

## **A Guide to Indoor Group Cycling aka. Spinning**

**Lori Tindall - TNO Women's Editor**

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Does the lure of ambient beats or a group of energetic people working hard to the prodding from an instructor make it so you just can't stay away from Group Cycling class at your favorite gym? Winter time and a busy schedule often make an indoor group cycling class enticing. You can make it work for you if you follow some simple guidelines and make that workout time your own. Your favorite instructor does not have to be an elite cyclist to teach a great class, but should also be considerate of your triathlon specific training. You don't have to participate in the high numbered consecutive jumps, unrealistically high RPM's, or high heart rates with sweat pouring off of you to still go to class. You will be better off if you choose your own time to go hard and keep a majority of your off season training fairly easy. Go ahead and join in, but keep with these guidelines and you will be fit and ready come race day!

### **The Bike Fit**

The bike fit is extremely important for anyone who rides indoors or out. Many cycling specific injuries could be avoided with a proper fit. Sure you are fit correctly on your race bike, but you need to take the same approach to all your bikes! Even indoor group cycling. Comfort and safety on the bike is directly related to a proper bike fit and is essential to ensure the success of your cycling program.

### **Saddle Height**

Saddle height is the first bike adjustment that should be made, while all other adjustments are made after this. Although the other bike adjustments are very important, saddle height as well as fore /aft are the most imperative to avoid serious injuries since the knee and hips are the primary joints involved in cycling.

Because you may have several different brands of bikes in the various facilities that you may be in, we will use universal ways to find proper fitting. Starting measurements such as standing next to the bike is just a starting place and is based on an expected standard in relationship to the bike frame height and the bottom bracket. This will vary within the different manufacturers as well as with the leveling pads from one bike to another.

Stand next to the bike and adjust the saddle height to be parallel with the hipbone to find a basic starting point for saddle height. Once establishing a "starting point", then sit on the saddle with *feet in the toe clips or clipless pedals*. Crank arm should be exactly vertical and in the down most position. Leg should be extended, be able to press the heel downward, and leaving the knee slightly bent. Some bikes allow for a very precise adjustment, while others adjust in one-inch increments. For most cases, err on the side of lower vs. higher because too high can cause severe hamstrings injuries as well as create an uncomfortable pressure point on the pelvic area. This should be an exception as most people can obtain a good fit. Many bikes have numbers on the adjustment sites so that the precise fitting can be duplicated easily each time.

Another way to check saddle height is while sitting on the bike, and placing one heel on the platform area of the pedal. Crank arm should be exactly vertical and leg extended while hips remain square and without movement. If the hips rotate to the side, then that is an indication that the saddle is too high. If the knee remains mostly bent, then that would indicate the saddle is too low. Finding an appropriate balance in between is the goal.

### **Saddle Fore/Aft**

Fore and aft is another way to say "forward" and "back" and is proper bike terminology. It refers to the saddle position, but could also apply to handle bar position as well. In this case, we will be referencing saddle position.

Saddle Fore/Aft can be a difficult position to learn to adjust. If you have trouble with sighting this, use a string w/ a weight at the bottom to create a plumb line to work with.

In this case, Fore/Aft will be gauged by the knee (Patella) position and it's relative position to the foot. *The Saddle Fore/Aft position has a direct relationship to the distance from the saddle to the bottom bracket.* The ankle should be in the same position as it would while pedaling as the angle of the ankle will change where the plumb line from the Patella will fall in relationship to the foot.

With a plumb line dropped from the Patella, it should fall above the ball of the foot. Small variations for comfort are acceptable, but once the Patella extends toward the toe or too far back that it's behind or parallel w/ the Tibia (lower leg) it is out of the normal range of adjustments.

### ***Handle Bar Height***

Handle bar height is made after saddle height and fore/aft. This will directly effect the amount of flexion at the hip as well as the handle bar fore/aft. Generally the handle bar height should be no lower than parallel to the saddle, but *preferably* 2 inches or higher than the saddle. It is a truly rare Elite level racer that would go *no more* than 2 inches below the saddle. *This is for reference only and should not be implemented into any indoor cycling plan.*

### ***Handle Bar Fore/Aft***

Handle bar fore/aft will effect the angle of flexion at the hip as well as the spine. Like saddle fore/aft, a string and weight can be used to find the plumb line from the tip of the elbow to the knee. Too far forward, the rider will have excess pressure in the saddle area and will appear to be stretched out with arms extended. Take note that the rider's preferred hand position will effect handle bar fore/aft position. Hands positioned at the bar ends, while seated in the saddle, is discouraged.

### ***Pedals/Foot Position***

The ball of the foot should be placed directly on the pedal axle, or center of the pedal. Those who use the toe cages (with straps) and regular athletic shoes, should make sure they find the correct placement. Straps should be tightened enough that the foot does not slip around and is held somewhat snug, but not tight. Stiff soled shoes are preferred to avoid fatigue and discomfort at the foot.

For those using the clip-less (quick release) pedals, careful set up of the shoe cleat is paramount. The pedal system being used is SPD (Shimano Pedaling Dynamics) or SPD compatible. The pedal systems should not be switched out because it causes excessive wear and strips out the threads of the crank arm. All mechanical adjustments should be made and maintained by a qualified and insured bicycle mechanic. Unless you are highly experienced, we recommend you refer to the local bike shop for assistance with pedal cleat system installation or adjustments.

