

## Posture: The CHEK Approach

by Paul Chek

Posture is an important topic, yet far more complex than commonly appreciated! Most academic institutions teaching postural assessment and correction approach the topic mechanically, much the same way a builder views a sagging roof, or a bicycle mechanic fixes a bent wheel. While this can be a good starting point, it is just scratching the surface of the issue. In this article, I will take you through the CHEK approach to posture. I will begin by defining posture and show you how to identify good posture as well as poor posture. To continue, I will discuss the *seen forces* of posturalization; these include factors such as developmental forces, ergonomic forces and so on. Finally, I will introduce the concept of *unseen forces* of posturalization. These involve the emotional, mental and spiritual forces acting on a person.

Due to the wide range of professions and experience of the readership, I have chosen to introduce posture from the simplest-to-understand concepts and progress to the more challenging ideas. Level 1 and 2 C.H.E.K Practitioners may find the third section to be much different than what they have been taught to this point. This is not meant to confuse or contradict, but rather to show that there are many different tools and levels of awareness that the professional can use when working with clients. As I frequently say, everyone has to learn in layers, so bear this in mind when reading the article. Adopt those concepts that you find useful to you at this point in your personal or professional development and don't worry about the rest. Reread the article in six months or a year, and it may well seem as if portions of the article have been re-written! This is simply because your knowledge base has expanded and you are now able to take on board the next layer of information.

As this article ended up longer than anticipated, the third section can be found online. Details of how to access this portion of the article are found at the end of the first two sections.

### Part 1 The Importance of Posture

In ideal posture, a line extending down the side of the body should run through the ear lobe, transect the shoulder, hip and knee joints and fall just anterior to (in front of) the ankle bone (Figure 1). If a small plumb



Figure 1  
Ideal Posture

line is suspended from the apex of the cheekbone, it should bisect the clavicle (collar bone). When evaluating posture, a client should also be viewed from the front and back. A simple grid can be set up to help the Practitioner assess posture and identify faults, such as deviations from the midline, differences in height between right and left ear, shoulder or hip, and increased or decreased lumbar curvatures. For a comprehensive postural evaluation, actual measurements should be taken with inclinometers and goniometers. Then, changes in posture due to treatment or exercise can be empirically measured over time. This type of evaluation is introduced in Level 1 and advanced upon in Level 2 of the C.H.E.K Certification Program.

Poor posture not only takes away from aesthetics, it compromises how we were designed to function, eventually leading to pain and/or injury. The next time you are in a public place, take a few minutes to study the posture of the people around you. Unfortunately, you will most likely find the majority exhibits poor posture. This is the result of a number of different factors, such as working in environments that are ergonomically incorrect, performing repetitive tasks with poor form or developmental dysfunctions present during childhood.

The following are common postural dysfunctions. It is important for the fitness or rehab. professional to be able to identify and correct these dysfunctions.

Figure 2 shows the effects of imbalance between the trunk flexors and trunk extensors. As the abdominal musculature become progressively stronger than their antagonists, the following postural aberrations may be seen:

- A. Short and tight upper abdominal musculature

### What is Posture?

**Posture:** The position from which movement begins and ends.

**Ideal Posture:** That state of muscular and skeletal balance, which protects the supporting structures of the body against injury or progressive deformity, irrespective of the attitude in which these structures are working or resting. It is during a state of ideal posture that the muscles will function most efficiently.

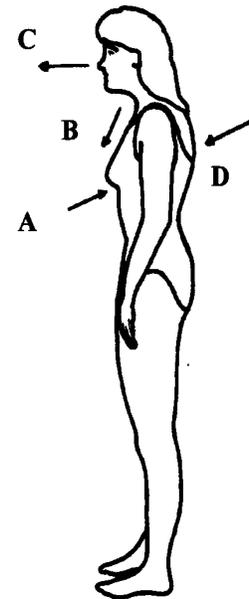


Figure 2  
Imbalance between the trunk flexors and extensors

- B. Depressed sternum
- C. Forward head
- D. Increased thoracic kyphosis, often with its apex at approximately T7.

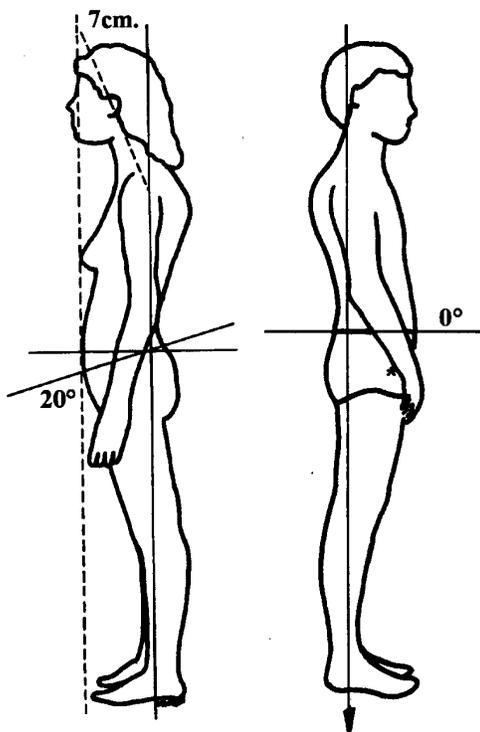
This type of posture is frequently associated with a decreased lumbar curvature—a flat back. Often due to excessive time spent in a seated environment, this can progress to a C-shaped spine and severely altered spinal mechanics. The C-curve posture encourages degenerative changes in the spinal column, not to mention that it increases your chances of cervical or lumbar disc protrusion, and PAIN!

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## CHEK Approach

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The Lower Cross Syndrome is shown in Figure 3. In this case there is shortening of the lumbar erectors, iliopsoas, rectus femoris and tensor fascia latae with lengthening of the lower abdominal musculature, hamstrings, thoracic extensors and superficial cervical flexors. Increased lumbar curvature is associated with this posture, which is frequently seen in exercisers who spend a lot of time in the gym following poorly designed programs.



**Figure 3**  
Lower Cross Syndrome

**Figure 4**  
Sway Back

The Sway Back Posture is shown in Figure 4. Here the hamstrings and lower abdominals are short and tight, while the lumbar erectors, rectus femoris and iliopsoas are long and may be weak. Note that the hips sway forwards of the line of good posture—hence the name.

As part of the correction of these faulty alignment cases, the long weak muscles must be shortened and strengthened, while the short tight muscles must be stretched. The stretching should take place first. It is very important to stretch tight muscles prior to exercising. It has been shown by Janda (*The Neurobiologic Mechanisms in Manipulative Therapy*)<sup>1</sup> that tonic muscles have a propensity for shortening and tightening, often becoming facilitated (have a lowered threshold of stimulation). Phasic muscles, on the other hand, have a propensity for lengthening and weakening. If a muscle group becomes facilitated, it will try

to take over the function of synergistic and antagonistic muscles, resulting in perpetuation of muscle imbalance and often overuse injury to the facilitated muscles.

## Part 2

### Seen Forces of Posturalization

#### Ergonomic Forces of Posturalization

Whenever we sit or stand with poor posture due to ergonomic constraints, or simply the lack of skill and understanding of how to create an optimal ergonomic environment, we induce ligamentous fatigue and muscle imbalance syndromes. Extended sitting is one of the primary causes of poor posture. Clinically, I have witnessed a shift in the types of postural problems in my clients over the past 20 years. Up until the mid-1990s, the most commonly seen posture problem was a lower cross syndrome with excessive lumbar curvature. In the mid 1990s, this changed as more and more clients presented reduced lumbar curvatures, C-curve spines, increased kyphosis and forward head posture. I attribute this to the huge increase in the amount of time people spend sitting down. Not only do people sit most of the time they are at home, eating or watching TV, the seated workplace is the most common in the world today. Some people sit almost every minute of their waking day, aside from walking to the toilet! Clearly, the modern environment is not favorable to good posture.

Correct ergonomics in the workplace are essential and could easily take up a whole article in itself. The C.H.E.K Institute's booklet *10 Tips For Healthy Ergonomics* outlines the principles of basic ergonomics and is designed to aid you in client instruction. The guidelines in the booklet, as well as the more advanced training in the C.H.E.K Certification Program, are but another essential elements in your coaching and treatment program if posture is to be corrected for the long run!

#### Environmental Forces of Posturalization

While I could easily write a book on this topic alone, I will hit a few key highlights to make the point regarding environment and postural influence. As I often say, *we are still cavemen, just wearing suits and driving cars!* When you consider that experts in genetics tell us that it takes 100,000 years to change the human genome one 10<sup>th</sup> of one percent, and that we are ~2.8% different than our nearest relative, the chimpanzee, it's safe to say that in the past 100 years, we've rapidly removed ourselves from our natural developmental environment.<sup>2</sup> And as you know, it hasn't come without a cost to our health. For example, experts in ophthalmology have described how living in the city can encourage visual dysfunction.

Reduced color variety, changes in depth of field (mostly loss of distance vision), and the increased exposure to close-up working conditions such as computer screens have all contributed poor posture secondary to visual inadequacy, while at the same time creating a booming business in glasses, contact lenses and corrective eye surgery.

Our environment has resulted in more and more individuals living predominantly sedentary lives. The average hunter-gatherer is said to have spent about 3 hours a day hunting or doing chores to sustain a normal life, which means that they were getting about 21+ hours of exercise per week! When I did the research to write my chapter "*Posture and Craniofacial Pain*," one of the favorable influences on posture that repeatedly came up was participation in sports, which is at an all time low today.<sup>3</sup> In fact, many elementary and high schools have dropped physical education and installed Coke machines, stating that they needed to cut the budget and bring in more money to cover the cost of computers for the children! Recently, on Don Bodenbach's "*Nature Of Health*" radio show, Michael Mogodam, M.D. reported that only 3% of American women and 8% of American men *do any regularly scheduled exercise!*<sup>4</sup> People are so sedentary they are even shopping for food on the Internet now! A big part of improving one's posture is to become active. Not everyone needs to go to the gym necessarily, but people do need to incorporate movement into their daily lives. Practicing Yoga or Tai Chi is beneficial as movement is taught holding a properly aligned spine! Good posture is actually needed to meditate properly (more on this in Part 3).

Our environment is more electrically and chemically polluted than ever in history. All these environmental factors, including such issues as our now universally toxic water supply, damaged and dirty air and chemically toxic soils secondary to commercial farming practices, and out-gassing from industrial, automotive and home building materials overload our detoxification, hormonal and immune systems. As the health and vitality of the body deteriorate, so to does one's posture. In the excellent book *The Body Electric* by Robert O. Becker, M.D., it becomes evident that chronic exposure to electromagnetic pollution can disrupt cell communication and lead to a plethora of health problems.<sup>5</sup> When so many systems are disrupted, the Practitioner is unlikely to get good results from exercise or therapy alone. The load on the body must be reduced in order for healing and positive changes to be allowed to happen.

The next time you start working with a client who has poor posture, you may want to include an assessment of their home and

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# Posture Improves, Life Transforms

by Tom Biancalana, C.H.E.K Practitioner Level 2, CHEK NLC Level 2

“I really noticed the difference this is making on my posture.” Bob said from the massage table as I dug my hands into his paraspinals. What started as a gentle massage was going to be a tough one today due to his long day at the drawing table. “With the trainer I used before, I was always running to the chiropractor for my b-b-a-A-A-A-A-C-K!!!!” Bob blurted out as I pressed my hands deeper into yet another trigger point. “Owww-owww-OWWW! I didn’t come here for pain!!!” Bob yelled. “Oh?” I responded. “Where do you usually go?” But though he’s undergone some “mild” discomforts, the work has been paying off in tremendous postural improvements and more for Bob.

This is the story of a prominent Chicago architect, who, until recently, suffered from extreme postural imbalances. As you might imagine, hunching over an architect’s table drawing all day would be challenging for anyone’s posture. But, Robert has also been a bodybuilder for over 45 years. Now in his mid-sixties, Bob has just started to achieve some of the goals he set many years ago. It’s been an indirect path. Along the way, he developed severe shoulder internal rotation, especially on the left side, from as he puts it, “poor coaching and training partners” as well as from overtraining his chest muscles. He also created an extreme kyphosis with a decreased lumbar curve and a much increased forward head posture (7-8 cm).

