FASTER HIPS MEANS MORE BAT-SPEED

A common occurrence during my SEATAC hitting club sessions is members seeking advice on how they can increase their bat-speed. A common misconception is to believe that swinging "harder" is the only way to increase bat-speed. A hitter should be aggressive but have "controlled aggression". In the game of golf, the mantra "smooth is power" comes to mind. Bat-speed is actually manufactured from the ground up.

Generating more bat-speed involves synchronized sequential movements that transfer stored energy at crucial connection points in the swing. When a hitter correctly connects the dots while executing their swing, more bat-speed will be the result. It's about using the hips and shoulders rotating properly to generate greater bat-speed instead of just engaging arms and hands. The aforementioned methods are referred to as "rotational mechanics", using the rotating body forces versus the old school "linear mechanics"; just using arms straight to the ball for bat-speed.

The swing's kinetic energy combers up from the ground beginning with leg forces that are handed off to the torso (*which is the part of the human body from the neck to the groin*). Think of a rotating torso as a beer barrel holding your core muscles. Thus, bat-speed is maximized by using the major muscle groups beginning with legs, then torso, transferring those cumulative energies to the arms/hands and ultimately to the bat itself which is what I call "connecting the dots".

The softball bat when extended out from the shoulder at arm's length creates a speed multiplier ratio of ~4:1 to the hips (i.e., bat-arm 60" to hips 15"). This means the bat will have to move ~4 times as fast as your hips to catch up which creates the accelerated bat-speed.

During this torso rotation, fundamental physics maintains if you keep holding onto the bat it will have to catch up to your leading hips (see figure 1). Hence, making the point that the faster you can move your hips, the greater the bat-speed you can produce. Slow hip turn yields slow bat-speed. Note that there is very little speed multiplier just using your arms alone to accelerate the bat.

The step sequence must be maintained in the correct order with each of the segments lagging a little bit behind the previous step to take advantage of cumulative energy transfer. The swing

sequence is torso (hips-core-shoulders) then the arms/hands and wrists transferring all this built-up energy to the bat handle to accelerate the barrel.

The swing's back and forward motion:

The back swing, or wind-up, has hips turning to your backside, then the shoulders turning back a bit more than the hips; finally the arms pushing the bat back behind the head (see figure 2).

The forward swing is initiated by a subtle lateral movement of the hips allowing a weight transfer to your front foot landing on your toe first. As soon as the front foot heel goes down then the rotational parts of the swing can start immediately with a quick swivel of the hips. Next comes the shoulders rotation and lastly the arms; remember to straighten the lead arm at contact (see figure 3).

In order to trap those critical body forces the arms must stay connected to the torso while rotating your body until the release of the bat to the ball. Rotational mechanics also produces that all important "bat snap" at the ball which creates underspin to carry the ball farther. The lead arm then extends away from the body into a fluid follow-thru (see figure 4).

In order to maximize bat-speed, make a concerted effort to get the bat-head moving as fast as possible using the principles just described to the ball. You can Google hip speed trainers on the internet that can help in generating more hip speed thereby increasing your bat-speed.

Happy hitting,
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