



## Pedal Stroke Drills

Presented by Jennifer Sage, Spinning® Master Instructor

[jennifer@vivatravels.com](mailto:jennifer@vivatravels.com)

Sunday, June 1, 2008 8:30 AM–9:30 AM

The goal of Pedal Stroke Drills is to improve the economy and efficiency of the pedal stroke so that the rider is not relying on the flywheel to turn the pedals. Elite cyclists can take years to perfect their pedaling technique; in fact, it is something they are *always working on*. An excellent time to work on pedal stroke in Spinning® is during endurance classes, when the goal is less on intensity and more on technique and mind/body focus.

- **The Face of a Clock:** Isolate the muscles used at different times during the pedal stroke. Try one leg first, then the other, then both together. Imagine the full pedal revolution as a clock, with Top Dead Center (TDC) as 12:00 and Bottom Dead Center (BDC) as 6:00.  
A breakdown is as follows: 10:00-2:00 = quads (knee extensors). 12:00-5:00 = glutes, hip extensors. 4:00-9:00 = hamstrings (knee flexors). 7:00-12:00 = hip flexors (the recovery phase). Breaking each muscle group down is like a solo performance of various instruments in an orchestra, when they all perform together, it is a “symphony of muscular movement.”
- **The Generator:** Imagine a generator attached to your crank, keeping all the lights in the building on. Smooth pedaling that keeps the lights constant, they get brighter with an overabundance of pressure (heavy downstroke) and dim when the pressure changes (moments of hesitation at bottom and top).
- **Walking Through Water:** The top part of the pedal stroke is like a deliberate walking motion, with your foot pushing forward at the top. Imagine walking through knee-deep water.
- **Scraping Mud or the Skateboard:** The bottom part of the pedal stroke is similar to pushing off a skateboard or scraping mud off the bottom of your shoes. One presenter uses the analogy of scraping mud or gum off the shoe and then *stepping over* it. She uses a mantra of “scrape and step, scrape and step”—especially on challenging hills.
- **Top/Front of Shoe pedaling:** Joe Friel, the author of the *Cyclist’s Training Bible*, tells his riders to feel their toes touch the top of the shoe during the last half of the recovery phase (9:00–12:00), and then push the toes forward to the front of the shoe at the top of the pedal stroke (11:00–2:00).
- **The Donald Trump (aka The Comb-over):** Sweep the foot up and over the top of the pedal stroke with no hesitation!
- **Links of a Chain:** Visualize the links of the chain connecting smoothly with the teeth of the chain wheel. You can feel when there are any inconsistencies. You should feel like you’re staying “attached” to the drive-train of the bike and that it’s you propelling the flywheel at all times, not that it’s pulling you through any point in the circle. If the connection is at all jerky, it may be due to an inconsistent pedal stroke.
- **The Olympic Rings:** Imagine a colored felt pen on the lateral side of the pedal axle. Now imagine a large white surface next to your foot as you’re pedaling (a poster board or dry erase board). “Write” on the board with your colored pen. Be aware of any inconsistencies in the circle—are there areas that are fatter or lighter than others? Is it square or oblong? Try to make it as consistent and as round as possible. Now change colors and do it again, overlapping the previous ring by just a little. Pretty soon you have the Olympic Rings, which are red, green, yellow, blue and black (one caveat: there’s only five of them)!
- **The Locomotive:** Imagine your feet are attached to the wheels of an old-time locomotive. There is a horizontal bar that connects the wheels—it never falters, never changes. Visualize the train in your mind’s eye. (Great for use with a long focus song such as *Last Train to Lhasa* by Banco de Gaia, with the sound of a locomotive in the background.)

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