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Bicycle Fitting for Comfort, Efficiency and Performance

Bicycle position is paramount for the cyclist interested in comfort, efficiency and performance. It enables the cyclist to pedal without wasted energy. Weight is distributed between the pedals, handle bars and seat. Thus, the skeletal system rather than arm and back muscles will bear the weight. Pedalling technique is also improved through the bicycle fitting consultation.

I incorporate the CompuTrainer in my fittings that looks at the efficiency of the pedal circle and the left/right leg power split, using the SpinScan software.

How can I assist? When you consider pedalling at 80-95 revolutions per minute, each leg performs 4000 – 5000 pedal revolutions for every hour in the saddle. It is important to maximize the following:

Hip, Knee and Foot Alignment – Biomechanical adjustments can be made to correct for pronation or supination. Canting between the cleat and the cycling shoe ensures that each leg drives like a piston. It is essential to align the foot in a natural position.

Leg Length Discrepancy – This can be in the upper leg (femoral) or in the lower leg (tibia) and be the cause of leg or back discomfort and well as reduced efficiency.

Optimal Seat Height – It is the most important element in respect to bicycle fitting. The idea is to set the seat so that the pelvis does not roll from side to side when pedalling at the optimum height.

Fore-Aft Seat Position – A neutral seat position places the knee directly over the pedal axle. Final changes are made once a rider's 'balance point' has been established. This seat position will allow versatility to move forward and backward to accommodate different terrain and paces. Most importantly this generates power through the maximum range of the downstroke.

Handlebar Height / Stem Length – With your hands on the brake levers or on the bar ends on a mountain bike, there should be a slight bend at the elbow. This will enable the shoulders and neck to be in a relaxed riding position.

Aero Bars – Riding in the aero bars is the most aerodynamic position for a cyclist. The goal is to lower the handlebars and bring the elbows close together, while maintaining a relaxed and stable riding position. For Randonneurs and triathlete riding the Half-Ironman and Ironman distances a more comfortable position may be achieved by raising the handlebars.

Pedalling the Big Circle – This does not normally get very much attention, but you can increase your overall performance if you focus on the correct pedalling technique.

After approximately 4,500 fittings I have yet to see a cycling position that could not be improved in comfort, power, aerodynamics or efficiency. Taking into account the handlebars, seat and pedals there are more than fifteen adjustments that can be made in a 1 ½ - 2 hour fitting. Finding the ultimate riding position is an art and a science.

Contact Barry Lycett for a personalized fitting and for a complimentary copy of “Pedaling the Big Circle”.