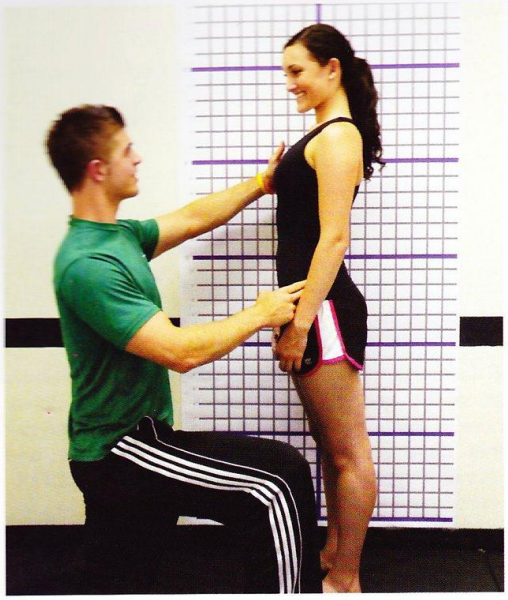
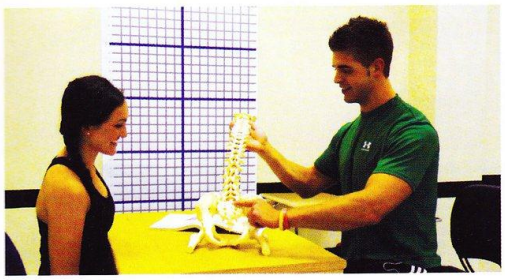
The importance of posture

by Kenneth E. Baldwin & Jason Martucello

Maintaining wheel alignment in a vehicle is essential for optimal performance but more importantly for safe and effective driving. If the vehicles alignment is not working correctly, persistent mechanical patterns will likely develop and worsen over time. Most of you are probably thinking cars and posture, what is the relationship between the two?





Well the human body can be conceptualized through the automobile regarding one's posture. For perfect alignment of an automobile, wheel balance, axle alignment, and proper tire pressure must be maintained to allow a car to steer in a straight path. Regular maintenance keeps a car from having to go to the service station for major costly repairs and malfunctions. Have you ever noticed if your car is not aligned properly, when you let go of the steering wheel, the car will deviate in one direction or the other instead of staying straight? It's the same for the muscular and skeletal system. Poor posture results in a faulty alignment. If the body is not in proper alignment from your head down to your feet, muscular imbalances will begin to develop. This misalignment usually comes in the form of pain and injuries over time. Muscles are connected to the skeleton through aponeuroses, fasciae, and tendons. Therefore, when imbalances develop in the muscles a domino effect results altering skeletal positioning and the kinetic forces acting on all the joints.Therefore, joint and muscle pain is the common denominator developed because of poor posture. When the body is not properly moving due to imbalances; systems of the body cannot function in harmony to maximize their functional capacity. Research shows the relationship between severe postural abnormalities is the main cause of pain (Griegel-Morris 425-31).

Due to the given rise in musculoskeletal disorders especially lower back problems it is evident posture is a major issue contributing to health care problems. The onset of poor posture is commonly developed through occupations, activities of daily living (ADL's), and not performing each exercise movement in the proper alignment. The workforce, for instance, is a major contributor to posture and faulty alignment. For example,

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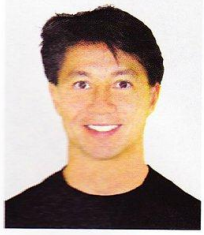
the vast amount of jobs requiring a seated position and utilizing a computer for extended periods are detrimental to posture (hip flexion, abducted scapular, and neck flexion). Typical postural deviations result in an excessive rounded shoulder position (abducted scapulae) and excessive forward head protrusion (neck flexion). Another example is through repetitive arm movements of cashiers, assembly line workers, letter carriers, and exercisers (including fitness/health professionals not training and exercising properly) that are common in developing imbalances. Repetitive movements not performed in the optimal joint position result in the constant use of the same muscle group combined with the lack of use of the opposing muscle group. Contrary to repetitive movements, professions requiring constant extended static positions such as medical professions (dentists) develop imbalances as well. Jobs that require the body to maintain a static position free of movement finds that 50% of the body's muscles require constant contractility in order to resist gravity (Valachi 1344-350).

If you believe the following, "the issues discussed do not apply to me then posture must not be an issue for me." Think again. While occupations, ADL's, and exercise training are a major contributor to posture other factors are still of concern. The effects of wearing high-heeled shoes pose a significant threat to posture in women. (The increase in the center of body mass is altered causing the upper body to become heavier) (LEE 321-326). Maintaining a sitting or lying position for extended durations also, contribute to muscular imbalances. The body is susceptible to many threats the environment poses to posture, which goes unnoticed. The imbalances and faulty posture are adapted over time where the body becomes accustomed to the change. Eventually, the adaptation can result in discomfort, pain, and ultimately disorder. The lack of awareness behind the importance of maintaining a good posture needs attention by the personal trainer, group exercise instructor, and health/medical professional. By understanding the importance behind maintaining good posture and body alignment the environmental threats imposed can be combated.

Posture directly relates to the foundation for which your body is built on. Without a structured foundation your body is setting itself up for potential injury. To further illustrate my point, try to construct a house upon a bed of quicksand. Parallel this to the frame of the automobile and the musculoskeletal system of the human body. Many training modalities are effective in building muscle and endurance. However, they do not focus on maintaining the foundation of posture and body alignment through the individual exercises performed. Building muscle on an imbalanced body will take its toll sooner or later.



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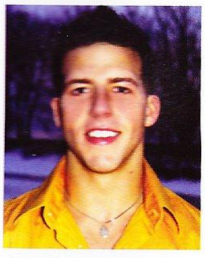

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About the Authors

Kenneth E. Baldwin is an Assistant Professor at the SUNY-Plattsburgh campus and the Executive Director of the National Posture Institute (NPI). Jason Martuscello is one of Professor Baldwin's former students and is currently in graduate school for his M.S. degree in Exercise Science at the University of South Florida. Ken will be presenting three presentations on posture assessments/correction and developing a successful posture based-business at the New York ECA/OBOW Conference in March -2011.

References

Griegel-Morris, P., Larson, K., Mueller-Klaus, K., & Oatis, C. (1992). Incidence of common postural abnormalities in the cervical, shoulder, and thoracic regions and their association with pain in two age groups of healthy subjects. Physical Therapy, 72(6), 425-431.

Kendall, F. P. (2005). Muscles: Testing and function with posture and pain (5th ed.). Baltimore, MD: Lippincott Williams & Wilkins.

Lee, C., Jeong, E., & Freivalds, A. (2001). Biomechanical effects of wearing high-heeled shoes. International Journal of Industrial Ergonomics, 28(6), 321-326.

Valachi, B., & Valachi, K. (2003). Mechanism leading to musculoskeletal disorders in dentistry. Journal of American Dental Association, 134(10), 1344-1350.

Lecture Schedule

See his lecture schedule for the New York conference below that includes the dates/times.

March 10th (Thursday)
5:30pm – 6:45pm
Learn to Analyze Posture Through Both Static and Dynamic Assessments

March 11th (Friday)
5:30pm – 7:00pm
Posture & Body Alignment: Become An Expert In Teaching Resistance Training Exercises (L)

March 12th (Saturday)
5:30pm – 7:00pm
Posture and Profits (L)