Pilates for Athletes

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Outcomes

1. Principles of Pilates
2. Use in rehab setting / with athletes
3. Examples of Pilates exercises for athletes

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Principles of Pilates

- Breathing
- Axial Elongation/Core Control
- Efficiency of Movement
- Spine Articulation

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Principles of Pilates

- Alignment and Weight Bearing of Lower and Upper Extremities
- Movement Integration of Pelvis, Thoracic, Head and Extremities

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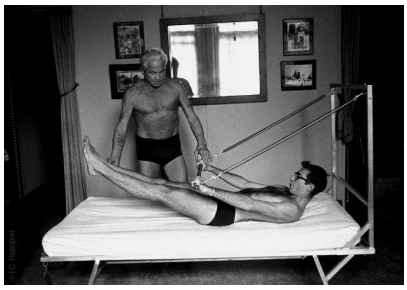
What is Pilates?



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Breathing

Lewit [1] suggests that if **healthy breathing patterns** are not in place, then no other movement pattern can be.

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Breathing

Breath facilitates spine stabilization

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Axial Elongation / Core Control

According to McGill [2], a core stability exercise can be defined as "any exercise that channels motor patterns to **ensure a stable spine through repetition**."

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Efficiency of Movement

Organization of Shoulder Girdle, Thoracic and Cervical Spine

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Efficiency of Movement

The effects of a Pilates training program on arm-trunk posture and movement. [3]

- 2 one-hour Pilates sessions/week
- Conclusions
  - Smaller static thoracic kyphosis
  - Greater abdominal strength
  - Reduced posterior and mediolateral scapular displacements

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Spine Articulation

Eccentric deceleration of neutralizer muscles allows for smooth articulation of spine in all planes

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Alignment and Weight Beaning of Lower and Upper Extremity

Cueing for successful movement

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Movement Integration of Pelvis, Thoracic, Head, and Extremities

- Movement of Pelvis in all Planes
- Integration of Ribs with Pelvis
- Integration of Head and Extremities on the Trunk

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Pilates for Athletes

- Performance enhancement
- Injury prevention
- Efficiency of movement
- Design exercises for home and on the road
- Modifications

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Example

The Effect of Pilates Exercise on Trunk and Postural Stability and Throwing Velocity in College Baseball Pitchers: Single Subject Design [4]

- 3 college baseball pitchers
- 10 weeks Pilates
- Improved double leg lowering
- Improved Star Excursion Test

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Jake Arrieta

"What I noticed from Pilates last year was that I have much **better control of my body**," Arrieta says. "I repeat my delivery consistently. My **balance is much improved**. And the **mental and physical toughness** Pilates requires to complete movements the correct way have directly helped me on the mound." (5)

Image Courtesy: Sports Illustrated

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Jake Arrieta

- "About two hours **before every start**, Arrieta climbs on his reformer. He runs through a progression of movements designed to **awaken and stress parts of his body for competition**: obliques, lats, shoulders... This goes on for about 20 minutes." (5)

Image Courtesy: Sports Illustrated

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Resources

- The Pilates Method Alliance
  - pilatesmethodalliance.org
- Balanced Body
  - Pilates.com

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References:

- (1) Lewit K. **Relation of faulty respiration to posture with clinical implications**. J Am Osteopath Assoc 79: 525–529, 1980
- (2) McGill S. **Low back stability: From formal description to issues for performance and rehabilitation**. Exerc Sport Sci Rev 29: 26–31, 2001
- (3) Emery, K., De Serres, S. J., McMillan, A., & Côté, J. N. (2010). **The effects of a Pilates training program on arm–trunk posture and movement.** *Clinical Biomechanics, 25*(2), 124-130.
- (4) English, T., & Howe, K. (2007). **The effect of Pilates exercise on trunk and postural stability and throwing velocity in college baseball pitchers: single subject design.** *North American Journal of Sports Physical Therapy: NAJSPT, 2*(1), 8.
- (5) Verducci, tom (2016). **The Revenant: How Jake Arrieta came back from the baseball dead.** *Sports Illustrated.*

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Thank You!

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