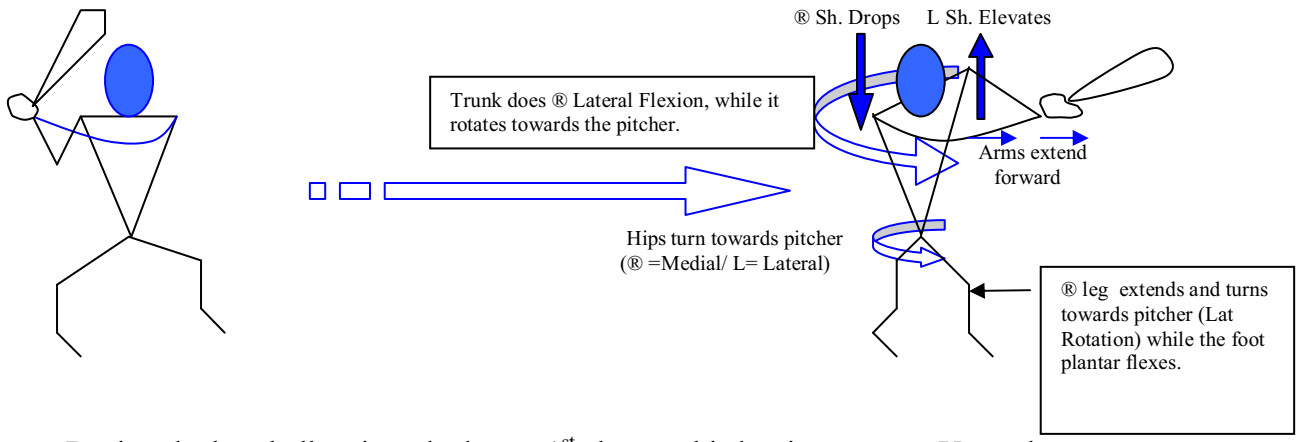
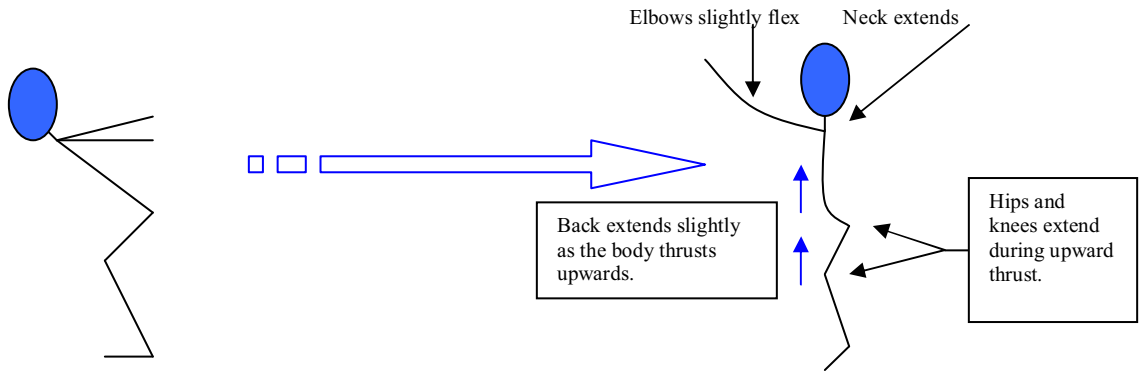
1). Baseball Swing



During the baseball swing, the batter 1st chooses his batting stance. Upon the swing, he rotates his trunk and hips towards the pitcher. His head follows the direction of the ball, resulting in the ® rotation of his neck. His ® and left arm will extend as he swings the bat (in this case, the batter is right-handed), while his left shoulder stays closely to his body. His ® shoulder will depress and pronate, and his left shoulder will elevate and retract to accept the force of the swing. The batter will push off with his rear leg (® foot doing eversion), while his left foot plantar flexes to sustain balance during this forceful period of weight transfer. The main objective of the batter is to keep his eyes on the ball, and to make a clean-smooth transfer of his body weight. The batter will not only use a successful weight transfer to hit the ball well, but he will also use the correct techniques involved with the rotation of his hips and trunk.

