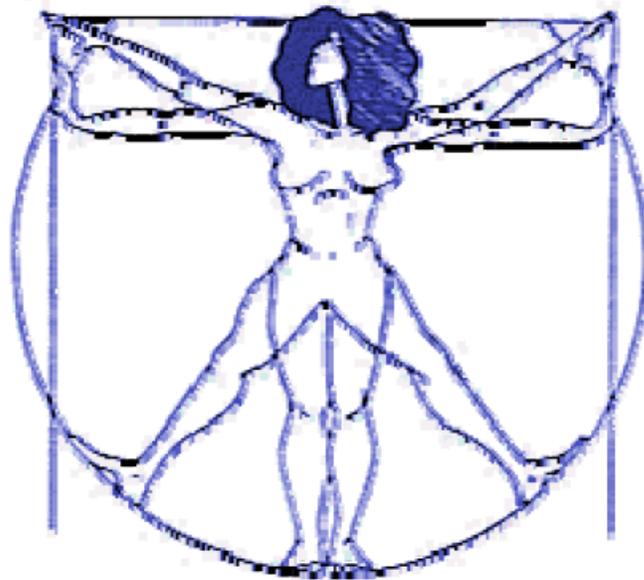


BALANCE



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2009 – 2010 Articles

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LINDA J. BUCH -December 2009
A DECADE OF FITNESS TRENDS (and a look to the future)

Believe it or not, it has been 10 years since “Step Aerobics” dominated fitness news and “working the core” was the hot buzz phrase. In the 10 years hence there are a lot of new angles and some deeper developments for the fitness industry. And, as always, some of what was old is new again. Even hula-hoops are back, but they are now weighted in order to ramp up the exercise intensity.

In 2000, fitness experts predicted that the high-impact aerobics classes and Jane Fonda tapes would be replaced by more balanced workouts about connecting the mind and the body. Spinning classes, kickboxing, and group strength training (called “BodyPump”) took the lead on the intensity side and Pilates, yoga, and tai chi gained popularity in the mind/body camp.

Looking back over those 10 years, those fitness prognosticators were dead-on. In fact, by the end of the decade, many of these activities morphed into some interesting combinations and trends.

Through telephone conversations with both Jessica Matthews, Continuing Education Coordinator for the American Council on Exercise (ACE), and Denver’s John Gillingham, a Denver fitness fixture (who is still teaching outdoor classes through the Colorado Athletic club at the DTC), for 53 of his 81 years, we can both analyze what has changed and have a nice peek at what to expect in the coming decade.

GROUP FITNESS

“I taught the first ever co-ed aerobic class in the USA in 1962,” remembers John Gillingham. “We drew a curtain across the gym at the Downtown Denver YMCA to separate the men and the women, another woman played the piano, and we did basic calisthenics.” For decades, group fitness tended to favor the large aerobics classes —

high/low impact aerobics, step, Jazzercise ®, and kickboxing – that primarily served and catered to women.

Currently there has been something of a return to that but with some dynamic shifts.

According to Matthews, group fitness is seeing--and will continue to see--these four trends:

- FUSION

Classes such as Pilates/yoga and spinning/yoga are popping up everywhere. “For people who are new to these activities, they present a good way to try out two different genres in one class,” explains Matthews, “and for those who are experienced, they have the opportunity to get more variety in a one-hour class.”

-MIND/BODY

“This trend began 10 years ago with a few classes a week to an abundance of Pilates, yoga, and tai chi classes in the club and recreation center schedules.”

-DANCE

The TV shows “Dancing with the Stars,” and “So You Think You Can Dance,” along with “exergaming” via Wii programs like “Dance, Dance Revolution,” kicked off an interest that gave rise to Nia, Zumba, HipHop, Samba and Rumba, and even old-style Fox Trot classes. “This trend towards more creative and expressive dance based classes is likely to continue,” predicts Matthews.

-SPORT CONDITIONING/HIGH-INTENSITY

Drill and circuit classes with more plyometric (explosive) activities are examples of things old that are new again, according to Gillingham, who in 1956 developed an exercise program that he named “variety training,” later renamed “circuit training.”

The sports conditioning/“boot camp” genres – adapted from the earlier circuit-training model-- became very popular again a few

years ago and are likely to continue. “These kinds of classes attract both men and women and tend to appeal to those who enjoy a more competitive, intense, and ramped up atmosphere,” says Matthews. “But these kinds of classes are not appropriate for everyone so know your limitations and choose wisely.”

CARDIOVASCULAR TRAINING

A decade ago, research on the relationship between output and fuel sources from the body (fat and/or glucose) was misconstrued, leading people and many manufacturers of exercise equipment to believe that low intensity training utilized more fat. “While it is true that a higher proportion of calories burned during low-intensity exercise comes from fat,” explains Matthews, “high intensity exercise still ultimately burns more calories from fat.”

The emphasis on the so-called “fat-burning zone” is a thing of the past and people are now starting to embrace interval training. “This time-efficient method of training, when you fluctuate between high and low output, effectively challenges the cardiovascular system.”

What is relatively new is the way we individually calibrate how hard we are working.

“Although percentage of maximum heart and heart rate reserve are widely used and accepted approaches for monitoring exercise intensity and are supported by current guidelines, emerging research is looking at what is called the “ventilatory threshold (VT).”

Research has found that at the point in your cardiovascular workout where you are no longer able to speak comfortably corresponds with the level where the body is switching fuel sources. Ultimately this encourages the body to adapt accordingly, making the body more efficient at burning fat on a daily basis. “This point is known as VT1 and can be gauged with a simple talk-test, which is easy and safe to administer,” she explains. The next marker is known as VT2, the

point where high intensity exercise can no longer be sustained – think running from a cheetah on the Serengeti.

By using this method more people will be able to easily assess how hard they need to work in order to get the results for which they are training.

STRENGTH TRAINING

Ten years ago, women started to make some headway into the strength-training domain but most still carried the fear of becoming too muscular. This tended to keep them out of the weight room and stuck on machines. If weights were used, they were too light to really have much effect on muscle or bone.

Research into the positive effects of strength training on bones and the appealing metabolic benefits of muscle on body composition has ameliorated those fears to a large degree. (That, and Michelle Obama's arms.) Women in particular are finally getting the message that their muscles require an appropriate load in order to get any benefit. In addition, the aesthetic appeal of good muscle tone and shape has gotten more women into strength training.

The current focus away from machines and into what is known as "functional training," means getting back to the basic life-moves of pushing, pulling, squatting, twisting, and lunging. But, the muscles need to be loaded realistically in order to live life safely and independently. Because research shows that the more muscle you have the healthier and leaner you tend to be, the emphasis on strength training in general is going to continue.

Body weight exercising is also among the new trends, particularly with training tools such as TRX. After all, body weight exercising (pushups and stair-climbing are examples) can be done anywhere and is both inexpensive and practical.

FLEXIBILITY

Within the last ten years, the research about the ineffectiveness of static stretching before a workout filtered down to the fitness centers. Today and for the future dynamic warm-ups that are full body and that take the joints through full ranges of motion will prevail. Static stretching, where you hold stretches for specific muscles for a designated amount of time, has great benefit at the end of a workout.

BALANCE

Ten years ago, balance exercises and the use of balance equipment was just entering the fitness regimen. Today – thanks to the Boomers and seniors – maintaining and improving balance is de rigueur. “Boomers are taking ownership of their own fitness,” says Matthews, “And seniors no longer accept that you lose your ability to maintain good balance just because of aging.”

Stability Balls were the hottest item 10 years ago and remain important today. But the BOSU Balance Trainer has taken a dominant place in most fitness facilities and shows no sign of disappearing.

DIET

Ten years ago, the diet rage shifted from “low-fat” to “low carb.” Diet fads never seem to die, they just get reinvented. The grapefruit-only/cabbage-soup/cookie/ blood-type/hair-color/horoscope-based “advice” will always be promulgated in one form or another by assorted mountebanks and celebrity “experts.”

The future is looking better, however, for good sense and balance in our food choices. “Portion control has become the focus instead of low this or no that,” says Matthews. “The new food pyramid from the USDA added an exercise component to the old pyramid.” Also, food quality and the focus on locally grown food is sharpening.

FITNESS INDUSTRY PROFESSIONALS

In the 1980's the personal trainers were easy to spot. They were the huge muscle-bound guys who were competitive bodybuilders or football players. Today personal trainers are certified and often carry numerous accreditations. This is because personal training is no longer the exclusive purview of celebrities and the super rich. Today an informed public knows that in order to learn how to use their time wisely, get results, and exercise safely, some sessions with a certified trainer are practical investments.

Physicians often refer patients to trainers because the medical community is coming around to the idea that prevention is both cheaper and better for the person. Today trainers even specialize in specific population groups; state-by-state licensing is on the horizon.

KUDOS AND CAUTIONS

In John Gillingham's opinion, one of the biggest changes he has witnessed is the rise of quality Recreation Centers. "The counties have stepped up and built some incredible fitness centers that offer programs inexpensively to the whole community," he observed. This commitment by local communities to the health of their citizens has brought quality fitness experiences and information to a much wider population. "Apart from this phenomenal rise in quality Recreation Centers, we need to focus much more on fitness programs for our youth, programs that go beyond the usual team sports like basketball and football," recommends Gillingham.

LINDA J. BUCH -January 12, 2009
SUSPENSION TRAINING

Suspend your disbelief. You can get into amazing shape with a couple of strong nylon straps and your own body weight.

