



Throwing Guidelines for Young Players – Let's Play Ball!

Coaches and parents of young baseball players, or any athlete in a throwing sport, often have questions about throwing injuries and how to prevent them. These are legitimate concerns due to the increasing rate of shoulder injuries seen in this population. There is currently an alarming trend in youth baseball injuries. Shoulder and elbow growth plate injuries have become common as young athletes are playing in leagues with high game volumes in a given season. These players often don't have enough recovery time prior to the next outing and subsequently may play through pain. Pain is often perceived as part of the game. Adolescent growth plates are vulnerable to stress up through the later teen years. Injuries to these areas are often season ending due to the amount of healing that needs to take place. We will outline some of the major topics associated with throwing injuries in 9 individual sections or "innings." Each inning provides insight into unique challenges faced by young throwers, so let's play ball!

1st Inning: *Preparation for the season.* To reduce the risk of injury – conditioning drills should be initiated **prior** to the start of the first practice session. Kids that are in shape at the beginning of the season have a better chance of performing at a higher level and staying injury free. Concentrate on flexibility, upper body and **core strengthening** and always include running drills. This combination will help ensure that the body is ready to accept the demands of the season.

2nd Inning: *Time to stretch!* Just like any other sport it is very important to warm up and stretch before a player throws. Dynamic warm-ups help prepare the body for this. Light conditioning at the beginning of practice warms muscles making it easier to stretch them. Stretching should include the upper and lower body as well as the hips and back. Young throwers should concentrate on stretching the hip flexors, hamstrings and quads as well as their shoulder. Inflexibility can actually decrease force production and speed and can limit the power of the throw.

3rd Inning: *Mechanics, mechanics, mechanics!* Kids should learn proper throwing mechanics and master them completely before ever starting to pitch. Always avoid using a radar gun. Young pitchers are often more concerned with how hard or fast they can throw, instead of how efficiently they throw. Throwing hard combined with poor or inefficient form almost always predisposes injury. Proper mechanics → decreases stress on arm → less arm fatigue → increased overall control and speed.

4th Inning: *Put me in coach, I'm ready to play!* Young players often think (incorrectly) that arm soreness is part of the game- as if it is a badge of honor. Soreness can alter mechanics as players try to avoid painful arm positions. Shoulder and elbow pain should always be concerning to coaches and parents. Early intervention and activity modification can expedite return to play and reduce the risk of a more serious injury that may be season ending.

5th Inning: *So what is a Pitch Count?* It is the actual number of pitches thrown during a game. Limits are used in order to reduce the amount of stress placed on a pitcher's arm and provide enough time to recover prior to throwing again. Adhering to pitch count guidelines is critical for the longevity of a pitcher's arm.

6th Inning: *What pitches are appropriate for young throwers?* A fastball should be the first pitch to be learned and after this has been mastered a change-up can be added. Children's Sports Medicine Physicians prefer to see young pitchers begin to throw curveballs and other breaking pitches once they are close to skeletal maturity and have adequate arm strength and control. Breaking pitches should be taught by someone with knowledge of proper pitching mechanics, otherwise there may be undue stress placed upon a young pitcher's arm predisposing him to elbow and shoulder injury.

7th Inning: *Player substitutions, making the right change.* It is common for a coach to “take out” a pitcher once he has reached his allotted pitch count or if the game situation calls for a change. If the pitcher continues to play in that game, he should **not** be placed at shortstop or 3rd base where long hard throws are required on an already fatigued arm. Pitchers should never be catchers on the same team. This combination results in too many throws and increases their risk of injury. The safest place is moving to 2nd or 1st base where the throws are shorter and less stress is placed on the arm.

8th Inning: *Knowing when to rest.* It is also important to know how long to rest young pitchers after they throw in order to allow time for their arms to recover between outings. This rest period is again based on age and is included in our pitch count guidelines. Pitchers should also ice their shoulders and elbows for 20 minutes after they throw to reduce the inflammation associated with activity and speed recovery. If any soreness persists at the start of the next game – rest for 24 hours prior to resuming activity.

9th Inning: *My child plays in multiple leagues.* Sometimes players may join more than one team at a time to get as much experience as possible. Situations like this warrant close attention to proper rest to avoid “breakdown” from overuse and decreased recovery time. Overall body/arm fatigue CAN alter mechanics and lead to injury!! If you must play on more than 1 team at once, consider pitching on one team and playing a fielding position on the other (not catcher!) Also, there should be no competitive pitching for at least 3 consecutive months every year to ensure optimal recovery and allow for normal growth processes.

MAXIMUM PITCHING LIMITS				
AGE	PER DAY	PER WEEK	PER SEASON	PER YEAR
7-8	50	75	1000	2000
9-10	75	100	1000	3000
11-12	85	125	1000	3000
13-16	95	*	*	*
17-18	105	*	*	*

DAYS OF REST REQUIRED FOR PITCHES THROWN IN A DAY					
AGE	0 DAY REST	1 DAY REST	2 DAYS REST	3 DAYS REST	4 DAYS REST
14 & Under	1-20	21-35	36-50	51-65	66+
15-18	1-30	31-45	46-60	61-75	76+

Information and Guidelines adapted from the following:

1. *Little League® Baseball & Softball, 2010*
2. *Policy Statement for Baseball & Softball, American Academy of Pediatrics, 2012*
3. *Position Statement for Youth Baseball Pitchers, American Sports Medicine Institute, 2013*

The staff at Children’s Sports Medicine is available to diagnose and treat sports-related injuries for youth and adolescent athletes. Please notify our office if any symptoms do not improve despite rest/modified activity and treatment with ice.