Unfortunately, this resulted in very tight lumbar erectors and eventually limited neck rotation and side flexion. As his subscapularis and pecs tightened, the rhomboid muscles lengthened. Both shoulders were quite protracted, and the left shoulder was elevated about 2.5-3 inches over the right! His infraspinatus was doing all it could to externally rotate his scapula in the minimal range that it had. Also, with rock-hard levators and upper trapezius, Bob was very limited in shoulder flexion and lateral abduction, especially on his left side. With much contortion, he could barely raise his left arm to chest level. In the last five years, his range of motion (ROM) had progressively lessened. As it decreased, his pain increased.

I knew Bob through his personal trainer. I had done infrequent Thai massage (a form of massage and stretching using the practitioner’s feet and hands) on Bob’s tight shoulder area for a few months. One day Bob told me he wanted me to work on his shoulders to get ready for surgery. When I asked what was wrong, he said he was having a full shoulder replacement surgery. Though I was shocked, in a way I wasn’t.

I can vividly recall his trainer pushing him through sets of 70-lb. dumbbell bench presses while Bob was lying on a half foam roller. Bob lowered the right arm to nearly his chest while simultaneously lowering the left only about half way. Meanwhile, his shoulders protracted, his torso rotated to the right and his face contorted in pain. I observed extremely poor motor patterns, trigger points developing, poor posture, and pain.

I’d asked his trainer about this, to which he replied, “He wants bodybuilding training! I give him what he wants!” Somehow I can’t imagine anyone knowingly asking for the accompanying limited ROM and pain. The MRIs showed the head of Bob’s humerus had been eroded down about 1/5 or 1/6 from the abrasion against the scapula. He had two bone spurs on his scapula, and there was a tear, apparently in the subscapularis. Did this warrant sawing off the top half of his body and gluing a new shoulder on? According to the orthopedic surgeon, it did.

He’d had plenty of stinging, shooting, and intense pain under the armpit (center of the delt) from the neck running all the way down the arm to his thumb and fingers, numbness on the shoulder blade and under the triceps and poor sleep. The list of Bob’s pain went on. Bob requested that I work on his shoulder before his surgery to aid the operation, and to get him relaxed before it.

Subtly, I planted the suggestion that maybe he might want a second opinion. On May 9, 2002, after the Thai and trigger point work, he was pleased to find that he could now close his left hand, which he had lost the ability to do. His surgery was scheduled for May 13, just a few days away.

The next morning, May 10th, he called me to tell me he was actually feeling less pain in the shoulder. It felt so good, he asked me to do another session before the surgery. I agreed and saw him the night before, May 12th. As we proceeded, me working on traps and levators, scalenes and sternocleidomastoid, subscapular and infraspinatus, he relaxed and his pain started dissipating. Afterward, he exclaimed, “On a scale of 1 to 100, I feel like a 95 now!” I suggested, “Why wouldn’t you want to feel even better?” He felt so good; he wanted me to keep working with him after the surgery. I said, “H’mmm. You could start your ‘rehab’ and reconditioning right now, when you feel good, or you could wait until six months after surgery and start then with pieces of metal and plastic, cut muscles and nerves that aren’t connected or working. Your choice.”

Bob questioned his choice, and then agonized over the decision. He didn’t want to inconvenience the doctor since the surgery had been scheduled for weeks. I suggested that he tell the doctor that he’s the principle of his company and that he just got a big project in which he had to be present to work on. Well, in fact he DID get a big project in--the re-education and re-building of his shoulder, his posture, and eventually his company, all because of the decision he made the next morning, to call and cancel the surgery.

There was some dissent from his trainer. I explained to the trainer that Bob wouldn’t have seen him for months anyway if he’d had surgery. He retorted, “He has ADD! He’ll never do what you say. He’ll move on to another therapist or doctor and another. You’ll see.” That caused Bob stress. But he got over it, as we quickly progressed.

I needed a boatload of patience. Bob still wanted to do bodybuilding training. I laid down the law, “Think skill over size and vanity!” And “No posing, and focus, focus!” I simply did more massage and trigger point work. My assessment found that Bob’s TVA (transversus abdominis) was not working, his breathing patterns were poor and his torso was extremely tight.” I started introducing a mere two exercises: dead lifts with a stick and the four-point Transverse Abdominus exercise to start retraining some new movement patterns. These were performed right after massage, as he came out of pain in the session.

By May 17th, only four days after the missed surgery, Bob noted that he didn’t feel any pain. A friend told him, “You’re just a completely different person.”

There were setbacks. On June 3rd, while travelling, Bob let a chiropractor do work on his neck. He was back in searing pain. But by June 10th, after more of our work, he noted, “I can now open a jar of Grey Poupon...and shake hands!”

I slowly introduced more corrective exercises, but my focus was still simplicity, limited numbers of exercises with deliberate breathing. I thought this was ideal for someone who exhibited Type A and Attention Deficit Disorder type behavior. For that, I’d always pulled him away from others in the gym to avoid any distractions. Training our movement patterns in a quiet space made all the difference in allowing Bob to concentrate.

I had to create some exercises. Bob’s rectus abdominis was so tight that he couldn’t do McKenzie Press-ups. He could hardly

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# SKIN CARE PRODUCTS

## Brands to Trust

What you put on your body is just as important as what you put in it. Most body and hair products, even many so-called “natural” products, are loaded with potential harmful agents. It is always important to read the label of each product, as even the companies that use mainly “safe” ingredients will occasionally have an item that includes chemicals that are best to avoid. Here is a list of brands that, for the most part, use high-quality (often organic) ingredients.

### **Aubrey Organics**

body and hair  
USA  
[www.aubrey-organics.com](http://www.aubrey-organics.com)

### **Burt's Bees**

body, hair, cosmetics  
International  
[www.burtsbees.com](http://www.burtsbees.com)

### **Dr. Hauschka**

skin care, cosmetics  
International  
[www.drhauschka.com](http://www.drhauschka.com)

### **Earthflower**

body and hair  
Australia  
[www.earthflower.com](http://www.earthflower.com)

### **Giovanni**

hair and cosmetics  
USA  
[www.giovannicosmetics.com](http://www.giovannicosmetics.com)

### **Green Planet**

body and hair  
UK  
[www.greenpeople.co.uk](http://www.greenpeople.co.uk)

### **Jason Natural Cosmetics**

body, teeth, cosmetics  
International  
[www.jason-natural.com](http://www.jason-natural.com)

### **Kiss My Face**

body and hair  
International  
[www.kissmyface.com](http://www.kissmyface.com)

### **Living Nature**

body and hair  
New Zealand, UK, Germany  
[www.livingnature.com](http://www.livingnature.com)

### **Neal's Yard Remedies**

body, hair, herbs, essential oils  
UK, USA, Italy, Japan, Brazil  
[www.nealsyardremedies.com](http://www.nealsyardremedies.com)

### **Organic Formulations**

teeth, body and hair  
Australia, Canada, USA  
[www.organicformulations.com.au](http://www.organicformulations.com.au)

### **Young Living**

body, hair, essential oils  
USA  
[www.youngliving.com](http://www.youngliving.com)

### **Welda**

teeth and body  
International  
[www.welda.com](http://www.welda.com)

\* For additional organic brands see: [www.allorganiclinks.com](http://www.allorganiclinks.com)

For more information on this topic, see *Drop-Dead Gorgeous* by Kim Erickson.

### **Ingredients to avoid**

**Sodium Lauryl Sulfate or Sodium Laureth Sulfate (SLS):** SLS is used to produce a lather and is found in 90% of all commercial shampoos, as well as many skin creams, body washes and tooth-pastes. It can damage and irritate the skin, leading to allergic responses to other toxins. Another danger of SLS is that it can be contaminated with 1,4-dioxin which is carcinogenic. It is often listed as, “derived from coconut” but this form is still harmful and should be avoided.

**Synthetic Fragrance:** Synthetic fragrances are a common ingredient, found in most scented body care products, and are the number one irritant in cosmetic products. An estimated 84% of ingredients found in synthetic fragrances have not even been tested for safety. Many are petroleum-based, such as benzene-derivatives and aldehydes, and can cause cancer, birth defects, central nervous system disorders and allergic reactions. Safer alternatives are essential oils and natural fragrances.

# Posture: The position of power and precursor to winning the World's Longest Drive Championship

by Ross Eathorne, C.H.E.K Practitioner Level 2, C.H.E.K Golf Biomechanic

## Introduction

The world champion longest driver is the person who drives a golf ball the furthest towards a 50 yard wide target. The subject of this article is my client, Josh, who is a long drive competitor. In this article I will illustrate:

1. That posture is the position of power and precursor to longer drives
2. Golf specific exercise selection

## My subject details:

**Name:** Josh

**Age:** 28

**Occupation:** Golf professional and Longest Drive competitor

**Best drive:** 460 yards. (I personally have seen him drive a greenside bunker of a par 4 hole here in Hong Kong a distance of 395 yards!).

**Exercise History:** Professional Basketball and Baseball. Construction worker laying bricks.

**Injuries:** Level 1 disk disbursement at L5/L4 from construction, shoulder dislocation from a dunking fall in basketball, a left knee injury and, since starting long drive competitions, a left shoulder impingement injury.

In order to hit the ball far the club-head needs to travel very fast. Josh's recorded top speed is 158mph. The world record for club head speed is 164mph. To put this in perspective:

- An amateur's clubhead speed is around 100mph and a teaching pro is close to 130 mph.
- At 100mph an amateur reaches 90% of peak muscle firing, this is equivalent to a four repetition maximal lift.
- Research has shown that swing forces can shatter a vertebrae and damage lumbar discs.

A well-designed, golf-specific strength program is therefore key to keeping a golfer injury free. Josh did include weight training in his conditioning program, but he had been doing the same program since high school. Needless to say it had virtually no carry-over to the high intensity demand of a golf swing, nor did it contribute to effective posture.

1. Posture, the position of power and precursor to performance drives

## What is good posture?

Feldenkrais said posture is, "the position that all movement begins and ends from." Posture can be evaluated by comparing the body's alignment against a plumb line. (figure 1) and by measuring spinal curvatures and muscle length.

ure 1) and by measuring spinal curvatures and muscle length.

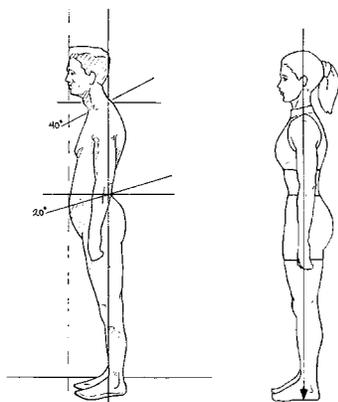


Figure 1a

Figure 1b

The figure on the left (figure 1a) has exaggerated spinal curves showing kyphosis and excessive lordosis (both forms of poor posture). The person on the right (figure 1b) has good spinal alignment and good posture.



Figure 2

Compare these two alignments at address (figure 2), and in rotation (such as needed for a golf swing) (figure 3). Table 1 illustrates the problems that a person with poor posture (excess kyphosis) has to overcome in his quest for golf glory.

## How do we get poor posture?

This question is best answered by Aristotle who said, "We are what we repeatedly do."

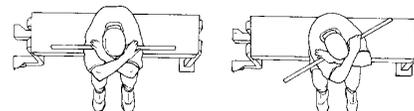


Figure 3

The person in figure 1a (representing poor posture) may have a desk bound occupation and has grown into this hunched over posture. In Josh's case, the construction working phase during puberty has left its imprint on his posture and his golf swing.

Similarly, if you hit 400 to 1400 balls per week during practice your body will grow into that position. Some muscle will get facilitated and pull the joints out of alignment and weak muscle will allow the body to be pulled out of alignment. This creeps into the body over time as to the consequential swing compensations. Most people do not realize this until they are in pain and have an assessment, or until they are captured on video.

