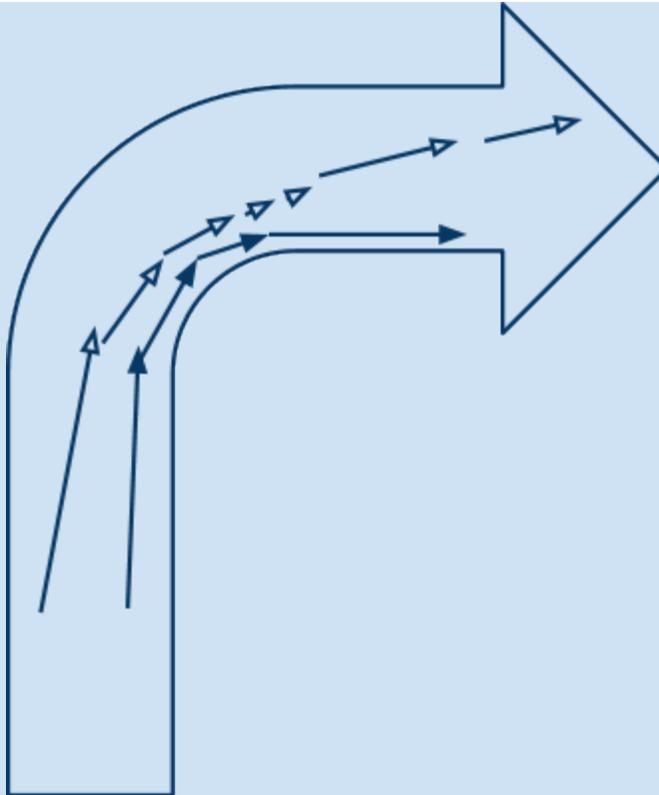


Items that would be an every week thing. I think that this would be the core of the clinic part: (still a work in process)

1. **Cornering (The fundamentals)**

1. Stay loose and fluid:
 1. Holding your handlebars: like you are holding a gosling's neck. Firm enough to guide it, not so much to hurt it.
 2. Force you put on the pedals should not 'lockout' your legs.
 3. Bikes do not work well making 90 Degree angled turns. As a result the pack works like a snake it curves and twists. It turns away from the corner it is going to make and then dives through the center of it, as it exits the center of the corner it drifts to the outside again.
2. Body Mechanics
 1. Square your shoulders with the ground.
 2. Inside hand pushing the way you want to go. This is a steering push. Leaning on the handlebar, not trying to 'turn' it.
 3. Outside leg is pushing straight down. This anchors the rear end of your bike. Provide the force needed for keeping your rear tire.
 4. Butt 'hovering' above the seat--allowing for minor balance adjustments with torso/hips
 5. Look where you want to go, around the corner, not at specific points in the corner
 6. Look through the person in front of you, don't just look at his/her rear tire or butt, that way you can see things that might be in your line .
 7. Turn with your hips.
3. Picking a Line
 1. Go tight and slow
 1. Try to make a 90 degree turn on your bike.
 2. Now try to do it a little faster. (it is really hard and dangerous, so don't really try it) The point is it doesn't work well.
 3. If you are on the far inside of the pack coming up to a turn, you have to acknowledge that the speed you take the corner at will have to be a little bit slower than if you had the full range of the road. (In the Drawing below this is the Solid arrows)
 2. Go wide and fast:
 1. If you were all alone on the road (a solo breakaway F.T.W (For The Win) you could do whatever you wanted to take a corner as fast as you could. So what would you do?
 1. You want to decrease the severity of the angle of the corner.
 2. To do this you set up wide.
 3. Cut inside to that you are closest to the curb at the apex (center of the corner)
 4. as you leave the apex start drifting out (in the drawing below this is the hollow arrows)



