Posture -- The Body's Unfailing Language

by Dr. Charles Crowder, DC

CROWDER CHIROPRACTIC SPORTS AND WELLNESS CENTER
2797 Park Ave., Suite 204, Santa Clara, Ca. 95050
Work Phone: 408 244-5317
Home: 821 Goodwin Ave, San Jose, Ca. 95128
Home Phone: 408 287-2615 Email:drchar@pacbell.net

Posture is an automatic, direct, simple and unfailing indicator of the body's history, strengths and problems. The way we stand and the way we move provide us with a body of knowledge large enough to fill a book. All we have to do is learn how to read the book. Posture is of major importance since the body is telling you directly what is wrong. I use posture analysis as a major indicator in deciding what is most important to balance. Posture can guide you where to concentrate your balance and can be a tool to objectively evaluate whether you have been successful.

The purpose of this presentation is to define the importance of posture, teach ways to do postural analysis, provide tools to make it easier, and give you ideas to help you get started using this type of analysis in your balances. This presentation differs from other postural discussions in that I have put together seven steps to guide you through a thorough postural analysis. Then I put together a checklist (See Table 1) to help you record what you see. I have also built another table (See Table 2), which shows which combination of muscles to check and balance given a certain postural configuration that you have found.

The following questions are answered in this presentation:

- How important is postural balance?
- What is normal posture?
- What are the seven steps to posture analysis?
- How can you start using posture analysis in your balancing sessions?

It is important to note here that while I think posture analysis in its stationary form is very important, I think posture in motion is just as important. Unfortunately, there just isn't enough time to cover posture in motion in this presentation.

How Important is Postural Balance?

During his acceptance speech as a Nobel Laureate in Physiology/Medicine, Nickolaas Tinbergen said Posture affects every system of the body not only the neuromuscular system (joints, ligaments, bones, muscles and nerves that move them)but the endocrine system (pituitary, thyroid, adrenal, etc.) and the cardiovascular, circulatory and respiratory systems. All of these systems can be directly correlated and related to problems with posture. (ref 1)

In their ten-year study OSHA (Occupational Safety and Health Administration), part of the US Department of Labor, states Musculo-skeletal Disorders (MSD) cost the nation up to $50 billion a year. Employers pay between $15 - $18 billion in workers' compensation costs alone. This means that $1 out of every $3 spent on workers' compensation goes for MSD-related claims. (ref 2) Musculosketetal disorders are often caused by poor postures on the job, both standing and sitting. Consequently, many of the recommendations made by OSHA have to do with improving seated and standing postures.

When Yoga was developed 2500 years ago, the ancient Yogis realized the importance of maintaining the body's upright position, flexibility and balance. They devised postures to bring the body into harmony with the environment and the spirit.

By affecting our energy and our ability to move efficiently, poor posture can effect everything we do. Clearly, when the body is

in a poor mechanical state, when posture is out of balance, then more energy is expended. Because joints are out of their proper position, we are prone to more injuries. Touch For Health affects the body's posture by strengthening the muscles that hold us up and allow us to move. I am convinced one of the primary reasons my energy is increased after a TFH balancing session is that my body is better aligned and better able to handle the force of gravity. We all know posture is important. Most of us have been told that since we were kids. We can become more proficient at reading posture by first understanding what normal posture is.

What is Normal Posture?

The first step in posture reading is to learn what a normal posture is so we can see what our clients are presenting to us. Since we have all learned to read gestures long before we learned to speak, we are already experts at it. As John Thie states in the "Touch for Health" text, "We all know and understand more body gestures than words. Some are universal, some are not. We can look at a person and get a feeling of how he feels intuitively. (ref 3) Having said that, it helps to be shown the normals for posture in order to more quickly recognize what our intuition is telling us.

Because everyone seems to have different feet and hands, and one extremity that is longer that the other, one might think that finding a normal posture is impossible. That couldn't be farther from the truth. There is one standard of comparison, even with our different shapes and sizes. The standard is the design criteria Mother Nature built in over thousands of years of evolution. The criteria are: the ability to stand erect, to have bipedal movement and to withstand the downward forces of gravity. These design criteria are consistent with all people.

