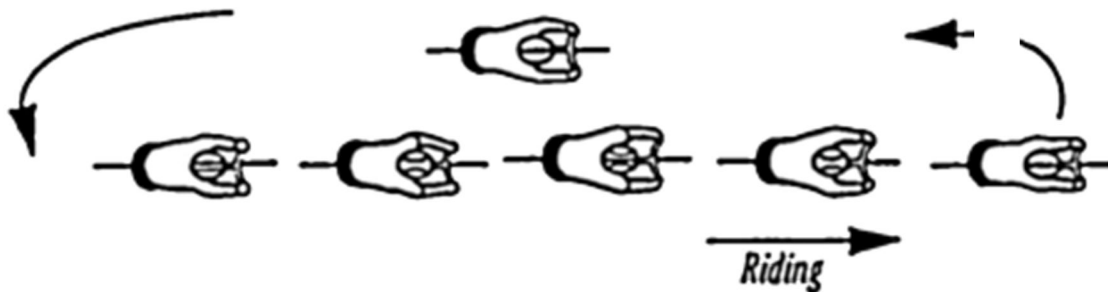


PACELINING

WHAT IS A PACELINE?

Pace lines are those neat single file lines you see in the Tour de France, and the technique is a great way to cover a lot of distance fast, with much less energy expended by everyone in the group.

Pacelining is the ultimate form of **cooperative group riding**. The group of riders travel in a line, one close behind the other, in order to conserve energy by riding in the draft of the riders in front, thus enabling the group to travel at a faster rate than any of the riders in the group could do alone.



When the group gets it right, it feels awesome – individual cyclists coming together to work as one cohesive unit on the road.

WHY PACELINE?

To draft means to pull, and the air current created by the front rider (aka, the “draft”) pulls along (“drafts”) the rider behind.

- The concept is that wind resistance is your enemy (as much as 40% of your energy is spent overcoming wind resistance), and by following someone close behind, you can use less energy
- Riding in a paceline can significantly reduce the group’s average energy expenditure
- The person in front does most of the work, and the riders rotate turns at the front so that everyone gets a break and the person in front always has “fresh legs” to maintain the pace

It also looks very cool.

PACELINE TECHNIQUE

In a paceline, everyone lines up behind the first rider, who maintains a constant speed. The rotation occurs when the front rider pulls off to the side and drifts to the back of the line. The next rider then sets the pace

NOTE: The efficiency of riding in a pace line comes at the cost of added risk

- Riding in a pace line is not as safe as riding by yourself
- If the rider ahead of you (or behind you or on either side for that matter) does something unexpected, you could find yourself on the pavement in an instant

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- Therefore, **it is especially important for ALL riders in the paceline to ride smoothly, cooperatively, and above all, PREDICTABLY**

On the Front of the Paceline

- Maintain a constant speed consistent with the pace of the ride
- For small or gradual climbs
 - Drop down one gear and keep a constant effort
 - Try not to accelerate up the grade
 - DO NOT STAND
 - It's OK for your pace line speed to drop 2-3 MPH or more on an uphill drag
- In a smooth running pace line riders do not have time to see and avoid obstacles, such as rocks, holes, cracks in the pavement, old muffler pipes, etc.
 - The riders behind you depend on you to be the eyes of the pace line and to either point out or shout out a warning (hole, glass, gravel, etc.)
 - These warnings should be passed down the pace line by each rider
- Use GRADUAL movements to avoid obstacles
- Depending on conditions, each pull should be no more than 30-seconds (approximately 1/8 (or 0.1 – 0.15) of a mile at a B pace – use your cycle computer!)
 - However, do not switch leads on uphill, downhill, or on a curve

Pulling off the Front

- Check to make sure the former leader has drifted back into line and that the way for you to drift back is clear of traffic, glancing back to confirm
- Indicate your intention by holding your arm to the left and saying, so that others can hear, **“Pulling Off!”**
 - If you do not say “Pulling Off” the riders behind may follow you to the left, thinking that you are simply avoiding a road hazard
- Move about 1 arm-length out to the left with a decisive motion
 - Be careful to not pull out too far, and possibly into traffic
- When pulling off the front of the pace line ease up on your pedaling but don't stop
 - Once clear of the line, let the other riders slowly pass you
 - As the last rider approaches, begin to put more pressure into the pedals and accelerate,
 - If you wait to accelerate until the last rider is ahead of you, you are likely to have trouble getting back into his or her draft
- To assist the person dropping back in understanding their position, when to begin accelerating, and when to pull back into line
 - The next-to-last person in the line calls out **“Next-to-last”** as they pass
 - The last person in line calls out **“Last”** as they pass
- Ease in behind the last rider, keeping an eye on the riders in front – do not let your concentration lapse

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Taking the Lead

- Look at your cycle computer, and note the speed the prior leader maintained
- The pace should remain consistent when you get to the front
 - Watch your computer and try to keep with 1/2 MPH of the last leader's pace
 - There is a tendency to speed up when taking the lead; be aware of this and try to avoid it
- Concentrate on keeping your line and your motion smooth. No sudden movements allowed in a paceline!