- 5.
2. In an actual race
 1. You don't have the luxury of choosing exactly where you are in the pack on any given corner.
 2. You have to go with the flow.
 1. the whole pack will work like a snake. Work its way to the outside of the corner, dive to the inside and creep back to the outside
 2. you have to be aware of what people on both sides of you are doing. You want to keep a constant bubble to either side.
4. Braking & Cornering: It is the art of before and after, or else:
 1. Science
 1. Front brakes are much more effective than rear brakes. Somewhere around a 70% to 30% Distribution!!!!
 2. When you are braking your wheel wants to be perpendicular to the ground.
 3. When you are cornering you want your wheel to be at an angle.
 4. Braking works against cornering (Works against traction, and makes the balance harder)
 2. Assess and adjust:
 1. Decide the speed you can reasonably take a corner
 1. This means
 1. Holding your line, not too tight or wide. You would interfere with your fellow racer
 2. Be able to control the forces of the corner. The faster you are going the more effort you will have to exert to safely corner

2. Adjust to that speed while your wheels are perpendicular to the ground. This means, while you are going straight.
3. See Braking for more on speed mitigation!!!!
2. Picking up speed in a corner
 1. The best thing to do:
 1. Don't panic
 1. Don't just grab your brakes. You will make a bad situation worse. (You can end up losing traction, going over the bar, or just plain old making the turn harder)
 2. Stay smooth and focus on making the corner.
 2. Once you have exited the corner then you can reign in your speed. (see braking.)

2. **Braking**

1. Feathering good. Locking it up bad
 1. Locking- cool as a trick, bad in a race
 1. Skids
 1. Rear wheel is not rotating, but the bike continues with its current trajectory. Loss of cornering ability.
 2. Endos
 1. Front wheel stops rotating, Rider pivots up and over the front wheel & Handlebars.
 2. Feathering
 1. Anti-lock braking
 1. Brake power distribution
 1. Front 70-80%
 2. Rear 30-20%
 2. Technique
 1. Working off of the contact point
 1. Find where in the throw of the brake lever the pads hit the rim.
 2. This is your 'happy place.' Here is where your bike is decelerating the most rapidly relative to the risk of locking up either of the wheels.
 3. Feathering comes from working the several millimeters of brake lever throw to either side of the 'contact point'
 3. Super braking/ Emergency braking. (when you absolutely need to stop right now)
 1. roadies are really bad at this. They just Grab there brakes really hard. This why you see so many endos.
 1. What you should do.
 1. Put your weight back. This is the first thing. It does two things for you
 1. Moves your center of balance back. This makes Endos less likely
 2. Increases the power of your rear brake. Getting your weight behind it, makes it stronger. That is why your front brake is stronger, there is more weight behind it.
 2. Move yer butt off the saddle slightly:

- 1. This lowers your center of Gravity from the seat to the pedals.
 - 2. It also expands your 'cone of movement' (the area you can comfortably move your hips around)
 - 3. pulling out of a lock out situation
 - 1. ease off the brakes. You can always squeeze harder later.
 - 2. If you are ending, throw all of your weight back. Over the rear end of your seat. This could save your face.
- 2. Speed Mitigation
 - 1. Stop Pedaling and coast before braking
 - 1. Most needs for in-pack deceleration can be met by coasting for a few seconds
 - 2. Braking should only be done when the need to slow down quickly cannot be met by coasting, such as before the pack enters a corner and everyone is checking speed
 - 3. Poking your bike out of line briefly can also be used to slow yourself down, but don't move too far out otherwise you will lose your position
 - 4. Braking suddenly to check speed is dangerous for riders behind you and causes speed yo-yos which make it more difficult for you to stay on the wheel in front of you and for those behind you
 - 5. Anticipate changes in speed by observing the terrain (downhills, uphill)
 - 1. It's easier to control your speed in small increments with pedaling than it is with your brakes. Choose a gear that's slightly lower than you would normally be using on this terrain.
 - 1. This lets you constantly pedal. This is good because accelerations are easier to match if you are already pedaling
 - 2. This makes it harder to get caught in the 'wrong' gear.
- 3. Extra Tips:
 - 1. Make sure your brakes aren't too tight to the rim, this way when you brake you have more control over the level, and if you accidentally grab the brake hard it isn't full force

