

## Hip Flexibility and Velocity

December 6, 2010

A study in [the American Journal of Sports Medicine](#):

### Passive Ranges of Motion of the Hips and Their Relationship With Pitching Biomechanics and Ball Velocity in Professional Baseball Pitchers

Measured hip flexibility and assessed pitching mechanics in 19 professional major league pitchers:

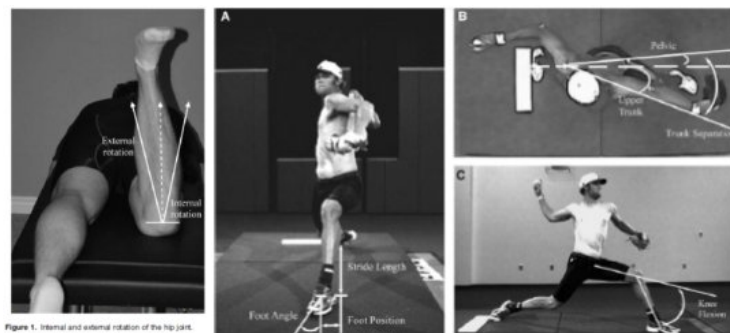


Figure 1. Internal and external rotation of the hip joint.

They found that *hip flexibility directly affected 2 mechanics of pitching*:

#### 1) Stride Length

- The stride must be at least 90% of your height. Stride length also has to do with momentum and timing.
- If your stride length is off, bad timing will result, resulting in decreased velocity and possibly injury.

#### 2) Hip-Shoulder Separation

- This is the "**torque**" that is THE MOST IMPORTANT generating velocity and a cornerstone of Tim Lincecum's delivery ([click here to read more about Lincecum's mechanics](#)):

One key to Lincecum's delivery is to keep his left side, especially his left shoulder, aimed toward his target for as long as possible.

"Don't open up too soon because then you lose leverage," Tim says. "If you twist a rubber band against itself, the recoil is bigger. The more torque I can come up with, the better."

The greater the hip-shoulder separation, the higher the velocity:

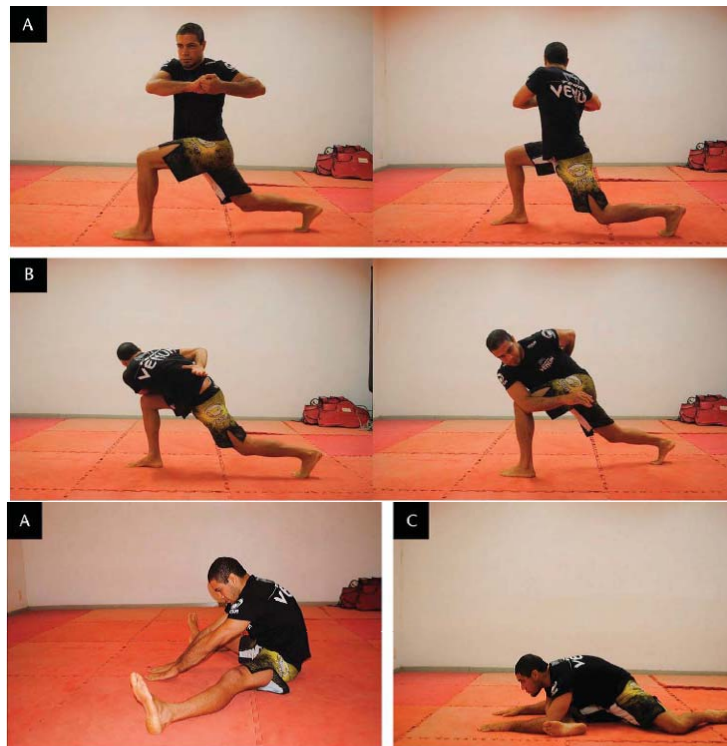
motion. Presumably, **having more range would permit greater kinetic energy production, ultimately producing greater ball and angular velocity.** Of the total arc of

## How Can I Increase Hip Flexibility?

Here is [a very good article on combat sports training](#):

### Warm-up, Stretching, and Cool-down Strategies for Combat Sports

that has some very good hip stretches:



## Have A Question About This Newsletter?

Call (631-352-7654) or Email ([PitchingDoc@msn.com](mailto:PitchingDoc@msn.com)) Dr. Arnold!

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