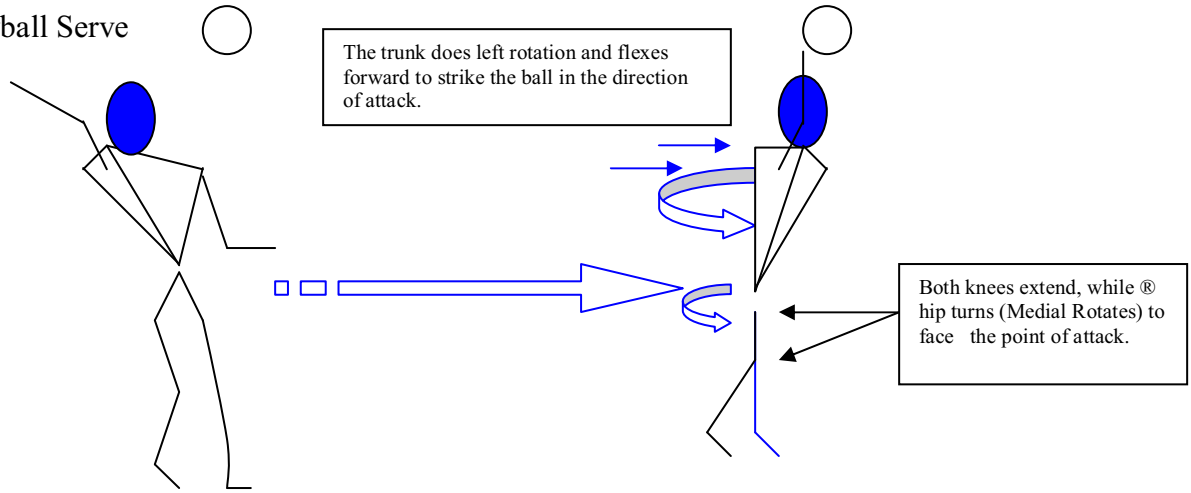
2). Back - Flip



The back – flip is a complicated performance that uses a lot muscles located in the lower extremities of the body (hips and legs). During the initial phase of the back – flip (shown above, and described in the analysis), the performer uses a forceful upward thrust to propel his/her body. When his/her arms come from back to front, they 1st have to depress and then are followed by the elevation of the shoulders. Most of the body is working bilaterally symmetrical during this performance (Ex: arms, shoulders, hips, knees, etc). The forceful projection comes from the legs (hips, knees, ankles, toes) pushing off the ground (the external force). The foot plantar flexes, toes extend, knees

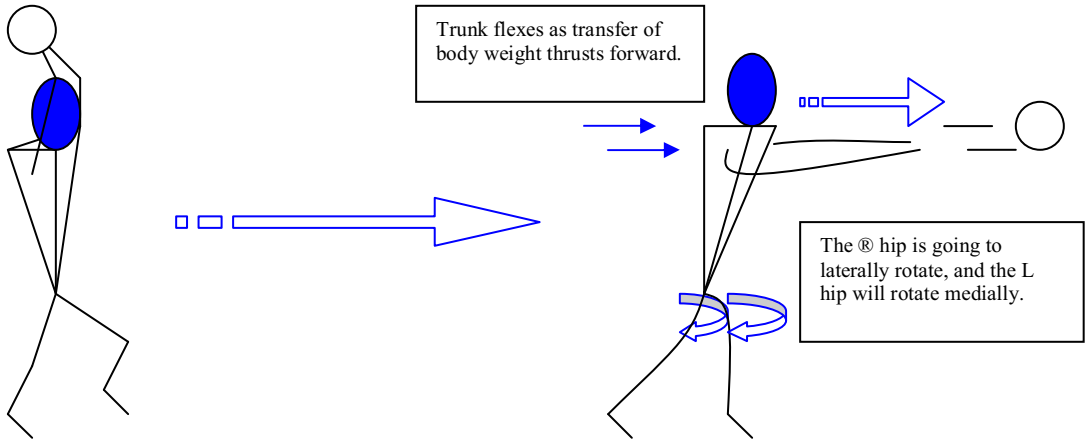
extend, and his/her hips extend. The thrust coming from these extremities will be a forceful one, and it will cause quick transfer in their center of gravity. Therefore, the back begins to arc trying to begin the performance, and compensate for the change in center of gravity...beginning the 1st phase of the back – flip.