3. Drafting (how far is too far, how close is too close, where do your eyes go)

- 1. a balance
 - 1. Too close and changes in speed can easily cause crashes
 - 2. Too far and the benefit (decreased work) diminishes
- 2. Where to be:
 - 1. above all you want to give yourself a chance to make corrections based on the lead riders actions. The more experienced you become the less room you will need. In complicated sections even pro riders will become pretty spaced out.
 - 2. You almost never need a full bike length between you and the person in front of you.
 - 3. You almost never want to be less than 18" behind someone
- 3. The eyes:
 - 1. To help maintain proper drafting distance watch the hips of the person in front of you. that is the biggest semi-stationary object. It is a lot easier to detect relative movement from this.

2. don't fixate
 1. don't become so looked into watching the person in front of you that you don't notice what is going on around you in the race or on the road. You want to be aware
 2. constantly let your eyeballs scan the periphery of your vision. They should always return to the hips of the person in front of you. Always.
 3. Don't let hills or corners surprise you. if you are in the wrong gear you can be a hazard in the pack.

4. Riding in a pack (thing to strive for and things to avoid)

1. Be Smooth / predictable
 1. Sudden movements and changes in speed cause crashes.
 2. Guide your bike, don't force it
 1. avoid jerking on the brakes
 2. avoid sudden and erratic turns
2. Avoid dangerous situations.
 1. if you see sketchy riding, calmly and smoothly move elsewhere in the field.
 2. Find the safe wheels. There are simply some riders that are smoother and more attentive in the races than others. These are the folks you want to ride behind.
 3. The road is only so wide.
 1. a lot of dangerous situations happen in corners.
 2. people try to squeeze one more on the inside or the outside. This puts yourself and your fellow racer in peril. Give each other the necessary room
 3. Yellow line rule:
 1. In some races (road races and circuits mostly) this is in affect, but what is it:
 1. This rule is used when the bike race is only using one lane of traffic. Riders are confined to one side of the road.
 2. Advancing position (passing) across the yellow line can result in penalties from officials. Don't do it.
3. Let the race work for you.
 1. so long as there is a pack, use it.
 1. You will do less work if you are drafting. Conversely, if you are not drafting and others are. You will tire first.
 2. Don't be afraid of the front of the race, but don't make it your home. Getting to the front doesn't mean you are winning until the final 50 meters. Save your energy for the parts of the race where selections are made, or the final sprint.
 3. If someone 'attacks' you have a decision to make, go with them, or watch.
 1. too many people just decide to chase. Ask yourself, why. Are you bringing the race back together for a teammate? No! Then why are you chasing? If you are bringing it back for yourself, it probably won't work. You will become tired enough that you might not have the gas left in the tank to fight for the win.
 2. If you are joining them, don't hesitate. It has to be instant, or you are chasing.

3. If you want to have the race come back together so you can win. Don't go to the front, just watch. Lots of other people are eager to chase, for no good reason.
 4. If a break gets up the road with out you, talk to people around you and see who else wants to try to make it up to the the break so that way you don't go solo
4. When the worst happens (flats, mechanical and the like):
 1. Bummer the race is probably over for you. If you are still upright, it doesn't have to get any worse. Here is what to do:
 1. Loudly and repeatedly announce that you have a mechanical. Let people know, otherwise they will hit you. If high levels of racing people will put up a hand to indicate the same thing.
 2. Hold your line.
 3. Hold your line
 4. Hold your line. I can not over stress this!!! To often I will see people just make a B-Line for the shoulder. This is WRONG, WRONG, WRONG. With a flat or just about any other mechanical, you will be decelerating rapidly. The people around you will be moving faster than you. You will cause a crash if you suddenly turn. You want to hold your line so that people can safely ride around you.
 5. Once the hole pack has gone around you, get to the side of the road. Then you can worry about how to get back to the start finish.
 6. If it's a crit, don't give up hope!
 1. Get to the pit and see if you can get a free lap. Don't ride backwards the course.
 2. Even if you're down a lap try getting a wheel from a teammate so that you can at least finish the race, strange things can happen and you might ended getting ahead of people

