



Special Safety Topic

June 2004

The Natural Athlete in YOU!

Preventing Strains & Sprains

Strains and sprains are the albatross of the American workforce. Leading these injuries is back pain, the most prevalent medical disorder in industrialized societies costing billions of dollars annually.

Traditional injury prevention programs have been severely limited in scope, focused primarily on *lifting techniques*. Beyond lifting techniques, many variables contribute to the problem. Emotional stress, physical tension, physical weakness, physical inflexibility, improper breathing and mental distraction contribute much to the overall injury process. Furthermore, activities other than lifting like sitting, pushing, pulling, bending and reaching contribute significantly to the overall injury process.

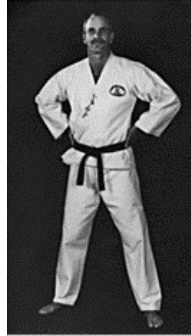
Simply put, strains and sprains are the result of multiple variables, not just how you lift on the job. *The good news is every time you move correctly, call it exercise and this is true for all full-body movements.*

Let's see how this works:

The Position of Strength

The human body moves best as a coordinated, full-body unit and this is true for the majority of body movements, whether they occur on or off the job. Full-body movements are best accomplished through a basic, athletic body posture called, *The Position of Strength*.

Think of your body in the shape of a triangle, with your head at the top and your widened stance at the bottom, with a straight line descending from your head, through your center of gravity to the mid-line between your feet spread shoulder width apart. You are now vertically aligned and balanced.



Now, bend your knees slightly and keep your hands close to your body. You are now in the Position of Strength and you can use this position for every vertical movement you make (i.e., lifting, pushing, pulling, reaching and even sitting). You may ask how this is possible. Isn't bending at the waist necessary when you pick up an object from the floor? When you learn how to use the Position of Strength in all your movements, you will be moving correctly, using your strong abdominal muscles (Stomach Power) in conjunction with your strong thigh muscles (Thigh Power). This takes some training.

But, there is more!

Your Back Safety Zone

You have undoubtedly been told to keep the load close to your body while lifting. Why is this so important? You are most powerful when your hands are close to your body. This is true of boxing, martial arts, weight lifting and all other full-body movements. Try this: extend your elbow straight out from your chest and then think of a cylinder surrounding your body at the point of your outstretched elbow. The distance from your chest to your elbow is your **Back Safety Zone**. All movements made in the Position of Strength, within your Back Safety Zone are safe in comparison to movements outside your Back Safety Zone. The point is this: when lifting, pushing, pulling and reaching, always keep the load within your Back Safety Zone where you have maximum physical power and protection from injury.

When you reach outside your Back Safety Zone, you will tend to bend forward into the **Position of Weakness**, which is both a harmful and weak body posture. Every time you move in the Position of Strength, you are helping your body. Every time you move in the Position of Weakness, you are hurting your body.

But there is more!

Power Breathing

Physical activity requires physical exertion. Well trained athletes learn to achieve maximum performance through **exhaling into the exertion**; exhaling into the exertion contracts abdominal muscles providing physical power, while also protecting your lower back from twisting and forward bending movements. This is called **Power Breathing**. When you move and breathe correctly, you are using Power Breathing in the Position of Strength. Think of Jimmy Connors and Monica Seles using the **grunt** while playing

tennis. This is the same as the loud sound called the *ki-ai* in the martial arts. How about weight lifters exhaling into the exertion to increase strength to lift greater weight?

Relaxed Full-Body Movements

There is no such thing as good physical tension. It always slows you down, always reduces physical coordination and always makes you physically weaker. Relaxed full-body movements are essential to peak performance in all sports and they are essential to your personal effectiveness on and off the job. Learning how to be relaxed and balanced, in the Position of Strength, while using Power Breathing within your Back Safety Zone, will do much to eliminate strains and sprains in your life.

But there is more!

Flexibility

Muscle flexibility is essential to maximally effective full-body movements. If you are tense, out of balance and uptight, you are on a path of injury. When you are relaxed, balanced and flexible, you are on a path of exercise and the prevention of injury.

You have undoubtedly been told of the importance of stretching exercises. Yes, they are important, but only when done correctly. All correct stretching involves correct breathing. Too often people hold their breath while exercising and this only produces muscle tightness. It is better to not stretch at all, then to stretch incorrectly. You want to be relaxed, balanced and flexible.

But, there is more.

Focus

Whenever you do anything, you do it better when you are focused. This means, pay attention to what you are doing. In archery and rifle marksmanship, focus on the bull's eye. When lifting a box, focus on lifting the box in the Position of Strength, within your Back Safety Zone. The number one cause of accidents at home and at work, is performance of a physical task in a mindless, distracted manner.

In The Zone

When you are relaxed, balanced, flexible, and focused in the performance of any task, you are entering the zone of peak performance. Learning to perform with excellence takes practice as you replace bad habits with good habits.

All great athletes use correct technique in the performance of their sport. This is true in basketball, wrestling, skiing, golf, tennis, swimming, archery, football, hockey and every other sport. It is also true of you as you engage in physical activities on and off the job. Learn to live your life safely and effectively in the zone of maximal efficiency and self-protection.

Summary

1. The *human body moves best* as a coordinated, integrated unit:

- Full-body movements dominate in sports, dance and numerous other forms of human movement.
- Physical exercise results from '*correct*' body movements.
- Repetitive motion injuries result from '*incorrect*' body movements.
- Learning how to correctly perform basic human activities can help eliminate injuries caused by strains, sprains and overexertion.

2. *Peak efficiency* is achieved when the body is relaxed:

- Relaxed full-body movements are more energy efficient, powerful and effective than tense uncoordinated body-movements.
- When you are relaxed and balanced, you will notice incremental increases in physical strength and performance effectiveness.
- When you are tense, out of balance and distracted, you tend to hold your breath during exertion, which reduces physical strength and increases risk of physical injury.
- Maximize your ability to be relaxed, balanced, flexible, and focused in everything you do.
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The above article was adapted from Dr. Ray Mulry's article in:

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