

Guidelines to Prevent Injuries in Young Pitchers

Henry A. Stiene, MD



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 forces 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.

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.

For teams that practice every day such as high school athletes, a 20-minute routine of jogging and sprinting preceded by a sound stretching routine should suffice. A strengthening program that fits the age of the pitcher should follow this.

The pregame routine should include running 2-4 poles and then stretching the legs, back, and shoulder muscles with each stretch being held about 20-30 seconds. Long toss starting at 45 feet and extending up to 120 feet (depending on age of pitcher)



until the arm is loose is next. After having done this, the pitcher can start throwing off the mound.

Pitch count is based on the age of the pitcher and days rest between pitching. Warm-up pitches do not count. 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.

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>REST</u>	<u>1 DAY REST</u>	<u>2 DAYS REST</u>	<u>3 DAYS REST</u>	<u>4 DAYS</u>
8-10	21-39 pitches	34-50 pitches	43-59 pitches	51-70 pitches
11-12	27-47 pitches	35-55 pitches	55-78 pitches	58-76 pitches
13-14	30-52 pitches	36-57 pitches	56-76 pitches	70-90 pitches
15-16	25-45 pitches	38-61 pitches	62-85 pitches	77-97 pitches
17-18	27-49 pitches	45-70 pitches	62-83 pitches	89-101 pitches

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.

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 and CYO football. For further information about Beacon Orthopaedic and our locations, please visit our website at www.beaconortho.com or call us at **513-354-3700** during normal business hours or **1-888-77-FIELD** anytime.*