Retired Navy SEAL, Lieutenant Commander Randy Hetrick, learned how to keep his team in condition when deployed on a mission simply by using body weight exercises, like pushups and chin-ups. But pushups and chin-ups mainly worked the front of the body, leaving the power muscles of the back and gluteus largely untouched.

When asked about the inspiration for his invention, the TRX [Total Resistance Exercise] Suspension Trainer™ Hetrick explains, "In 1996 I stitched some surplus parachute harnesses into something I could loop over a tree or a door and began pulling and pushing myself up. Pretty soon other squad members wanted one, too, so we had a guy out in the paraloft making them in exchange for cases of beer." Soon his straps became popular conditioning tools in submarines, warehouses, safehouses, and anywhere else their missions took them.

After leaving the SEALs in 2001 to attend business school at Stanford University, Hetrick took his straps to the gym and began doing suspended pushups, pull-ups, one-legged squats, and various twisting maneuvers for core and shoulders. "When I began doing the suspended exercises, some of the strength coaches and physical therapists in the training room at Stanford took notice. They started talking to me about the physiology of stability exercises and core work," says Hetrick. "I knew then that I had something special, practical, and effective to try to take to the market. And where

better to learn how to do that than Stanford business school?"

Fitness Anywhere, Inc. began sales operations four years ago. The TRX Suspension Trainer is being used by athletes (including professionals in the NBA, NHL, and NFL), trainers, coaches, the military, and in fitness clubs across the country. At a list price of about \$149.95 for equipment, training manual and DVD, the equipment is affordable for most institutions and individuals.

"I realized personally that by using Suspension Training®, I no longer had the assorted orthopedic maladies that plagued me for years as a SEAL," explains Hetrick. "Rather than performing strength exercises from a seated or lying position, we work out standing upright--or in a position where you are at an oblique angle to the ground. Therefore, all the stabilization muscles of the shoulders, back, core, hips and knees are holistically exercised."

While the company initially marketed to higher end athletes they quickly realized its potential with seniors and those in rehabilitation. Because the difficulty level of any exercise can be adjusted simply by changing the position of your feet, seniors are able to improve functional strength for the whole body by quickly adjusting how much of their weight is used by the legs for a squat, for example, and how much is handled by the upper torso. Those in rehabilitation can progress at incremental degrees in a similar fashion to accommodate the healing process.

Women, who often eschew the weight room--statistically preferring body-weight exercise like yoga and Pilates in far greater numbers than men--enjoy the benefits without the bother of machines

and weights. Men, who eschew group exercise in equal percentages, are drawn to the TRX because of its focus on strength. As a consequence, men and women, all with different objectives, can enjoy classes together. "Our class leaders are coaches, not choreographers," jokes Hetrick.

Personal trainer, Anne Parker, is one of the many women who got hooked on the simplicity and potential of the TRX. She met Hetrick while working with the "F3 Wounded Warrior Project" (an organization that helps severely injured service men and women) at an event in Seattle, WA. "Seeing what a benefit this was to injured service members really helped me realize the potential of the TRX for everyone so I decided to add it to my boot camp classes," says Parker. "Every other station involves Suspension Training." Her husband is hooked as well. "He takes it with him on business trips, using it in his hotel room with the special door anchor."

Human Resources Administrative Assistant, Kim Bauman, 26, has lost four percent body fat and eight pounds in six weeks in Parker's TRX boot camp class. "I have done lots of weight training but the TRX not only adds a nice change to the usual weight training work but also takes some of the joint strain that comes with weights," points out Bauman. "Working out with my own body weight is a stimulating challenge."

Businessman Rusty Lee, 60, has been taking Parker's class for about six months. He marvels at how the TRX is so simple yet so effective. "I had been working with kettlebells for five years but could no longer bear the stress they put on my joints, especially my arthritic knees," explains Lee. "With Suspension Training I can continue to work my legs at any intensity level without the pain." Lee notes

that the ease of adjusting the difficulty level at any point in the exercise has helped him maintain pain-free functional movement in his daily life.

Aubrey Schwenk, 30 and owner of The Pet Valet dog-walking business, found that her 30-year old body was a bit pudgier than the one she had in her 20's. Working with Parker and the TRX she lost two-percent body fat and 10 pounds in six weeks. "I love working with this equipment," says Schwenk. "It is low-impact, versatile, and I can take it anywhere."

Our two mottos are, 'Stand Up to Train,' and 'All Core All the Time'," says Hetrick, promoting the functional training aspects of his product. 'Functional Training' is now a common fitness buzzword, but what is it? In a nutshell, this means exercising in a way that prepares the body for the kinds of moves we do in everyday life, such as twisting, reaching, pushing, pulling, and squatting. Everyday we move in multiple planes--sideways, backwards, forwards, and diagonally--so it makes sense to exercise in all those directions as well.

By pulling, pushing, and rotating your own body weight, from straps anchored six feet above that are versatile enough to suit every performance level, your body is forced to stabilize the joints and the spine as you move through each exercise. The core muscles of the back, gluteus, and abdominal become stronger and, over time, your balance, posture and overall strength improves.

Side Boxes:

Fitness Anywhere, Inc.
1660 Pacific Avenue

San Francisco, CA 94109
FitnessAnywhere.com, 888-878-5348

Parker Fitness
1555 S. Colorado Blvd.
Denver, CO 80222
303.803.2438
fitnesschallenge2009.com

Working Out Without Weights is Nothing New

Yes it is possible to obtain a great physique and a healthy body without using weights and machines; it just takes some personal discipline, patience, and creativity:

Football legend, Hershel Walker, never went to the weight-room. His massive physique was acquired by performing pushups (1,000 a day), pull-ups, sprints (usually up and down the stadium steps), and crunches.

Charles Atlas (real name, Angelo Siciliano) popularized the "Dynamic Tension" method of training, advertising his exercise plan worldwide on the back pages of comic books to "98-pound weaklings" who wanted to be muscular he-men. He both utilized and advocated self-resistance. This is when one muscle is resisted by another while using a combination of isotonic, isokinetic, and isometric exercises.

Basic TRX Exercises:

1. Pushup
2. Deltoid Fly
3. Kneeling Preacher Triceps Extension

4. Standing Biceps curl
5. Single leg squat
6. Standing rollout
7. Hamstring curl
8. Prone abdominal curl

LINDA J. BUCH - BODY LANGUAGE (tm)-February 9, 2009
Balance/Balance Equipment

Most of us give as much thought to balance as we do to gravity. After all, when we get past the toddler stage and start blasting around as bipeds we rarely worry about our ability to stay upright. Our ability to maintain balance goes deep into our human physiology, involving specific and complex interactions between our eyes (visual system), middle and inner ear (vestibular system), and proprioceptive sensors in the muscles and tendons (tactile sensory system). All three are parts of our "natural gyroscope" that keeps us both mobile and upright.

Our eyes are the most obvious part of our system of balance. They establish the grid of our surroundings and our body's position in it, noting where we are in relation to the horizon.

Sensors in the middle ear (called maculae) and the semicircular canals detect head motion and transmit the information to the temporal lobe in the brain. These help you keep your balance even as your head is moving and rotating.

Proprioceptors are specialized nerve endings in muscles, joints, tendons, ears, and other organs that, when stimulated by movement, report on the position of the body to the brain. They detect where we are in space and can trigger defensive reflexes to resist unsafe action on the muscles, such as causing a muscle to contract if unsafe stretching is detected.

Our balance is tested, relied upon, and jeopardized from the cradle to the grave. Like any skill, however, our ability to move about without fear of falling has to be maintained, especially as we age. And, as with many things, we must use it or lose

it. Fitness and medical professionals are in full-throated agreement that the maintaining and improving of our balancing skills are key health and safety concerns.

In the absence of neurological disorders or other disabilities, our naturally occurring gyroscope operates on our behalf as automatically as breathing. We do not have to think about maintaining balance when static-- standing still-- any more than during dynamic maneuvers like walking. When any one of these systems is challenged (such as when we are walking in the dark) our other two systems become more acute. Yet many of us will experience a loss of balance along with the aging process. Our vision and hearing can fail; we become sedentary and lose sensory input from muscle. If we lose any one of the three aspects of our "gyroscope" we will start to lose our sense of balance.

Stuart Wilson, Sports Medicine Physical Therapist and owner of Champion Sports Medicine and Physical Therapy, explains, "We have to challenge our systems to make them stronger," explains Wilson. "We get really good at what we do. For example, if we sit a lot, then we get really good at sitting. We train our body for that activity and neglect other motions such as standing, walking and so forth." Similarly, if someone is injured skiing, for example, they may sit more than they did prior to their injury, or have to rely on crutches. "The tactile sensory system will start to deteriorate requiring rehabilitation while the patient is healing," explains Wilson.

Therefore, in order to maintain a healthy system of balance, we must intentionally and systematically train ourselves by progressively taking away any one, two, or all of the three systems. For example,

by standing on one leg we remove some tactile sensation and challenge the tactile sensory system; standing with eyes closed challenges the visual system; standing and shaking your head side to side challenges the vestibular system. Permutations are endless, such as:

- Standing on one leg with the eyes closed challenges the visual and tactile sensory system.
- Standing on one leg with the eyes closed while also shaking your head from side-to-side challenges all three systems (and is extremely difficult)!

To improve and enhance our balance, we can perform very simple exercises at home using nothing more than our own two feet. But before doing any of the following simple exercises, Wilson stresses, "BE SAFE. Know your limits and be aware of your surroundings." For example, it is never a good idea to work on your balancing skills while standing and trying to put on a pair of pants or stockings. Also, if your balance is compromised due to an injury or other medical situation, it is advisable to work with a physical therapist so that a proper evaluation and personal prescription for healing can be designed.