## Measuring posture, flexibility and stability

Measuring posture, flexibility and movement stability against normative data al-

Poor Posture	Good Posture
Expend more energy to swing any given club	Body is working in concert and energy expenditure is efficient
Less spinal rotation available	Optimal spinal rotation is available
Swing compensations due to flexibility and stability being compromised	No compensations as flexibility and stability are balanced
Probably will have an upright swing, with a steep angle of attack	Is free to act on advice of golf pro
Probably swings with arms, making a shoulder impingement injury likely	Injuries will most likely occur only from pattern overload or getting hit by a ball
Back pain from shear stresses and spinal instability	Distance will be enhanced by strength and power training
Has less consistency, accuracy and distance because of the swing faults caused by the above	More able to reproduce a repeatable swing, consistency and accuracy will be technical, not physical

Table 1: Problems associated with poor posture in a golfer

lows us to quantify where the movement restrictions and compensations are occurring. It provides an etiology of injury and a starting point for design of a corrective and high-performance exercise programme.

Table two reports the optimal rotational measurements of the spine and relevant muscles. In golf, if an individual does not meet these optimal figures and is restricted in range of motion, the body will compensate at places of least resistance to reach the golf pros' outcome of the "top of backswing."

Compare Josh's current back swing vs an optimal swing. Josh's restrictions have overridden good technique and have caused inefficient swing mechanisms (line vs actual club line).

What people don't realize is that this has a detrimental, "domino," effect on stability, separation strength, power and coordination that decreases consistency and distance. Compensations also increase the risk of pattern overload injuries.



**Figure 4: Josh**



**Figure 5: Optimal backswing posture**

<b>Normal measurement of joints and muscles that impact on Josh's golf rotational flexibility</b>	<b>Optimal</b>	<b>Josh (left/right)</b>	<b>Inefficiency in golf swing</b>
Forward head posture	0-3 cm	5.5 cm	Restrict neck/trunk rotation
Neck rotation	70°-90°	70°	With above can pull head off ball
Thoracic rotation Thoracic curve	30°-50° 30°-35°	34°/40° 44°	Imbalance causes uneven stress on the spine Injuries likely to occur include shoulder impingement and low back and knee injuries Restriction in follow-through
Lumbar rotation Lumbar curve	3°-18° 30°-35°	0°/4° 8°	Shear stress in Sacroiliac joint (SIJ) Restriction in backswing and follow-through Pressure in lumbar discs
Pelvic tilt	4°-7°	1°, -3°	Shear stress in SIJ Pain avoidance compensations
Latissimus Dorsi	170°	115°	Restrict arm raise, leads to swinging with the arms and impingement injuries Restrict thoracic rotation Probably overworked because of back injuries Close face on impact
Quadratus Lumborum	same	right 2.5 cm tight	Lateral hip sway during right backswing Decreased lumbar rotation in follow-through Up-regulated in absence of pelvic and knee stability
Hip external rotation	40°-60°	42°, 28°	Up-regulated in absence of pelvic and knee stability
Lying hamstring	170°	128°, 110°	Decreases lumbar curve, rotation, pulls right hip backward and away from target line Force swinging from arms
Waiver's bow	50°	24°	Flat lumbar curve
Weight shift	<2.25 kg	1 kg left	No detrimental effect

**Table 2: Normal range of motion vs. Josh's October 2003 assessment**

In table 2, I have itemized how each imbalance impacts on Josh's golf swing.

After studying Josh's injury and sporting history it is not surprising that he has the resulting posture misalignments. These misalignments have caused faulty swing mechanics and contributed to injuries. A corrective stretching and strengthening programme can help improve:

- posture
- reduce injuries
- increase swing efficiency and consistency
- provide an ideal position to launch powerful drives from a increase club head speed and ball distance.

Further credence to the position of posture as a precursor to power can be gained by analyzing the movements and biomotor abilities required for golf.

## 2. Golf specific exercise selection

### **Movement patterns of a golf swing**

(See table 4.) These patterns and sequence will have greatest golf carryover if the exercises are performed in good posture.

### **Physical abilities of golf**

The biomotor abilities table is ranked in order of importance for a golfer. We have then rated Josh's score against the optimal long drive score.

Flexibility is crucial for a golfer as it is a precursor to successfully improve all golf biomotor abilities because:

- Swing stability (balance) needs flexibility for optimal joint alignment.
- Separation (strength) cannot occur if operating joints are restricted.
- Driving power will be leaky if the flexibility,

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# Bite, Balance & Back Pain

by Peter van der Sande Lacoste, C.H.E.K Practitioner Level 2

Having good balance is an important aspect of athletic training, injury rehabilitation and prevention. It can often make the difference between gold and silver, or a tenth of a second off a world record time. Swiss balls, wobble boards and other training tools are used to improve balance and performance both on and off the sports field. Although balance and athletic performance will improve with the utilization of these training methods, your body may be compensating to keep your head in balance like a circus seal balancing its ball! Having a well aligned bite and cranium are crucial to ensuring optimal body performance.

I'm sure that most of us were encouraged to brush our teeth from an early age. The importance as we grew, however, never seemed to venture beyond good dental hygiene. The alignment of the teeth has a powerful, yet subtle, effect on the entire body. In fact, almost half of both sensory and motor aspects of the brain are devoted to the dental area.<sup>1</sup>

Although the effects are subtle, it is in this way that braces are able to move teeth into better alignment. The corrections made are by light elastic forces (light pressure to create movement).

An ideal occlusion (bite) provides even pressure to the cranial bones and provides an optimal position for length/tension relationships of the muscles and ligaments. The upper teeth are set in the maxillae, which represents the anterior two-thirds of the cranial base. If the upper component is distorted (crooked teeth, one side higher than the other etc.) then the forces generated by the teeth will distort the skull.

If we subjected the teeth to only one pound of pressure per square inch with each act of swallowing, the dental structures would absorb approximately one ton of intermittent pressure daily. However this simple act of swallowing, which brings the upper and lower teeth into contact, exerts in the average person at least 3 ½ pounds of pressure during swallowing. The habitual and nocturnal bruxer (teeth clencher) far exceed this norm.<sup>2</sup>

In addition, bite interferences often trigger muscle spasm, which in turn can jam sutures and distort cranial bone alignment. One of the principal functions of a balanced bite is to serve as a self-correcting mechanism for rebalancing the skull. This rebalancing occurs every time one swallows—which is two to three times per minute while awake and once or twice per minute while sleeping. This translates to 2400 times per day (light elastic forces).

Another very important contributor to cra-

nia distortion is the temporo-mandibular joint (TMJ). Any disruption or injury to the jaw and associated regions can, as you'll see, have more implications than a bruise and discomfort. There are twenty-two cranial bones (excluding the six ossicles) which function as a synchronised unit. A distortion to one bone effects the entire unit.

There are 136 muscles in the head and neck region. Imbalances or injury to these muscles (directly or indirectly) can cause both rotation of the temporal bone and displacement of the mandible. Because of the placement of the condyloid process in the fossa of the temporal bone, when there is muscle imbalance to the TMJ, the temporal bone can be internally rotated and the mandible is retruded. If cranial imbalances exist such that the temporal bone is externally rotated, the mandible is protruded. Whenever the temporal bone is out of ideal alignment, the mandible does not have appropriate seating in the joint. The synchronisation of the cranial unit then seeks to balance itself in a way which provides minimal stress and wearing of the TMJ and the teeth. It does this from neuro-developmental evolution; because if our teeth wore out as primitive beings (due to malocclusion), then our likelihood of surviving was slim, unless we planned living off soup! To exemplify this point consider an example from nature; elephants have four teeth, which grow six times in their life. After they wear out the sixth set, they die!<sup>3</sup>

If the cranial bones and their associated internal membranes are out of alignment there are pressure changes which effect cerebrospinal flow. This is because the cranial bones and their underlying membranes move in relation to the production and reabsorption of the cerebrospinal fluid.

The temporal bones, which contain the mechanisms for hearing and balance, are also impaired. With vestibular dysfunction, balance can be adversely affected and secondary systemic compensations take place. In several places, the meningeal dura mater extends inward to form flat septa that anchor the brain to the skull.<sup>4</sup>

Any dysfunctional positioning or movement to the cranial bones and upper cervical spine will traction the dura, which must then be compensated for to restore dural balance. The compensations can take the form of spinal subluxations, knee problems or back pain to name a few. These compensations are not commonly felt in the head/neck region, due to the importance for the brain to maintain occlusal, visual and vestibular balance. Although any pain and discomfort may be alleviated through various treatment methods, the problem will unfortunately reoccur if the true etiolo-

gy is not being addressed.

According to Fonder and Guzay, the dysfunction of the mandible in its relationship with the cranium causes specific muscle spasm in the area of C1 and C2, thus interfering with the function of the atlanto-occipital joint.<sup>5</sup> Along with dural balance, the Lovett reactor system must also be considered.<sup>6</sup> This system shows that movements to the occiput are mimicked by the sacrum, C1 to L5, C2 to L4, C3 to L3 etc. Subsequently a number of problems can arise, from low back pain to shoulder and ankle problems.

Although most manipulative specialists will also treat the atlas along with a painful spinal segment, if the bite is not addressed they could well be missing a more important contributor to the problem. The bite and cranium (to include the atlas) has a significant role in the alignment and function of the entire body. This would stand to reason considering that every nerve below C1 passes through the atlas. When back pain and inadequate balance (including muscle imbalances) are prevalent in clients, the important role of our pearly whites and cranio-cervical structures should never be overlooked.

Finding a good cranio-sacral therapist, or well-versed dentist, chiropractor or other specialist to complement your training can help prevent unwanted set-backs and ensure training and performance is optimized. □

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# The First Element: Postural Consciousness

by Brandon Alleman, C.H.E.K Practitioner Level 1

As C.H.E.K Practitioners, Golf Biomechanics, and NLC's, every one of us is familiar with clients who state their primary fitness goal is to either improved aesthetic appearance, enhanced performance at work or sport, or to decrease pain levels. As Practitioners we would no doubt applaud such individuals for deciding to take an active role in his/her health and fitness. However, these individuals are all missing something; and it is our responsibility to supply them with that which they are missing. When asked about their goals the client *should* respond, "I want to improve my posture, thereby insuring long-term joint/soft tissue health, which in turn will allow me to achieve my fitness goals, injury free."

We are all aware of the truth that the benefits of a postural conscious exercise program far exceed those of a traditional exercise program. While the number of exercise professionals emphasizing posture is on the rise, we are still a minority. However, in the words, of Gandhi, "Even if you are a minority of one, the truth is still the truth."

I think most of us would agree that lack of postural consciousness in Program Design and execution, along with ignoring the CNS (Central Nervous System) component of exercise, are the biggest mistakes made by most fitness professionals today. As C.H.E.K Practitioners it is our duty to insure that all clients have a firm understanding of the benefits, aesthetic and otherwise, of programs that are postural conscious and that emphasize a neurodevelopmental approach to training.

## The Dysfunction Hierarchy

A program that does not address posture will have inevitable and potentially disastrous and expensive consequences. Detrimental results of such programs include but are not limited to: muscle imbalance, nerve entrapment, altered biomechanics, increased pressure on nerve roots, damage to joint capsules and inert structures, damage to the musculo-tendinous unit, poor neuromuscular control, altered movement patterns, faulty motor engram development, overall dysfunction, and pain.

For those participating in or designing exercise programs irrespective of posture and/or biomechanics, it is not a matter of *if* dysfunction will occur, but *when* and to what level it will progress. We must educate our clients as to the different aspects of dysfunction and the consequences of each level. Given that, five basic levels are presented below as adopted from Ian King's

article, *Out of Kilter*.<sup>2</sup>

### Level I Dysfunction:

At the initial level, one is experiencing pain and altered joint biomechanics, but only on a subconscious level. The problem exists and the information sent to the CNS regarding timing sequence and proprioception is now altered, though unbeknownst to the individual.

