



Guidelines to Prevent Injuries in Young Pitchers

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Concerned parents and coaches often ask about what pitches are OK to throw, at what age they can safely be thrown, and how many pitches should be thrown in a game. The medical issues involved with pitching involve protecting the fragile growth plates, the cartilaginous lining of the bone, and the sometimes underdeveloped muscles in the young pitcher.

The chart below illustrates the type of pitch and the age that is appropriate to start throwing a given pitch. Generally, breaking balls should not be thrown until there is solid evidence that the growth plate of the elbow is nearly closed or strong enough to withstand the torsional force placed upon the elbow and shoulder when throwing a curve, slider, screwball, forkball, or knuckler. Age is a very good indicator, but athletes mature at different rates. When the young pitcher starts to shave on a regular basis, this is a very reliable indicator of growth plate at the elbow having become nearly closed.

<u>TYPE OF PITCH</u>	<u>AGE TO START</u>
Fastball	Any age
Change up	10 y.o.
Curveball	14 y.o.
Knuckleball	15 y.o.
Slider	16 y.o.
Forkball	16 y.o.
Screwball	17 y.o.

A knuckle curve is permitted at any age after the pitcher has mastered a good change and is taught the proper mechanics and grip to throw this pitch. It is really not a curve in the sense that it does NOT involve any torque or rotational force on the arm or wrist as do other breaking balls.

Remember that these are guidelines and once the pitcher has gone through puberty, throwing some of the more advanced pitches is also a function of the skill and ability of the individual athlete.

Each team should have a pitching routine that includes pitch selection and count, days rest, working on mechanics on off days, as well as an in-season running and conditioning program, pre-game routine and off-season strength and conditioning.

What you do for in-season conditioning and running depends on the level that the athlete is participating in. A knothole team will not do the same things that a high school team would, but the principles are same; get the legs and arms warmed up and develop a routine that fits around the age and experience of the players.

The table below illustrates pitch count and off day counts based on the pitchers age. For example, if a 12-year-old pitches on Monday, takes Tuesday off and wishes to pitch on his own or in a game on Wednesday, his pitch count should be 27-47 pitches on Wednesday.

<u>AGE</u>	<u>1 DAY REST</u>	<u>2 DAYS REST</u>	<u>3 DAYS REST</u>	<u>4 DAYS REST</u>
8-10	20-40 pitches	35-50 pitches	45-60 pitches	50-75 pitches
11-12	25-45 pitches	35-55 pitches	55-75 pitches	55-75 pitches
13-14	30-50 pitches	35-55 pitches	55-75 pitches	55-75 pitches
15-16	25-45 pitches	40-60 pitches	60-85 pitches	75-100 pitches
17-18	25-45 pitches	40-60 pitches	60-85 pitches	75-100 pitches

Pitch counts should also be monitored on a weekly, seasonal, and yearly basis. Seasonal refers to the summer and the fall season, and in warm climates such as Florida, the winter season. Yearly refers to the cumulative number of pitches in a calendar year.

9-10 Year Old Pitchers

50 pitches per game or 75/ week
1000 pitches per season
2000 pitches per year

13-14 Year Old Pitchers

75 pitches per game
125 pitches per week
1000 pitches per season
3000 pitches per year

11-12 Year Old Pitchers

75 pitches per game or 100/ week
1000 pitches per season
2000 pitches per year

15-18 Year Old Pitchers

100 pitches per game
150 pitches per week
1500 pitches per season
3500 pitches per year

When a pitcher has reached his maximum pitches in a game he should not work on pitching on his own the following day, nor should he be the catcher the following day. Often the catcher is also a pitcher and this needs to be kept in mind. Jogging, stretching, strengthening, and easy tossing are fine to do after having pitched the day before.

It is also discouraged that a pitcher not return to mound once they have been removed from the game as a pitcher.

Pitch counts do not include throws resulting from pitching lessons, playing other positions (with the exception of catcher), or throwing drills. A pitcher should not do backyard pitching after a game or do excessive pitching to work out of a slump.



Pitchers should develop proper mechanics as early as possible and engage in year round physical conditioning especially as they approach high school age. This conditioning should focus on core strengthening, flexibility, upper and lower body strengthening, and cardiovascular endurance.

Pitchers are also encouraged not to participate or pitch on more than one team per season as coaches tend to use better pitchers more often leading to excessive pitches.

For at least three months a year a pitcher should not participate in any overhead throwing activities, baseball, throwing drills, activities that involve rigorous overhead activity such as swimming or tennis in order to allow the arm to rest, recover, heal, and undergo natural maturation and development.

If a pitcher desires or has had injuries to his elbow or shoulder, ice after pitching is a good idea. A pitcher may play other positions in the game after having completed his stint on the mound. The only position the pitcher should not play in the same game is catcher.

Parents and coaches should listen to the pitcher if they say their arm or shoulder hurts and be removed from the game. If the pain is not relieved in a few days or returns the next time the player pitched, the injury should be evaluated by a qualified medical professional with experience in dealing with these type of injuries.

Henry A. Stiene, MD is board certified in Sports Medicine and practices Sports and Orthopaedic Medicine with Beacon Orthopaedics and Sports Medicine. He is Co-Medical Director and Team Physician for Xavier University in Cincinnati. Dr. Stiene and Beacon Orthopaedics provide Sports Medicine care for many area high schools and colleges including Moeller, LaSalle, Roger Bacon, Mount Notre Dame, Kings, Mason, Madeira, Indian Hill, and Winton Woods, as well as the College of Mt. St Joseph and Wittenberg University.

Beacon Orthopaedics is also the exclusive provider of orthopaedic care to the Cincinnati Reds.

Dr. Stiene is also active in coaching baseball, softball, and CYO football.

For further information about Beacon Orthopaedic and our locations, please visit our website at www.beaconortho.com

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