

Newsletter

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Posturing for Wellness: Good Health Begins with Good Posture

American Chiropractic Association

Doctors of chiropractic have long emphasized the importance of posture and other lifestyle factors in the body's ability to function optimally. In a broad sense, good posture can be considered an ongoing battle against bad habits. "The body endures hundreds of insults each day," says Scott W. Donkin, DC, DACBOH, "but we have the choice of controlling how they affect us. Once destructive habits are identified, people can change, prevent and relieve both present and future physical problems. The quality of our later years can be enhanced and many physical problems prevented if we understand and deal early on with the underlying issues. Dr. Donkin is the author of *Sitting on the Job*.

Lifetime Regimen

What most don't know is that the following should be a lifetime regimen for everyone and not just when the back hurts. ACA Council on Chiropractic Orthopedics vice president Gary L. Carver, DC, DABCO, says that when they first get up in the morning, "People should use their hands and arms for support to get into a seated position. Next, they should swing their legs to the floor and stand up-using the hinge of the hips, rather than the back."

But once the body is upright, is it up right? In other words, are the muscles, joints and skeleton in a balanced posture? Too often, the answer is "no." "As long as our body is performing, we take it for granted. We don't concentrate on what we need to do to maintain good posture habits," says Leo Bronston, DC, DABCO, DACAN, CCSP and secretary of the ACA Council on Chiropractic Orthopedics. "Generally, we tend to hunch forward when we should be rolling our shoulders back and opening up the chest wall. That is something we need to practice-activating the proper postural muscles. We see many patients who simply don't know how to achieve a more balanced trunk and neutral spine. Just as we learned to eat with a fork and that became automatic, we can train our muscles for good posture and balance, whether we're standing, rising from a seated position, or getting out of bed."

The causes of poor posture are numerous, including subluxations, loss of proprioception, weak muscles, poor eyesight, weight problems and injuries. In addition, the added weight and pressure of pregnancy can alter the body's posture. Psychological factors, such as self-esteem and depression, can contribute to poor posture, as well. Once established, poor posture begins a chain reaction throughout the body. For example, it can cause stress on joints, which, especially if the muscles are weak, can cause wear and permanent damage. Eventually, damage to surrounding tissues can lead to more progressive damage beyond the musculoskeletal system to the respiratory, circulatory and digestive systems. Poor posture can also result from or cause fatigue, which has a debilitating domino effect of its own.

"Fatigue is one of the most common symptoms of poor posture," Dr. Donkin explains. "To hold the body in a fixed and awkward position consumes a lot of energy and when people slump forward in their cars or in front of their computers they become shallow breathers. The body was designed to breathe most efficiently in a good postural position, as when we push in our lower back so that our shoulders align themselves over our hips. In that position, we not only breathe in more air, but we breathe more easily. Seated tasks, which are often visually and mentally demanding, consume a lot of oxygen, so if we're not getting air in and out at a good rate, then we have an oxygen deficit, which can take the edge off our

awareness. Also, when we breathe shallowly, the stroke volume of the heart tends to decrease and overall circulation diminishes. Of course, this is not life threatening, but it does affect awareness and concentration and the body becomes more fatigued because it is not getting what it needs."

Time Management is Key

Dr. Bronston points out that many patients begin the day by lifting children, carrying heavy briefcases and laptops and driving to work. All of these activities harbor potential for injury. The basic rules of lifting and carrying are well known: when lifting, bend the knees, not the back and let the leg and stomach muscles do the work. When carrying, keep objects close to the body. If carrying on one side of the body, as in the case of purses and packs, switch sides from time to time to achieve a balance. In addition, injuries while lifting or bending can happen more easily when we are in a hurry, which is one reason Dr. Bronston recommends time management.

"We are all so busy. Children are going to any number of events after school and families seem to be torn in all directions. Without adequate planning, the day becomes more stressful, which can lead to health problems in some individuals," he says. "Families need to slow down. When lifting children and strapping them into car seats, for example, take the time to put them into the seat. Certainly parents will have to struggle with small children who aren't being cooperative, so they really need to concentrate on using their muscles and trying not to twist the trunk. They need to focus on what they're doing and try to maintain good posture to recruit the right muscles. Small babies are easier, you can place a baby in a car seat outside of the car, which eliminates all the twisting and reaching."