### Consequences:

Once posture deviates from ideal secondary to innumerable causes, altered length-tension relationships of muscles are produced. Certain muscles, usually tonic in nature, are shortened and others, usually phasic in nature, are lengthened. The shortened muscles quickly become facilitated which, over time, will cause biasing of motor neuron pools and decrease neural input to antagonistic musculature and reflexively inhibit those muscles from performing their respective functions (Sherrington's Law of Reciprocal Inhibition).<sup>1</sup> Even at this base level (a level of dysfunction that most clients and trainers cannot detect or ignore) mind set, outlook, autonomic function, performance and recovery will all be negatively impacted. My clinical observation is that nearly 100% of clients present with at least this level of dysfunction!

### Level II Dysfunction:

At this level, one has progressed into the area of conscious pain, though it is not yet debilitating. Pain levels will commonly be 1-3 on a scale of 10. Sadly, at this level many individuals attempt to diagnose themselves or dismiss the pain altogether. Here, examination of the previous exercise program(s) participated in by the client along with ergonomic evaluation of the workplace is indicated, although this should be done during the initial consultation/assessment.

### Consequences:

If the problem is not properly identified and corrected immediately, future attempts to correct it will likely treat symptoms rather than the cause. It is highly likely that the inflammatory response will be initiated at this level. If the individual continues to exercise through the pain, the inflammation will remain unresolved and become chronic. This will impede recovery from exercise, as repair of protein degradation will not begin until edema of the surrounding tissues has subsided.<sup>6</sup> The longer the problem (pain) persists, the easier it will become to falsely identify its etiology. All consequences of Level I are increased in severity and significant muscle imbalances are now

present. These muscle imbalances will result in an inability to load share during exercise, which will lead to capsular and inert structure damage. (see Level III).

### Level III Dysfunction:

This is an elevated stage of pain. At this level, the individual will have, or at least should have, ceased performance of any exercise not overseen by the appropriate exercise professional.

### Consequences:

In addition to elevated pain levels, the client is likely experiencing a loss of function at some level (if this has not occurred sooner), and a reduced capacity to perform activities of daily living (ADL). Faulty alignment with exposure to resistance training has loaded tissues at levels that exceed tissue tolerance. Consequently, patho-mechanical joint movement is inevitable, resulting in supplementary damage to the involved joint capsule, which contains four classes of proprioceptive neurons called Mechanoreceptors, Class I-IV respectively. Mechanoreceptors are also present in the ligaments surrounding joints and specialized pain receptors called nociceptors are also found in the surrounding inert structures. The Class I Mechanoreceptors are the first ones damaged and are responsible for postural and kinesthetic sensation as well as have the ability to facilitate tightness of the tonic musculature that cross the affected joint(s).<sup>3</sup> This will simply maintain the faulty postural engram, magnify existing muscle imbalances to an even greater degree, and result in premature degeneration of joints while maintaining/increasing pain levels.

### Level IV Dysfunction:

In this phase, the level of pain/injury will now be accompanied by some level of immobilization and/or severe range of motion (ROM) limitations. At this point the individual is likely unaware of how to correct his/her own problem. A multi-disciplinary program will be necessary to re-establish normal function.

### Consequences:

Immobilization and severe R.O.M. restrictions will lead to atrophy of the muscles responsible for movement of the affected joint secondary to disuse. Inevitably this will alter movement patterns severely and cause compensatory patterns of movement throughout the kinetic chain, which actually begins in Level I.

### Level V Dysfunction:

Pain levels are now unbearable, often nine

**Continued on page 9**

**Bob**  
Continued from page 3

get any spinal extension without the glutes and lumbar tightening immediately. I created the Sphinx, like the Egyptian creature, having Bob lean up in a prone position, on his elbows, in an attempt to allow diaphragmatic breathing and stretch the abs. With more trigger point work on Bob's abs, erectors and especially pecs, he has gained considerably more extension in his spine. Bob also stretched his glutes and hamstrings. I'm proud to say he can now—a year and a half later—almost do a full McKenzie Press-up with relaxed glutes and hips down and elbows almost fully extended. That's a big deal for someone who initially couldn't extend enough to bring his chest off the ground at all!

I had Bob do things like walk backwards, pushing against my hand on his occiput, to develop coordination and his glutes. Bob has even been doing step-ups with a kick and a reverse lunge, coordinated with his arm movements. It's brilliant coordination for a man whose trainer had called him a "motor moron." Because of this, he has leg development he never had. And, "more muscle than ever before in 45 years of training!" He has symmetry in his upper body. I was amazed when I noticed that within 5-6 months, his shoulders were level and his back was not so kyphotic. His left arm had been almost an inch less in circumference than the right—now they're

virtually level. I believe this is because the nerves can flow to innervate them through flexible, healthy, functioning (as opposed to inflamed) muscles.

Along the way, I consulted Mark Stone, C.H.E.K Practitioner Level 4, for help in programming and in mobilizing Bob's shoulder. That has further helped Bob's progress.

Eventually, Bob has even been able to do push-ups, initially using a Bosu to shorten the lever, but soon he was able to perform full push-ups on the floor, with no assistance, on one foot and hands on a teeterboard! He developed a functioning TVA and proper breathing. He lowered and retracted his shoulders. His posture improved so that it felt natural to stand with good posture. Initially, he'd do the "How's my posture?" stand up straight for 5 seconds and then slump. Now, despite a setback now and then (such as overtraining abs when traveling) his posture appears to be holding much better, and he is standing taller. He can now raise his arms almost overhead. His sleep is vastly improved as well, with Vioxx or other anti-inflammatory drugs. The pain, which used to be his constant companion, is no longer waking him up at night, or irritating him during the day. As he's progressed, many of his friends almost don't recognize him, they often think he is a different person. That's how different his posture is. AND now he's fitter and healthier and even MORE buff. "Do I look

fuller?" Bob asked me. "Sure you're fuller," I shot back. "Of yourself." Bob grinned from ear to ear.

So, posture is closely linked to the length and tension of muscles. When there is an imbalance, there will not only be an aesthetic and functional problem, but usually debilitating pain will accompany the dysfunction. Hear Bob on how his life has changed, uttered as he was drifting off while I worked on his lower back before his workout, less and less these days nonetheless:

"My poor friends. If they only got what you could do for them. My acute awareness of every situation during the day is heightened. I've established a complete rebirth of my company, and turned it around because I now have the energy and focus to do it. If these people would participate in this form of rehab, their bodies would respond in a positive way, and they would have more vitality, which would enhance their daily performance. When my shoulder hurt, I was exhausted, physically and emotionally. I didn't have the energy to work on receivables, or anything else. Now I check them every week, and make the calls and collect. Our business has transformed. We're doing more selling (of their architectural services) and hiring when others are laying people off. This work is that profound."

**The First Element**  
Continued from page 8

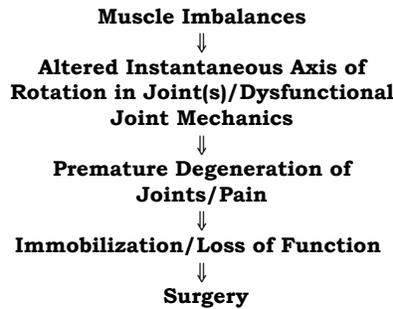
and above, and interfere with sleep and daily functions. Surgery is one's next stop. Though rarely the true answer to the problem/injury, it is likely to be recommended as a *potential* solution at this point.

**Consequences:**

The consequences of having to undergo a surgical procedure are vast and often unpredictable. In the case of the low back, having one surgery significantly increases the chances of a second procedure.<sup>4</sup> Surgical complications are always a possibility and they have consequences unto themselves. As explained above, the surgery, in most cases is not the true answer, but it will, more often than not, provide at least some pain relief. However, if overall balance in the musculoskeletal system is not achieved post-operative, the surgery will be a means of short-term relief and re-injury is likely to occur, again reinforcing the concept of postural consciousness from the beginning!!<sup>2</sup>

The above can be summarized with the following flow chart:

**Poor Postural Habits/Faulty Exercise Program Design**  
↓



The length of time it takes to progress through the Dysfunction Hierarchy is subjective and depends on many factors such as gender, exercise frequency, volume, intensity, stress (irrespective of type), and lifestyle factors to name a few.

**The Bottom Line**

The point that must be made is that all levels of the Dysfunction Hierarchy are preventable when the fitness professional begins each individual's exercise program by restoring optimal length-tension to all muscles and improve joint range of motion.<sup>5</sup> Of course, regardless of what level of dysfunction one presents with, a Nutritional and Lifestyle Assessment is warranted if benefits from the exercise program are to be expected.

Not all individuals that we come in contact with will be "sold" on what constitutes an anatomically/biomechanically correct exercise program. It is up to the Practitioner to allow their intrinsic desire to help people to emanate from their being and use him/herself as a model. Even the smallest person can change the course of the future, but by educating the masses we are all making the greatest impact possible!! □

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# CHEK Report Quiz

To earn CHEK points (good toward renewing your CHEK Certification(s)), you must read the entire content of this issue and complete the quiz, answering at least 75% of the quiz questions correctly. Select the best answer and write in the corresponding letter on the answer sheet (page 11). Return a copy of the answer sheet to the C.H.E.K Institute via fax (760.477.2630), email (educate@chekinstitute.com) or post (Sycamore Business Center, 2105 Industrial Court, Vista, CA 92081). You may also create your own answer sheet as long as you include your name, address, phone number and email, along with the answers and quiz number. Always save a copy of your answers.

You will earn 1 point with a passing mark on this quiz. You will need to save your returned certificate to submit when you renew your certification, the C.H.E.K Institute will not automatically apply the credits toward your renewal. You must submit your answer sheet before July 1, 2004 to receive points.

1. A golfer with a 100 MPH clubhead speed (average for an amateur golfer) reaches what percentage of peak muscle firing during the swing.
  - a. 60%
  - b. 70%
  - c. 80%
  - d. 90%
2. A postural fault that would most increase a tennis players chance of should injury is:
  - a. Increased lumbar curve
  - b. Increased thoracic curve
  - c. Decreased neck rotation
  - d. Decreased lumbar curve
3. About what percent of sensory and motor aspects of the brain are devoted to the dental area in humans?
  - a. 40%
  - b. 50%
  - c. 60%
  - d. 70%
4. The Mensendieck System focuses on repetitive movements at what tempo(s)?
  - a. Slow
  - b. Fast
  - c. Varing
  - d. Progressing from slow to fast
5. Poor posture often results in adults who did not progress correctly through the crawling phase.
  - a. True
  - b. False
6. According to the Dysfunction Hierarchy presented in *The First Element*, what level of dysfunction do most people begin feeling some pain/discomfort?
  - a. Level I
  - b. Level II
  - c. Level III
  - d. Level IV
7. If a client presents with back pain and poor balance, their bite should be assessed.
  - a. True
  - b. False
8. The key feature in identifying a sway back posture is:
  - a. Forward head posture
  - b. Hips come forward of midline
  - c. Hyperextended knees
  - d. Increased lordosis
9. Which muscles would you stretch to correct a sway back?
  - a. Hamstrings and hip flexors
  - b. Quadratus lorum and hip flexors
  - c. Hamstrings and abdominals
  - d. Erectors and abdominals
10. The Lovett reactor system shows that movements to the occiput are mimicked by:
  - a. C1
  - b. T1
  - c. L1
  - d. The sacrum
11. Exercises within the Mensendieck System are to be performed in front of mirrors.
  - a. True
  - b. False
12. Someone with an imbalance between the trunk flexors and trunk extensors commonly has:
  - a. An increased lumbar curvature
  - b. A flat back
  - c. An S-shaped spine
  - d. A decreased thoracic curvature
13. At what level of Dysfunction (as discussed in question seven) would a C.H.E.K Practitioner be able to reverse the pattern?
  - a. Level II
  - b. Level III
  - c. Level IV
  - d. Level V
14. Sacralization is:
  - a. Fusion of L5 to the sacrum
  - b. An incompletely developed sacrum
  - c. A 6<sup>th</sup> lumbar vertebra
  - d. A fractured sacrum
15. According to Janda, what reprograms the nervous system faster and more effectively than any therapeutic modality?
  - a. Repetitions
  - b. Passive movements
  - c. Pain
  - d. Visualization
16. To best modify the prone cobra exercise to train postural endurance, you would:
  - a. Increase the number of reps performed per set
  - b. Decrease the rest time between sets
  - c. Increase the hold time
  - d. Perform on a Swiss ball
17. Without adequate flexibility, stability and strength, a golfer will lose distance in his/her driving.
  - a. True
  - b. False
18. Sodium Lauryl Sulfate (SLS - an ingredient to avoid) is found in:
  - a. shampoos
  - b. Toothpastes
  - c. Skin creams
  - d. All of the above
19. In ideal posture, a plum line extended down the side of the body should run through the ear lobe, transect the shoulder, hip, knee and ankle joints.
  - a. True
  - b. False
20. During rehabilitation, movement patterns that result in pain should always be avoided.
  - a. True
  - b. False

To receive points, complete your answers on the answer sheet provided on the following page and return to the C.H.E.K Institute before July 1, 2004. You may create your own answer sheet as long as your answers are clear. Make sure to include the Quiz number (0104).

