

FITNESS AND HEALTH

How perfect is your posture?

Good posture is more than just standing up straight. Defined as the position of your body in space, posture is dynamic, not static. It moves as your body moves, changing often as you run, walk, swim or cycle.

Proper posture distributes the body's weight so that it is supported with the least amount of effort. Poor posture has the opposite effect; it shifts the body's weight away from its optimum balance, placing more stress on the structures that support it. This stress often manifests itself in the form of neck, back, knee or foot pain.

Doctors, physiotherapists, athletic therapists, occupational therapists, chiropractors and osteopaths all deal with the repercussions of poor posture. But before they can cure the pain, they have to fix the problem. And that means identifying and getting rid of any weaknesses in alignment.

To help health-care professionals pinpoint postural problems, Biotonix, a Montreal-based company, has invented a computerized evaluation of posture. Using a digital camera, the subject is photographed from back, front and side views while standing in front of a large cardboard grid. The camera picks up the reflection from small, sticky dots that have been affixed to a series of predetermined anatomical sites on the body.

The photos are then sent over the Internet to Biotonix, where the positioning of the dots relative to the grid is analyzed. Within a few minutes, the computer gives a comprehensive postural assessment, along with a series of exercises designed to improve areas of weakness. The printout is about 11 pages long, including photographs and charts that make it very clear where the subject's posture deviates from the ideal.

The technology used by Biotonix to evaluate posture was first developed by Montrealer Sylvain Guimond. Guimond has tested the product on numerous people since the first design in 1986, including professional and Olympic athletes. But the company sees its market as much broader than that.

"The system is not designed just for

FITNESS JILL BARKER

elite athletes," said David McFarland, vice-president of scientific development for Biotonix. Rather, it is marketed as a source of feedback for anyone concerned about the effects poor posture might have on their health and day-to-day functioning.

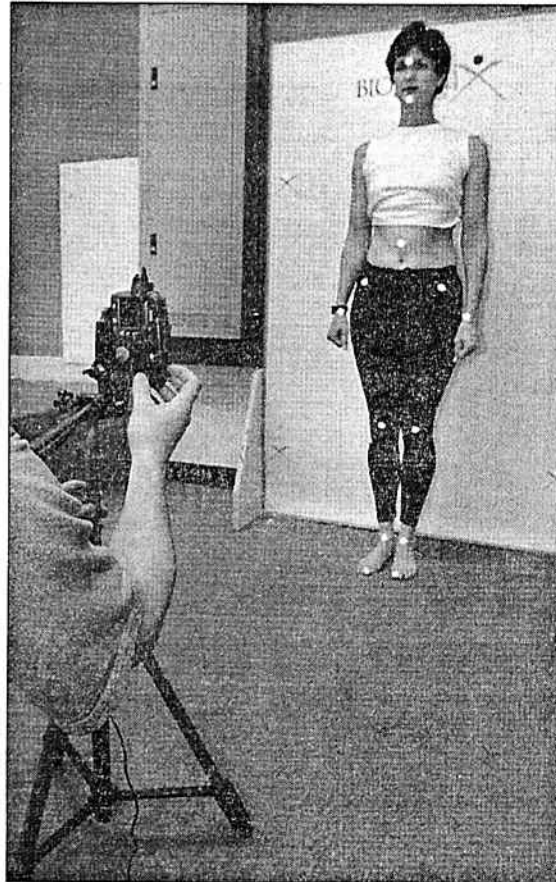
The Concordia Sports Medicine clinic at the university's Loyola campus is one of only four companies that have access to Biotonix's postural-assessment technology (access became available in January). They're using the product on selected clients who express an interest in having their posture analyzed. And while the clinic's team of physical therapists, athletic therapists and osteopaths have been visually evaluating posture for years, Biotonix offers an objective analysis along with a comprehensive written report.

"People are very visual, so they like a fancy computerized printout with exercise illustrations," said David Campbell, osteopath, athletic therapist and Concordia Sports Medicine co-owner. "As for the exercises, I think they offer a good visual picture for the patient."

The complete evaluation takes about 45 minutes, starting with a 20-minute session

that involves sticking reflective markers on precise spots on the body. This step, carried out by a trained technician, is crucial to an accurate reading. Markers are placed on the forehead, chin, ear, neck, shoulders, abdomen, spinal column, pelvis, wrists, knees, ankles and feet. Digital photographs are then taken from the front, back and side view.

Using information gained from the photos, along with personal information like name, age and weight, a printed document is generated. It includes photos of a standing posture with highlighted anatomical markers showing exactly where body alignment has gone astray. The accompanying charts detail how many degrees you vary from optimal positioning.



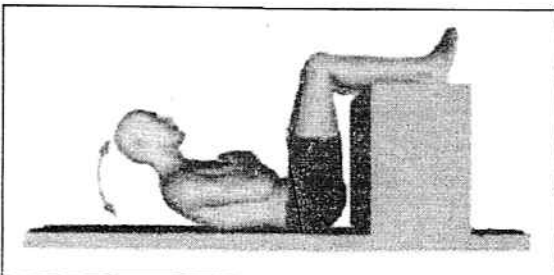
TEDD CHURCH, GAZETTE

Columnist Jill Barker poses for a digital photo, the first step in an evaluation of posture developed by Montreal company Biotonix. The markers on the body will highlight any problem areas.



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A scan shows Jill's right thigh is higher than her left, and her centre of gravity is tilted to one side.



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Biotonix analysis includes printout of illustrated exercises.

My results indicate my head is positioned too far forward, my right thigh is higher than my left and my feet pronate (roll in). Moreover, my centre of gravity, which should be perfectly centred, is tilted slightly to the left and back.

According to the postural deficiencies spotted during my evaluation, I should strengthen the back of my hips, stretch the front of my hips, strengthen my back and stretch and strengthen my neck. To help me accomplish these goals, I received a printout of 16 well-illustrated exercises complete with a 10-week workout schedule that includes the recommended number of sets and repetitions.

As detailed as the report is, it demands someone with specific training to decipher the information. A layman can effectively see where the problems lie, but the information provided is quite technical.

Receiving the analysis is only half

the battle toward better posture; it's what you do with the information that counts. And while the exercises prescribed are appropriate, there is no guarantee that the selected exercises and training schedule will actually improve postural deficiencies, especially if they are performed without the supervision of a knowledgeable professional.

For someone like Campbell, who is trained to provide manual therapy to improve postural malalignment, the addition of an exercise program is superfluous. His interests lie in evaluating a client's posture during their first visit and then again after their course of physical therapy has been completed. That way he has a measurable evaluation of the effectiveness of his treatment. But at a cost of \$150 per session, the technology is expensive.

"It's pricey as far as the Canadian medical system is concerned," Campbell said.

According to McFarland of

Biotonix, the company's target market is chiropractors, physiotherapists, physicians, occupational therapists and personal fitness trainers. Through this select group, individuals should be able to have the technology expertly administered and its data appropriately evaluated. To date, however, the largest group of users has been athletes.

"Golfers have really liked it," Campbell said. "They like seeing how far their posture is off before swinging the club. If they are standing unbalanced while leaning over the golf ball, they know it will impact their swing."

The future success of the technology, however, lies in its ability to improve the posture of not just athletes but of the many armchair quarterbacks and office workers suffering from rounded shoulders, a drooping head and poorly aligned spine.

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