Once in the car, parents need to adjust the seat so they can sit firmly against the seat back without having to lean forward or stretch. Buckle the seat belt and shoulder harness and adjust the headrest so that it supports the center of the back of the head and keeps the back of the head close to the restraint to help prevent whiplash in case of an accident. Keep both hands on the steering wheel, have the knees slightly higher than the pelvis and pay attention, says Dr. Bronston. "Don't eat pizza or talk on your cell phone while driving. It's too distracting. Again, it goes back to time management," Dr. Bronston adds. "As busy as we are, we feel we have to eat or discuss something on the phone while we are driving. And depending on what we are talking about on the phone, that may raise our stress level. This is certainly not healthy, and it's an endangerment to others."

Child-Sized Furniture a Must

Dr. Bronston says that schools are doing better at providing equipment scaled to smaller bodies. "Schools have made significant accommodations for children," he says. "But in our own households, I don't believe many of us make those same accommodations. This can be stressful for kids. Furniture, such as chairs and tables, can be too high for them and children can fall. It's best to have a smaller table for them to do their work at, rather than force them to use a standard table and chair. If their feet cannot touch the floor, you can always put a stepstool under their feet while they are sitting. Kids have traditionally sat on books, but books can fall over and cause injury." Another point to keep in mind is that books are uncomfortable for children or anyone to sit on.

Dr. Bronston noticed how teachers were constantly bending over to address children at school. "To be honest, I don't know why teachers don't have bad backs," he adds. "I get down on my knees to talk to the kids. Don't bend over at the waist. Get down at their level and make eye contact."

In the Office

For those working in an office setting, counteract the stress and strain of sitting at a desk by taking breaks and alternating tasks that use different muscle groups. Anyone who stares at a computer screen much of the day needs to blink frequently and take time to let the eyes rest-glare and constant focus can cause fatigue and strain. A host of ergonomically correct furniture and equipment-desks, chairs, mouse-keyboard combinations, non-glare monitor screens, polarized lighting to reduce strain and laptop platforms-are now available to help ease the stresses at work. Roger Russell, MS, DC, FACO finds the new wireless keyboards a boon to improved posture. "You can work with the keyboard in your lap," he says, which is a more natural position than working at a desk." Dr. Russell is president of the ACA Council on Chiropractic Orthopedics and also holds a Master's degree in biomechanical trauma.

The workstation should be set up so that everything is handy- phone, mouse, reference materials, reports- to minimize awkward stretching and reaching. When talking on the telephone, use a headset if possible or a speakerphone. If those are not available, hold the receiver in the hand. Never cradle it between head and shoulder.

The monitor needs to be at eye level at a height that allows good neck posture. Forearms, wrists and hands should be in a straight line. The elbow angle should be at about 90 to 100 degrees and the keyboard should be as close to the lap as possible. Position the mouse next to the keyboard. When using the keyboard, strike the keys lightly.

Chairs should be adjustable to fit their occupants' unique bodies and allow them to sit comfortably with the back straight. Thighs should be parallel to the floor, feet flat on the floor, and the back well supported. Slumping can cause long-term problems. Dr. Donkin says armrests work only when they are the right height and width apart for the person. If they are too low, for example, and a person wants to rest his elbows on them, he'll have to bend his whole body to the side or crouch his body forward in order to reach them. Generally, if a computer keyboard and monitor are positioned properly, armrests are not necessary.

Dr. Russell also cautions against turning the head to one side while working, as typists often do. "We give our clients a list of head and neck range-of-motion exercises they can do every two hours or so," he says. "These breaks allow them to stop, stretch the arms, stand up, walk around for a few minutes and get the blood flowing."

When rising from the desk, use the legs more than the trunk. "Don't stand up from a seated position using your back muscles, but hinge at the hips," Dr. Bronston says. "Use your arms for support and put your weight on your feet. Then, hinge forward at your hips, as though you were going to do a somersault."

She's Slumping!

Many times patients are so concerned about their work tasks that they forget about posture. To counteract this, Dr. carver uses psychology. "We get them to be detectives. They watch other office workers to see if they're doing things that might be harmful. Then we get the patients to analyze themselves. We hear some interesting responses from that process. Patients' posture starts to improve and the next thing you know, they're passing the information along to their fellow workers, who also start to improve. That's nice to see, because a large percentage of people lose work every year due to back-related conditions."

If the job requires a lot of standing, Dr. Russell recommends a non-fatigue padding for floors to reduce stress. While standing, people should keep the spine straight, bend the knees slightly, change feet frequently and if possible, use a footstool to help distribute weight by resting one foot on the stool.

