Throwing Guidelines: The "Seventh Inning Stretch"

Jason Eschbach, ATC
Athletic Trainer, Nationwide Children's Sports Medicine

Coaches and parents of young baseball players or any athlete in a throwing sport often have concerns and questions about throwing injuries and how to prevent them. These are legitimate concerns due to the increasing rate of shoulder injuries that are treated and the various stresses put on a young arm. Often a little knowledge is needed and a little preparation taken before the young athlete even picks up a ball. We will outline some of the major topics associated with throwing injuries in 9 individual sections or "innings." Each inning will provide insight into unique challenges faced by young throwers, so let's play ball!

1st Inning: So what is a Pitch Count? Many people and fans of baseball have heard of a pitch count and know that it is used to count the number of pitches thrown during a game. This is done to limit or put a cap on the number of pitches to reduce the amount of stress placed on the pitchers arm. The more pitches thrown, the more fatigued and stressed the arm becomes and the chance of injury increases. The pitch count recommended is attached to this article and was developed through testing by the American Sports Medicine Institute. It is useful due to the fact that it takes in account both the age of the thrower and the amount of rest between outings which we will get to later. It is important to recognize that a pitch count is important for the longevity of a pitcher's career and what may not hurt today can be the foundation for a greater risk later.

2nd Inning: Calling pitches must be age appropriate. Studies by the American Sports Medicine Institute also recommend when to introduce new types of pitches. They suggest starting with the fastball at age 8 and adding the change-up at age ten. Pitches like the curve ball and knuckle ball that add even more stress to the arm are suggest at ages 14 and 15 respectively. It is important to make sure a pitcher is skeletally mature before adding pitches like the slider and screw ball, if the growth plates of young pitchers are still open when attempting those pitches they have the chance of fracturing a bone along those growth plates.

3rd Inning: Mechanics, mechanics, mechanics. No, we don't mean the people that work on your car. Mechanics refers to proper form when pitching. It is most import to learn the correct form when first starting to pitch, this may involve work with an experienced pitching coach or conditioning specialists. Often young pitchers are more concerned with how hard or fast they can throw, throwing hard combined with bad form almost

guarantees an injury. The point should be made that it is much easier to throw faster with good pitching mechanics and also easier to learn new pitches when appropriate.

4th Inning: Multiple leagues and more playing time. Sometimes a young baseball player may enter more than one league or participate on more than one team to get as much experience as possible. While this may be a good idea to get more exposure it is even more important to keep track of pitch counts and limit the number of games played a week with proper rest. Another suggestion is to pitch in one league or team and play a fielding position on the other team. It must be understood that playing time must be reduced at the first sign of "breakdown" or onset of overuse injuries.

5th Inning: Ingame substitutions, making the right change. It is very common for a coach to "take out" a pitcher once their pitch count has become high enough or if the situation in the game calls for a change. Sometimes there may not be a player on the bench to come in to pitch or the coach may have to move another player from their position on the field to come in and pitch. The pitcher being relieved is often moved into the new pitcher's previous position. It is important to have a plan in place before the game to know what position the original pitcher will be moved to. After throwing their max amount of pitches their arms can be sore or tired and what position they are moved to can make a hug impact on the player's arm. For example moving from pitcher to 3rd base requires the player to make long throws to first base after fielding a hit ball. Instead, try moving the pitcher to second or first base where the throw is shorter and places less stress on their arm.

6th Inning: Getting in shape to get in the game. One of the most important stages in preparing a young thrower, regardless of what position they play, is proper conditioning. Both new and experienced throwers greatly benefit from these throwing specific training and injury prevention programs. These programs address not only their arms and shoulders but should include core and lower extremity strengthening. Theses programs should be done by professionals to ensure proper format and safety. Ask your Certified Athletic Trainer for more information on these programs.

7th Inning: Time to stretch! Just like any other sport it is very important to stretch and warm up before a player throws. This can be done as a team and is a great opportunity to get all the players together and focused before practice or a game. A good stretching program focuses on the whole body and includes some form of warm up such as jogging or jumping jacks for example. The program should be instructed by certified professional such as a Certified Athletic Trainer. Once learned the players can lead themselves with proper supervision.

8th Inning: Put me in coach, I'm ready to play! Using all we've learned and prepared it's time to play. Not only will coaches and parents feel better having prepared their athlete to throw, the athlete will feel more confident and sure of their ability to stay in the game safely. It is important to monitor the player for signs of fatigue and overall performance to ensure a long and safe season.

9th Inning: Knowing when to rest. It is just as important to know when and for how long to rest your pitchers after they throw. This is often referred to as a "rotation" of your pitching staff. Most teams rotate their pitchers using 4 days of rest between starts. This has historically been the most successful method however the amount of rest needed is based on the amount of pitches thrown. The American Sports Medicine Institute also has recommendations for rest periods associated with relative amount of pitches thrown and is also attached to this article. It also recommended the use of ice on a pitcher's arm after they throw. Ice can be applied for 20 minutes after they throw. If rest and ice do not resolve shoulder soreness you should seek care by a sports medicine specialist.

*Consult your primary care physician for more serious injuries that do not respond to basic first aid. As an added resource, the staff at **Nationwide Children's Sports Medicine** is available to diagnose and treat sports-related injuries for youth or adolescent athletes. Services are now available in four locations, to make an appointment, call **614-355-6000.***