Vertical and Horizontal Alignment - To stand upright against gravity, the body is aligned from top to bottom by a line bisecting the body down the middle. Facing front, a plumb line should fall directly between the eyes to the breastbone through the belly button to the floor, equidistant between the shoulders, hips, knees, and feet. See Figure 1 (ref 4). The joints of the shoulders, hips, knees, and feet are aligned directly over each other at right angles to each other and to the floor.

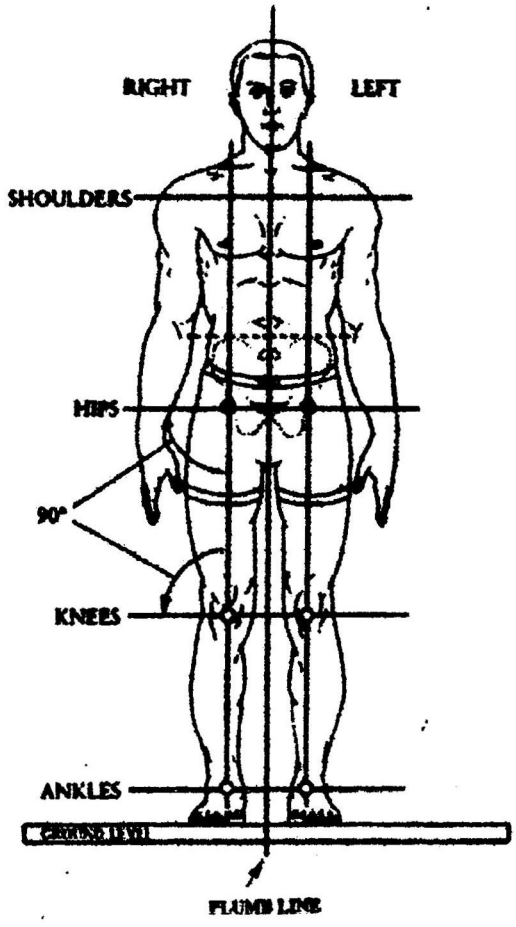

Figure 1

Facing the side the same plumb line should fall through the ears, shoulder, hip, knee, and just in front of the ankle. See Figure 2 (ref 5)

Symmetry - Figure 1 shows that the body is symmetrical top to bottom. Facing front, the three lines--one down the body center, and the two through each of the shoulders, hips, knees, ankles--should be equidistant from each other. One side should be a mirror image of the other side. If not, then there is a posture imbalance. Look for a rotation, part of the body moved forward or higher or lower. In the side view, there is symmetry in that the plumb line falls about equally in the middle of the body. About the same amount of mass should be in the front as the back side of the body. See Figure 2.

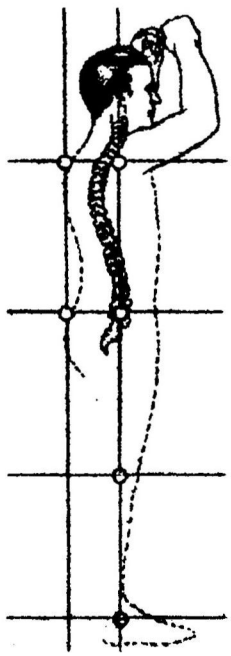

Figure 2

Balance - Refers to how well we use gravity to hold us up. Are we standing on our toes or heels? Is the head forward? If it is, the body has to work very hard to hold the head up. If we have a protruding abdomen, the back muscles have to work overtime to hold us up, or worse, the S shape curve of the spine has to change to balance us. Whenever the spine is too straight or too curved, the body has to compensate, causing loss of energy and performance. Being out of balance with gravity takes a big toll on our energy, strength and well being.

Seven Easy Steps to Posture Analysis

It has taken me years to become proficient in accurately reading the body. I realized that it would have been much easier for me to learn if I had had a step by step procedure to get me started. Thus, follows the seven steps to posture analysis.

1) The place to start is to have a plumb line, an exactly vertical line, set up against a wall in your work area. Ensure the line is straight up and down and that you have a level floor to stand on. A door frame or a window frame will usually work because they are usually built to be in alignment with a plumb line. I have each client I see stand against the line facing front, facing back and facing sideways.

2) Position the body facing front, standing with the feet a foot apart, centered in front of the plumb line. Alternatively, position the person lying facing up so that the midline of the body is parallel with the table.