Riding in the Paceline

- Focus on what is going on around you! A paceline is not the place to allow your mind to wander!
- Try to maintain a distance of three to six feet behind the rider you follow
- Do NOT overlap the wheel in front (which is the fast way to roadrash)
 - Control your speed by sitting up, feathering brakes (lightly!) and/or slowing your cadence
- Do NOT stare at the wheel in front of you
 - Look beyond the rider's left shoulder (in front of you) so you can see if someone ahead swerves or hits a bump
 - Ideally, look 2 or 3 riders ahead to anticipate problems
- As the line picks up speed going downhill, open up space between yourself and the rider in front
 - With greater speed comes greater efficiency of drafting and less time to react to any tricky situation that might arise

PACELINE RULES AND ETIQUETTE

There are three basic rules to Pace line riding:

- 1) Don't do anything suddenly!
- 2) Don't do anything suddenly!
- 3) **DO NOT DO ANYTHING SUDDENLY!!**

Utilize all of the skills from last week's lesson "Riding on the Front" and remember that your actions affect those around you.

Maintain a proper and safe distance from the rider in front of you

- You can get a good draft a wheel's length away, so getting too close is not absolutely essential
- Do not ride up along the side the rear wheel of the person in the pace line ahead of you,
 - This is called "overlapping wheels" and can cause you to fall if the person ahead of you swerves to avoid an object in the road.

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Don't stop pedaling – NEVER COAST

- Always keep pedaling unless you're stopping and have signaled that to the riders behind you.
NEVER COAST
 - Alternating pedaling and coasting makes you impossible to follow; your speed will be inconsistent and you won't be predictable to the next rider
- Try and stay in a gear that you can spin around at 85 – 95 RPM.
- If the speed of the pace line slows just pedal slower ("soft pedaling" -- pedaling without applying a lot of force to the pedals)
 - This keeps your pedaling motion going and prevents you from unintended acceleration when you go from motionless to pedaling again. It also prevents the person behind you from being startled
 - You can also reduce your speed without braking by raising your body (while staying seated) to create more air resistance or moving over slightly out of the draft of the person ahead of you

Remain in the saddle on hills

- NEVER GET OUT OF THE SADDLE IN A PACE LINE!!!
 - When you get out of the saddle you tend to throw your bike back 6-12 inches, which may cause a crash
- Generally pace line and hill should not be used in the same sentence
 - Everyone has a different climbing style and you may end up in a ditch from an overlapped wheel
 - Gradual hills are fine, just slightly increase the distance between you and the bike in front of you for safety

Avoid Unintended Acceleration

- Used to describe the phenomena of being "off the front" of a pace line, which generally irritates everyone in the pace line
- It happens when you get to the front and subconsciously you feel that you are not moving fast enough so you pick up the pace without realizing it
 - At some point you look back either to see no one, or a bunch of really annoyed riders
- You can avoid it by looking at your computer and noting the speed before taking a pull at the front
 - Stay within 1.5 MPH or less of that speed and avoid acting like a jackass rabbit!! 

Drinking and Expectorating

- The lead cyclist should never reach for a water bottle
 - It's probably best to get a drink when you're at the back of the line, so you won't mess someone else up if you swerve while swigging your favorite tonic

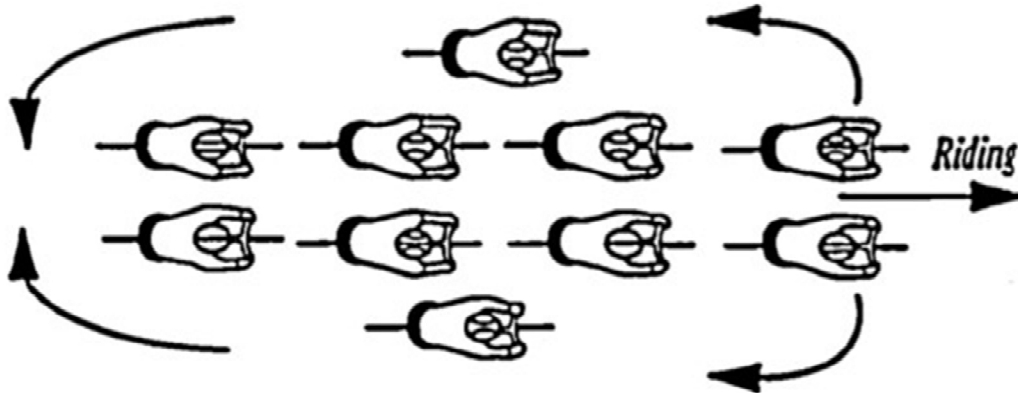
PACELINING

- The same goes for spitting, “snot rockets,” and other excretions: these should only be done if you are the last rider (and please consider whether they need to be done at all!)

FOR YOUR INFORMATION: ADVANCED PACELINES

Double Paceline

- Occasionally used by the NYCC when the road is wide enough (i.e., in a lightly-used park or clear bike path)
- Riders line up in pairs, with the lines rotating at the same time in opposite directions



Circular Paceline

- Used by professionals; For advanced cyclists only who are very steady and know each other well
- Not used by NYCC
- Riders cycle in two parallel lines and circulate, each taking an immediate turn once coming to the front

