



PT HEALTH UPDATE

Kern & Associates Physical Therapy

June 2005

The Pilates Phenomena

Millions of Americans struggle to maintain a certain level of health and fitness. Whether it's low back pain, arthritis, a musculoskeletal injury or weight-loss, people are always looking for a solution that will increase their level of fitness while decreasing their aches and pains. There are numerous fitness techniques people can choose from. The challenge is being consistent and maintaining an interest in a specific exercise program. There is a unique program called Pilates and it is an exercise that engages both the mind and body.

Pilates (pronounced puh-la-teez) consists of a series of stretching and strengthening exercises to increase flexibility, strength and endurance. Each exercise can focus on any or all of the following: strength, stability, mobility, endurance, balance and coordination. The philosophy behind Pilates is to train the mind and body to work together towards the goal of overall fitness. There are numerous benefits to Pilates. It can strengthen and tone muscles, improve posture, provide flexibility training, improve balance and coordination, injury prevention, rehabilitation after surgery and improve circulation.

History of Pilates



Joseph H. Pilates was born in 1880 in Germany. He was an ill child who was determined to overcome his fragility by engaging himself in vigorous exercise. He studied various exercise regimes, yoga and meditation and developed a method he called "Contrology".

His approach combined the Eastern tradition of controlled breathing, controlled movement and mental focus with the Western approach that relied heavily on resistance training. He later interned in WWI and taught prisoners his

method and later worked as a hospital orderly and rehabilitated patients. He returned to Germany after the war but when the government insisted he train the new German army he immigrated to the United States and set up a studio in New York City with his wife Clara.

The Nitty Gritty

Pilates training can be broken down into 3 phases:

- 1) **Re-education** - learning the correct movements to prevent poor body mechanics and injury when performing the exercises.
- 2) **Restoration** - performing the exercises with normal movement and range of motion without injury.
- 3) **Strengthening** - challenging the newly acquired movement without injury. When training in Pilates you want to correct imbalances by stretching the tight muscles (often these are superficial muscles) and strengthen the weak muscles (often these are deep stabilizing muscles)

Upcoming Events

Wednesday, June 29, 2005 at 5:30 pm- *Pilates:*

An Intelligent, Low impact, Exercise Technique:

With Mary McGregor, MPT demonstrating how these exercises and physical movements are designed to stretch, strengthen, and balance the body.

Wednesday, July 13 & 27, 2005 at 5:30 pm-

How To Protect Your Back: Positioning Yourself for Work & Play:

A two part series with Nora BarZiv, PT presenting skills and exercises on way to decrease back pain by improving posture, body mechanics, core stabilization and work site ergonomics.

including postural muscles), as well as correcting any alignment problems. All of these corrections are done while developing core strength.

Let's Get Down to the Core

Pilates is a specific body conditioning program that targets specific muscle groups called "the core". The core refers to a group of muscles that wrap around the whole midsection and work together to help stabilize you. The core consists of the abdominals, the muscles in your hips, low back and pelvic floor. Although all are important, the key player is the transversus abdominis or TA. This is the deepest of all your abdominal muscles. The TA lies underneath the rectus abdominis or "six-pack".

It is important to engage the TA before each and every Pilates exercise. A strong TA will help stabilize your back, assist with upright posture and give you a flattened look to your stomach. To feel your TA place hands medially from your ASIS's (hip bones) and cough. When engaging the TA muscle a flattened appearance of the abdominals should occur not flexing the lower back so it is pressed into the floor (posterior pelvic tilt). If your core is weak your body doesn't work as efficiently but a strong core will hold you upright and allow you to move your arms and legs more freely.

The Basic Principles

Pilates can be done on various equipment such as a reformer or a cadillac, however the mat work is the most inexpensive and convenient and all you need is a mat. It is the mat exercises that will be demonstrated in this newsletter. Let's review a few principles. Breathing is important because it encourages engagement of the TA. The goal is to inhale and exhale while maintaining a contraction of your TA. You will find it is easier to draw your abdominals in on an exhale and is more challenging to maintain engagement on inhalation.