For many people, standing on one foot is challenge enough even without closing the eyes or turning the head. So, as Wilson stresses again and again, "Be Safe." If balance is a struggle for you, practice your balancing exercises with a partner or, if that is untenable, with a solid and sturdy object nearby that you can hold onto if necessary. Always be prepared to stop and catch yourself. Be sure you are competent and confident performing your exercises with the eyes open and the head steady before progressing to eyes closed and any head turning.

Here are some simple exercises you can do at home with no equipment:

While standing on one foot:

- Brush your lower teeth; switch feet to brush the uppers.
- Extend the other leg in different directions—front, side, back.
- Draw the alphabet with the hands.

When that gets easy, add a partner and a light recreation or medicine ball and play catch, tossing or bounding the ball back and forth to each other ten times on each foot. When this gets easy add the element of time by standing on each foot for 30 seconds, increasing your time by 15 seconds as your skill improves.

EQUIPMENT

Many fitness facilities offer a variety of equipment specifically designed to challenge balancing skills while also strengthening and improving our core muscles and posture, both key elements to healthy balancing abilities. The three most commonly used specifically for the purpose of creating instability and challenging balance are the foam pad (a square of dense foam large enough for both feet), the Bosu ball (a stability ball cut in half with a solid base that is also large enough for both feet), and the Dyna Discs (circular inflatable discs large enough to stand on with one foot).

According to Wilson, the degree of difficulty usually increases from a foam pad to a Bosu Ball, to the Dyna Disc. "The progression on each piece is from both feet, to one foot, to eyes closed," suggests Wilson. "The ultimate challenge is to

stand with one foot on one Dyna Disc with eyes closed and shaking your head." With the possible exception of Cirque Du Soleil performers, this is a challenge for even the best conditioned among us!

Using these exercises to regain balancing skills is just the first part of the larger equation that includes rehabilitation of posture and muscle strength, particularly of the core muscles (abdominals, gluteus, and lower back in particular). Therefore, the next step is to perform balancing exercises while working with weights.

The usual exercises can be employed to train your balance while also challenging any one of these balance systems. Try performing a biceps curl while standing on one leg or on a BOSU. Or, perform a crunch on a stability ball with your eyes closed. Be creative and have fun.

RESOURCES:

Champion Sports Medicine and Physical Therapy,
Denver, 303-455-0366

Equipment:

Ball Dynamics
14215 Meade Street, Longmont, CO 80504
1-800-752-2255, BallDynamics.co

Sammons Preston
(Rehabilitation and Medical Supply Company)
SammonsPreston.com, 1-800-323-5547
Denver Post readers can use the PROMO Code: SPDPO2
to receive a discount

Books:

"The Great Balance and Stability Handbook,"
Productive Fitness Products, 2003, \$8.95

"Balance Training: Stability Workouts for Core
Strength," Karon Karter, Ulysses Press, 2007,
\$14.95

"Functional Fitness for Older Adults," Patricia
Brill, Ph.D., Human Kinetics, 2004, \$32.00

"Fallproof!: A comprehensive Balance and Mobility
Program," Debra Rose, Ph.D., Human Kinetics, 2003,
\$54.00.

LINDA J. BUCH - BODY LANGUAGE (tm)-October 11, 2010
KIDS AND POSTURE

"I am concerned for my pre and early-teen children who are now carrying backpacks full of books to and from school. What can I do to help them keep good posture? I see a lot of slouching and lop-sided off-shoulder carrying of their bags." Allison Lee, Edmonds, WA

From an early age our backs take a beating. Too often, our young children are slouched in front of TV's, over computers and gaming stations. On school days they struggle with the weight of backpacks full of books and school supplies. The weight of these backpacks causes the bearer to lean forward, which creates a distortion of the spine's natural curves, which causes rounding of the shoulders.

If we consistently and persistently push our basic physical structure out of it's natural ergonomic design, our health – and in this case, the health of our children – is adversely affected. According to the Journal of Pediatric Orthopedics, 60-percent of all adolescents have experienced back or neck pain. If children develop a slouching posture at an early age, they can develop extreme physical problems in the future, such as hip and knee pain, headaches, fatigue, insomnia and even depression.

A June 2010 study published by the American Physical Therapy Association (APTA) suggests that children should always carry their backpacks on both shoulders, not slung over one shoulder, to minimize damage to posture and to maintain proper gait and structural balance. Most therapists also recommend that the packs have wide, padded shoulder straps, a padded back to protect the spine from sharp objects inside, and have plenty of storage compartments to allow for even distribution of weight. In general, the pack should weigh no more than 15-percent of the adolescent or teens total body weight.

Parents have no easy time of it when it comes to backpack safety, however. Kids may think it is cool to carry packs slung over one

shoulder and simply do not want to hear the familiar parental refrain, “Stop slouching! Stand up straight!” that is frequently woven into the cacophony of home life.

Licensed acupuncturist Esther Gokhale, in her book, “8 Steps to a Pain-Free Back” (Pendo Press, 2008, \$24.95), points out that the best teaching tool parents have is a good example, which makes it incumbent on all of us to correct ourselves when we allow our own bodies to slump, slouch and generally sit or stand in a way that is contrary to good health. She says in her book (which is replete with plenty of pictures, exercises, and instructions) that, “People with good posture can better withstand the effects of whole-body vibration, strenuous body positioning, weight, height, age, and even genetic predisposition to disc degeneration.”

What makes for good posture? Gokhale recommends a visualization technique where you imagine stacking the blocks of the spine: the neck atop the upper back, atop the lower back atop the pelvis; then with the knees and finally the ankles. She also reminds children, “Imagine you have a tail. It should be out behind you (ducky butt), not under you (tucky butt).”

Denver Physical Therapist, Rick Olderman, author of the “Fixing You” series (Boone Publishing, 2009, \$11.99, FixingYou.net), suggests setting a minute aside after school to offset the damage inflicted throughout the day with a few simple yoga poses. “This could be done using simple and gentle yoga moves such as the Cobra, Cat and Cow, Sun Salutation. All three of these positions promote spinal extension, the reverse of the flexion the kids are in most of the day.”

LINDA J. BUCH - BODY LANGUAGE (tm)- December 13, 2010
Training to Run at Altitude

"I will be running a marathon in Colorado next spring and need to deal with the altitude. How can I train for this? How many days should I show up ahead of time to adjust?" Kip Eldridge, Tampa, FL

The effect of altitude on the body cannot be discerned with our basic five senses, but we know something is very different once we begin to exert ourselves. Even those of us who live in Mile High Denver feel the effects when we head 3,000-plus more feet up to the mountains to hike, ski, or shop; even those who are in good physical condition suddenly feel out of shape, and it is not fun.

"At altitude" refers to elevations at and above 3,000 feet. The effect you will feel first is heavier breathing. This is not because there is "less oxygen" (air on planet Earth contains 20.93-percent oxygen regardless of whether you are on Everest or Eleuthera). It is because the ambient pressure decreases with an increase in altitude, forcing you to breath deeper and with greater frequency in order to get the same amount of O₂.

If you live at sea level – or at an altitude below 3,000 feet – you will not be able to adapt your body to the conditions at altitude without moving to that location for at least 10 to 14 days. Since this is not a likely plan for most visitors, it is best to arrive in Denver as close as possible to the day of the race in order to minimize the intensity of the physiological changes your body will experience. Regardless, there are adjustments you can make physically, mentally, and emotionally to insure a good experience.

Troy Donahoo, M.D., Endocrinologist and Medical Director of Weight Management for Kaiser Permanente in Denver, is a long-time runner with decades of experience running at a variety of altitudes. The first recommendation from Dr. Donahoo focuses on the mental and emotional adjustment, recommending that a runner from sea level "do this for the experience, not the time because the time will be slower."

In Dr. Donahoo's experience, paying attention to how you feel is key. "Many runners use heart rate or a particular pacing cadence when doing a marathon," he explains. "At altitude, the pace will be slower in relation to how you feel, so do not use the typical markers such as heart rate and pace." The other major factor for staying healthy at altitude is hydration. Dr. Donahoo recommends staying well hydrated with a half and half mixture of water and an electrolyte drink like Gatorade or Powerade. "Most experienced runners already know the solution that works for them but if this will be a new experience, be sure to get used to this hydrating solution before racing day."

While it will not be possible to adjust your body overnight to the altitude, it will be helpful to be over prepared prior to the race by training at your current sea level location for a run that is longer than a marathon. "The ability to exercise intensely is hampered at altitude so increase the amount of training you do at home before the race here in Denver," he suggests. "Also, it is easier to recover at sea level; your recovery at altitude will not be as quick." Keep this in mind if you plan on inserting a hard push at various points in your race plan.

Jason Karp, PhD, a nationally recognized running coach, offers some training recommendations regarding nutrition. He suggests increasing your caloric intake – especially in carbohydrates – because of the increased metabolic rate that occurs at altitude. Your muscles will thank you for it. Karp also recommends consuming the antioxidant vitamins A, C, and E to reinforce the immune system.

LINDA J. BUCH - BODY LANGUAGE (tm)-December 27, 2010
STAIR CLIMBING

"I am the Special Events Manager at the American Lung Association in Colorado. Training for the 6th annual Anthem Fight for Air Climb could be a great way to start the New Year while also contributing to a good cause."
Liz Toohey, Denver, CO

Crowds are usually gathered at the elevators, not the stairs. But on February 27, 2011 at the Republic Plaza in downtown Denver, over 2,000 people will be paying for the privilege to climb 1,098 steps – 56 stories – to raise money for the American Lung Association in Colorado. This is the largest American Lung Association stair climb in the country and takes place in the tallest building in the Rocky Mountain West. Climbing this many flights is a challenge at a leisurely pace, let alone as a race.

