

**Oregon State University
Baseball Program**

Hitting Absolutes

What really happens during a swing: eliminating assumptions and myths

Keys:

1. Dynamic balance: controlling the center of gravity (head out over belly button between balls of feet with 50-50 weight distribution) from start to finish. This requires postural stabilization (get a posture and maintain that same posture).
2. Sequential Unlocking of Body Parts: Arriving on time so that a hitter can unlock sequentially (lower body – upper body – swing). In order for this to occur the front stride foot must be down when the ball is approximately ½ way to the plate or sooner.
3. Rotation to Contact: Once the stride foot heel gets down, get into rotation. To keep the hips free it is critical that you do not block the front side. Front side knee lock should not occur until or just prior to contact. The front foot will open as rotation begins (it does not stay at a 90 degree angle)
4. Bat Lag: If everything happens on time and posture is maintained the hands are just along for the ride. The bat is the last thing to come. The hands lead the bat to contact. The hands determine contact (adjust automatically to height and width of baseball location).

Hitter's Initial Set Up at the Plate:

1. Every hitter has their own "style": The key is to have a good center of gravity. The further a hitter sets up with his weight back, the greater chance for head movement and not getting to a good center of gravity at the contact point.
2. Bat placement: the bat needs to be in a position somewhere by the back shoulder. Elbows should be down and relaxed. The front elbow should align somewhere within the front pectoral. The angle of the bat can be anywhere from a 45 to a 90 degree angle.
3. Eyes need to be level and should face the pitcher so that both eyes can see the pitcher and release at all times (binocular vision is critical to hitting).

Load: overcoming inertia

1. The load mechanism is up to the hitter. The key is to maintain as close as is possible a 50-50 center of gravity. This will help maintain correct posture all the way through contact. The load helps to overcome inertia getting the hitter started.
2. The amount of load will determine when a hitter gets started. The bigger the leg lift, the sooner the load needs to begin. Sometime between a pitcher starting to rotate and up to release point the load must begin or the hitter will be too late. It is better to be early than to be late because the body will not sequentially unlock if the hitter is late.

3. Linear Movement: From the time the load occurs until the stride foot gets down. This will depend on the type of load. The longer the stride the more movement forward.
4. Stride Length: Average major league stride length is 15".
 - Longer stride – more power and lower batting average (.220 to .280/35 HR per season average)
 - Shorter stride – less power and higher batting average (mid .300 in MLB)
5. Front Foot Angle: At baseball striking point, the front foot should be open around 50 degrees with variance. Players who remain closed will not fully rotate.
6. Head Movement Forward: this directly correlates to the length of the stride. The head will move forward and downward anywhere from 3" to around 15". The greater the head movement, the faster the perceived ball velocity because distance is reduced.

Angular Movement: rotation

1. Torque: the degree of separation between the hips and shoulders. The lower body must start the swing. Point A (launch) to Point B (contact) time is in direct correlation to the degree of separation. (Griffey: 39 degrees) (Aaron: 34 degrees)
2. Front Knee Angle: At contact the front knee angle is almost open (somewhere around 140 degrees).
3. Axis of Rotation: 50% centered at contact.
4. Bat Lag: All good hitters have bat lag. The hands are ahead of the barrel. The front arm angle is dependent on the load of the hands when striding. The bigger the load the greater the angle (90 to 120 degrees) as the bat approaches point B contact.
5. Bat Quickness: Small load – quick hands
6. Bat Velocity: Large load – great velocity
7. Bat Path: The smaller the load, the closer the hands are going to be to the body and the quicker the bat is going to get from point A to point B contact.
8. Contact: Good contact is made close to the body and prior to extension of the hands.
 - Hands are palm up and palm down.
 - Backside elbow is bent and close to the body (somewhere around 90 to 120 degree angle).
 - Maintain posture from start all the way through contact (if posture changes the hands will separate from the body).

Finish: A high finish is the end result of a fundamentally correct and on time approach to hitting a baseball

1. Postural Stabilization: posture is maintained all the way through finish.
2. Sequential unlocking of body parts: lower body – upper body – hands (This will not happen is a hitter gets started late).