Ask the coach

D.H. writes, "*I can <u>almost</u> keep up with the group ride, but I still get dropped on the way back. How can I get stronger, how can I keep up*?"

Hi D.H.
Thank you for your question. You are not alone; I get asked this all the time.
Most who are in your situation usually ride only once per week, and at the most twice. If those in your group are training 4-5x/week, then it will be difficult to stay up. But you can hedge your bets!

First off, there are two types of strengths needed for cycling: cardiovascular and neuromuscular. You will need to work both. There is also a third component, and that is you need to know how to manage your power. This is something that a power meter and some coaching can help you with.

Bikefitnesscoaching.com has recently published 4 eBooks that can help to get you started;

1) Stretching & Core Strengthening for the Cyclist.
2) Strength Training for the Cyclist.
3) Strengthening for the Cyclist using TRX.
4) Power Primer

How to Hedge Your Bets

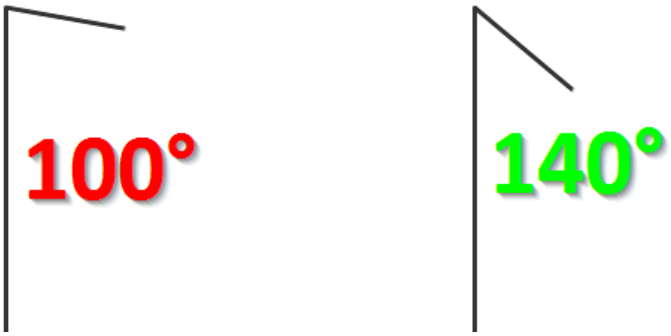
Here are some things you can do that will help. So, in addition to your weekly bicycle training ride, try the following:

1) **SPIN CLASS**
    a. First off, SPIN DOES work!
    b. Spin works primarily the cardiovascular system, but, can also build leg strength when using higher resistances. With spin, you really do get out of it what you put into it, so, push yourself to do 100% all the time. Look for a class that specializes in intervals.
    c. Try and take 3-4 spin classes per week. This will help build both cardio and muscular strength. A typical spin class is only an hour and you should be able to find a gym that offers spin close to your home.

<u>Case Study #1</u> – I teach several spin classes for 24-hour fitness. There is a 60-year-old gentleman that has been doing my high intensity interval spin class 2-3 times per week for 8 weeks. He has lost more than 10 pounds and dropped his resting heart rate 12 points. Spin really does work to help strengthen your cardio and neuromuscular power.
<u>Case Study #2</u> – I started teaching another newly formed spin class about 8 weeks ago. There is a group of 70+ year old women that, for the first class, were sitting and spinning at 60 rpm with no resistance. Eight weeks later they are doing my full 60-minute H.I.T. workout and keeping up with everyone else!

2) **YOGA**
    a. Great for stretching and increasing flexibility. Look for a yoga class that stretches the back and legs. Staying limber and flexible helps with posture and being able to stay in the correct cycling position which helps to maximize your power to the pedals. Try and get at least two yoga classes in per week.

Case Study #1 – A 59-year-old cyclist stopped by for a **bike sizing**. He was looking for a 2017 Trek Madone and wanted to make sure that he (1) bought the right-size frame and (2) bought the right size integrated stem/handlebar because if you get the wrong size, a new one will set you back about $650!



As I interviewed him, he said he had been doing yoga for the past 20 years. He did the flexibility test, the simple one where you lock your core and slowly bend over forwards. This test helps determine the pelvic rotation angle. While most cyclists I test are about 100° (10° past horizontal), his pelvic rotation was an unbelievable 140°! Yoga definitely helps with flexibility!

Case Study #2 – About 6 months ago, a 68-year-old cyclist came to me for a bike fit and some coaching. He was recently retired and has re-experienced the joy of cycling again. Based on his new goals to compete in Gran Fondos, he ended up buying a new bike, Q-Rings and ROTOR power meter. One thing I told him was that he needed to increase his flexibility. His hamstrings were so tight that getting onto the hoods, let alone the drops hurt his back. I told him he needed to do some serious stretching and a good place to start was to attend the yoga class his wife is going to. So, 4 months ago he started attending a yoga class with his wife. He's now up to three classes per week and loving it. He recently stopped by and I remeasured his pelvic rotation angle. He went from 100° (4 months ago) to 108° which allows for much more enjoyable and pain-free rides.

