

"How Many Pitches Should I Allow My Child to Throw?"

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"How Many Pitches Should I Allow My Child to Throw?" This is the most common question asked to sports medicine professionals by parents of youth baseball players. The question really is how many pitches can a child throw without injuring the throwing arm. Organized leagues have shared this concern for several years; as a result, most youth leagues limit the number of innings a child may pitch (Tables 1 and 2). However, most people now believe that limits should be placed on the number of pitches, rather than the number of innings.

To determine recommendations, USA Baseball Medical & Safety Advisory Committee commissioned the American Sports Medicine Institute (ASMI) to study pitch limits in youth baseball. ASMI sent surveys to 85 baseball experts, consisting of orthopaedic surgeons and coaches, about pitch limits and other injury factors. Twenty-eight of these experts responded. Results from the survey are shown in Tables 3 - 6.

Table 3 shows the maximum number of pitches recommended per game and per week. The large "standard deviations" reflect large variation in opinion among those surveyed. The recommended minimum number of pitches corresponding to 1-day, 2-day, 3-day, or 4-day rest requirements are shown in Table 4. For example, if an 8-year-old pitcher throws at least 21 pitches in a game, the survey recommends that he should be required to rest at least one day; if he throws 34 or more pitches in a game, he should be required to rest two days.

Several respondents commented on the concept and definition of rest. Issues such as whether a child should pitch at home or play different positions in games during the "rest period" was discussed. Some felt that youth pitchers throw too many total throws, while others felt that children today don't throw enough. ASMI supports the belief that, in general, youth baseball players in the United States do not throw enough. While young pitchers should be given adequate rest after pitching in competition, they should also be encouraged to throw in other settings (playing other positions, playing catch with parent or friends, practicing pitching, etc.). Throwing is necessary for a young pitcher to strengthen his/her arm and body. Common sense and listening to the pitcher for complaints of discomfort or fatigue can greatly help the coach or parent decide the right amount of rest and practice needed.

Opinions and comments on other safety-related issues in youth baseball were asked. Results are presented in Table 5. Many respondents commented that the quality of the pitcher's mechanics is an important injury factor. The importance of strength training was also mentioned. Table 6 shows the recommended age for pitchers to begin throwing various types of pitches. Because these results were based upon opinions and not observational data, their significance

should be interpreted with caution. The small sample size of survey participants (N=28) must also be considered. Based upon this survey, the following conclusions may be drawn:

- Number of pitches is more important than number of innings when determining rest requirements
- The maximum number of pitches allowed in one outing should increase with age.
- A pitcher should be limited to two appearances per week.
- Compared to younger pitchers, older pitchers can throw a few more pitches for a given number of days rest.
- Participation in multiple leagues, playing other positions, and practice pitching should be considered when defining and regulating rest.
- Breakaway bases should be used.
- In general, a child can start throwing a fastball at age 8, a change-up at 10, and a curveball at 14. All other pitches should not be introduced until high school age.
- Improper technique is a major factor in injury potential.
- Conditioning of the throwing arm and entire body can reduce a young pitcher's risk of injury.
- While the number of pitches should be limited, the young athlete should be encouraged to throw. This includes playing catch, playing other positions besides pitcher, and practicing pitching. When symptoms of arm discomfort or fatigue arise, longer periods of rest are recommended.

These conclusions and recommendations are based upon the opinions of baseball and medical experts. However, the great variation in opinions collected indicate the need for more facts. USA Baseball and ASMI plan to study pitching in youth baseball and measure the number of pitches thrown, types of pitches thrown, pitching mechanics used, and other factors of interest. How these factors affect the risk of injury can then be determined.

Table 1. Inning limits currently used in youth baseball

AGE	MAXIMUM INNINGS/GAME				MAXIMUM INNINGS/WEEK			
	Pony	Little League	Dixie Youth	American Legion	Pony	Little League	Dixie Youth	American Legion
8-10	3	6	6		6	6	6	
11-12	7	Unlimited	6		10	6	6	
13-14	7	Unlimited	9		10	9	10	
15-16	7	Unlimited	10	12	10	9	14	12
17-18	9	Unlimited		12	Unlimited	9		12

Table 2. Rest currently required in youth baseball

AGE	INNINGS/ APPEARANCE	REST		
		Pony	Little League	Dixie Youth
8-10	Less than 3	0	0	0
	3	40 hours	1 day	1 day
	4 or more	40 hours	3 days	3 days
11-12	Less than 3	0	0	0
	3	40 hours	1 day	1 day
	4 or more	40 hours	3 days	3 days
13-14	Less than 4	0	0	0
	4	40 hours	1 day	40 hours
	5 or more		3 days	
15-16	Less than 4	0	0	0
	4	40 hours	1 day	40 hours
	5 or more		3 days	
17-18	Less than 4	0	0	0
	4	40 hours	1 day	40 hours
	5 or more		3 days	

**Table 3. Maximum Number of Pitches Recommended
(Mean \pm Standard Deviation)**

AGE	MAXIMUM PITCHES/GAME	MAXIMUM GAMES/WEEK
8 - 10	52 \pm 15	2 \pm 0.6
11 - 12	68 \pm 18	2 \pm 0.5
13 - 14	76 \pm 16	2 \pm 0.4
15 - 16	91 \pm 16	2 \pm 0.4
17 - 18	106 \pm 16	2 \pm 0.6

**Table 4. Minimum Number of Pitches Thrown That Should Require Specified Rest
(Mean \pm Standard Deviation)**

AGE	1 DAY REST	2 DAY REST	3 DAY REST	4 DAY REST
8 - 10	21 \pm 18	34 \pm 16	43 \pm 16	51 \pm 19
11 - 12	27 \pm 20	35 \pm 20	55 \pm 23	58 \pm 18
13 - 14	30 \pm 22	36 \pm 21	56 \pm 20	70 \pm 20
15 - 16	25 \pm 20	38 \pm 23	62 \pm 23	77 \pm 20
17 - 18	27 \pm 22	45 \pm 25	62 \pm 21	89 \pm 22

Table 5. Other Safety Issues

Should face shields for batters be required?

Yes: 46%
No: 29%
Maybe: 25%

Should softer baseballs be used?

Yes: 21%
No: 43%
Maybe: 36%

Should breakaway bases be used?

Yes: 86%
No: 7%
Maybe: 7%

Should chest protectors for batters be used?

Yes: 14%
No: 43%
Maybe: 43%

Table 6. Age (in Years) Recommendation For Learning Various Pitches

Fastball: 8 ± 2
Change-up: 10 ± 3
Curve ball: 14 ± 2
Knuckle ball: 15 ± 3
Slider: 16 ± 2
Fork ball: 16 ± 2
Screw ball: 17 ± 2