

Seize Your Century

Let's cut to the chase – one of the most important ingredients in maximizing your cycling experience – whether weekend warrior or world champion – is a properly fitting bike. This is the first step to an efficient pedal stroke, which is then trained and reinforced via specific drills and training. Measuring the individual's leg length is the first of many steps to achieve hip and knee angles, but it is important to consider the rider's body type (long femur/ short torso; long torso/short femur, etc) flexibility and functional movement, biomechanics, riding goals and experience on the bike. All these factors must be taken into consideration to place the rider in a position that allows that individual to maximize his or her power.

In determining bike position, it is vital to consider the rider's past, present and future. The rider's time invested on the bike will determine specific cycling strength. The rider's present body symmetry, flexibility and functional movement determines if the rider possess flexible hamstrings and glutes, and a strong core that allows the ideal 40 degree hip angle. And what are the rider's future goals – a powerful sprinter racing short criteriums or a century rider focused on improving muscular strength and endurance. The sprinter will want to be positioned directly over the bottom bracket and cleat placed directly over the pedal spindle allowing them to maximize use of their quads at quick firing cadence. While the endurance-oriented rider will want the saddle positioned behind the bottom bracket and cleat position on the back of the ball of the foot, allowing this rider to maximize the glutes and hamstrings.

The Tahoe Center for Health and Sports Performance offers bike fitting by appointment.

A properly fitting bike facilitates an efficient pedal stroke – if you want to take your cycling the next level – the pedal stroke is key and should not be discounted. It is vital to focus training time on the pedal stroke. With a properly fitting bike and efficient pedal stroke – you will have the basic tools to maximize your training investment.

In order to train an efficient pedaling stroke, visualize a clock. Start your push forward from the 10 o'clock position to 3. Then at the 3 o'clock initiate the scrape back action – engaging the hamstrings and scrape back at the bottom on the pedal stroke. Continue scraping back, transitioning up to 7 o'clock - at which point an active unloading of the pedal takes place. It has been shown through biomechanical tests on elite cyclist that an actual pulling up of the pedal does not occur, but elite cyclists do unload the pedal – effectively assisting the forward motion of the other pedal.

Another key ingredient in optimizing your workouts is performing a physiological test, which determines your individual training zones. While some perceive testing as reserved for the elite, it is equally advantageous to the master athlete who has precious limited time to train and wants to maximize every training minute. The Tahoe Center for Health and Sports Performance offers a complete menu of physiological testing from Lactate Threshold to Vo2max tests. Test results determine heart rate zones. A minimal investment in a heart rate monitor, Polar, Garmin or Timex, to name a couple, will allow

the athlete to monitor training levels during individually prescribed workouts – insuring they are training specific physiological systems and maximizing training times.

Specific Workouts

Every workout must have purpose in order to improve fitness and help you reach your goals. Besides the cycling workouts listed below, I advocate extra-curricular strength and flexibility workouts that include - core circuits; double-legged plyometrics (jumping exercises using body weight as resistance to build agility, explosive power and strength); lunges and multi-directional hip work with Allan Bard bands; mini-bands to improve biomechanical awareness and soundness; single-legged squats; and consistent pilates and yoga practices. I suggest core (including hips and shoulders) circuits combined with plyometrics three times/week and band work two times/week. Yoga and/or pilates one to two times/week is ideal

A good training program should include a variety of workouts to train the different physiological functions, as well as mentally challenge and engage the athlete. Training provides the building blocks for your body and mind to tackle your athletic endeavors with confidence. We ultimately want to build a training plan that resembles a pyramid, with a solid base of miles, that builds and transitions to less volume and greater intensity, with specific focus. For purposes of riding a century – depending on the riders goals – training intensity levels would be focused on the Medium Endurance (ME)/tempo – 70% of max effort, perceived exertion.

The first training block builds a foundation of miles. This one to two month period is spent logging easy to moderate miles. The level of intensity is low, a perceived intensity of 50-70% of max effort. Benefits include - honing bike fit, efficient pedal technique, and , proper posture on the bike (flat back, by rotating at the hips, not rounding the back, to provide optimum breathing and leverage for the legs, relaxed arms – with slight bend of elbows, and relaxed low shoulders); strengthening specific muscle groups; and most significantly training your body to efficiently utilize fuels – drawing on fat before tapping into the carbohydrate stores.

Included during this one to two month base training, the plan would include key workouts – Slow Frequency Repetitions (SFR), Medium Endurance (ME) intervals, pedaling technique with high cadence intervals and drills, and long endurance days.

Slow Frequency Repetitions (SFR) are performed on steady 4-5% grade, in a gear that allows 40-60 rpm, and 60-70% of max, perceived effort. The goal of the workout is to work the entire pedal revolution – pushing over the top, pulling back – to build strength as well as pedal efficiency. This is not a max effort and focus must be on entire pedal revolution. Warm-up with 6x 15 sec single legs, increase by 15 sec every two to three weeks (as long as pedaling is smooth – no dead spots) to build to a max of 6x1min (each leg). SFR workouts start with 6x2min, increase by 30 seconds every two weeks to build to 10 x 5 min. Complete this workout with 10-20 min high cadence 100-120 rpm. Perform 1-2 x week.

Intervals

Interval training works physiological systems, and provides a psychological edge. Physiologically – depending on the intensity – medium intensities build muscular endurance efficiency and aerobic engine and higher interval intensities train the body to efficiently process lactic acid. Psychologically, intervals provide mental training to ride through physically uncomfortable periods, teaching the athlete to look beyond the discomfort, placing focus on pedal technique rhythm and efficiency. When you hit a challenging section of your century – intervals have trained mind and body to remain composed and work through it.

Interval training provides physical and mental confidence. Perform 1 x week.

Interval Samples for Novice Riders (times and cadence vary based on flat riding or climbing, ie flats = shorter interval time and higher cadence 90-110, climbs= longer interval time and lower cadence 60-80 rpm)

Pure

Begin with 5 min build to 10 min @ 60-70% of max, perceived exertion

Start with 1 rep build to 3

Ramp-up

Ramp up from 2-3 min @ 60% to 2-3 min @ 70%

Start with 2 reps build 4 reps

Bounce

Ramp up to 60% for 2-3 min, build to 70% for 3 min, back down to 60% for 4 min

Start with 2 reps build to 4 reps

Pedal Efficiency

Improving biomechanics on the bike by training the muscles to automatically adapt to rhythm and cadence changes.

Warm-up with 6x 15 sec single legs, increase by 15 sec every two to three weeks.

Workout 6x 1min pedaling on flats at 95-110 rpm, increase by 30 seconds every two weeks to build to 10 x 5 min.

Perform 1 x week.

Endurance day

Long ride – select challenging, interesting routes to include climbs, rolling or flats; alternate terrain week to week; or select route based on goals, upcoming events, or work on weaknesses. This is time to enjoy time on the bike, the scenery and camaraderie. No specific workout prescribed, but realize it is highly beneficial to stay disciplined and remain in the 50-65% of max, perceived exertion level - training your body's efficient fuel utilization – relying on copious fat stores before switching to finite carbohydrate stores. Perform 1x week.

Seize Your Century,

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