

"SPINNING VS. CYCLING"

by [Ben Greenfield](#) on February 5, 2007 in [Bike](#)

The [flywheel](#) on most spinning bikes is about 30-40lbs, which is why the pedals keep turning after your legs stop. The hamstrings will naturally respond to this added circular momentum by contracting at the top of the pedal stroke to decrease momentum, resulting in an "eccentric contraction" or lengthening of the muscles responsible for slowing hip flexion. So your hamstrings work harder on a spinning bike. You'll also find that the added flywheel momentum encourages a higher overall cadence, resulting in an increased strain on the cardiovascular system. This is why your heart rate is typically higher in spin class vs. an indoor training session. As your spinning rate increases, you use a higher degree of slow-twitch muscle fibers, burn more fat as fuel and have a higher perceived rate of exertion.

In contrast, the freewheel drivetrain system on your bicycle requires a greater degree of hip flexor activity and quadriceps activity to generate momentum at the top of the pedal stroke. Because you don't have that [flywheel](#) helping you spin, cadence is typically lower. While this means less oxygen shuttling needs and a lower strain on the cardiovascular system, it also means you're using a higher amount of fast-twitch muscle fibers, burning more carbs as a fuel and depleting muscle glycogen stores, all at a slightly lower rate of exertion. This is described by the highly scientific term "gear-mashing", and is highly contraindicated for time trialists and triathletes.

So in conclusion, there is a high degree of muscular and physiological specificity between the two modes of cycling. The best of both worlds would be to teach your legs to achieve a high cadence without the use of the [flywheel](#). Some spinning bikes now use a freewheel. If you don't have access to such a bike, then be sure to supplement your off-season spinning with 1-2 skill based sessions on a freewheel system to practice your high cadence.

One final word of caution on spinning: your instructor is usually not attempting to "periodize" or take into account that you're technically supposed to be focusing on endurance, skill, and force in the base training period. Most triathletes don't want to "peak" in March, which is what indoor spinning can do if you don't hold back a bit on the loud music, screaming leg sprints. All my off-season and base training classes that I teach at Liberty Lake Athletic Club focus on three important aspects of base training: skill development, force development, and aerobic endurance.