Pelvic placement is an extremely important principle of Pilates. Neutral alignment of the pelvis is somewhere between an anterior and posterior tilt of the pelvis. To find your neutral spine lie on your back with knees flexed and arms down by sides. Rock your pelvis through an anterior tilt (arch you back by pushing your tailbone into the mat) and posterior tilt (flatten your back into the mat). You will feel your neutral spine is between these two. Remember, your TA is engaged the entire time you do this! Think

about pulling your belly button down towards your spine.

The abdominals help stabilize the pelvis against movement of the legs, as well as stabilize the rib cage against movement of the arms. If you're lying on your back with your knees bent and you raise your arms up towards the ceiling, you should only reach as far as you can maintain an abdominal connection and the lower posterior rib cage can stay touching the mat. You also want to stay relaxed in the shoulders so they are not up towards your ears or rounded forward.

Finally, as you do these exercises you want to visualize a grapefruit between your chin and your chest to maintain proper head and neck placement (try placing your fist between your chin and your chest). This will help prevent you from overextending you neck muscles and prevent a strain on your neck. Now that you know how to engage your abdominals and find your neutral spine let's go through a few basic exercises. Be patient, Pilates takes practice in order to integrate all the concepts correctly.

A Few Exercises

Hundred: Exhale as you curl-up. Stay curled and inhale for 5 counts while pulsing your arms and exhale while continuing to pulse your arms. Repeat for 10 sets (1 set = 5 inhales and 5 exhales) for a total of 100 counts



Starting Position



Curled Position

Curled Position

Scissors: Lower one leg while raising the other. Reach up towards raised leg and exhale with 2 quick pulses. Inhale during the switch and again exhale with 2 quick pulses while reaching up towards opposite leg.

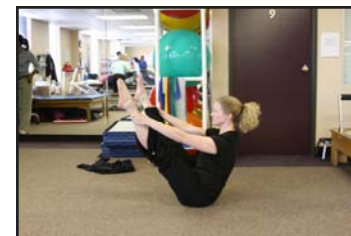


Starting Position

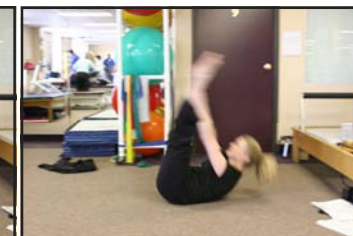


End Position

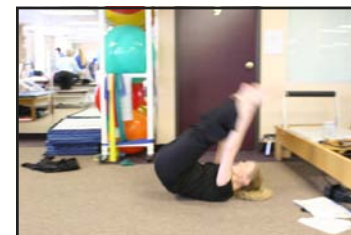
Open Leg Rocker: While grasping lower legs and maintaining a V shape with your legs, inhale while rolling backwards creating a C-curve with your spine (do not roll on to neck!). Exhale rolling forward maintaining this C-curve and returning to the CV shape.



Starting Position



Roll Backwards



Keep Rolling



Maximum Backwards Roll



Begin Rolling Forward



End Position

Swimming: Exhale and raise arms and legs off mat. Inhale while lowering opposite arm and leg and continue to alternate for 5 counts. Exhale and continue this reciprocal motion for 5 counts. Repeat for a total of 30-50 counts.



Starting Position



End Position

A Few Guidelines to Follow

Typically, Pilates exercises are performed either on a mat in group classes or in a semi-private or private session on specialized equipment that has springs and pulleys to provide resistance. When doing Pilates dress comfortably. Either socks or bare feet are appropriate. Do not eat within an hour of class and practice often. When should you stop? You should take a rest if you're tired, can't mentally focus or you don't feel comfortable with the required movement or any of the modifications. If you are unable to maintain proper alignment while performing the exercises, then the movements are ineffective.

Some of our ongoing services

- Orthotics Evaluations
- Sports Injury
- Manual Therapy
- Women's Health
- Vestibular/Balance treatments
- Alexander Technique
- Incontinence prevention
- Spinal rehabilitation
- Post-Op Rehabilitation
- Pilates
- Pediatrics Physical Therapy