

the **CrossFit** JOURNAL ARTICLES

A Postural Error

A Costly Biomechanical Fault: Muted Hip Function (MHF)

Greg Glassman

The Problem

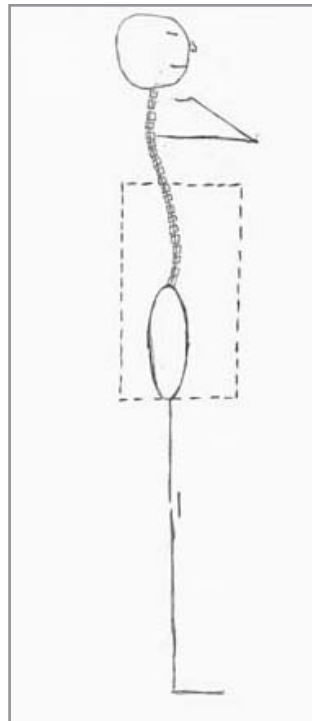
The most powerful forces that can be generated by the human body are initiated, controlled, and dominated by the hip. Unfortunately, in the majority of trainees, some degree of hip dysfunction creates postures and mechanics that reduce power and stability and are generally unsound. The faulty mechanics arise from inadequate training and insufficient practice of critical hip movements. We've named this widespread fault "muted hip function" or "MHF."

Who's Got It?

MHF is evident to some degree in all but the most accomplished athletes or those who've trained to avoid it. We tell our best athletes that it will typically take three to five years to fully develop the hip's explosive capacity where there are no sign of MHF postures or tendencies.

The Mechanics

MHF is, ultimately, the postures resulting from the legs compensating for the hip's failure – specifically, and foremost, using leg extension to compensate for weak or nonexistent hip extension.



MHF is squatting where hip extension is retarded while leg extension is not. We see it best in the dip and drive of a bad push press, where the knees jut forward while the pelvis rolls back pushing the belly forward. In fact the push press is the best way to conjure up this fault even in people who otherwise may have a beautiful squat and seem immune to this curse. A load that can be push-pressed for a max of twenty reps will typically induce this fault for the final four or five reps. More athletes will do it than not – including many good ones.

Elements of MHF

The causes and consequences of MHF include but are not limited to:

- structurally disadvantaged spinal posture
- low glute recruitment
- low hamstring recruitment
- pelvis abandoning the spine and chasing the legs
- center of gravity shifting dramatically backward
- center of balance shifting toward toes
- knee experiencing unsound shear force
- leg extension being the only productive effort
- hip extension not being possible with low hip angle
- pelvis rotating the wrong way

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A Postural Error (continued...)

The most important effect of all these elements—and of MHF overall—is a marked decrease in stability, balance, and power.

The Damage

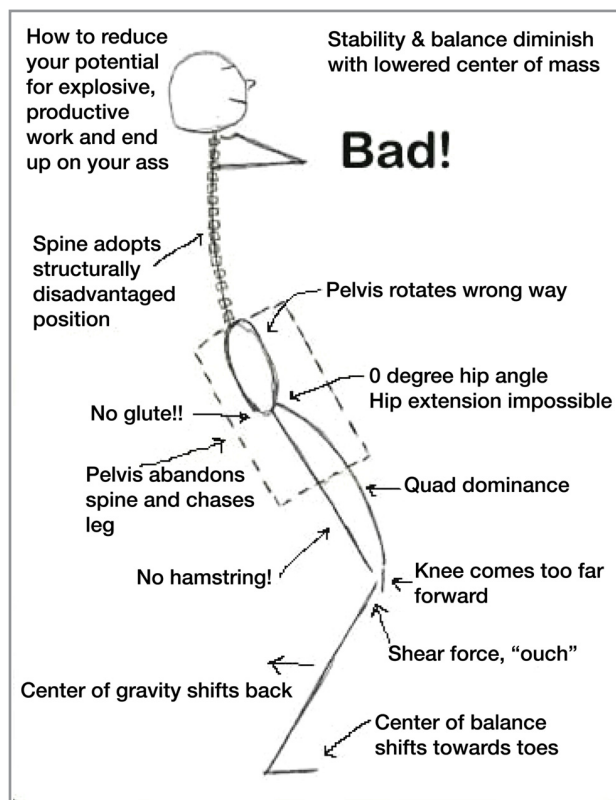
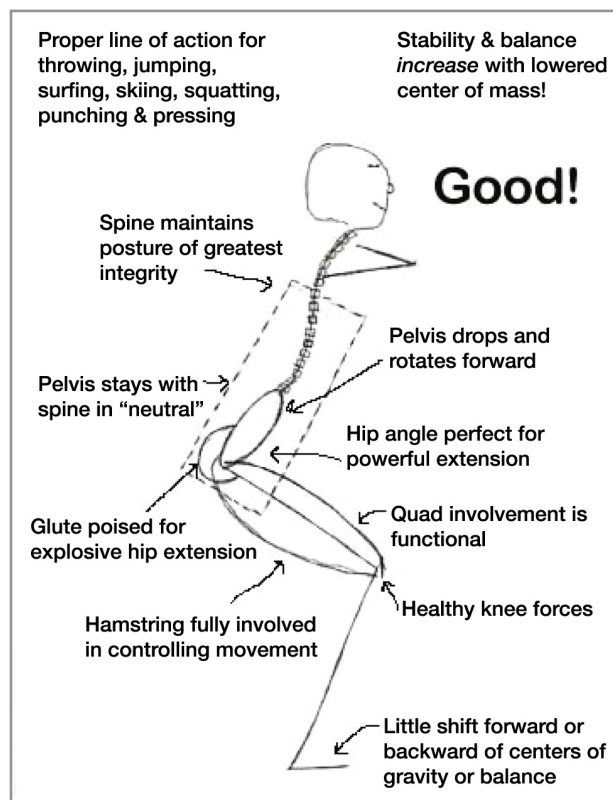
The degree of MHP varies from mild to severe. In severe cases everything the athlete attempts is rocked by instability and low power. In mild cases power loss and instability occur only while under great physical stress. In combat and elite performance, even mild MHF can lose the day.

For physical performance what could be worse than low power and instability?

The Solution

Deliberate and focused training and practice of demanding hip extension movements is the only way to eliminate the effects of MHF. Again, it will typically take three years or more to eliminate all tendencies toward MHF.

No exercise offers as much opportunity to correct MHF tendencies as perfect-form, high-rep push press. MHF is evident within the first .01 of a second of a bad push press.



Greg Glassman is the founder of CrossFit, Inc. and CrossFit Santa Cruz and is the publisher of the CrossFit Journal. He is a former competitive gymnast and has been a fitness trainer and conditioning coach since the early 1980s.