The physical benefits of stair climbing are legion: weight loss, improved blood circulation, bone density, and cholesterol, stronger aerobic and anaerobic endurance, and better agility to name a few. Since it can be performed anywhere there are stairs, groups as diverse as athletes, business travelers, and office workers often employ this exercise to both get – and stay – in shape.

It is an intense workout for both the cardiovascular system and the primary climbing muscles (the quadriceps, buttocks, arms and core). People squeezed for time find climbing stairs to be very efficient because they use as many calories in 15 minutes as they would in a 30-minute jog.

It is recommended that would-be participants do 20-30 minutes of stair climbing three times a week at least four to six weeks prior to the event. Since you will be pulling down on the handrail as you are running/walking up the stairs, as well as taking corners, actions that involve a lot of arm and core strength, American Lung also suggests adding some strength training, focusing not only on the legs but also on the arms and core. Recommended exercises are pull-ups, dips,

lunges, and squats. To bolster your cardiovascular capabilities try running up hills in the park, bicycling, and jumping rope.

Liz Toohey, Special Events Manager at the American Lung Association in Colorado, wants people to understand that most people walk this event with the average climber taking 15-20 minutes. Toohey also emphasizes that any interested people should participate regardless of conditioning. "We have had overweight participants, individuals with chronic obstructive pulmonary disease do the event with their oxygen tanks on their back, and firefighters in full-gear," says Toohey. "I hear a lot of people say that they could NEVER do that, but I assure people that with a little bit of work, they can do it."

During any stair climbing, maintain good posture (no rounded shoulders) and push through the heel and midfoot, rather than the ball of the foot, to better utilize the muscles of the thighs and butt. Walking and running up stairs is generally considered to be a good exercise for knees but if you have concerns about yours, discuss them with your physician before taking on this form of exercise. Since coming down steps means your knees will be used as brakes against gravity, it is recommended that you take an elevator after your run. If an elevator is not available, proceed slowly and carefully to avoid overloading the knees.

Participants can register as teams or individuals at:
FightForAirClimb.org for \$35 (with a \$56 fundraising minimum).

The American Lung Association in Colorado provides training tips for would-be stair climbers at:
LungUSA.org/pledge-events.co/Denver-climb/local/training-tips.html; or, call: (303) 388-4327.

LINDA J. BUCH - BODY LANGUAGE (tm)- August 23, 2010
TRAINING TO RUN BAREFOOT

“More health professionals are paying attention to research which shows that running shoes can often lead to problems with hips, ankles, and knees. It seems that switching to running barefoot or with minimalist shoes can lead to other foot problems. How do you know which is best for you? How do you make the switch safely?” Ellen Jampolsky, Baker City, Oregon

In the age of athlete-sponsored sport shoes, it seems revolutionary to even consider running barefoot...no shoes at all...naked feet on the ground...feet actually touching the running surface directly. Not that this is anything new for runners: in 1960 the late Abebe Bikila from Ethiopia won the 1960 Olympic Marathon barefooted; in 1984 Zola Budd of South Africa broke the Olympic world record in the women's 5000 meter similarly unshod. At the time the fact that these champion runners trained, competed and won while running barefoot was a curiosity.

But since the release of Christopher McDougall's book, *Born to Run: A Hidden Tribe, Super Athletes, and the Greatest Race the World Has Never Seen*, documenting his experience with the Tarahumara Indian tribe in Mexico who run hundreds of miles with only thin leather sandals, interest in barefoot running and running with minimal foot covering has grown exponentially.

Running has always been a popular form of exercise. Inevitably, popularity brings commerce, which for a runner means shoes. According to barefoot running enthusiasts, with the scientific backing of researchers in biomechanics, it is all the heel cushioning and shock absorption that is causing knee pain, shin splints, plantar fasciitis, and so forth because runners then adapt their gait to the shoe rather than to the terrain. Because the shoe cushioning and support desensitizes the foot to the actual impact, runners tend to strike the ground hard on their heels, sending shock waves through the body.

High school teacher Jason Robillard of Grand Rapids, Michigan became a barefoot running enthusiast after losing seven toenails and taking weeks to physically recover from a couple of running events. Robillard is also the owner of “Barefoot Running University” and “The Ultramarathon Store” in Zeeland, Michigan. His book, *The Barefoot Running Book, a Practical Guide to the Art and Science of Barefoot and Minimalist Shoe Running* provides the curious runner with information on how to transition from fully shod to minimalist to barefoot running including training schedules, drills, and gait techniques.

Robillard recommends a very gradual transition to going barefoot because the joints, connective tissue, skin, and sensory apparatus in the feet need to be reawakened. To reintroduce your feet to the tactile sensations of the ground, try walking and working barefoot around the house and in the yard then move onto activities in a grassy field or a sandy beach. This process could take weeks. Be patient!

The barefoot running gait is totally different than that performed when shod with high tech shoes. Learning to step lightly with a gentle midfoot “kiss” instead of the hard heel-strike pounding requires focus and practice. But learning this gentle technique is what ultimately allows you to run on any surface, not just on soft grass or sand. Be gradual and progressive in your training via short walks and runs before attempting a run of any duration.

Finally, for those who fear contact with rocks, glass, animal excrement, and other denizens of the great outdoors, try minimalist shoes such as those made by Vibram Five-Finger, Terra Plana, and Feelmax.

Barefoot running is not for everyone, particularly diabetics who may be suffering from peripheral neuropathy, which will interfere with necessary sensation through the feet. But, if this sounds appealing to you do your homework on training and transitioning. Consult with experienced experts before tossing your shoes into the trash.

SIDE BOXES

Whether or not to add barefoot running to your exercise program is a personal decision that should not be made capriciously. The barefoot training benefits, according to graduate exercise science researcher Christopher Pauls and program coordinator, Len Kravitz, PhD of the University of New Mexico (IDEA Fitness Journal, April 2010) include:

1. Increase in running economy.
2. Less fatiguing than running in shoes.
3. Increase in sensory input.
4. Potential injury protection.
5. Increase in lower leg strength.

RESOURCES

Website:

Running Barefoot: therunningbarefoot.com

Books:

Christopher McDougall, "Born to Run: A Hidden Tribe, Superathletes, and the Greatest Race the World Has Never Seen," Knopf, 2009, \$24.95

"ChiRunning: A Revolutionary Approach to Effortless, Injury-Free Running," Danny Dryer, Fireside Publishing, 2009, \$15.99

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LINDA J. BUCH - BODY LANGUAGE (tm)-July 2010
SKIN CARE

"I am confused by all the conflicting information regarding proper skin care and sun exposure. We are supposed to use sunscreen but then I hear that this blocks vitamin D absorption. What is the best answer for healthy skin and body?" Molly Myers, Denver

Skin weighing about six pounds and covering a surface area of a twin-sized bed--is the largest organ anywhere on the human body. It is composed of water, protein, fats (lipids), minerals and other chemicals. The skin regenerates itself every 27 days, no small feat since it is also tasked with protecting us from infections and germs as well as regulating our temperature. With nerve endings at the surface, skin delivers feelings of sensation, giving us reactions to pain, pleasure, hot and cold.

It behooves us, therefore, to protect and care for our skin using the best available information. Richard G. Asarch, M.D. of the Asarch Center for Dermatology and Laser (303-761-7797, AsarchCenter.com) is particularly concerned with the damage that ultraviolet light does to the skin through both sun exposure and tanning beds because ultraviolet light is a known risk factor for the development of the 3 most common skin cancers: basal cell and squamous cell carcinomas, and melanoma.

As for sunscreen, Dr. Asarch is of the opinion that the best product is one that you will use. That being said, it is important to understand that there are two wavelengths of ultraviolet (UV) light that can damage the skin: UVB, the one that causes sunburn, and UVA, which damages the skin in more subtle ways that rarely involves redness or burning. "Sun Protection Factor (SPF) is a measurement system to help choose the amount of protection for UVB, not UVA," says Dr. Asarch. "An SPF of 15 will block out about 93% of UVB while SPF 30 will block out nearly 97%." According to Dr. Asarch, many ingredients block UVB but there are only THREE that will block UVA: zinc oxide, titanium oxide, and avobenzone. "So far, there is no

SPF system or standards to note on a package regarding protection against UVA,” notes Dr. Asarch.

Vitamin D is known as the “sunshine vitamin” because your body manufactures it when you are exposed to sunlight. It is also available through the diet via fish, fish oil, egg yolks, cheese, and beef liver. Vitamin D is essential for strong bones, healthy cardiovascular system and mental cognition. Populations also at risk for a vitamin D deficiency include people who completely avoid the sun, strict vegetarians (natural sources are from animals), those suffering from milk allergies, and people who suffer from Crohn’s Disease, cystic fibrosis, celiac disease or obesity.

As for getting D from the sun, “It takes only a few minutes of ultraviolet light exposure to produce a large amount of vitamin D in your skin,” says Dr. Asarch. “One study showed that by just exposing your head, neck and arms to four minutes of noon time Denver sun is all you need to produce enough vitamin D for the day.” Dr. Asarch also informs us that, once your skin produces 20,000 units of vitamin D, additional exposure actually begins to degrade the vitamin D because our skin is programmed to not make too much. Because vitamin D is fat soluble, oral supplements can become toxic if taken in excess. He recommends staying with the recommended daily amount of 1,000 IU per day unless otherwise prescribed by a physician.