3) Draw imaginary lines through the body's midline that connect the top and bottom of the plumb line. Draw imaginary lines through the center of the shoulders hips, knees, and ankles. Sideways, the line should fall just in front of the ankle.

4) Check the areas you see, looking for misalignment, asymmetry or imbalance compared to the lines you have mentally drawn. Proceed from the top of the body to the feet to determine areas where posture fails to equal the normal lines. After scanning head to foot in one position, record all areas where posture fails to line up the way it should. Use the checksheet (table 1) to record where you found imbalances. Or if you wish, just make a mental note. Then turn the client to face the side and go through the scan again. If your client is lying on a table, do the scan face up and then have the client turn face down. By screening first one direction then the other, major posture problems will become more evident.

An example - Figure 3 (ref 4): You have identified that the person standing in the front to back position has a right shoulder that is lower than the left. It seems closer to the breast bone than the left side. The right arm is turned so the hand is facing the rear and the hand is forward of the left side. The right hip is lower than the left side and the whole upper body is tilted to the right side. When you turn the person to face the side you see clearly that the neck and upper body including the right shoulder are forward of the plumb line. The right hand and arm are held forward of the left. Also, you notice that the head and ear are forward of the plumb also.

5) Select the most important area to work on. In this case I would select the muscles that hold the pelvis, since the whole body seems to be twisted forward to the right, starting at the pelvis.