Foot and ankle position should remain neutral through the rotation and "transfer" the workload from the larger muscles in the upper leg and hip area to the pedal. The style or individual mechanics may vary due to the bone, muscle, and ligament lengths that are different in every individual. You should avoid excessive "toeing" or "heeling" and practice a more stable ankle movement.

### ***Cycling Positions***

Since the beginning of the indoor cycling programs, I have seen many different instructional methods that specify different positions and methods. How we train and ride in the great outdoors, is what we should do while cycling indoors.

### ***hand positions***

The positions that could be used are mostly personal. Look to a road bike or mountain bike to see what traditional handle bar positions that are used.

§ Placement of hands on the ends of the bullhorns is not recommended while in the seated position.

§ Laying arms on the bars (like a triathlon or time trial position in aero bars) is also not recommended for indoor group cycling since your exact set up is not represented.

§ Wrists should not be overly bent, hands should rest lightly if the bike set up is done correctly.

§ Narrow hand position should never be used while out of the saddle.

### ***seated***

This is the base of all riding. A majority of the ride time should be done in the saddle including climbing. While using resistance and cadence changes, training intensities can be managed. Consider the seated position as the "meat and potatoes" of all the riding. Hand positions could be wide or more narrow, but *NOT* on the ends of the bullhorns while in a seated position.

*Consider the applications in outdoor cycling: Flat terrain, climbing up hill, & downhill.*

### ***standing***

Standing, or also referred to as "out of the saddle", it is generally a more aggressive movement and has a couple of different applications. Standing form is a little harder to learn indoors since the direct gravitational forces are not as obvious to help teach us. Enough resistance to feel somewhat "supported" while pedaling and able to sweep through the down most position without "mashing" is recommended. The hips should be positioned at the tip of the nose of the saddle or slightly in front of it.

***Light resistance while out of the saddle is never recommended.***

*Consider the applications in outdoor cycling: Climbing, Accelerations and Sprinting.*

Climbing out of the saddle will raise the heart rate/RPE due to the shift in a more upright position and the direct control that is required of the entire body relative to gravity. To ride similarly to outdoor riding, an increase in resistance is required. Smooth, round pedaling is highly recommended.

*Accelerations & Sprinting.* This could be applied to flat terrain or climbing (seated or standing). Again, an increase in resistance is recommended. Please note that this may not always be required if ample resistance was in use prior to the acceleration or sprint. The difference between acceleration and sprinting is the amount of resistance, the relative change in RPM's and of training intensity. Accelerations are not considered a sprint, but a controlled "acceleration" or surge. Sprinting is not appropriate for all levels.

*Jumps.* This is a traditional road racer's training mode that is meant to train for power. This is much like an accelerations or sprinting, but is meant to be shorter (10-12 pedal revolutions each leg) and is

traditionally meant to be done with a seated recovery for several minutes after each because of higher amount of force and effort being generated. Jumps are done to train for power and effective pedal force. The traditionally known jumps can be done seated or standing and is much like sprinting or accelerations. Racers that ride in groups (peletons), will use jumps to practice the use of fluid forward momentum and often while coming out of the saddle. If poor form is present, the bike would "kick back" and be harmful to any rider behind. This means that the bike slows, as the rider comes out of the saddle, due to loss or pause in power while coming out of the saddle. Jumps are meant to train the athlete to maintain the power while coming out of the saddle. Jumps can be done consecutively out of the saddle and back in (also known as *Ins and Outs*) and if done correctly, only a few are needed or desired! This is considered aggressive riding, and is not appropriate for all levels or too often during your training.

### ***Rpm's & resistance***

RPM's (*revolutions per minute*) and resistance (*gear selections*) are a hot topic in the field of cycling at present time. Individual bio-mechanics, muscle fiber type, and conditioning will be an influence to the selection of the two.

There are some basic guidelines to stay within. Classes should be conducted with RPM's within 50-120 revolutions per minute with an average at approximately 90 RPM's. To find what this is; count one leg every time it comes up for 30 seconds and then double that number. That will be the revolutions per minute.

Consider the RPM selection and the resistance. Does that correspond to what the intent of the workout is? Keep it realistic.

### **Activities To Avoid:**

These are higher risk variations that are often taught in a group setting. These should be politely declined. Remember, this is your workout and the following don't apply to outdoor riding and often have risks that far out weigh any potential benefit.

~*High Intensities all the time.* Harder is not always better. It is hard on the system and offers only a small part of "fitness". It also leaves the participant more susceptible to illness and injury. Consider your training and more than just putting time in the saddle, but also training your body's energy systems.

~*Popcorn Jumps.* This is where you go in and out of the saddle using momentum, usually fairly fast, high repetitions, and light resistance.

~*Light or no resistance and jumps.* Often done w/ little to no resistance. The risk far out weighs any potential benefit.

~*Swinging of hips way back over the saddle for a climb position.* This is also called "hovering". The relative change in the bio-mechanics at the knee and hip leave you at high risk of injury w/ little to no benefit.

~*Odd Hand positions.* Narrow hand position while out of the saddle or at the end of bull horns while seated. You learn what you practice. Compare to outdoor cycling.

~*Running.* This is a term used to describe light resistance while out of the saddle, often with an upright standing position. The risk of injury out weighs any potential benefit.

~*Pushups.* Pushup type movement performed using the handlebars while riding. Pushups are best

done on their own.

These guidelines will help you make the most out of your group cycling program and keep you riding year round.

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For information please contact: The Kent Group 286 Wild Heron Rd.  
St. Simons Island, GA 31522 Or e-mail us: [hazen@trinewbies.com](mailto:hazen@trinewbies.com)