According to the American Academy of Dermatology, it is best to obtain vitamin D from natural nutritional sources and supplements rather than through exposure to the sun. When you do go outside, apply sunscreen 30 minutes before going out and reapply at least every two hours, especially if swimming or exercising.

LINDA J. BUCH - BODY LANGUAGE (tm)- July 26, 2010

"Should I exercise with COPD? And what type of exercise is good for me?"
Cassie Wolff

Chronic Obstructive Pulmonary Disease (COPD) occurs in about 10 to 15-percent of the adult population. While there are smaller percentages of patients who inherited this genetically or got it by inhaling dust or fumes from working unprotected at industrial sites, long-term smoking is the biggest culprit. And – because Baby Boomers who were smokers are now part of an older demographic – it is a disease that is on the rise.

COPD is often a mix of both chronic bronchitis and emphysema. With bronchitis, the inflammation created by long-term smoking creates excess mucus, which leads to "smoker's cough," which leads to a narrowing of the air passages into the lungs. It is this narrowing that makes someone with COPD feel as if they are always short of breath. Emphysema is where the elasticity of the lungs is damaged (again most often from smoking). This, in turn, damages the tiny sacs at the end of the bronchial tubes called alveoli, which is where carbon dioxide is exchanged for oxygen. When these sacs are damaged, they are no longer able to perform this exchange.

Exercise is a well known solution in general for strengthening the heart, improving blood circulation, keeping blood pressure in check, maintaining a healthy weight, strengthening bones, keeping mentally sharp, and improving sleep quality and energy levels. But for someone with COPD, where breathing becomes a challenge and breathlessness a way of life, even doing the simple things is an effort. This makes exercise and activity a crucial component in order to reclaim, maintain, and enjoy life.

According to Physical Therapist Jane Whalen-Price, Director of Rehabilitation Services at National Jewish Health in Denver, people who get COPD often run the risk of both isolating themselves and stopping activity all together, mainly because their labored breathing

makes it hard to keep up whether it is for a round of golf or a shopping excursion. It is important to know that exercise has been proven to decrease breathlessness and increase tolerance to activity.

At National Jewish Health, named the best respiratory hospital in the nation 13 years in a row by “U.S News and World Report,” COPD patients start their exercise program by first learning how to coordinate breathing with daily activities. “Exercise rehabilitation focuses on three areas,” explains Whalen-Price. “First we work on the postural muscles and strengthen the muscles used for the basics of life, like standing, sitting and walking. Next we work on muscle endurance training, which focuses on cardio-pulmonary and cardiovascular exercise. The goal is to build on the endurance for walking, golfing, dancing and other activities.” Stretching and flexibility programs such as yoga, tai chi, and Pilates are also excellent activities to enhance coordination and breathing.

Certified Recreational Therapist, Bobby Sherman, Assistant Director of Rehabilitation Services at National Jewish Health, works with patients in conjunction with occupational therapists to coordinate breathing with activities. “We find out where their interests lie and work with them to get back to those activities. Coordinating breath with activities is key to returning to an active and balanced life. It is all about energy management and breathing management.”

Sherman also points out that people with COPD should not be dissuaded by the fitness magazines that constantly beat the ‘work out 30 minutes a day, five days a week’ drum. “People with COPD can become mislead and overwhelmed by the pressure to do that much exercise. Rather, start from whatever level you are at and build from there, one minute at a time.”

“National Jewish performs regular checkups with patients from our program,” says Whalen-Price. “This is to continue support and encouragement for their activity levels. Without exercise and activity, the vicious cycle of breathlessness and isolation recurs.”

LINDA J. BUCH - BODY LANGUAGE (tm)-June 2010
MAXIMUM HEART RATE DURING CARDIOVASCULAR
EXERCISE and Cholesterol Drugs

"I am a 64 year old man on a statin drug to control cholesterol levels. I do weight training every other day, walk fairly regularly and workout on an elliptical machine on non-weight lifting days. What should my maximal heart rate be when on the elliptical machine? Bill Beard, Denver, CO

First, some clarifying information on the cholesterol kerfuffle promulgated by drug companies via the media.

Cholesterol is a waxy substance produced in the liver that travels around the body via the bloodstream. It is found in all foods of animal origin and is essential for maintaining cell health, structure, and permeability. Since we need cholesterol for life, our bodies also manufacture it. Unfortunately, a couch potato lifestyle that is rife with food high in animal products like meat, cheese, whole milk, butter and cream--and low in fruits, vegetable, grains and beans--can elevate the blood cholesterol level to the degree that, instead of passing through the blood vessels, it sticks to the sides.

A cholesterol reading is often presented as one number. That number is then delineated into readings for low-density lipoproteins (LDL), high-density lipoproteins (HDL), and triglycerides. HDL particles are small and dense and do not stick to the walls of the arteries. In fact it often acts like a scouring pad that takes the sludge to the liver for removal. LDL particles are the sludge as are triglycerides, which are highly saturated and make up 95-percent of the fat stored in the body. When not used for energy, triglycerides are stored in the cells as fat.

According to the American Heart Association, a total cholesterol number of less than 200 mg/dl (milligrams per deciliter) is most desirable; over 240 is considered high risk. You want the HDL number to account for more than 25-percent of the total cholesterol

number, at least over 50 mg/dl, but the higher this number, the better.

As for the bad fats – LDL and triglycerides – LDL should be less than 130 mg/dl (less than 100 mg/dl is considered optimal); triglycerides should be less than 150 mg/dl.

The best way to move your numbers into the safe zone is through the usual diet and lifestyle changes: exercise, eating healthier foods and eating fewer calories. But in some cases cholesterol-lowering medications are prescribed to aid in the lowering process. Side effects, such as muscle pain, bowel disturbances, and memory loss can be a problem, however.

All the exercising you are doing, therefore, is far and away the best thing you can do for your overall health. As for maximum heart rate, you want to push yourself hard enough to huff and puff without gasping for air. In other words, you should be able to say, “Mary had a little lamb” --not the Gettysburg Address-- in one breath,.

Finally, if you want to find a specific number for your target heart rate, the old saw of subtracting your age from 220 is about as reliable as reading tea leaves. The best method outside of a cardiac clinic is the Karvonian Formula. First, figure out your resting heart rate (RHR). Do this by sitting quietly for five minutes then count every heartbeat for one full minute.

Next, take 220 minus your age; subtract your RHR. Multiply that number by 65-percent (for low end of the zone) and by 85-percent (for the high end). Add your RHR to each of those numbers to find the low and high range for your target heart rate zone.

LINDA J. BUCH - BODY LANGUAGE (tm)-May 2010

Swimming and Back Pain

"A friend sent me your excellent series on back pain and I was curious why you forgot to mention swimming as a possible solution. My wife and I are in our 70's and swim several times a week. This activity has helped us both with many of our aches and pains, including back pain." Stu and Lou H., New York

Swimming is one of those lifetime activities providing decades of health benefits. Aquatic exercise environments take a lot of stress off the body, stimulate and improve endurance, cardiovascular fitness, and muscle strength without all of the pounding associated with running or walking.

Because gliding through the water is a great stress reliever, swimming provides psychological benefits as well as a good social outlet via organized aquatic exercise programs like water aerobics and swim competitions (swimmers over age 18 can join a Masters Swim program for both training and optional competition experiences).

Swimming is also good for achieving and maintaining proper weight, although the sport often gets a bad rap in that department. One of the reasons for this disparagement is because swimming does not have as much post-exercise caloric burn as land-based exercise. After land exercise--like running, walking or cycling--the body temperature tends to stay warm which creates an extended calorie-burning environment for the body as it works to cool itself down, utilizing calories for many hours after exercise has stopped. With swimming the cooling effect provided by the water keeps the body temperature lower both during and after a workout. Regardless, swimming is total body exercise and should be included in any weight-maintenance program if it is an activity you enjoy.

It is terrific that swimming has kept you and your wife healthy and pain-free for so many years, and probably for many more years to come. But not everyone enjoys swimming with similar success. In

fact some people actually can develop back pain, particularly if they use improper technique.

When swimming the strokes where you are prone in the water (particularly freestyle and breaststroke) it is easy to strain the back if you swim with the head lifted and chin jutting forward rather than with the head level and the chin tucked. Back pain can also occur from swimming if you are in the habit of hyper-extending (arching) the lower back. A slight tuck to the abdominal muscles, holding them up and in, stabilizes the lower back both when stroking and performing a turn.

If neck and back pain are a problem, try using a snorkel to eliminate the need to turn the head for breathing. There are special snorkels designed just for lap swimmers that are molded to the front of swim goggles to eliminate drag and increase efficiency and easy of use while lap swimming. Another remedy for avoiding back and neck pain is to swim the backstroke or sidestroke instead of freestyle and breaststroke.

Flotation devices such as noodles, life vests, and kick boards can also be employed in order to support good form. A certified swim coach can help correct bad swimming habits like over-rotating when breathing or smoothing out any inefficient stroke habits.

LINDA BUCH - BODY LANGUAGE (tm)-May 2010
ATHLETIC SHOES/RUNNING BAREFOOT

“How do you choose a good shoe and/or the right shoe? When do I need new shoes? Does the latest fad of “running barefoot” have any merit?” Ellen Armstrong-Jones Boston, MA

The human foot is a structural wonder. It not only balances the entire body over a comparatively small surface but also allows us to climb, walk, run, jump, skip, and hop. Podiatrists and Physical Therapists believe most foot problems develop because the shoes we wear do not properly accommodate the feet in them. Choosing the right athletic shoe, therefore, becomes more than the latest hot style, coolest colors, or who designs or endorses them. Blisters, bunions, corns, plantar fasciitis, hammertoes, heel spurs, and stress fractures can all be avoided, eliminated, and ameliorated with proper footwear (all bets are off for those of you who insist on wearing pointy-toed, high-heeled shoes).

