



Coach-Athlete Q&A

A look at some coach-replies to common questions by topic.

Q: Sonni, I came across this article and thought about whether I needed to modify my positioning next year (my P3 is currently disassembled in preparation for sending it to be painted). I've heard that a steep angle helps your running off the bike too.

What do you think?

<http://www.slowtwitch.com/mainheadings/kona2003/survey03/seatangles03.html>

A: I read this article yesterday.

One thing to know that a P3's seat-tube angle is 75.5 degrees.....so EVEN if you have the post head flipped to the back, but the saddle a bit more forward on the rails, you (in practice) ARE forward relative to road-geometries. This is exactly how my P3 is positioned.....@ about 76 degrees.

In my fit experience, we continually see (time and time again) that the "sweet spot" for 95% of all white men (who typically have long femurs relative to their total leg length) happens @ the 75 to 76.5 range.

Maybe it's semantics, but I don't consider this "**steep**" as Empfield does. To me, "steep" is 77degrees and above. "Shallow" is 74 and back. "Moderate" is 75-76.5.....and this is, most likely, where you should be. But I'd be glad to give another look @ your fit to confirm it or tweak it.

The interesting thing on this survey is that Dan Empfield, now (since '99) considers 76+ a STEEP angle. Why? Because he is a proponent for "the steep, F.I.S.T. fit" that he "certifies" shop technicians in (@ \$1000+ a pop). "Steep" USED to be 78+ degrees (for him) when his, then, company made bikes w/ seat angles @ 80degrees (!!). No joke. [But where has that 80-degree geometry gone?]

So he's eased on HIS own definition of "steep" as well to make his definition match what the masses (and Pro's) actually practice in their own fits.

The **really** interesting thing is that if you look @ those who ride 'aggressively-steep' (77+) angled positions.....they (as a group), actually have WORSE run splits.....not BETTER. Check Hawaii. [I saw that Larsen flipped his P3 post-head around.....and didn't run.]

I've moved ALOT of athletes back from 78 degrees to improve their **run** split.....as well as their bike split.

And if running off the bike was made easier by very steep seat-angles, why don't the fastest triathletes in the world (the ITU Olympians who run sub-31 10k's off the bike), why don't they simply ride 80degree bikes w/ drop-bars, STI, & shorty/jammer-ITU legal aero bars?

In the bike fits we've done, I've noticed that the HIP-angle (that's made up by femur-&-torso) **IS**, in fact, opened-up when you go forward. Everyone knows & focuses on this.

BUT.....there is another critical angle [*@ the knee joint*] that is closed off the more you travel forward. Noone talks about THIs angle. The steeper you go forward, the LESS acute you make that hip, but the MORE ACCUTE you make that knee angle (made up by upper-leg-&-lower-leg).

Do this, do a wall-sit with legs @ 90 degree angles (things pararell to the floor & lower leg perpendicular). Now it's tough, but you can hold it for 3-5 minutes, right? Now, bend down w/ rear closer to the heels, less than parallel, and hold it.....about a 45-90 second ordeal, huh?



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Why is this? You made the knee angle **more acute** and had to flex the quads *GREATLY* to keep the knee angle from compression (to keep your rear-end from bottoming-out 2 the ass). This is EXACTLY why people, who're riding 78+ degree positions say that they're quads are killing them when they get off the bike in T2.....but @ the same time will say, "But my BACK feels better!"

Bike positioning is made up of 2 critical angles. The hip (femur/torso), which faces anterior (forward).....and the knee (femur/lower-leg), which faces backwards (posterior). It is IMPOSSIBLE to favor one extreme without creating a limitation in the opposing angle.

The solution? Hit the median position (sweet spot) and utilize all of the related muscle groups @ the same rate. For some women and very-short-femured men (typically afro-American), this can occur @ 77-78 degrees.....but 95% of the time, it takes 75-76.5 degrees to achieve the balance.

Probably more than you wanted to know, but that's why I'm here.

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