Travel Posture Tips

Work-related travel is a minefield of potential health hazards. For starters, heavy suitcases, laptops and briefcases can cause serious strain and discomfort. "travelers should invest in a wheeled suitcase that has a sturdy handle," advises Dr. Bronston. "And don't always carry it on one side-take frequent breaks and transfer the weight to the other side. Don't wait until you are fatigued."

And don't try to carry too much. Even wheeled suitcases can cause problems to the neck, shoulders and lower back when pulled from behind. "When you're dragging a suitcase, briefcase and laptop behind you and you're weaving through a large crowd of people, it's very strenuous," Dr. Carver adds. "And I often see people reaching back behind them to get a briefcase or laptop out of the back seat. It's much better to get out, open the back door and reach in."

Airplane seats are notoriously uncomfortable and again the one-size-fits-all attitude lies at the root of the problem. In a recent study Dr. Donkin conducted, 100 women were surveyed. Most were dissatisfied with the seats.

"If you are not the right dimensions for your seat, you're out of luck. There is no adjustability," he says. "for people who are taller, the headrest tilts their heads forward. If the forward curve of the backrest

doesn't match your back, you tend to slump. That, plus the relatively long period of time you are in the seat, makes it very strenuous.

Dr. Donkin has also researched hotel beds and pillows and gives them low marks for excessive softness. He says many pillows, especially for sleeping on the back, are too thick.

Don't Tough It Out

Construction and other manual labor occupations put different stresses and strains on the body. Problems are exacerbated by a pervasive "tough-guy" attitude that leads to trouble when, for example, a worker decides to carry a load in one trip when he should do it in two or three. The same attitude can cause problems when a laborer won't ask for help when lifting heavy objects. To get off the right start, manual laborers should start with warm-up exercises similar to those performed before sports activity, though Dr. Russell finds this is a difficult group to convince because many of them believe that work gets them into good shape.

"They have blanketed misconception that when they do heavy manual labor, they are essentially working out. I always tell them, "You're not working your body out. You're repetitively stressing your body." They need exercises to keep their stomach, trunk and back muscles strong. Even if they are lifting correctly, they should be doing supplemental exercises and stretches to lessen the chance of suffering an injury.

Other problems arise in factory and assembly-line settings where, with feet planted firmly in one position, workers are twisting and turning their shoulders and hips, which can lead to repetitive-motion injuries. "We have a rule: Your nose and your toes should face your work," Dr. Carver adds. "It takes just half a second to turn those feet and get yourself lined up correctly. Something that simple can really make a difference in activities and help eliminate fatigue and stress factors."

Wellness Goal

Good posture is but one component in a healthy lifestyle. Exercising, getting a good night's sleep, drinking plenty of water and eating a nutritious diet augmented by nutritional supplements contribute not only to health but to the ability to heal after injury.

"People with a healthy lifestyle heal so much faster than sedentary, obese individuals," Dr. Russell says. "Also, other factors, such as high blood pressure, tobacco, recreational drugs and excessive alcohol, all contribute to problems.

Dr. Bronston stresses the importance of nutritional supplements, especially calcium and vitamins, for maintaining healthy frame and posture. "Most people don't realize that bone strength is only built through the first two to three decades of their lives and it decreases after that," he explains. "There are studies that show that the healthier you can build that frame early on, the longer you'll retain it. You will lose some, but you'll have reserves and a healthy lifestyle can help retain bone density longer."

Exercise is essential, not only for its cardiovascular benefits but also to develop and maintain flexibility. "You can avoid a lot of injuries if you're flexible," says Dr. Russell, who has a black belt in kenpo karate. "Most injuries result from tight contracted muscles. I like to get everybody on a good stretching regimen that can take as little as 10 to 15 minutes after work."

Stretch and Strengthen

Dr. Russell gives out exercise handouts, based on the regions where strengthening and stretching are needed. He has developed handouts for approximately 30 conditions, each featuring a brief explanation in layman's terms, exercises, supplements that may help and other helpful information.

"One side of the exercise sheet has stretching exercises. The other has strengthening exercises," he says. "I like patients to do the stretching daily and the strengthening three times a week. People really appreciate the stretching and strengthening program because they understand that if they will continue it, they will help themselves get over this injury and help prevent subsequent injuries. I'm very conservative and I try to get people out from under my care as quickly as possible. These handouts are something they can look at even when they're not in the office, and they serve as a reminder of what they need to be doing on their own."