To determine if your shoes are better off in the trash than on your feet, are there cracks in the soles or are the soles worn down? Do your feet hurt after exercising in them? Shoes are usually “toast” after about 600 miles of use. As for how to pick out new shoes, if your soles are more worn on the inside that means you are a pronator, with a low or flat arch causing your feet to roll inward. If the sole is worn on the outer edge, you are a supinator, with a high arch causing your feet to roll outward. Pronators need support in the midfoot; supinators require extra cushioning mid-arch and need more heel stabilization.

Runners, joggers, and walkers have been taught to pay particular attention to cushioning for shock absorption and flexibility in the toe area. But there are a growing number of therapists, trainers, and physicians who believe that the shoes today have actually served to worsen our condition because all of the padding and cushioning cuts us off from allowing the foot to perform naturally.

The American Academy of Physical Medicine and Rehabilitation, in a study published in the December 2009 issue of their professional journal, *PM &R*, reported some very interesting finds from their researchers. They compared the effects on knee, hip and ankle joints between running barefoot to running with modern running shoes. The conclusion was that running barefoot exerted far less stress on these joints than running shoes. It seems that while the running shoes gave good protection and support for the foot itself, the knee, hip and ankle joints were adversely affected by the amount of padding under the mid arch and by the elevated heel design.

For millions of years, humans walked around either barefoot or with very low-tech protection from the elements. The foot, therefore, naturally managed and distributed pressure over the entire foot. This study tacitly encourages footwear designers to stay as close as possible to the natural biological function of the foot.

Christopher McDougal, author of "Born To Run," (Knopf, 2009, \$24.95) writes of his experience with the legendary Tarahumaram, the Mexican running tribe in the rugged Copper Canyons of Chihuahua. They run barefoot or in homemade sandals for hundreds of miles – and many continue running well into age 80 and 90!

The upshot of all this is that perhaps flatter, more flexible shoes should be considered as opposed to those that provide the most cushion. One word of caution if you decide to try going barefoot: start slowly and gently to allow your feet to adjust to the natural surroundings. The running style with high tech shoes is very different than when barefoot: instead of hammering hard on the heel you will be running lightly and gently on the ball and midfoot.

For those who are curious about trying this, but may balk at trotting around in urban areas unshod, try the Vibram lines of shoes that hug the feet. This design allows the foot bones to do the work for which they were originally designed.

LINDA BUCH - BODY LANGUAGE (tm)-April 2010

BELLY FAT

“My wife and I (we are both age 50) do our best to eat right and exercise yet I still have some fat hanging around my middle and my wife can’t seem to budge the fat from her butt and thighs. Why is this and what can we do?” The Nelsons, Seattle, WA

Sometimes it seems that no matter how hard we workout and diet, we still see pockets of fat remaining in certain spots. The truly maddening part of all this is that we seem to be designed this way.

On the surface of each fat cell is either a high distribution of alpha or beta-receptors, known as adrenoceptors, which control both fat metabolism and blood flow to and from the fat cell. The alpha-receptors slow down fat utilization; beta-receptors speed it up. These receptors are genetically determined, primarily by sex. Women tend to have more alpha-receptors on the lower body, back and legs; men on the midsection and chest area. Because beta-receptors allow fat to move out more easily than alpha-receptors, certain parts of your body lose fat faster than others.

Fat cells develop in the human fetus primarily during the last three months of gestation until the baby is 18 months old and then in spurts from toddler through early adolescence. A normal-weight person will have about 35 billion fat cells; someone who has been obese since childhood can have two to three times that many, making the issue of childhood obesity a serious concern. An adult who was allowed to become obese as a child will have a much harder time with weight control as an adult.

In her book, *Fight Fat After Forty*, Pamela Peeke, MD, recommends weight lifting as a way to pummel the “pooch.” This suggestion is supported by subsequent studies at the University of Alabama. Doing cardiovascular exercise and crunches is good but nothing builds and maintains muscle mass like good old strength training. There is no such thing as spot reducing so no amount of crunches, lunges, or other exercises that target specific areas of the body will ever get rid of fat in isolated areas. Increasing total muscle mass, maintaining a sensible caloric intake, and performing 20-30 minutes of cardiovascular exercise at least four days a week seems to be the best course.

For men (and for women who tend to be apple, rather than pear-shaped), the National Institutes of Health, National Heart Lung, and Blood Institute state, “Obesity substantially increases an individual’s risk of suffering from chronic diseases such as hypertension, coronary artery disease, and diabetes. Those with excess fat in the abdominal area are at increased health risk.” It behooves us, therefore, to try to deal with this problem seriously.

All of this should help us understand why no two people respond in the same way to a program of exercise, diet and lifestyle changes. Regardless, it is still far better--and safer--to maintain a healthy lifestyle as opposed to buying into the plethora of “magic” fixes promulgated in advertisements that promise to “melt away fat.”

Beware particularly of machines that “buzz away” fat and pills and potions that claim to boost metabolism. Many of the herbal supplements proffered can actually do real harm to the body with side effects that include hemorrhage, hypertension, cardiac arrest and death.

And, most of the time the only thing that actually “melts away” is the money from your wallet.

LINDA J. BUCH - March 2010
BACK PAIN, Part Three

Our final installment – but certainly not the last word--on back pain looks at methods that work with structure, posture, movement, and the connection between the mind and the body. How we move throughout the day, indeed throughout our lives, have both immediate and long-term affects on both.

According to research, such as one published in April 2009 at BioMed Central (biomedcentral.com) on musculoskeletal disorders, (conducted by researchers at the Hong Kong Polytechnic University and Roehampton University UK), postures in the work place that are static, held in prolonged trunk flexion, or are otherwise awkward for any period of time negatively affect lumbar spinal tissues. In other words, when the body is continuously stressed and repeatedly allowed to repeat poor skeletal postures, chronic pain is the usual result. Poor postural position begets pain and problems. Mentally, the stress of this pain can be utterly debilitating.

It makes sense that if we move as we are designed to move we will have a healthier life with far less pain.

Egoscue Method®

Egoscue, pronounced e-gos-cue, is a series of personalized corrective “e-cises” (short for “Egoscue exercises”) that focus on your posture and joint alignment. Specifically, they go after the actual cause of your pain, not just band-aid the symptom. Developed in 1971 by Pete Egoscue to remedy his own chronic pain after multiple tours as a Marine in Vietnam, this method has grown to multiple clinics nationally and internationally.

“Pain is your body telling you that something is out of alignment,” explains Brian Bradley, the Vice President of Therapy Protocol from their headquarters in San Diego. “The body wants to keep you

moving so it compensates; this can cause undo stress on the pelvic girdle, spine, mid-back, shoulders, neck, and so forth.”

Throughout the therapy process, four posture photos and a comprehensive comparison to your symptoms are done. From these, your personalized set of “e-cises” is developed. “Because you are directly involved from beginning to end in the process, you will do these simple movements in the comfort of your home and feel the results immediately,” says Bradley. “Your balance will improve, your pain will diminish and eventually you will live Pain Free.”

*T'ai Chi Chuan

T'ai chi chuan, or “supreme ultimate fist,” is a soft-style martial art that is sometimes described as meditation in motion. T'ai chi involves a flowing, steady rhythm of smooth and relaxed movements; it is currently the primary form of physical therapy in Chinese Medicine. This means that all individuals--regardless of age, fitness level, disability or health challenge--can participate, feel enjoyment and experience some success. For people who are dealing with chronic pain, the gentle forms require deep breathing and balanced movement that improve muscle and postural alignment, which is often the cause of low back (and many other) pains in the body.

Jacqui Shumway, who has a master's degree in kinesiology and physical education from the University of Northern Colorado, has been a specialist in preventive and rehabilitative exercise through physical education and t'ai chi for over 20 years. “The moves and exercises are learned in a flowing system designed to both balance the body and free up movement,” says Shumway.

Joe Brady, Traditional Chinese Medicine Practitioner (and husband of Shumway) adds, “Low back pain is a common malady due to blockage of energy flow, caused by stress, poor body mechanics, or injury. The Chinese believe that when the low back is in pain, the entire system is in trouble.” Shumway, who believes life-long education leads to enjoyable long life, feels that the best way to see if

this is for you is to take a few lessons from a real tai chi master, using DVD's and tapes "as homework lessons."

*Franklin Method

By using imagery, touch, and movement to facilitate ease and comfort in the body, the Franklin Method helps people to maximize the body's potential for both everyday activities and sports. It is completely science-based, and is used in medical environments in Europe and Asia to help movement dysfunction, including back pain. It is new to the US, but its use for health, movement, and motivation is increasing rapidly.

Jan Dunn, MS, a Level Two (of three) Franklin Method Educator, is a member of the adjunct faculty at CU Boulder in the Dance Department as well as a co-host for Franklin Method teacher trainings in Boulder. Two car accidents left her in chronic pain in her lower back, which eventually led her to the Franklin Method. "I am a Pilates instructor and also tried other modalities over the years. I started training in the Franklin Method five years ago when it was first introduced to the USA," explains Dunn. "Now I rarely have back pain, but, if I do, I can relieve it fairly quickly; a flair-up may last for half a day instead of many days."

Swiss movement educator and author, Eric Franklin (age 52), developed the Franklin Method 25 years ago. He has taught at the Zurich Neurological Institute, and presented frequently at European medical conferences. He also works with dance companies around the world, such as the London Royal Ballet, Danish Royal Ballet, and the Julliard School in New York, among others. His teaching stresses the neuroplasticity that exists between our mind and our bodies. In other words, our mind directly affects our body and, therefore, affects the life we lead--for better or worse.