5. Starting the race (clipping in, getting going)

1. Starting position
 1. One foot clipped in
 2. Clipped foot at 'power position,' one or two o'clock. This way your body weight will give you some momentum. You don't want to need to push off with you 'unclipped' foot. Using your drive train is smoother and less wobbly
 3. Make sure you are not in too high or too low of a gear.
 4. Check that your brakes aren't rubbing the wheels.
2. Getting going
 1. Lean your body weight on the 'clipped pedal'
 2. immediately bring the 'unclipped' pedal onto the pedal.
 1. don't worry about clipping in yet
 2. don't look down to clip in. keep looking up.
 3. Start pedaling as soon as you can, you want to move with everyone else.
 4. Once you have some momentum going and the initial pace has slackened, take an opportunity to clip in. Try to do this without looking down. A moment's inattention can cause disaster.

6. General Advice:

- Most of the intros races are too short for a water bottle but teaching them to eat and drink is a great way to avoid bonking on their training rides.

- Advice: borrow rollers. There's nothing better for stable riding than learning how to ride rollers. These are a time tested method to develop the fine motor control required for riding in a pack. They help you get smooth on riding in a way that only countless hours of group rides can.

-Clean and lube your chain: A clean and well lubricated chain can offer up to 17% less resistance than a grimy chain. Racing is hard enough, don't make it harder by letting your bike be a squeaking mouse trap.

7. Drills

1. The serpentine ride
 1. Set Up
 1. Ideally this can be done in an enclosed environment before a crit.
 1. A closed off block
 2. An empty parking lot
 1. Set up a series of cones (ideally this would be set up wide enough that riders can pass through the whole course two wide)
 1. (width placement) You want to ensure that the set up has sufficiently wide enough corners that the inside rider is not forced to slow to much to disrupt the pace.
 2. (length placement) The cones need to be far enough apart so that the riders can take a few good pedal strokes.
 2. Running the drill
 1. Have all of the riders group on one side of the course
 2. Initially have riders go through the course one or two at a time at a time. Giving ample time so that larger groupings don't occur. The key is to have this start out in a really really non intimidating fashion.
 1. While this is going encourage other riders to watch their fellows, observe what works and what doesn't
 2. Make sure to have someone with a booming voice providing reminders to the people in the course.
 3. You need to let everyone regroup at the other side.
 4. Groups can try going out at a tighter interval. This more closely mimics real pack riding
2. Bump N' Grind
 1. Set up:
 1. Ideally you are looking for grass.
 1. Only about 50 meters is needed.
 2. In a pinch pavement will do, but it is really not as good.
 2. Running the Drill.
 1. The goal is to get riders comfortable with a little bit of contact without freaking out.
 2. Line up waves of riders, 4-10 abreast. Send one row at a time.
 3. Tell everyone to use the same gear 1-2 something that forces slow speed.
 4. Tell all of the riders to start shoulder to shoulder. As tight as they can imagine.

5. Describe what absorbing/deflecting contact is like
 1. The counter force of leaning back into the other rider
 2. Using your elbow to prop each other up (not throwing an elbow)
6. Really you are just looking to increase comfort and prove that this isn't the end of the world.
7. They should try to ride the whole length of the straight away trying to bump up next to each other.

Items that we could progress through: (I see these as things to touch on at the every end of the clinic and to be a focus during the coached part of the race)

1. pace line
2. accelerating your bike (not just using a higher gear)
3. out of the saddle
4. ??