Results will be emailed to you, so please include your e-mail address.

**CHEK Approach**  
Continued from page 2

work environment, including the environments where they take part in their hobbies. Model builders are often chronically exposed to glues, shooters are chronically exposed to munitions exhaust, auto buffs to numerous solvents, painters to thinners that enter the body as fast as you can blink an eye and are very toxic to the nervous system. I've even had female clients who were allergic to their make-up!

**Injury Response As A Force Of Posturalization**

Whenever we get injured, we experience pain. Pain, according to Dr. Vladimir Janda, "reprograms the nervous system faster and more effectively than any therapeutic modality we have!" As a means of survival, the body always seeks to *avoid pain, and move toward, or gain pleasure.*

There are *clinical pearls* in the words above, particularly when it comes to assessing and correcting posture. First of all, if an injury results in pain generation, for which the position of alleviation is one of pronation (flexion-adduction-internal rotation), the body will seek avoidance of pain in a position that you or I would appreciate as *poor posture*. If we try to correct this seemingly poor posture without identification of the painful structure and resolving the issue at the etiology, any attempts to correct posture will counter a higher principle, namely *avoidance of pain, an immediate threat to the system.*

As Janda taught me, it is critical to keep people (particularly athletes), out of movement patterns of importance if performance of that given pattern(s) causes pain. If you do not, the nervous system will rewrite the software very quickly and very effectively, all in the name of compensation! Janda described, and I have seen over and over clinically, that there is a very finite point at which, if crossed, the individual's muscle imbalances and motor sequencing disorders can no longer be restored by therapeutic intervention. The compensation becomes self-perpetuating.

On my recent trip to Sweden, I worked with an Olympic Decathlete whose career was interrupted by an Achilles tendon rupture. Now years later, after having completed his rehabilitation and returned to competitive athletics, I could easily see which leg the injury had occurred on...he was still limping! I showed him how his entire kinetic chain was in pronation and couldn't stabilize effectively when upright against gravity. His core stability was also compromised. When his core was stimulated and activated, the degree or magnitude of lower extremity instability was noticeably reduced. These

things are what we call *dynamic posture*.

This athlete is not a unique example. There are many people who have *entrained* their motor systems to move incorrectly, using a compensatory pattern that was generated by a faulty stabilizer mechanism, and possibly over-training, but is of no use once the injury has healed. The problem, typical of most rehabilitation today, is that the average therapist thinks that *the absence of pain = recovery...*it DOES NOT! This athlete, at all costs, should have not been allowed to perform any pattern of importance to his athletic performance in the healing phase, *unless it could be performed pain-free and with no observable or measurable motor deficits.* An example of how to handle this would be to take a running athlete into the pool, allowing them to exercise the gait pattern in a supportive environment that doesn't erode his/her motor skills.

Another example of injury that erodes posture is any injury that adheres the central or peripheral nervous system. Once any nerve tissue is adhered anywhere in the system, the body will avoid any static or dynamic movements (postures) that stretch it, causing pain. By careful review of injury history and medical history (many nerve adhesions are iatrogenic!), we can generally identify when nerve root adherence testing is necessary as a component of our postural correction program.

There is also the issue of *motor memory*. People literally develop a memory of an injury or the pain associated with it, and keeps it active, as though they were still injured. This locks them into the very posture that afforded them avoidance at that time. I have had a number of clients over the years that required the intervention of a psychologist as an integral part of their rehabilitation program. If I didn't address the mental, or memory aspects of their injury, my rehabilitation efforts would have been futile! We are *physical-emotional-mental-spiritual beings*; all four areas are intertwined and cannot be considered separately. We will expand on this in Part 3. As you learn to understand the emotional-mental-spiritual implications and offerings afforded by injury, you will be able to assist your clients in finding the true purpose for injury. You will also become more skilled at recognizing energy blockage in their body and subtle energy systems, which are responsible for *holding a pattern.*

**Mechanical Forces Of Posturalization**

Many people are born with structural asymmetries that alter posture and may produce pain syndromes as a result. There are numerous genetic traits that can be passed from parent to child that can affect posture; for example *lumbarization* (6<sup>th</sup> lumbar vertebra) and *sacralization* (fusion of L-5 to

# Quiz Answer Sheet

(Quiz #0104)

Name: \_\_\_\_\_

E-mail\*: \_\_\_\_\_

- 1. \_\_\_\_\_
- 2. \_\_\_\_\_
- 3. \_\_\_\_\_
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- 20. \_\_\_\_\_

\* If you do not have an e-mail address, we will mail you your results. Please include your mailing address with your answer sheet.

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Continued on page 14

# THE MENSENDIECK SYSTEM OF FUNCTIONAL EXERCISES: A constant focus on posture

by Mette Berrig, C.H.E.K Golf Biomechanic

When attending workshops etc. I always have to explain what my profession is about. I am an instructor of the Mensendieck System of Functional Exercises, a system that continuously focuses on posture.

I have practiced this method full-time since 1990, and I regularly see the wonders it can do for people, especially those with back problems, crooked spines and imbalanced posture. I first met Paul Chek in 2001 and the workshops I have attended since have confirmed that I have a wonderful tool, which Paul's approach matches perfectly. Or which perfectly supplements Paul's approach. When I teach, I often combine the two different approaches, which are actually quite similar.

The Mensendieck System is unique in the way it is practiced. Instruction is on a one-to-one basis with the instructor. All exercises and movements are performed slowly and in front of mirrors so that the body can be observed from all angles. In order to enable us to see the muscles while performing each movement, the student is only wearing underwear. Usually a student gets instructions half an hour every week on an ongoing basis. Bess Mensendieck was of the opinion that correct movements should be experienced, acknowledged and become conscious through slow exercises combined with good breathing, principles we still follow.

A Mensendieck instructor focuses the exercise program on, "Improving individual posture and movement possibilities and individual posture and movement habits, and fostering healthy movement behaviour."<sup>5</sup> A Mensendieck instructor, "continuously analyses the individual posture, method of movement and breathing."<sup>5</sup>

All instructions are based on the student's given knowledge of the muscles involved—from mind to muscle to movement—so to speak. Dictating the exercises, the instructor always thinks of the leverage principles, and using the body itself as a lever. The instructor constructs the exercises to provide the required variations in strength, therefore no tools are necessary.

All exercises are anatomically correct and focus on providing the student with "constructive automatisms."<sup>1</sup> so that everyday movements become daily exercises. Basic elements are the Median and Frontal planes and a Preparatory Position that

gives the student the "right distribution of the body-masses,"<sup>1</sup> as Bess Mensendieck herself has put it. The Preparatory Position—an exercise in itself—ensures perfect posture before and after every exercise and builds a healthy posture into the student to use at all times.

The Mensendieck System uses specific dictations. The type and sequence of each exercise dictation strives to impart the requisite knowledge of anatomy, muscle function and appropriate posture. Instructions in the mechanical principles involved, guide the student in the correct adjustment of his body-masses. All exercises are dictated to the student, sequence-by-sequence, muscle-by-muscle, aiming at giving him or her a meditative and repetitive way of recognizing the feeling of where his or her body-masses should be. It is all implemented in the student through innumerable and constant repetitions. In the beginning, students often find it difficult to remember the movement sequences, but after a while they get to know them well and are able to practice at home. I often describe this period as a stage where they feel positively brainwashed, as they concentrate so hard to perform the exercises according to the dictations and corrections that it is difficult for them afterwards to remember exactly what they did. But after a while their body knows the movements and they can feel whether a movement is right or wrong, which is important in order for them to use it in everyday movements.

The instructor unceasingly watches and corrects each movement and constructs the exercises, so that the imbalanced posture or crooked spine is being corrected. All movements are slow so that the student is able to feel and recognize every detail.

I work mainly with people who have little knowledge of anatomy or posture. Most people are very impressed by seeing their own muscles in action in the mirrors, especially the muscles of the back. It makes them aware in a different way of how their body is functioning. Using the mirrors while being instructed, the person becomes aware of his or her posture and it enables him to improve his posture in his everyday life. It can be said that, "the general objective in Mensendieck is to promote the well-being and function of the student at a level that the individual can and will personally employ within his own specific environment."<sup>5</sup>

The Mensendieck System of Functional Exercises was developed by Bess M. Mensendieck during the late 1800's. In 1905 she qualified the first instructors. Ever since instructors have been qualified, first in Europe and later also in America.

Bess Mensendieck was first published only in Europe, because her books contained nude photos, which did not quite agree with the Puritanism in the United States at the beginning of the century. This is also the reason why she only lectured and practiced in Europe for many years. Her system was later practiced at Yale University by Mr. Alfred Motley.

She believed in, "skilful management of the body itself—through a mastery of the science of movement whereby muscles are made to act upon bones in right functional sequences and in perfect accord with the laws of body-mechanology."<sup>1</sup> She also wanted body technique to be acquired before the technique of a sports game itself.

In one of her books she writes, "Muscle development, acquired by the continuously correct performance of ordinary everyday movements is retained until the end of life, since correct muscle management is the basic factor of an habitually well-functioning body."<sup>1</sup> Daily movements should be constructive automatisms, they should form the basis of all body education as far as Bess Mensendieck was concerned.

In Denmark the education is a two years full time study. The main subjects are very detailed anatomy, physiology, innumerable movement analyses, daily Mensendieck exercises, exercise dictations and dictations for correcting crooked spines etc.

Bess Mensendieck was a fascinating woman. She was born in New York by Dutch parents. When she was quite young she went to Paris to study art and become a sculptor. In Paris she was thrown by the poor posture of the Parisiennes (corsets were in fashion at that time—inactivating muscles) and she became interested in the idea of modeling the human body by conscious use of muscles.

At that time Switzerland was the only country where women could study medicine so she went there and studied to become a doctor. In Switzerland she met the scientist C. B. Duchenne, who researched muscles' reaction to electrical stimula-

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## Mensendieck

Continued from page 12

tions. Bess Mensendieck had an ability to recognize simple, fundamental principles and put them into new perspectives. She concluded that if Duchenne could create a muscle contraction through electrical stimulations, simulating signals from the brain, precise verbal impulses should have the same effect. Thereby she made a connection from neurophysiology to education. Between the years 1902 and 1905, Mensendieck ran the faculty of a hospital in Paris where she was acknowledged for using her system on injured people.

She always stressed that fast movements conceal a lot and only through slow movements control can be achieved. Only when slow movements are mastered 100%, accuracy and speed can be combined.

Today, the Mensendieck System of Functional Exercises is practiced mostly in Norway, Holland and Denmark where there are also schools for qualifying instructors. All Mensendieck instructors have the opportunity of joining the international organization IAMTTE International Association of Mensendieck Therapists, Teachers and Educational institutes.

Personally, I have been a full-time instructor of The Mensendieck System of Functional Exercises for 13 years, and I travel with my qualifications too. Two days a week I teach women who have had mastectomies, an area where important work can be done. For these groups of women I organize travels too, combining recreation and exercise. Altogether I could not imagine a better job for myself.