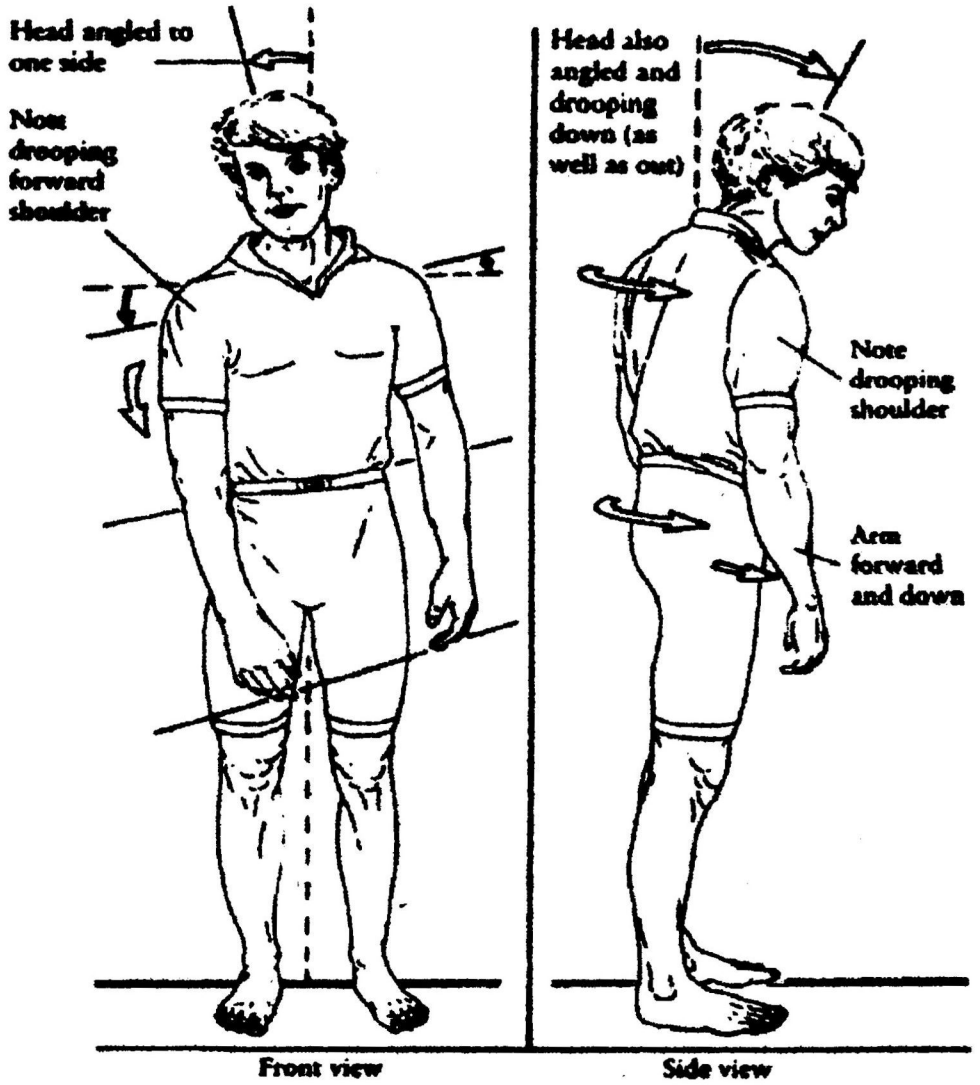

Figure 3

6) Go to Table 2 or the table on page 126 of the Touch For Health Text book and correct the muscles you find weak. For example, look up pelvis twisted in table 2 it states that the psoas, fascia lata, sartorius and abdominals should be checked for possible weakness. When you have finished balancing these muscles, either continue your balance or go on to the next area of posture challenge.

7) At the end of your balance recheck posture. Point out to the client where changes were made and point out that there is more work to be done. The right shoulder and head still fell forward of the plumb line in the example, so you show the client what has been changed and show him where there is more to be done.

How Do You Get Started

The fastest way to get started in posture reading is just start doing the above seven step procedure with every client you see. To integrate this into a balancing session just let the client know that you are learning something new and you think posture assessment will give you better information so you can do a better balance for them. Check them at the beginning and at the end of the session, so you can and they can see if your balance has made a difference in their posture.

The more practice you have doing posture readings, the better you will become at doing it. Eventually you will do this analysis unconsciously the moment you look at a

person. Major postural deficiencies will just pop right out at you.

Tools to Help Your Learning

Learn the posture **normals** for above, for facing forward, backwards, and sideways.

Learn what to look for lying down.

Learn the muscles that cause various postural problems or just have available Table 2 or page 126 in the Touch For Health book. This knowledge helps you quickly find the muscles needing correction.

You might **focus on one posture a week** and just look for that posture in every client you see that week.

Another way is to **sit quietly and visualize** what muscles are involved when a certain posture occurs. For example, visualize a person with a sway back (protruding abdomen) posture. Then guess what muscles would have to be weak to cause this. Then go to Table 2, and see if you remembered all the possibilities (abdominal, peirformis, psoas, hamstrings, gluteus maximus). Go back and **study the function** of the muscles that you forgot. I still study the functions, origin and insertions of muscles because it helps me do better, quicker balances.

Practice looking at people when you are in the mall, guess what muscles you think need correcting, practice reading your own body in the mirror, practice on everybody you have a chance to balance.

Additional Reading

Below is a short list of books and references on posture and posture reading. I especially recommend the following:

Thie, John F., *Touch For Health,* Revised Edition, Marina Del Rey, Ca.: DeVorss & Company, 1994, ISBN 0-87516-180-4. Pages, 14, 15 and 126.

Egoscue, Peter with Gittings, Roger, *The Egoscue Method of Health Through Motion*, New York: Harpercollins, 1992, ISBN 0-06-092430.6

Touch For Health Kinesiology Association, *Touch For Health Level 1 Class Syllabus*, 1998, Page 14.

Walther, David S., *Applied Kinesiology Synopsis*, 2nd. Edition, Pueblo, Colorado: Systems DC, 2000, ISBN 0-929721-03-9

Conclusion

I use posture analysis with almost every patient I see. It provides a clear way for the body to open its book of knowledge to me. It is a speech less way to tell me what is wrong. Postural analysis is a way to shorten the time to perform a TFH balance and improve the results of a balance. Because posture has a profound impact on energy and strength, balancing the major posture problems often balances most everything else. Quite often, correcting postural difficulties clears up difficulties people didn't even know they had. I point out posture defects in the beginning of a balance. Then I have the client compare how his body looks at the end of the balance. This comparison allows the client to see for himself the actual changes that were made. I then show the client what needs to be done, if there is more to do in the next session. If I have made a difference, the body usually will show it and the client will know it.

References

!. Tinbergen, Nickolaas, Nobel Prize Acceptance Speech, 1973.

2. US Department Of Labor, Occupational Safety and Health Administration, *Ergonomics Standards*, Nov 14, 2000, Web Address, http://www.oshaslc.gov/OshStd_toc/OSHA_Std_toc_1910_SUBPART_W.html

3. Thie, John F., *Touch For Health*, Revised Edition, Marina Del Rey, Ca.: DeVorss & Company, 1994, ISBN 0-87516-180-4. Pages , 14,15 and 126.

