirt and plants by letting your arms, legs and thighs carry the load.

Don't lift with your back!

Use long-handled tools to give you leverage and help you avoid having to stoop while raking, digging, pushing or mowing. **TIP:** *use gloves with rubber palms to provide a firm grip and reduce strain on your arms and shoulders.*

Switch hands frequently when doing prolonged activities. Repetitive motion on one side can bring on progressively serious joint imbalances

and may produce postural misalignments and pain.

Don't work too long in one position. TIP: Become aware of your body position by using a kitchen timer. Bring it outside and set it for 15-minute intervals. Once it goes off, take a break, do some stretching, or do a separate task that stresses another muscle group.

Carry objects close to your body. This will reduce the risk of straining your neck and back.

Chiropractic adjustments are also an important part of injury and pain prevention because they ensure your body can adapt to the stress that the awkward positions of gardening bring. As you head out to the garden this spring and summer remember the old adage: *An ounce of prevention is worth a pound of cure!*

Insurance Corner

I want to remind everyone what is expected of them regarding their insurance benefits. You need to know what your insurance benefits are, which means you should contact your own insurance company. They will explain what your benefits are and what is covered or not covered by your policy. Remember that your insurance plan is an agreement between you and your insurance company.

If you have a co-pay plan, you **MUST** make that payment at each visit. If you do not pay your co-payment at the time of the visit, you will be charged a \$10.00 service fee. If you have a deductible or co-insurance plan, we will submit your charges to your insurance company. When they determine what portion is your responsibility, we will submit a statement to you at the beginning of the next month. All statements are

by Barb La Motte

due by the 15th of that month.

We also have a \$15.00 charge for missed appointments. Adjustment appointments must be cancelled at least one hour and massage appointments at least four hours prior to the scheduled time to avoid this charge.

Massage therapy is **NOT** a covered benefit unless you have been injured in an automobile or work accident. Some insurance companies may state massage is a covered benefit, but other than the above we are **not** allowed to bill for this service to any insurance company. If you have any other questions regarding these topics, we will be happy to answer them for you.

Clinic News

We are very sorry to announce that massage therapist Jennifer Olson will be leaving our clinic. Jennifer has been part of the Langford Chiropractic team for the past 9 years. She has decided to pursue a career in Radiography and will begin classes at Century College in White Bear Lake this fall. Jennifer is leaving her clients in the capable hands of the three other massage therapists here. We wish her well!

We are also sorry to announce that Katie Swanson will be leaving the clinic after May 6th. She has accepted a position at a medical clinic in Coon Rapids. We wish her well!

Please welcome Rachel Symonds to Langford Chiropractic Clinic! Rachel is originally from Gainesville, FL, where she worked as a nurse for several years. She enjoys being outdoors, traveling to England to

visit her family, weekends at the beach with her friends and hanging out with her dog Leila. She joined us the first week in May and we know she will be a fabulous addition to the clinic staff!

We are happy to announce that Dr. Hansen passed her National Board Examinations for acupuncture. We will start offering acupuncture appointments at the beginning of June. The front desk will be happy to help you set up an appointment!

Jeni Strom is studying abroad in Norway during the month of May. She will be back in early June. We hope she has a great trip!

We will be having our annual "supplement sale" the week of June 6th - 11th. During that week ALL SUPPLEMENTS will be 20% OFF!

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2005 MS Bike Ride was a Success!

On Saturday, May 7, 2005, some of the staff of Langford Chiropractic Clinic rode in the *Allianz MS 30* bike ride. The ride was to help raise money to support research and local services for those affected with Multiple Sclerosis. The Langford Chiropractic Team started the ride at 9:30 and finished the thirty mile loop at approximately 1:00.



We are proud to say that because of the generous donations from several of our patients, we were able to come very close to reaching our fundraising goal. In all, we collected \$860 to donate to the MS society!

To those of you who donated we would like to say a special THANK YOU! It would not have been possible without you!

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|------------|--------------|--------------|
| Matt M. | Len J. | Charles C. |
| Michael W. | Katharine R. | Elizabeth K. |
| Andrew L. | Ann S. | Jo A. |
| Barb C. | Joan C. | Mary Jo C. |
| Beth V. | Rosemary G. | Juliann G. |

SUPPLEMENT SALE!

20% off of all supplements