3). Volleyball Serve



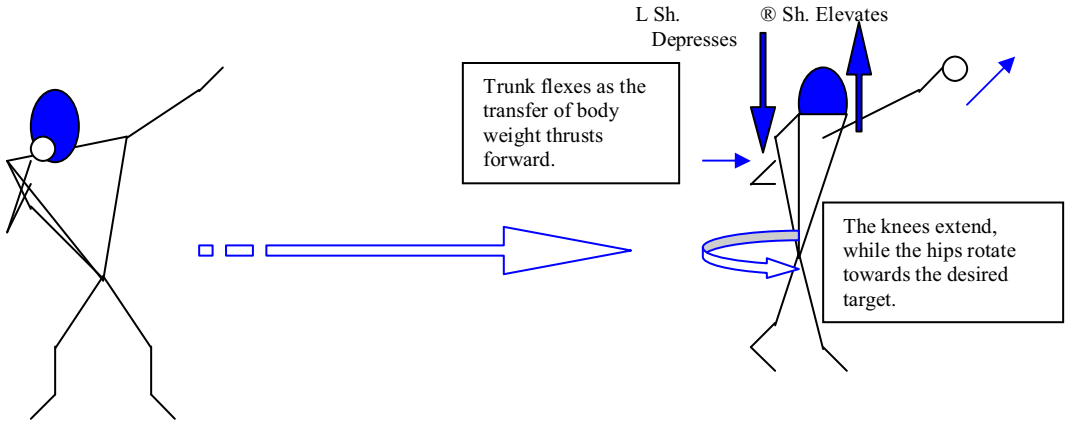
The volleyball serve uses a forceful propellant of the body's serving arm, rotation of trunk, and the rotation of its hips. As your head extends to watch the ball, you thrust your serving arm forward (pronating your shoulder girdle), striking the ball at about 1 o'clock in front of your body. Your trunk will rotate left, and flex forcing the ball forward. As you slightly push off the ground (plantar flexing your left foot), you will rotate your hips in the desired direction of the attack. For a more successful and forceful attack, the server will thrust their body weight forward (like the baseball swing). With the help of rotating your hips and trunk, the ball will be struck with more power and accuracy.

4). Soccer Throw – in



The soccer throw – in, just like the other sports movements, is a forceful propellant of particular body parts. The main objective is a clean/smooth transfer of one's body weight followed by a powerful snap of the wrists (or pronation of the radialulnar joint). It is a common over the head toss by an offensive teammate. The throw – in begins with the performer holding the ball over his/her head with both hands. As one leg is lifted off the ground, a powerful transfer of weight takes place when the performer thrusts forward. He/she plantar flexes that leg, while they medially rotate their left hip and laterally rotate their right one. As their trunk flexes, their arms project forward. Through these motions, the ball begins to propel forward. Finally, in the end result (the stop position) the ball propels forward in accordance with these movements. It is in the stopped position, where you can see the wrists (actually the radialunlar joint pronating) snapping which will result in the most power during "take – off".

5). Shot – Put Toss



The shot – put toss is a sport where you toss of weighted ball as far as you can. As you start off with the ball curled under your chin, you steady your stance (center of gravity) in preparation for the toss. Similar to the other sports skills, there is a transfer in body weight that will help project the ball. While the performers body weight transfers, his trunk will flex forward, while he extends his knees and hips. In addition, the performer is going to push off the ground while he plantar flexes with his feet to add to such a thrust. The performer's throwing arm (® shoulder/shoulder girdle) will elevate and pronate, while his other arm will depress and retract. Along with the extension of his throwing elbow, the clean/smooth transfer of weight and these particularly desired motions, the weighted ball will travel quit far. Finally, just like the baseball swing, the performer is rotating his hips toward the desired target allowing a more forceful combination of energy when releasing the ball.