Patient Compliance

Mark Sanna, DC, president of Breakthrough coaching, believes doctors can develop techniques to help patients make important lifestyle changes.

Doctors of chiropractic provide the feedback loop of accountability, he explains. "Human beings seem to hate change. We can't create long-term changes in our patients' structure and biomechanics if they continually undo all of the good that we have done in the office. It is human nature to return to familiar habits in the home environment, even though those habits may be the cause of the problem to begin with. If a patient can adopt a new behavior for 30 days, the likelihood of that behavior becoming a habit increases exponentially. Patients who remain under care past four weeks of care-past 30 days-are very likely to complete the entire program recommended to them. Doctors should seek to reinforce their biomechanic and ergonomic instructions frequently during that period. This means telling patients that they will be checking on them. Audiovisual aids, such as illustrated handouts, videos and one-on-one instruction, should also play a dominant role during this period.

"Letting patients know that the odds favor their condition returning unless they comply with the doctor's instructions during the initial phases of care also increases compliance. No one wants to waste his other time, energy and finances correcting a problem that will only be solved temporarily. Share with your patients your desire for the most cost-effective and permanent solution to their problems-creating a lifetime habit of excellent spinal health."

"Melt Them!"

Furniture is bad for posture if it is too soft and/or does not fit. Dr. Donkin researched recliners for Smart Money magazine and found that while they are comfortable, most are not supportive. "They encourage a forward slumping position and a backward curvature of the lumbar spine," he says. "Find a chair that supports good body position and is comfortable. Cushions on couches are often soft. We need to change the density of the foam and use pillows or add-on devices to complement the natural curve of the lower back." What about those cheap molded chairs? "Melt them!" he says. "There's no give in plastic. They're very uncomfortable. There's no good interface between the chair and the body."

After-Work Activities

After-work activities, such as housework, lawn work, and gardening, can also cause problems. A few tips from the doctors include:

- Do some warm-up exercises before beginning.
- Don't lock the legs
- Use the waist as a hinge joint and get the whole body working together. Never bend from the waist.
- Avoid reaching or get onto your hands and knees so that the reach is supported.
- Use knee pads.
- Make sure tools, such as mops, brooms, shovels and hoes have sufficiently long handles (use handle extenders if necessary). When using tools, stand straight with the legs offering support.
- When moving to the side, step in that direction rather than twisting the body.
- Tackle house and garden work in smaller sessions, rather than all-day marathons.
- Use self-propelled vacuum cleaners and lawn mowers.
- Take frequent breaks.
- Don't rush.

Remember the Hamstrings

Dr. Russell also advises his patients to take care of the often-overlooked hamstrings. They tend to shorten without exercise and there are no everyday activities that strengthen them. "If the quads are toned and the hamstrings are not, the hamstrings will pull. It's the same with the rotator cuff in the shoulder. When people lift weights, they do bench presses to get their chests big, but they neglect the rotator cuff and end up with insufficiency problems. If you look at them, you'll notice that their shoulders

are often hunched forward and their hands are more in a coronal plane. Normally, the hand should just be at the side with the palm at sagittal plane."

Strive for Balance

Dr. Donkin believes a patient who pays attention to proper posture and lifestyle can be saved from the debilitating "dowager's hump" that is often erroneously attributed to "natural aging." "That's how we're accustomed to seeing people age, but it is more a product of habit than destiny," he says. "I'm continually amazed at the work of engineering and the art of movement that the human body is able to accomplish. The body has an inherent mechanism-the principle of balance-that workers with gravity rather than having gravity work against it. For example, the spine has seven cervical vertebrae and five lumbar vertebrae with a lorthotic curve, for a total of 12. And there are 12 thoracic vertebrae that have a kythotic curve. That's a balanced position that is relatively effortless. If, however, you break that balance, then a set of dynamics takes place that requires energy to maintain. If we look at how much of our day is spent in an out-of-balance position - standing, sitting, and sleeping - we will find that as little as one percent of our day is in a truly balanced position. That's why what we typically call natural aging seems inevitable. But it is not. If we can keep our eye on how it is that the body moves and works naturally in accordance with the laws of nature and the way it was engineered, we will have the keys to healthy longevity. As doctors of chiropractic, we face a rather daunting task, but also a huge opportunity. If we can help people understand the true mechanisms of how the body is built to perpetuate itself, and that it can have a long and very healthy life, then we can add a new dimension to our practice."