

Throwing Distance & Velocity Guidelines

October 13, 2008

The father of a 10 year-old approached me today said his Fall Ball coach wanted his son to be doing long toss at 150-180 feet. I also had another coach who needed a 13 year-old pitcher on his Fall Ball team who threw in the mid-60's.

To set the record straight on what you can expect from your baseball players, here is what the research has shown.

The first-ever study done on throwing distance expectations was done in 1996 by the American Sports Medicine Institute ([click here to view the abstract](#)):

Axe MJ. *Development of a Distance-Based Interval Throwing Program for Little League-Aged Athletes.* Am Jou Sport Med 1996; 24: 594-602

As you can see below, the average distance for a 10 year-old is 123 feet and the average velocity is 46 mph while the average mph for a 13 year-old is 54 mph:

TABLE 2
Means and SDs of Average Maximal Speed of the Normative Sample by Age

| Age (years) | Speed (mph) | SD | N |
|-------------|-------------|------|-----|
| 8 | 40.3 | 3.51 | 46 |
| 9 | 42.8 | 3.76 | 144 |
| 10 | 46.1 | 3.82 | 175 |
| 11 | 48.2 | 4.19 | 187 |
| 12 | 50.4 | 4.76 | 116 |
| 13 | 54.3 | 4.85 | 105 |
| 14 | 60.4 | 5.71 | 80 |

TABLE 3
Means and SDs of Average Maximal Distance of the Normative Sample by Age

| Age (years) | Distance (feet) | SD | N |
|-------------|-----------------|------|-----|
| 8 | 95.5 | 13.7 | 46 |
| 9 | 104.5 | 17.6 | 144 |
| 10 | 123.2 | 17.3 | 175 |
| 11 | 134.5 | 19.6 | 187 |
| 12 | 141.3 | 25.1 | 116 |
| 13 | 163.6 | 23.6 | 105 |
| 14 | 195.6 | 29.2 | 80 |

In the second study ever done on this ([click here to view the abstract](#)):

Axe MJ. *Recommendations for Protecting Youth Baseball Pitchers. Sports-Specific Rehabilitation in Throwing and Overhead Injuries.* Sports Medicine & Arthroscopy 2001; 9(2):147-153

the expectations for 10 year-olds was exactly the same as was proposed in 1996:

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According to the researchers:

- ✓ Only 24 in 10,000 (1 out of every 346), which they classify as "an exclusive group", can throw the ball 175 feet.
- ✓ As for a 13 year-old throwing in the mid-60's, they didn't give odds but 24 in 10,000 can throw 69 mph.

Hope this information helps clear up any misconceptions on what's out there and what you'd like to have on your team.

Please email me if you'd like these studies for your own reference in the future.