A CYCLE OF FEETS!

More than just wheels revolve on the bicycle in action. Dynamic art could easily be made of all of the revolving parts in action as the bike moves down the road. The toebone is connected to the footbone, the anklebone is connected to the legbone, the legbone is connected to the kneebone, the kneebone is connected to the thighbone, the thighbone is connected to the hipbone & the hipbone is connected to the marketing manager. The marketing manager is connected to market research, market research is connected to the design group, the design group is connected to the ad department, and the ad department is connected to the marketing manager who is connected to the president of the company. Of course, nobody told the footbones about all these connections & they report to you as the World Champion Racer.

OK WCR, lets have a dialog about feet, shoes, cleats, & a lot of opinionated experience. Cycling shoe's have evolved greatly in the last twenty years. In the early 1970's, the typical cycling shoe was an all leather affair with a nail on cleat to fit a regular pedal with toe clips & straps. Shoes rarely was a rigid heel counter & the leather sole was usually became very flexible. Adjusting cleat position meant nailing & renailing with "cut nails" & a steel backer plate. Today there are many manufacturers of cycling shoes & a bewildering array of models.

The cycling shoe is usually set with the ball of the foot over the center of the pedal axle. This is done when the crankarms are parallel to the ground & the rider is in the drops or on TT Bars. This is also one of the first adjustments made to fit the rider to the bike. After the center position is established, then further adjustment may be made for the length of the toes, the size of the rider, the pedal style and the race specialty. Sprinters, Pursuiters, & Time Trialists may have their cleat positions set to be best in their specialty. An example would be the placement of large feet further on the pedal to reduce the strain on the calf & provide a larger foot platform.

In real estate the magic phrase is <u>location, location, location.</u> In cycling shoes the magic phrase is <u>fit, fit, fit.</u> Training & recreation or touring rides of over 100 miles or 8 hours are not unusual & the shoe that does not feel comfortable can even lead to injury. The feet are the end of a flexible lever & knees can be given a nasty thrashing if conditions are not right. In this case women are different from men. Women can be particularly susceptible to sore knees if the quadriceps become excessively dominant & the patella migrates out of position. Pedaling like a "sewing machine" combined with ill fitting shoes are a typical recipe for sore knees. If one is a toe in or out walker then feet must be pointed in or out. Setting cleats straight or "neutral" usually means that the foot will try to rotate in the shoe & the knees will have an exaggerated in & out on each stroke of the pedal. Floppy shoes let the foot move around with each pedal stroke & be comfortable but not at all suitable to do a time trial in.

Corporate Presidents & Engineers have come to the rescue with a lot of solutions. Competition & science have brought us great choice in both shoes & pedals. The rider should look at lots of choices which do the job & fit. The next consideration is the pedal & cleat system. Competition brings a choice from no float (straight) to the full float (25 degrees) of the Speedplay system. Most of the time the rider will never know if the combination can improve efficiency. There are several clues to whether more or less float is necessary to let the foot rotate in & out on the pedal. The most obvious is the extent of knee excursion & the least obvious is the movement of the heel side to side. Look also for a widening of the heel counter in the cycling for the message that the heel wants to move side to side & if such is the case consider a more floating cleat & pedal system. The Speedplay road system can stop a lot of knee pain & may be just the ticket for young riders.

But Wait! There's More ! If the shoe fits, but the pedaling is still a knee wobbling & heel twitching experience then Orthotics to the rescue. For best efficiency the levers need to work straight to the muscles & pedaling floppy is like using a loose handled hand saw. The foot is likely to need both the support for pedaling straight but also for comfort. A cramp in the foot usually is an

indicator that the rider is trying to contract & pull with the toes & properly fitted orthotics should improve comfort & reduce knee excursion. In this case, when the rider does not notice feet or shoes then the system is probably near correct. A stable & firm connection from the rider to the bike means that power can be applied in a wider part of the pedaling circle. Your new found speed is free--- except for the cost of equipment changes.

How Ben Franklin can keep you on track is the subject for the next article & this author will try to keep the boring to a minimum.

Thanks for reading-- Questions will be answered.

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