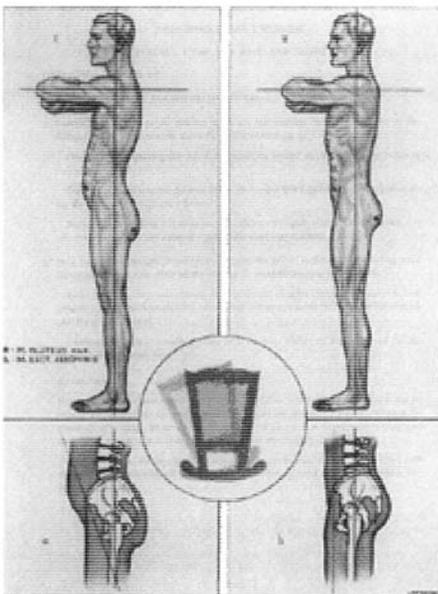
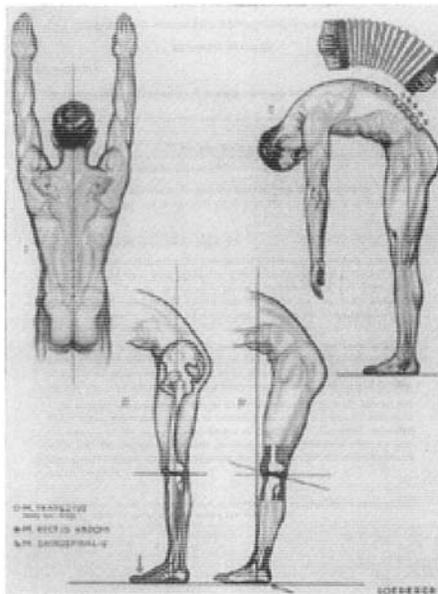
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8. Mensendieck, Bess M. *Look Better*,

*Feel Better*. New York City: Harper and Brothers, 1954. London: Souvenir Press, 1976.

### Links:

www.hio.no: Oslo University College.  
www.svenskmensendieck.org: The Swedish Mensendieck Organisation.  
www.nvom.nl: The Dutch Mensendieck Education.  
www.mensendieck.dk: the Danish Mensendieck Organisation and education.  
www.bodyconsult.dk - my website.



**Figures 1 & 2: Two of the drawings made especially for Bess Mensendieck, and printed in her book *The Mensendieck System of Functional Exercises*.**

## THE HEALTHY WHEY SHAKE

from: Linda DeFever, C.H.E.K  
Practitioner Level 1

1/3 Cup Whey (see recipe below)  
1 Dollop of Whey Cheese (you get this when you make the whey)  
6-8 Ounces Raw or Organic Milk  
1 Raw Organic Egg  
4 Ounces of Organic Yogurt (Stoneyfield vanilla or peach recommended)  
1-2 Packets of Stevia (depends on how sweet you like your drink)  
Dash of Nutmeg (optional)

Combine all the ingredients in a blender, blend until mixed and enjoy!

**Whey and Cream Cheese** (from Nourishing Traditions by Sally Fallon)

2 quarts plain yogurt or raw milk (see book for other options)

If you are using raw milk, place the milk in a clean glass container and allow it to stand at room temperature for 1-4 days until it separates. If you are using yogurt, no advanced preparation is required.

Line a large strainer set over a bowl with a clean dish towel. Pour in the yogurt or separated milk, cover and let stand at room temperature for several hours (longer for yogurt). The whey will run into the bowl and the milk solids will stay in the strainer. Tie up the towel with the milk solids inside, being careful not to squeeze. Tie this little sack to a wooden spoon placed across the top of a container so that more whey can drip out. When the bag stops dripping, the cheese is ready. Store whey in a mason jar and cream cheese in a covered glass container. Refrigerated, the cream cheese keeps for about 1 month and the whey for about 6 months.

Makes 5 cups whey and 2 cups cream cheese.

### Receive \$10 off your next product order over \$75

Mention code: **CHEKREPORT104**  
Offer only good when items are purchased in the US. The order must exceed \$75 before tax and shipping. Limit one per customer. Offer good until April 15, 2004.

## CHEK Approach

Continued from page 11

*sacrum*). Examples of structural asymmetries that all C.H.E.K Practitioners should seek to recognize are:

- Leg length discrepancies
- Hemipelvis asymmetries; I had a patient a few years back who had a right hemipelvis that was 16 mm larger than his left, which required quite a butt lift under his left ischium to balance his pelvis. Many physiotherapists, chiropractors and medical doctors, whom he had seen for chronic low back pain, had missed this. There was a significant functional scoliosis resulting from this structural abnormality, placing significant torque through his axial skeleton with resulting craniocervical pain.
- Incompletely developed vertebra, such as lumbarization can cause what looks like the pelvic shift of a disc patient.
- Subluxation of spinal joints can result in postural syndromes, particularly those vertebra at transitional zones. Special attention should be paid to the coccyx, lumbosacral and cervicothoracic spinal segments. The thorolumbar segment is less frequently injured, but should not be overlooked.

The cranium can also be the source of profound mechanical disorders, resulting in postural dysfunction. Such problems, as the following, should be addressed with the tools you have, or referral if necessary!

- Craniofacial growth and development disorders. The normal craniofacial development is such that the length of one's face should be proportionate in three sectors created by the tip of the chin to just under the nose, nose tip to bridge of nose between eyes and the top third is created by the bridge of the nose to the top of the forehead, which is usually the hair line. You can adduct your thumb, laying it along side your index finger and tuck your thumb under your chin, and if you are anthropometrically normal, your index finger will just fit under your nose. Perform the same test with thumb tucked under nose and index finger should make it right to the bridge between your eyes, and finally use the same method to assess the length of the forehead.

If you look at children today, you will see that very few have normal craniofacial growth and development. The most common fault is a narrow middle third, which crowds the nasal airways, crowds the maxillary teeth, producing malocclusion in most such people and results in an endless string of abnormal respiratory and masticatory patterns that are all tied to suboptimal posture! It should interest you to know that both Weston A. Price and Francis Marion Pottenger demonstrated such craniofa-

cial growth and development disorders in the 1940's in their studies on animals and observations of primitive peoples who had been exposed to white man's food! (*Nutrition and Physical Degeneration*<sup>6</sup> by Weston A. Price and *Pottenger's Cats*<sup>7</sup> by Francis Marion Pottenger. Both available at [www.price-pottenger.org](http://www.price-pottenger.org)). This information and what to do about it is covered in detail in Level 3 of the C.H.E.K Certification Program.

- Flat Feet are also commonly related to nutritional deficiency in the parents, again clearly demonstrated by the authors cited above. On many occasions, I have had clients with one foot exhibiting greater pronation than the other. This puts an axial torque on the spine and can facilitate a number of challenging orthopedic and postural problems. To assess, simply put the patient in sub-talar neutral, leaving them standing that way and reassess iliac crest height, shoulder height and rotation of the extremities and cranium. You may find that there are torque syndromes that must be corrected via an orthotic device.

### Developmental Forces Of Posturalization

In 1999 I went to the St. Charles Hospital in the Czech Republic to study with Vladimir Janda, M.D. He discussed the issue of developmental disorders and how they were linked to poor posture and muscle imbalance syndromes in adults. People presenting with these types of syndromes often seek treatment and relief from chronic pain. The term he had coined for this problem in the 70's was "*Minimal Brain Disorder*," and at that time, he stated that he found it to be a problem in approximately 20% of adult chronic pain patients.<sup>8</sup>

As part of the training, we were introduced to the work of Dr. Voita, who studied infant and child development for over 50 years. We saw a Voita therapist treating a car accident victim who had suffered a brain injury. By pressing and holding specific reflex points on the ventral surface of the body, the therapist was able to reactivate the developmental motor software that exists in the brainstem of all neonates with an intact cerebrospinal axis. The patient would begin moving under the reflex activation of reptilian and paleomammalian software, being guided by the Voita-trained physiotherapist to ensure proper motor-sensory feedback. When questioned, the patient said, "*It is as if my body has a mind of it's own. I'm not consciously doing anything. My body is just moving.*"

Over their extensive careers, Dr. Janda, Dr. Voita, and Dr. Lewit had all observed numerous accounts of people with chronic pain syndromes who were not exposed to optimal developmental progression through the crawling phases as an infant. Through

my own experience in clinical practice and by confirmation from Dr. Janda, I can state that poor posture is likely to be found in people who did not develop correctly in their crawling phase.

Why is crawling so important? During the development of the neonate from the fetus, through the crawling stages and finally into the neocortical phase (walking) there are numerous, highly integrated functional and physiological, phase-locked progressions between the musculoskeletal, limbic, hormonal and cellular systems. What this means is that when someone passes through their developmental phases incorrectly, they literally *develop incorrectly*, which may alter their psychoneuroimmunological profile for life! This is important today when so many infants are positioned upright in baby bouncers and encouraged to walk early, rather than allowing them to locomote around on their stomachs or on all fours, as they naturally would. This perception that Junior is more advanced because he walked at 9 months is a leading problem in the poor motor development of children today. We must allow infants to pass through all phases of growth and development at their natural rate. The last things we need are more dysfunctional children roaming the streets today!

Please keep in mind that *poor posture for any reason disrupts internal physiological processes with an unspecified degree of magnitude!* Therefore, it is safe to say that it is crucial for humans to learn to crawl correctly in order to allow development of their full physical and as we shall discuss in Part 3, spiritual potential.

### Parental Forces Of Posturalization

The word parent could easily be interchanged with the word *programmer*. There are numerous examples of children being raised in a completely different country and culture to that in which they were born, and the children took aboard the language, movement characteristics and cultural ideology of their adopted parents. Orphaned infants will grow up to have a mindset, beliefs and biases (software) passed onto them by their foster parents while expressing the genetic characteristics of their natural parents in their physical structure (hardware), but even this can be altered by environmental factors as discussed above. When considering posture, it is important to realize that the "software" can have an overriding influence on the "hardware." Most people are visual learners and acquire their postural set by observing the parents. In my observation, a child generally adopts the postural characteristics of the parent they are closest to. With this in mind, if you really want to help a child improve their posture (which is very important in light of the fact that all the way back in 1988

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# CONTRIBUTORS

**Brandon Alleman (Rhode Island)**  
C.H.E.K Practitioner Level I, MTILA

**Mette Berrig (Denmark)**

Mette is a qualified nurse, a Certified C.H.E.K Golf Biomechanic and a qualified instructor of the Mensendieck System of Functional Exercises.

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**Tom Biancalana (Chicago)**

Tom (C.H.E.K Practitioner Level 2 and CHEK NLC Level 2) is a corrective exercise specialist who uses Thai massage and trigger-point work in postural re-education and rehabilitation. He has worked with athletes, including cyclists and members of the U.S. Olympic Speed-skating Team, as well as those with Parkinson's, Fibromyalgia and



other syndromes. Tom believes in having the right tools for the job, hence he has just completed the Nutrition and Lifestyle training through the C.H.E.K Institute. When not lifting weights, balancing, cycling or skating, Tom can be seen carving wicked turns down the street on his Sector 9 long board.

**Ross Eathorne (Hong Kong)**

Ross attended the inaugural C.H.E.K Golf Biomechanic Intensive in 1998. He now works at a high-tech golf facility in Hong Kong where 90% of his clients are amateur golfers. On a good day, Ross plays to a 20 handicap. Ross has been practicing CHEK principles since 1997 and has used them to represent New Zealand at 10 World Sport Aerobic Championships and to help win two World Mr. Fitness titles. Ross has coached international level gymnasts, cricketers, soccer players, canoe, waterpolo and sport aerobic athletes and has competed in provincial level rugby, national level half-ironman and snowboarded in Canada. In 2002, Ross was Head Trainer at Wildfitness in Kenya and describes it as, "Simply

the best thing I have ever been paid to do." Ross and his partner, Liz, are expecting their first child in March 2004.