4. Egoscue, Peter with Gittings, Roger, *The Egoscue Method of Health Through Motion*, New York: Harpercollins, 1992, ISBN 0-06-092430-6

5. Egoscue, Peter with Gittings, Roger, *Pain Free*, New York: Bantum Books, 1998, ISBN 0-553-37988-7

Table 1 Posture Analysis Checklist

Body Area	Problem Observed	Observed Posture Problem
Head	Tilted, forward, backward, sideways, rotation	
Neck	Decreased or increased curve in the neck,	
Thoracic	Increased or decreased thoracic curve, ribs high on one side	
Lumbar	Lumbar curve increased (protruding abdomen) or decreased.	
Pelvis	High or low on one side, slanted forward or back,	
	Twisted (forward on one side)	
Whole Spine	Looking from the back, spine curved (Scoliosis). Sideways lean.	
	Looking from the side, forward lean, backward lean	
Shoulders	Rotation forward or backward, high or low	
Arms	One arm longer, shorter, forward, backward.	
	Difficulty raising	
Elbow	Bent too much or too straight	
Hands	Hand palm facing rear, palm facing front.	
Hips	Turned in, turned out, forward on one side.	
Knees	High , low, tilted inward (knocked knees), tilted outward (bowed legged),	
	Rotated in, rotated out, pushed backwards (extended), bent (flexed).	
Ankles	Ankle ahead of plumb, behind plumb.	
Feet	Foot flared out (from straight ahead), or flared in (pigeon toed),	
	Arch dropped (pronation), arch too high (supination).	

Table 2 - Postural Analysis Chart

Body Area	Observed Body Position	Possible Muscle Weakness
Head	Not level / tilted	Upper trapezius, neck muscles, rhomboids, sacrospinalis, psoas, gluteus maximus & medius
	Rotated but level	Upper Trapezious, rhomboids, abdominal, sacrospinalis
	Forward	Posterior neck muscles, neck flexors spasm.
Neck	Straight	Neck flexors
Thoracic	Hunched forward kyphosis	Lower trapezius
	Twelve rib not level	Quadratus lumborum
Lumbar	Belly hanging out- sway back	Abdominis, hamstrings, performs, psoas, gluteus maximus, psoa lower sacrospinalis spasm
	Decreased lumbar curve	Psoas bilaterally, sacrospinalis, quadracepts
Pelvis	Not level	Abdominals, quadratus lumborum, gluteus maximus & medius, sacrospinalis, tibialis anterior, adductors
	Twisted	Psoas, sartorius, fascia lata, abdominals
	Pelvic tilt forward	Abdominal, hamstrings, gluteus maximus
	Pelvic tilt backward	Quadracepts, sartorius, gracilis
Whole Spine	Forward lean	Soleus
	Curved spine (Scoliosis)	Sacrospinalis, quadratus lumborum, abdominal, latissimis dorsi, gluteus medius, tight psoas on one side
Shoulders	Rotated forward	Lower trapezius, serratus anterior, levator scapula
	Low or depressed	Rhomboids, levator scapula
	High	Latissimis dorsi, upper trapezius, gluteus medius, deltoids, neck muscles, levator scapula spasm
Arm	Difficulty ralsing	Serratus anterior, rhomboids, levator scapula, deltoids, abdomina supraspinatus
		Teres minor, pectorals major clavicular.
Elbow	Hangs straight	Bicepts, brachial radials
	Bent	Triceps
Hands	Palm facing forward	Subscapularis plus internal rotators latissimis dorsi, anterior delto supraspinatus)
	Palm facing back	Teres minor infraspinatus other external rotators (posterior deltoid
Knees	Knock knees	Sartorius, gracilis
	Bowed legs	Fascia lata, adductors, gluteus medius
	Hyperextended pushed too far ba	Quadracepts, popliteus, gastrocenmius
Ankle	Bowed out	Peroneus
	Turned in (flat feet)	Tibialis anterior, psoas
Feet	Turned in (pigeon toed)	Psoas
	Turned out	Adductors, peroneus, psoas, tibialis posterior, tibialis anterior, hamstrings, opposite peirformis, gracilis
	Arch dropped (pronated)	Tibialis anterior, psoas
	Arch too high (supinated)	Peroneus