3) **CORE** – Working core every day will also help to maximize your power to the pedals. Working core every day helps prevent back pain and back injury, adds support to other muscle groups such as arms, shoulders, back and legs, decreased arm fatigue and decreases the pressure in wrists and hands (i.e., fatigue and pressure from holding torso up on bike). An engaged core also helps to improve balance and helps with bike handling, turning, cornering as well as posture both on and off the bike. I highly recommend **PLANKS** and **BRIDGES**.

Ride Smart, Ride Tactical

Several more items to consider.

1) **Get a Power Meter then take the FTP test** – A Functional Threshold Power (FTP) test is a 60-minute 100% maximum effort test (but usually abbreviated to 20 minutes). The output is an average maximum number of watts that you have generated and will train to as a percentage. The power meter displays your current effort in watts so you can manage your power. This is an invaluable tool since too high an output and you blow up; too low an effort and you get dropped.
2) **Learn to Spin a Higher Cadence** – The Power formula is **P=F*V**, where P=Power, F=Force and V=Velocity (or Cadence). To increase Power (P), you need to increase Force (F), Velocity (V) or both. Force is a fairly constant number, but it can be increased. To increase F, you will need to spend hours, weeks and months in a gym doing heavy squats, leg presses, dead lifts, etc. It's much easier to increase your Power output by increasing your cadence (V).

3) **Position Yourself Correctly** – Assuming you have good group ride bike handling skills, so where you position yourself is important. Specifically,
    a. Stay out of the Wind – Position yourself so that you are always protected from the wind. Periodically, look around at trees, flags, etc., to see which way the wind is blowing. You always want someone between you and the wind.
    b. If the Group is Rotating – Normally, when you see several cyclists rotating at the front, there are an equal number of cyclists following along who might not be strong enough to ride at the front. You want to position yourself so that you are (a) protected from the wind, and (b) third or fourth in line behind the cyclists who are rotating at the front. Don't do any rotations or pulling at the front, especially if it's windy. Also, don't cause any gaps to form between you and the person in front of you. Stay as close as safely possible to the rear wheel of the person in front of you. Done correctly, you will still get a good workout and more than likely be able to stay up with the group.
    c. If the Group is going Uphill – Wind won't play as much of a factor since the speed goes way down. Before the start of the hill, try and slowly move as far as you can towards the front of the group. As the hill progresses, you will be shuffled back and, if done correctly, you will still be attached to the group as they crest the top of the hill. But, done incorrectly, like coming up too fast, you will look like you are challenging the leaders to the top of the hill and it will only make them go faster. You will need to experiment a little with this one.

So, there you have it, a few tips that can help you stay up with the group on your next group pride.

Bike Fitness Coaching

PART 1: What do the terms BDC, TDC refer to?

The acronym BDC means Bottom Dead Center, (aka Max Extension), and TDC is short for Top Dead Center, (aka Max Flexion). As it relates to cycling, BDC is when the cleat is at the furthest point away from you, which is also the point at which the leg is fully extended in the pedal stroke. In BDC, you are neither pushing on the pedal nor are you at the point where you are pulling back and up on the pedal. Inversely, TDC refers to when you are positioned at the top of the pedal stroke, in the "dead spot", and are no longer pulling up or have any leverage to push.

Aside - see our previous article on the new LEOMO Real-Time Motion Analysis tool that actually calculates and scores dead spots throughout the entire pedal stroke and also further breaks these metrics down into a Power-Cadence-Dead Spot score map. Dead spots change depending on cadence and power. This 2-dimensional map shows all dead spots throughout the cadence and power range. Note: Coach Rick is now part of Peaks Coaching Group, the only coaching group to be certified in working with athletes with this new ground-breaking technology.

So what allows you to pedal through this "dead spot"? The answer is mainly the iliopsoas, also known as your hip flexors; the hip flexors are engaged at the BDC.

The next logical question is “where is BDC?” Most people would say BDC is where the crank arm points straight down – and there are many YouTube videos that show this – but this is incorrect. It would be the case if the seat tube was also vertical, but bicycles are not built with vertical seat tubes.

In fact, most modern road bike geometry sports around a 73-degree seat tube angle (as measured from the horizontal line between the dropouts to the back of the seat tube). This means that BDC is actually where the cleat is actually somewhere between the 5 o’clock position and the 6-o’clock position, all dependent upon the cyclists femur and tibia lengths.

To get close, I would just split the difference, to be accurate, you will need a motion capture video system running at a minimum of 60fps. The video is captured then output to a video file that can be analyzed with software tools such as Dartfish or Kinovea. Then, true hip-knee-ankle angle (i.e., seat height) can be determined.