**Peter van der Sande Lacoste (Australia)**

C.H.E.K Practitioner Level 2  
Diploma in Exercise Science  
N.Z.A.T.M.P Diploma in Therapeutic Massage  
Trained in Clinical Neuro-Muscular Therapy and Visceral Manipulation

Peter is the director of Perfect Performance Pty Ltd in Melbourne, Australia. He has extensive experience training athletes and non-athletes alike. He has improved the performance of highly competitive athletes including a Manchester commonwealth games medallist. Peter's knowledge and skill in the areas of musculo-skeletal rehabilitation and conditioning through exercise and manual therapy combine to produce results that make lasting changes in people's lives.

[www.perfectperformance.com.au](http://www.perfectperformance.com.au)

## CHEK Approach

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Shirley Sahrman found that 98% of high school children had poor posture, and I am sure the situation hasn't improved since then!), you will have to educate the parents as well, including them as part of the program.<sup>9</sup>

### Idol and Icon Forces Of Posturalization

Much in line with the information on parents above, people often invest so much attention and energy into becoming *like* an icon or idol; they literally take on their persona. I used to see this happen frequently with the US Army Boxing team; whoever was the heavy weight champion that year would unknowingly have his gait pattern reproduced by thousands of wanna-be boxers around the world! The same thing happens in every sport, with actors and any other field that produces celebrities. Unfortunately, some people really *shouldn't be emulated!*

Should you find a case such as I've described here, education in the direction of the value of maintaining one's *self-identity*, be it for postural reasons or otherwise, will be the most important form of treatment. Just be careful not to be destructive of their icon/idol or you may lose the client!

So you don't feel like I'm leaving you with a cliffhanger, I will tell you that my primary tools I use for the successful correction of chronic neuromusculoskeletal pain and postural syndromes are:

- A Swiss ball

- A dowel rod (wooden stick about 1 3/8 inches by 6 feet)
- Horse Stance exercises

This is why I emphasis the important of correct exercise technique and posture in all my videos and why you should always train using the *Form Principle* rather than to failure—a set or exercise is stopped when you can no longer perform the exercise with perfect form. Dr. Janda, who I highly respect and who had seen most of my videos and correspondence courses, agreed that this approach would be effective!

In Part 3 of this article, I will discuss the vast world of unseen forces that influence our posture. As you read this section, please keep in mind that the article is an exploration of my personal philosophy and is not intended to be prescriptive or directive.

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For additional resources, see part 3 of this article.

### How to access Part 3

Part 3 of Posture: The CHEK Approach is available online through the following link: [www.chekinstitute.com/chekreport](http://www.chekinstitute.com/chekreport).

**Password: posture**

**Golf**

Continued from page 6

stability and strength are faulty.

- Coordination will be affected by flexibility and stability compensations.
- Endurance will be taxed by an inefficient posture.

**Conclusion**

By performing the assessments, analyzing the movements of a golf swing and comparing Josh’s scores against an optimal, we can identify where improvement can be made. After a five minute lesson teaches Josh to stabilize his left leg and utilize his core he scored an 18 month low score of 67 on a unfamiliar course and drove the ball 420 yards – regularly. This was with the body above. Imagine the power of his performance with a corrective and high-performance exercise programme that corrects posture first![]

**References:**

All diagrams are from the C.H.E.K Institute's

Golf Biomechanic Certification manuals and are reprinted with the permission of the C.H.E.K Institute.

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8. Table 4, modified from "Should athletes train like bodybuilders" by Paul Chek, 2001. Online: www.chekinstitute.com

Dominant Golf Movements	Planes of Motion	Accessory Primal Movements	Stabilization Sequence	Force Generation Sequences
Twist (to swing)	Transverse (twist)	Pull (backswing)	Transversus Abdominis (TVA)/internal oblique	TVA 30 milliseconds prior to movement
Bend (address position)	Frontal (lateral shift)	Push (downswing)	Pelvis + shoulder girdle	Hips/legs
	Sagittal (bend)	Lunge (follow-through)	Extremities (legs + arms)	Trunk
		Gait (walking from hole to hole)		Arms

**Table 3: Dominant movement patterns, planes, stabilization and force generation sequence of the golf swing**

Physical Abilities	Optimal Sports	Long Drive Physical Abilities	Optimal Long Drive Scores	Ross/Josh's Assessment of Josh
Flexibility	Gymnast	Swing rotation	8	4
Balance	Ballerina	Swing stability	8	5
Strength	Power lifter	Separation of upper and lower body	6	3
Power/speed	Olympic lifter	Driving/club head speed	8	6
Coordination	Juggler	Body-club-eye-ball	7	6
Endurance	Marathon runner	Stamina	7	4.5
Agility	Football linebacker	Tricky lie	2	2
		Total	46	30.5/46

**Table 4: Golf physical ability rating showing Josh's current scores**

**Improve Posture with Exercise!**

**Prone Cobra**

The prone cobra is an excellent exercise for someone with forward head posture and/or rounded shoulders as it conditions the postural muscles and helps re-establishing optimal postural alignment.

- Lie face down with your arm at your sides.
- As you inhale, pick your chest off the floor while simultaneously squeezing your shoulder blades together and rotating your arms out so that the your palms face away from your body.
- Keep your head and neck in neutral alignment, with your toes on the floor.
- You should feel the muscles between your shoulder blades doing the work. If you feel stress in your low back, squeeze your butt cheeks together prior to lifting your torso.
- Hold until you need to breathe out, and exhale as you lower your torso to the floor.
- Do not allow your head to roll backward. If this happens, you will perpetuate shortness of the muscles at the base of your skull and the exercise will only serve to maintain poor posture.

**Tempo:** Hold position for 30 seconds and then rest for 15 seconds and repeat

**Reps:** 8-10 per set



# 2004 Schedule

## USA

### **Fitness Resources Assessing Core Function Swiss Ball Techniques for Corrective Exercise Total Body Legs**

February 28, in Tampa, FL  
February 29, in Fort Lauderdale, FL  
Contact: Fitness Resources  
Instructor: Paul Chek

### **Golf Biomechanic Intensive**

March 1-7, in Dallas, TX  
Instructor: Paul Chek

### **ECA Preconference How to Eat, Move & Be Healthy**

March 10-11, in New York, NY  
Contact: ECA World Fitness  
Presenter: Paul Chek

### **ECA Conference**

March 12-14, in New York, NY  
Presenters include Paul Chek  
C.H.E.K Institute Booth

### **CHEK Exercise Coach**

March 25-29, in San Diego, CA  
Instructor: Janet Alexander

### **C.H.E.K Certification-Level 1**

April 1-5, in San Diego, CA  
Instructor: Chris Maund

### **C.H.E.K Certification-Level 2**

March 31-April 4, in New York, NY  
Instructor: Suzi Nevell

### **Optimal Health and Fitness Through Practical Nutrition and Lifestyle Coaching Level 1**

April 16-18, in San Diego, CA  
Instructors: Dr. Clifford Oliver/Julie  
Remsen

### **C.H.E.K Certification-Level 1**

April 22-26, in New York, NY  
Instructor: Suzi Nevell

### **CHEK Exercise Coach**

May 14-18, in New York, NY  
Instructor: Suzi Nevell

### **CHEK Exercise Coach**

May 14-18, in San Diego, CA  
Instructor: Chris Maund

### **Optimal Health and Fitness Through Practical Nutrition and Lifestyle Coaching Level 2**

June 4-8, in San Diego, CA  
Instructors: Dr. Clifford Oliver/Julie  
Remsen/Paul Chek

## Canada

### **C.H.E.K Certification-Level 2**

April 1-5, in Toronto, ON  
Instructor: Janet Alexander

## Europe

### **Optimal Health and Fitness Through Practical Nutrition and Lifestyle Coaching Level 1**

March 12-14, in Eastbourne, UK  
Contact: Paul Chek Seminars UK  
Instructor: Dr. Clifford Oliver

### **UK Seminar Series**

#### **Scientific Core Conditioning**

March 19-20, in Brighton, UK

#### **Swiss Ball Training**

March 21, in Brighton, UK  
Contact: Paul Chek Seminars UK  
Instructor: Paul Chek

### **Scandinavian Seminar Series Program Design**

March 26, in Halmstad, Sweden

#### **Scientific Core Conditioning**

March 27-28, in Halmstad, Sweden

Contact: Eleiko Sport AB

Instructor: Paul Chek

### **CHEK Exercise Coach**

April 8-12, in Eastbourne, UK  
Contact: Paul Chek Seminars UK  
Instructor: Mark Buckley

### **FitPro Convention**

April 16-18, at Loughborough  
University, UK  
Contact: Fitness Professionals UK  
Presenters include Mark Buckley

### **World Class Clubs Conference**

April 16-18, in Moscow, Russia  
Contact: World Class  
Presenters include Paul Chek



### **Golf Biomechanic Intensive**

April 23-29, in Eastbourne, UK  
Contact: Paul Chek Seminars UK  
Instructors: Paul Chek/Janet  
Alexander

### **Optimal Health and Fitness Through Practical Nutrition and Lifestyle Coaching Level 1**

June 4-6, in Eastbourne, UK  
Contact: Paul Chek Seminars UK  
Instructors: Emma Lane

## South Pacific

### **CHEK Exercise Coach**

March 23-27, in Sydney, NSW  
Contact: HQH  
Instructor: Mark Buckley

### **CHEK Exercise Coach**

May 4-8, in Melbourne, VIC  
Contact: HQH  
Instructor: Mark Buckley

### **CHEK Exercise Coach**

May 11-15, in Hobart, TAS  
Contact: HQH  
Instructor: Mark Buckley

### **C.H.E.K Certification-Level 1**

June 21-25, in Sydney, NSW  
Instructor: Mark Buckley

## Contacts:

Please contact the C.H.E.K Institute for all events unless otherwise noted. Always verify that dates have not changed prior to booking flights. Please check the website for the most up-to-date locations and dates.

### **Fitness Resources**

[www.fitnessresources.us](http://www.fitnessresources.us)

### **ECA World Fitness**

[www.ecaworldfitness.com](http://www.ecaworldfitness.com)

### **Paul Chek Seminars UK**

+44 (0)1273 856860  
[alex@paulchekseminarsuk.com](mailto:alex@paulchekseminarsuk.com)

### **Fitness Professionals**

[www.fitpro.com](http://www.fitpro.com)

### **Eleiko Sport AB**

[www.eleikosport.se](http://www.eleikosport.se)

### **World Class**

[www.wclass.ru](http://www.wclass.ru)

### **HQH**

[www.hqh.com](http://www.hqh.com)

# In the News

## **Microwaving destroys food's nutrients**

Flavonoids (nutrients with anti-inflammatory properties) in broccoli are almost completely destroyed by microwave cooking, according to new Spanish research. Scientists at the Department of Food Technology in Murcia found that microwaving the vegetable destroyed 97% of its flavonoids and other chemicals, whereas conventional boiling reduced them by 66%. Steaming resulted in the lowest loss of nutrients.

Source: The Ecologist, December 2003/January 2004

## **Study Links Kids, Fast Food and Weight**

Every day, nearly one-third of U.S. children aged 4 to 19 eat fast food, which likely packs on about six extra pounds per child per year and increases the risk of obesity, a study of 6,212 youngsters found.

The numbers, though alarming, are not surprising since billions of dollars are spent each year on fast-food advertising directed at kids, said lead author Dr. David Ludwig, director of the obesity program at Children's Hospital Boston.

The findings suggest that fast-food consumption has increased fivefold among children since 1970, Ludwig said. The nationally representative study included boys and girls from all regions of the country and different socio-economic levels.

Source: Associated Press, January 6, 2004

## **Sedentary Lifestyle: a global public health problem**

The lack of physical activity is a major underlying cause of death, disease, and disability. Preliminary data from a WHO (World Health Organization) study on risk factors suggest that inactivity, or sedentarism, is one of the 10 leading global causes of death and disability. More than two million deaths each year are attributable to physi-

cal inactivity. In countries around the world between 60% and 85% of adults are simply not active enough to benefit their health.

Sedentary lifestyles increase all causes of mortality, double the risk of cardiovascular diseases, diabetes, and obesity, and substantially increase the risk of colon cancer, high blood pressure, osteoporosis, depression and anxiety.