According to their official website, "Body posture and movement are imagery driven; if the image does not correspond to the way the body is designed, the result will be a steady decline in function." By

combining both scientific and anatomical analysis with movement and imagery exercises, the Franklin Method attempts to connect the dots between body/mind, posture, breath, health, imagery and motivation. As Dunn explains, “Awareness of function improves function.”

A Franklin Method practitioner will work with a client to learn how they currently move, then recondition the patterns through anatomical knowledge, imagery, and direct physical awareness to determine the pattern that causes pain. Then, by combining the mind with the body, the client learns how to move the way the body was designed, in a biomechanically correct, healthy manner. This spring, IDEA Health and Fitness Association will be focusing on the Franklin Method, encouraging trainers, coaches, and physical therapists to adopt these techniques into their practices.
*Alexander Technique

Many of our pain problems come from habits and tensions that we carry in our body from day to day, such as hunching the shoulders at our computer or tensing the neck and jaw when driving a car. The Alexander Technique helps people to learn how to use their bodies in everyday activities with more ease, and less pain and tension.

“I work with students to become aware of their postural and movement habits that may be taking them out of balance,” explains AmSAT (American Society of Alexander Technique) Certified Teacher, Kris O’Shea. “I then guide them through simple movements such as sitting, standing, walking, or bending and help them to perform these activities with minimal effort and improved use of their bodies.”

In fact, a British Medical Journal study published August 19, 2008 showed an 85% reduction in chronic, non-specific low-back pain through lessons in the Alexander Technique.

F.M. Alexander, an Australian actor, developed this technique in the early 20th century. He observed that his chronic hoarseness was due

to how he held his head, neck, and torso in relation to how he controlled his posture and physical movements. Others with whom he worked found that his methods got rid of chronic headaches, back pain, and other discomforts. "We work with movement education and postural re-education," says O'Shea. "How are you doing what you are doing and can you be easier on your body? We work hands-on to give you a different kinesthetic experience, which helps you to learn how to approach everyday movement with more ease."

*Feldenkrais Method® of Somatic Education

The Feldenkrais Method involves learning to move with greater ease, skill, and awareness. The whole process is about self-discovery as opposed to being taught a specific way to move. Moshe Feldenkrais D.Sc. (1904-1984), an engineer, physicist and judo master, developed the method in response to his knee injury. His professional background led him to look at a more "global" solution for a "local" problem. To help someone with back pain, a practitioner looks at a larger picture: what patterns create stress to a particular place? Rather than fixing a part, the solution is in improving movement through the whole system.

Group classes in Awareness Through Movement® are empowering in learning to help yourself. Private sessions called Functional Integration® are tailor made for the individual, and a good way to begin.

Bethany Cobb has been a Guild Certified Feldenkrais Practitioner^{cm} since 1991. "We introduce novelty to the nervous system through movement variations," she explains. "These experiences help people develop a clear self-image, a felt sense which informs their movement." This re-learning is done through gentle, easy ranges of motion. As people feel the support and movement through their skeleton, they find greater ease in action. With all the parts working together, areas that were overworked or stressed can recover.

Back pain can lead us to question what should be an automatic physical movement. "Just as when we were children, small steps lead to fundamental shifts in how we feel, think and move through our lives."

Contact Information

*Egoscue Method

Egoscue Method Clinic, 350 Ponca Place, Boulder, CO, 800-995-8434, Egoscue.com; "Pain Free: A Revolutionary Method for Stopping Chronic Pain," Pete Egoscue, Bantam Books, 2000, \$16.00

*T'ai Chi Chuan

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*Franklin Method

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*Feldenkrais Method

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LINDA J. BUCH -February 2010
BACK PAIN Solutions, Part two

Last month we presented back pain relief options via Physiatry, Chiropractic, Muscle Activation Technique, and Physical therapy with Pilates. This month we are continuing with our examination by looking at some other methods. Rolfing and massage both focus on pain relief via manual work by a practitioner on muscle and tissue where yoga concentrates on breathing, mental relaxation and various physical moves. Personal trainers bring exercise into the mix through muscle strengthening. Acupuncture works to stimulate specific energy meridians where a Reiki practitioner utilizes "healing hands" for the channeling of energy.

As you can see, there are many options to chose from, depending on your particular inclination or need. To review part one of our three-part series on back pain, go to: Denverpost.com for January 18, 2010.

ROLFING

The Rolfing concept, developed by Ida P. Rolf, PhD, more than 60 years ago, is the process of examining and reorganizing the connective tissues that envelope the entire body. "Connective tissue provides support for the entire body," explains Certified Advanced Rolfer, Marekah Stewart. "It encases all of the body's systems - muscle, organs, bones - all of them."

Stewart explains that problems occur in our body because gravity is pulling us down every second of every day. When you combine gravity with any illness or trauma (physical or emotional) the connective tissue thickens, shortens and becomes "stuck", thus we begin to compensate. For example, the head may pull forward, the shoulders may become rounded, and imbalances in the hips and pelvic girdle may occur. Because there is plasticity in connective tissue, it responds to warmth and pressure, thus, change can occur in the body when that network of tissue is freed up.

What Rolfers do is manually free up the connective tissue over a series of ten sessions, each session building on the previous one. "This is because if one area is affected, others are impacted, the ultimate goal being to bring the head, shoulders, thorax, pelvis and legs back to a more vertical alignment" says Stewart. "Rolfing can provide more freedom of movement, function, flexibility, and the sense of being integrated, giving one more energy and balance."

EXERCISE/STRENGTH TRAINING with PILATES

David Bartlett, certified personal trainer and Pilates certified in both Polestar and Stott, movement-screens clients who come to him complaining of back pain. By performing rollups, un-weighted squats and the like, he try's to find out what moves kick in the discomfort. "The term 'core work' is often misrepresented and overused," says Bartlett. "There is much more involved in exercising properly in order to achieve and maintain proper back and abdominal strength, stability." He points out that proper use of pelvic floor muscles, back, abdominal, (the "powerhouse" muscles) all need strength and endurance; and, the exercise protocol must accomplish this without stressing the area of the back that is under duress.

"I get the best results when strength or resistance training is combined with Pilates, using primarily Polestar Pilates principles & Balanced Body equipment" he explains. "Pilates strengthens, tones, elongates, and stretches all the muscles in the body – some all at the same time." By using strength-training techniques, while challenging balance on a wobble board, FitBall, BOSU, or Coreboard, he finds that clients improve in many areas while also reducing or eliminating pain. "The goal is the fluid integration of range of motion, speed, length of lever and proper breathing; when people can do this with reduced or no pain, their confidence, co-ordination, and balance all improve as well."

MASSAGE

An experienced certified massage therapist has gone through several years of training and is, therefore, adept at understanding muscles,

and how they are supposed to function. They are trained to deal with muscle and tissue dysfunction through hand-on soft tissue manipulation that both relaxes and improves blood flow to the affected area and the body as a whole.

Stefan Paulsson, owner of Back In Shape, notes, “A contracted muscle has poor blood flow; relaxing it improves blood flow.” He explains that tight muscles pull on the skeleton where the muscle is attached. The body then compensates for the short, tight muscle in another part of the body, causing pain.

Tess Gallegos, massage and skin care specialist, also mentions that massage not only improves the back but also posture and body mechanics. “The goal of a massage therapist is for the client to leave with an understanding of back pain and to feel more in control,” says Gallegos. “Massage is not just a relaxing modality, it can actually change the structure of the body and get to the bottom of the cause of the pain.”

Paulsson and Gallegos both assert that massage is preventative medicine. In summary Paulsson explains, “Keep soft tissue soft, relaxed and with good blood flow and fewer problems arise.”

YOGA

“There is a misconception that ‘yoga’ only means get on a mat and be a pretzel,” laughs Lisa Eller Davis a Registered Yoga Teacher in Denver. Eller Davis points out that people in pain are often afraid and stressed from that pain which makes the pain worse. “First I use breathing and mind/body awareness to calm the fear,” says Eller Davis. “Breathing oxygenates the body and mind and relieves tension.” From there, gentle yoga postures and movements – some as simple as changing the position of the head and neck – are utilized to open the mind and calm the body. At that point many people can start coordinating body postures with the breathing techniques. As Eller Davis emphasizes, “Body follows mind, and mind follows breath.” Yoga can adapt, align, strengthen and stretch limbs, and

release tension in the head, neck and shoulders. This helps the healing process.

“There is a yoga for any body,” Eller Davis insists. “With some back injuries, physical yoga movements are not the best place to start; the person should be evaluated by a physician before beginning any yoga program.” In addition to yoga breathing and relaxation techniques, Eller Davis is trained in yoga for seated, standing, and reclining. “Yoga helps people to listen to their body’s wisdom by giving them a way to practice being inside their bodies and then perceiving what is going on with them.”

Contact:

Lisa Eller Davis, TreeofLifeDenver.com, 303-388-6388

ACUPUNCTURE

Acupuncture is a 3000 year-old ancient Chinese technique where sterile needles are inserted at various points on the body to relieve pain and induce healing. The acupuncture points are situated on pathways, called meridians, where the life force (qi) flows and circulates. A trained practitioner chooses some special points on the body to stimulate meridian energy. This stimulation brings the body back into balance.

Acupuncture has been controversial in the medical and scientific community with some decrying its efficacy as merely due to the placebo effect; others – like the World Health Organization – suggest that it is an effective treatment for many conditions.

