

# the **CrossFit** JOURNAL ARTICLES

## Where Is Your Body Weight?

### The Key to Efficient Movement

Michael Collins

You may have heard of the Pose method of running. But Pose is not specific to running. It is actually a method of movement that applies to other sports as well. Pose is about learning the fundamental “pose” position of your sport’s movement pattern that allows you to harness the natural laws of energy and work with them with your own body and muscles. The key to this is understanding where your body weight is supported, and how forces such as gravity, ground reaction, torque, and buoyancy (in the case of swimming) affect your control of your own body weight as it moves through space (or the water).

Any movement will be more efficient and effective if the muscles “service” where the body weight is going instead of just trying to propel the body. Movement and force go naturally in the direction of the body weight. If you throw a punch at someone but are falling backward, the punch will carry very little power or force. If your mass is falling in one direction, you must get control of your body weight before you can move in another direction.

Here are few details of how all this applies to running, swimming, and cycling, the three components of triathlon.

#### Running

Body weight should be supported on the ball of foot with a bent knee for as short a time as possible. The

longer the foot is in contact with the ground, the more forces are absorbed up into the body for injury potential, the more muscle contractions are required to support the body weight, and the slower your running will be.

The goal of Pose running is to keep your time in support (i.e., in contact with the ground) as short as possible, so, rather than trying to push away from the ground with your feet and legs, you should pull your foot up quickly after each ground strike. Your feet, hips, shoulders, and head should be aligned, with the mass of the whole system leaning forward slightly, as if you are “falling” forward. Move your feet quickly, hold your arms high, and keep your shoulders relaxed.

(For more information on Pose running, see my articles and Brian MacKenzie’s in the [December 2007 issue](#) of the *CrossFit Journal*.)



“Falling” forward properly. Landing too far in front.

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## Where Is Your Body Weight? (continued...)



Getting a vertical forearm early in the stroke helps keep the swimmer from trying to swim “uphill.”

### Swimming

If a person is sitting in the very back of a canoe, the back end of the boat will be low and the front will be higher or even popping out the water. If the weight shifts too far to the front of the boat, it will begin to plow into the water nose-first and slow down. If the person moves to the center of the canoe, the weight will be more evenly distributed and the boat will travel faster through the water. If the weight is in the middle of the boat but leaning toward one side, the boat will tip sideways and some of its energy will be diverted into turning rather than into propelling the boat straight ahead.

This same principle applies to a swimmer moving through the water. The body will naturally be heavier from the bottom of the lungs down toward the legs than from the lungs up, which results in most people swimming “uphill” and expending a lot of energy trying to keep their legs up. Good swimmers are able to balance their bodies without using much energy to do so by maintaining good postural control and keeping the front end down so the back end can stay up. This frees up the muscles and cardio system to work on forward propulsion instead of trying to stay afloat (not drowning). Getting a vertical forearm early in the freestyle stroke (see photo next page) is critical to forward propulsion, but it is impossible to do if the body position is too “uphill.”

Swim Posture



### Additional resources

For more information on how to swim freestyle (and the other strokes) efficiently, check out these useful video and online resources:

- Richard Quick Series – Posture, Line, & Balance
- Richard Quick Series – Winning Freestyle
- [ChampOnline swimming videos](#)
- [Go Swim series](#)



Where is most of this athlete's body weight?

## Where Is Your Body Weight? (continued...)

trialists sit on their bikes. They are typically sitting very close to the nose of the saddle, with very little of their body weight back on their butt. It's over the pedals and being shifted back and forth from one pedal to the other while keeping their upper body very still.

The most powerful phase of the pedal stroke is from 1 to 4 o'clock, but it happens so quickly that it should feel more like it's from 11 to 3 o'clock. Immediately after that power phase, the driving leg should be "unweighted" to allow the body weight to shift to the drive of the other leg. If the bodyweight and leg power are used to push all the way to the bottom of the stroke, it is difficult to get it around the bottom of the pedal stroke, so the top leg must "push" the body weight and leg back up.

### Conclusion

To be successful in endurance sports, learn how your body weight can be your primary movement force and use your muscles to "service" your body weight instead of the other way around.

Efficiency of movement is achieved by executing correct technique with proper timing, allowing you to work in concert with the laws of nature while using the least amount of muscular and cardiovascular output necessary to maintain the desired speed.



Michael Collins is the first level-4 certified Pose Method Coach and also trains and certifies other coaches in the Pose Method. He owns [Multisports Orange County](#) in California and is head coach for Orange County's [Nova Masters](#) swimming program. He can be reached at [mcollins@multisportsoc.com](mailto:mcollins@multisportsoc.com) or 949-338-6682.