Source: World Health Organization, Online: [www.who.int](http://www.who.int), January 19, 2004

## **Ephedra ban puts supplement industry on notice**

The pending ban on the herb ephedra sends a signal to a large and loosely regulated industry that the government is willing to crack down on risky dietary supplements. The ban, which could take effect by March, comes eight years after the Food and Drug Administration first began receiving reports that the herb used for weight loss and bodybuilding could be dangerous.

While the ban isn't immediate, the FDA on Tuesday informed 62 companies that make or sell ephedra that "we intend to shut you down," FDA Commissioner McClellan said...Ephedra, also called ma huang, has divided the supplement industry, and an industry trade association, the Washington-based Council for Responsible Nutrition, said it had no plans to oppose the ephedra ban. The final regulation outlining the ban will be released formally in a few weeks, and take effect 60 days later.

Source: Washington AP, Online: [www.cnn.com](http://www.cnn.com), January 19, 2004

## **Companies Rally to America's Rainforest**

Three major sellers of wood and paper products have lined up with NRDC (National Resources Defense Council) against the Bush Administration's plan for dramatically increased logging in Alaska's Tongass National Forest. The companies—Staples, the

world's largest office supply retailer, KB Homes, the nation's third largest homebuilder, and Hayward Lumber, one of California's largest building suppliers—have sent letters to the U.S. Forest Service stating that their industries do not need wood from roadless areas in America's largest temperate rainforest and will not buy such wood. "Ample supplies of wood products can be found elsewhere," argued the letter from KB Homes, "and we need not violate our most precious assets." Staples wrote that, "Natural treasures such as the Tongass are a national trust which must be preserved for future generations."

Source: Nature's Voice (NRDC Newsletter), Nov/Dec 2003



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# Ask Paul

Dear Paul Chek,

I am 19-year-old student...my birthday is in June, this year I want to transform my body. I am a second year undergraduate studying biochemistry and neural science. I want to become a holistic medical doctor. I started weight training in high school to try to improve my posture. I still have poor posture including carrying my head forward, a tight shoulder capsule and scapular winging. I want to utilize exercise and nutrition to restore my health.

Last year I made these measurements:

Height: 5 feet 9 inches  
% body fat: 12.5  
weight: 162  
Neck: 36 cm  
shoulders: 101.5 cm  
chest: 87 cm  
Waist: 77.5 cm  
Hips: 93 cm  
Rt. Thigh: 51 cm  
Rt. Calf: 28cm  
Rt. upper arm: 33cm (flexed) 28 cm (relaxed)  
Rt. forearm: 27 cm

My current measurements are:

Height: 5 feet 9 inches  
% body fat: 13  
weight: 161 lbs  
Neck: 35 cm  
shoulders: 107.5 cm  
chest: 94 cm  
Waist: 87.5 cm  
Hips: 100 cm  
Rt. upper arm: 38cm (flexed) 32 cm (relaxed)

I went to see a chiropractor, here are the notes from the ART practitioner:

- Hypermobility in my joints; especially at my elbow and at my knee joints
- Tight sternocleidomastoid, weak sternohyoides and thyrohyoideus
- Weak serratus anterior and teres minor
- Tight oblique externus
- Tight soleus
- Tight Brachioradialis and Extensor carpi radialis
- My cervical vertebrae rotates "counterclockwise"(I think ?) which impinges my blood flow to my brain

I have attached my current routine and my goals. I hope you can take a look at all this and let me know the best path to take. I hope you can give me advice. Please let me know if I should change directions, or if you think my plan will work.

Sincerely your student,

Jeff

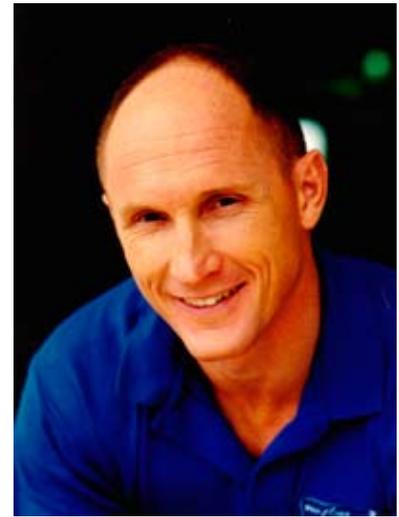
(Note: Due to the length of Jeff's original question, we are not able to print it in its entirety. Here is a bit more background information that will help form a picture of Jeff. His exercise program was modeled from popular exercise magazine authors. He made modifications to the programs due to shoulder pain. Figure 1 shows significant limitation in right shoulder internal rotation during the Appley's Scratch Test. He notes in his letter to the Institute that dips are painful and that he has been diagnosed with a capsular pattern in his right shoulder as well as having weakness in the serratus anterior. Jeff also complains of forward head posture. His description of the muscles found tight by his ART practitioner are suggestive of a possible flat back, yet as you can see in Figure 2, he appears to have a kypholordosis or Lower Cross Syndrome; CHEK Practitioners know this is hard to truly determine by a photo alone. Jeff provided extensive details on his exercise program and his body that space doesn't allow us to reproduce here, including his diet plan.)

Dear Jeff,

Your case history is fairly complex. As C.H.E.K Practitioners know, you cannot make an accurate assessment on photos and paperwork alone. What I will do, is comment on what I feel to be the critical issues of your case with the hope that that will give you the direction you need to reach your goals.

**Corrective Stretching:** Jeff, to give the maximum amount of information without being too lengthy, I will refer you to key resources to execute my suggestions. From the look of your posture, you need to perform either the stretch tests in my new book *How To Eat, Move and Be Healthy!* (HEMBH) or the length/tension tests in *The Golf Biomechanic's Manual*. These tests will accurately identify which muscles you should stretch and direct you to which stretches to perform. It is important that you stretch only those that are tight or test positive on length/tension testing or you will not restore optimal postural alignment.

**Shoulder Assessment:** Your restricted internal shoulder ROM (Figure 1), coupled with the fact that dips and Cuban Rotations (external shoulder rotation with barbell) are painful, suggests that you may have laxity of the anterior capsule of your shoulder. You did mention that you've been told that you have a capsular pattern. This suggests that your exercise program progressively irritated the shoulder to the point of initiating a guarding response in the rotator cuff and surrounding musculature, which often leads to a capsular pattern!



**Figure 1: Artist rendition of Jeff's Apply Scratch test**

It is **imperative** that you seek consult from a skilled orthopedic physical therapist or medical practitioner who can skillfully mobilize your glenohumeral joint capsule. You are very likely to be restricted in the posterior capsule. You also need comprehensive testing to assure that you don't have a rotator cuff tear or torn glenoid labrum. The painful region you describe in the region of the deltoid tuberosity is a classic rotator cuff pain referral zone. I would strongly suggest that you stop doing all exercises requiring use of your upper extremity, with the exception of the supine lateral ball roll, horse stance and crawling in the mammalian (dog) position. You may wear a belt and use cable resistance if you can perform the crawling exercise with no pain. It is best to have a spotter work with you to encourage proper use of your shoulder girdle musculature, such as your serratus anterior and synergists. You are very unlikely to hurt, and likely to help the shoulder with this exercise. Perform the exercise against progressively increasing resistance in sets lasting up to 2 minutes, progressing down to 1 minute as your conditioning and tolerance improves. To keep your lower body in shape, I suggest you perform belt squats, or split squats with a squat belt, which can be ordered from [www.ironmind.com](http://www.ironmind.com).

## Ask Paul

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**Start - Horse Stance and  
Crawl Exercise**



**Horse Stance Vertical**

**Core Exercises:** Follow the Inner Unit Function Tests in *HEMBH*. Your test results will dictate which corrective exercises to perform.

**Diet:** Your diet log showed that the main foods you are consuming are: egg whites, oatmeal, tuna, boiled egg, salmon, cottage cheese and low carbohydrate protein shakes. Your macronutrient ratio was stated to be 60% protein, 25% fat and 15% carbohydrates. Please consider the following:

- Until you've completed a test to determine your metabolic type (see *HEMBH*), you are just guessing at what ratio is best for you. That doesn't support your efforts very well! Complete the test in my new book and follow the diet plans for your type.
- I'm assuming that as a student, you are eating canned fish. You must be very careful due to toxicity from can liners as well as mercury toxicity! Avoid farmed fish and if you must eat canned fish, rotate it on a four-day cycle (a four day rotation plan is included in *HEMBH*) so you are not consuming it every day.
- Judging by the look of your abdominal wall and kypholordotic posture, I would suggest eliminating all gluten containing foods and all dairy products for a minimum of two weeks. During that time, take note of how well your abdominal wall functions and looks. Improvements suggest that you are intolerant to these foods and that you should eliminate them for 3-6 months and test them again by challenge. If symptoms arise, eliminate them for a year and try again.
- Stay away from any over-the-counter protein shakes and bars. They are predominantly garbage, made from poor quality, denatured whey (whey protein from pasteurized milk is a milk industry waste product that gets sold to you disguised as great for bodybuilders). It's GARBAGE. Please read the book, *Pottenger's Cats* ([www.price-pottenger.org](http://www.price-pottenger.org)).

My suggestion to you is to stop traumatizing your body with exercise programs from magazine gurus and build your foundation. Restore your posture while fine-tuning your nutrition. Once you have a solid foundation, consult a C.H.E.K Practitioner and they can successfully coach you toward your goals.

I wish you Health and Vitality Jeff!

Sincerely,

Paul Chek

Hello,

I have been asked to work with a woman, about 64 yrs of age, who had surgery to correct her scoliosis in July '03. The surgery was 13 hours long, they removed two ribs and she told me that she has a rod in her entire spine. I have not met with her yet; I'll get more specifics then. She has been recovering nicely but would like to continue to get stronger. I believe she has been walking and doing floor exercises given to her by a physical therapist. Her restrictions are no bending from the waist and no lifting above 10 to 20lbs. I'm wondering if anyone out there has had any experience working with a post rehab person such as this and if they could share any advice they might have.

Thank you much in advance.

Martha

Martha,

1. Be sure to talk to the surgeon directly. Ask the surgeon what the movement restrictions are. They usually have range of motion limits coupled to a time schedule. You will need to know and adhere to that.
2. Find out if there was any fusion done. More care must be taken in the region of a fusion, particularly if their diet was poor or if they are a smoker.
3. Consider any pain medications being taken. Patient's on pain Medications can give reliable feedback about how an exercise is effecting them at the time of the training session. They get delayed responses that can be severe. Ask the physician if you can schedule Meds to allow low blood levels while you exercise to get the best, most real-time feedback from the patient.
4. You will most likely find that your best

approach is to use the Swiss ball exercises that fall within the parameters of the physicians protocol. In addition, the Total Gym is a very effective tool for these patients initially.

5. Don't rush! Don't let the patient rush you either. They are often anxious to regain function and can pressure the therapist in to less than optimal programming decisions!
6. Educate very well on ergonomics.
7. Follow as many of the suggestions in my new book "How To Eat, Move and Be Healthy!" as possible. This will speed healing.
8. Work on the patient's breathing, assuring it is diaphragmatic.
9. Send the patient to a Qi-gong practitioner or use any of the Chi harvesting exercises that fit the protocol from my new book to aid healing.
10. Get Gary Young's PDR for essential oils (Young Living Essential Oils. We can get it for you through the Institute) and get the patient on such oils as "Pan Away" for the pain and Lavender for scaring.
11. If the patient is constipated, you may want to discuss her willingness to use enemas to stimulate evacuation. It is very common for patients to become extremely constipated and toxic after long surgical procedures. This condition will magnify pain response in the body and slow healing of tissues, not to mention reducing favorable response to exercise.
12. Relax, don't rush into anything. Always complete your chart notes immediately after each session with this client so you can record your assessment of the patient to that point and make an intelligent plan for the next visit.

Enjoy the Journey!

Paul Chek

**Do you have a question for Paul? E-mail [educate@chekinstitute.com](mailto:educate@chekinstitute.com) for the chance to have Paul answer your question.**

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