Wife and husband team, Patty Wang, OMD, and Henry Cao, OMD (Oriental Medical Doctor), have been practicing in Colorado for 15 years. 15 years prior to their move to the USA, Wang and Cao lived in China where Wang practiced acupuncture and Cao was an orthopedic surgeon.

Wang and Cao see people suffering from back pain every day, and Cao emphasizes that a cure is complicated. “Acupuncture can help

relax soft tissue from a muscle spasm, muscle imbalance, arthritis, or herniated disk,” explains Cao, “but cannot restore the lost cartilage due to arthritis or repair a herniated disk.” Wang is the primary OMD for acupuncture; Cao works more with herbs and uses his surgical knowledge to diagnose and prescribe exercises.

REIKI

Reiki (pronounced “Ray-Key”) is an ancient Japanese healing technique where the practitioner channels healing life force energy (called Qi, pronounced “chee”) to the patient via the hands. Intuitive Reiki Master, Regan Peschel, explains that every practitioner brings a different gift to the process but that many look for blockages in the body that may not serve your higher purpose. In the case of back pain these energy blockages may be contributing to the injury. “With physical pain, half the time is spent sending healing energy to that spot,” says Peschel.

Peschel notes that Reiki is easily used in conjunction with other therapies, medications, and treatments. “There is a lot of science behind energy work so this is just one supplement to add to the client’s arsenal of healing in order to speed the process.” It is her belief that we all have the ability to self-heal and that we can all connect with healing energy. “I want to empower you to do this for yourself, even after our work is done in the Reiki session.”

CONTACT INFORMATION:

Rolfing:

Marekah Stewart, Marekah.com, 303-668-4091, Rolf.org

Personal Training with Pilates:

David Bartlett, PilatesintheRockies.com; 303-805-1210

Massage:

Tess Gallegos, TessGallegos.com, 303-709-4422

Stefan Paulsson, BackInShape.US, 720-946-9246

Acupuncture:

Patty Wang, OMD, Inc.

7090 E Hampden Avenue, # D, Denver, CO 80224,
303 782-4945

Reiki:

Regan Peschel, DenverReikiHealing.com, 720-838-3515

OPTIONAL SIDE BOXES

Six Principles of Polestar Pilates:

1. Breathing
2. Axial elongation and core control
3. Shoulder girdle organization
4. Spine articulation
5. Weight bearing and alignment of lower and upper extremities
6. Movement integration

Six Benefits of Yoga:

1. Releases habitual stress-holding patterns in the mind and body
2. Increases flexibility, strength, and confidence
3. Improves balance
4. Activates a sense of vitality and joy
5. Aligns body, mind, and spirit
6. Can be customized or adapted to each individual

LINDA J. BUCH -January 2010
BACK PAIN Solutions, Part one

Back complaints are common among us bipeds. In fact, 80% of Americans suffer from it at some point in their lives and \$50 billion annually is spent treating it. Back dysfunction may feel like it started with a twinge, an ache or a pull as a result of some specific action or activity. Except for severe trauma from an extraordinary incident (such as a car accident or fall), back pain is usually cumulative, a result of structural imbalances that started long ago with the feet, the gait, the posture, or other phenomenon specific to the individual-- imbalances that have become integrated into the body over time.

But when the pain is happening we do not care about the systemic cause. We just want it gone. Most of us simply reach for a bottle of pills and hope it goes away. Unfortunately, this often just kills the messenger. There are lots of options from the calm and meditative approach to the full body structural evaluation to assorted body adjustment or manipulation therapies. Each one has its place in the solution.

But as English novelist, Charles Kingsley (1819-1875), wrote, "Pain is no evil unless it conquers us."

Here is Part One, with some options for conquering the pain. Our feature on Back Pain solutions will continue next month with more ideas for consideration.

PHYSIATRY

A physiatrist is a medical doctor who specializes in Physical Medicine and Rehabilitation, focusing on restoring function to patients with injuries to muscles, bones, tissues, and nervous system. Physiatry has two main branches:

1. Assessment and rehabilitation for those who have source injuries such as stroke, spinal cord injury, amputations, or numerous other

conditions.

2. Diagnosis and treatment of musculoskeletal or nerve problems of the spine or extremities from overuse, trauma, or sports.

“We first establish a diagnosis, through history, exam, and, if needed, MRI or X-Ray, EMG (a nerve test), or other tests. We try to break down spine pain into categories,” explains Scott Bainbridge, MD. “Is it a joint problem in the spine or pelvis? If there is tingling or weakness in the extremities, is it stenosis or an acute disc herniation?”

Every spine program is individualized, but includes two general types of exercise. The first involves the strengthening of the deep, or core, muscles. Pilates and yoga are often recommended to this end because, according to Dr. Bainbridge, they are effective and enjoyable, thus making good long-term options. The second component is aerobic exercise, again individualized to the patient’s situation. “For example, a stenosis patient may do well exercising with the spine in a flexed position, as with bicycling; a disc problem might do better with walking or with an elliptical training machine.”

While medications are often used to manage pain, other, more natural, methods are also being researched. “Some dietary changes are also recommended,” says Dr. Bainbridge. “Alcohol, nicotine, simple sugars, processed flour, and trans-fats have been found to be inflammatory to the body while vitamin D, colorful foods high in antioxidants, and foods high in Omega 3 Fatty Acids are anti-inflammatory. Regular aerobic exercise and stress management, and a better diet, are all excellent foils for managing pain and may have a positive impact on the inflammatory state.”

In a serious, unresponsive condition, an injection of corticosteroid combined with numbing medication can be done around the nerve root or into a joint. “This is not only a therapeutic tool but also helps confirm the diagnosis.”

Contact:

Scott Bainbridge, MD, DenverSpine.com, 303-783-1300

CHIROPRACTIC

Chiropractic, offering a non-surgical, drug-free option to eliminate back pain and inflammation, is considered a complimentary and alternative method to treat and correct disorders of the spine and nervous system. “Chiropractic is not spinal manipulation, it is spinal adjustment,” explains Caroline Bartley, Doctor of Chiropractic. “Adjustments are unique to chiropractic and primary in treating back pain. We also treat with nutrition (such as natural and anti-inflammatory), non-surgical spinal decompression, cold laser (low level light laser), rehabilitative exercise, ice/heat therapy, ultrasound, and TENS (transcutaneous electrical nerve stimulation) to give relief and healing to those suffering from back pain.”

According to medical studies (published in *The Spine Journal* and conducted by Blue Cross Blue Shield, RAND and others) chiropractic is both effective and economical in treating back pain. “We look at the whole person,” says Bartley, “because back pain can come from any number of sources – stenosis, infections, endometriosis, piriformis syndrome to name just a few. The location of the pain may have nothing to do with the actual source of the pain.”

Contact:

Carolin Bartley, D.C., ActiveHealthDenver.com, 303-388-6886

MUSCLE ACTIVATION TECHNIQUE

Developed by former strength coach and biomechanics specialist, Greg Roskopf, in the mid-1990's, Muscle Activation Technique (MAT) looks at muscle weakness rather than muscle tightness as the key in correcting muscle imbalances that can lead to pain. MAT is a science-based system that relies on neuromuscular physiology to

explain its efficacy. Since the body naturally protects itself by preventing movement where it senses instability, MAT specialists are trained to look at the body's muscular system and their functional relationships in order to treat weakened, and perhaps painful, joints. Therefore, MAT seeks to enhance stability and mobility rather than risk increasing mobility without stability.

"A typical MAT session involves a thorough range of motion exam, manual muscle tests, manual treatment of tendon attachments, and retesting," explains MAT therapist and personal trainer, Mark Regis. "MAT also uses isometric exercises to enhance neuromuscular feedback."

Contact:

Mark Regis, muscleactivation.com, 720-936-2222

PHYSICAL THERAPY with PILATES

Lise Stolze is a Physical Therapist at Steadman Hawkins Clinic Denver in pursuit of a doctoral degree (DSc) in Orthopedics. She is currently conducting a research study of physical therapy utilizing Pilates on a wide spectrum of patients with back pain: from those who are scheduled for surgery, to those who have had unsuccessful surgery, to those who have neurological symptoms such as those found with sciatica.

As a Physical Therapist, she employs a broad range of tests to diagnose faulty movement patterns in a patient complaining of low back pain. Stolze believes that Pilates is a very effective tool for this particular complaint. This is because the assistance of the pulleys and springs on the Pilates equipment helps the low back pain patient move efficiently and effectively – and it employs a technique so simple it is astonishing in its effectiveness: BREATHING.

"One of the main aspects of the Pilates treatment is the use of the breath because, with low back pain, people often use a "fear-based" shallow breathing instead of full, deep breathing," Stolze explains. "It

is the breathing techniques along with the assisted movement techniques that help to relieve the inhibition of the affected muscles.”

When muscles are inhibited by pain, natural movement patterns are lost. “Pilates is one of several techniques that promote intelligent movement and helps to retrain lost movement patterns. This helps patients achieve a positive experience of movement without pain,” says Stolze. “Your body needs to move and Pilates allows for continuous movement, ultimately without the inhibition caused by pain.”

Contact:

If you are interested in being part of Stolze’s research study, please contact her:

Lise Stolze, MPT

lstolze.wordpress.com or, shcdenver.com

303-919-6312

OTHER RESOURCES:

“Fixing You: Back Pain,” Rock Olderman, MSPT, Boone Publishing, 2009, \$11.99

“Framework for the Lower Back,” Nicholas A. DiNubile, MD, Rodale Press, 2009, \$18.99

“Pain Erasure,” Bonnie Prudden, M. Evans and Company, 1980, \$14.95