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## Prevention

Proper warm-ups including adequate stretching, running, and easy, gradual throwing should be done at each practice and game. Avoid overuse. Remember how much more time may be spent playing and practicing at home and on other teams in addition to the time they spent at practice. Guidelines have been developed by sports medicine experts to suggest the maximum number of pitches that should be allowed per game and the maximum number of games per week. Additional factors that can lead to overuse injuries are: Poor throwing mechanics, fatigue and failure to utilize lower body and core strength while throwing (ie. Lower extremity and core weakness).

## Maximum Pitches Recommended

Age	Maximum Pitches/Game	Maximum Games/Week
8-10	52 ± 15	2 ± 0.6
11-12	68 ± 18	2 ± 0.5
13-14	76 ± 16	2 ± 0.4
15-16	91 ± 16	2 ± 0.4
17-18	106 ± 16	2 ± 0.6

## Age Recommended for Learning Various Pitches

<b>Fastball:</b> 8 ± 2	<b>Knuckleball:</b> 15 ± 2	<b>Screwball:</b> 17 ± 3
<b>Change-up:</b> 10 ± 3	<b>Slider:</b> 16 ± 2	
<b>Curve ball:</b> 14 ± 2	<b>Forkball:</b> 16 ± 2	

1. Throws should be hard enough to just reach target.
2. There is no set timetable to advance to the next level.
3. Advance to the next “stage” or “step” when present “step” is pain-free.
4. If pain or difficulty at present level, rest and then go back to pain-free level.
5. These are guidelines. The program may need to be individualized.
6. Warm-up and then stretch before throwing.
7. Stretch, then ice injured body part after throwing.
8. Throw every other day at most.
9. Pitchers stop after 120 ft throws and begin “on the mound” throws. All others continue to 160 and then 180 ft throws. “On the mound” throws are for pitchers only.



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## I. OFF THE MOUND

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### 45-foot Stage

Step 1:

- a. Warm-up throwing
- b. 45 ft. (25 throws)
- c. Rest 15 minutes
- d. Warm-up throwing
- e. 45 ft. (25 throws)

Step 2:

- a. Warm-up throwing
- b. 45 ft. (25 throws)
- c. Rest 15 minutes
- d. Warm-up throwing
- e. 45 ft. (25 throws)
- f. Rest 10 minutes
- g. Warm-up throwing
- h. 45 ft. (25 throws)

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### 60-foot Stage

Step 1:

- a. Warm-up throwing
- b. 60 ft. (25 throws)
- c. Rest 15 minutes
- d. Warm-up throwing
- e. 60 ft. (25 throws)

Step 2:

- a. Warm-up throwing
  - b. 60 ft. (25 throws)
  - c. Rest 10 minutes
  - d. 60 ft. (25 throws)
  - e. Warm-up throwing
  - f. Rest 10 minutes
  - g. Warm-up throwing
  - h. 60 ft. (25 throws)
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### **90-foot Stage**

Step 1:

- a. Warm-up throwing
- b. 90 ft. (25 throws)
- c. Rest 15 minutes
- d. Warm-up throwing
- e. 90 ft. (25 throws)

Step 2:

- a. Warm-up throwing
- b. 90 ft. (25 throws)
- c. Rest 10 minutes
- d. Warm-up throwing
- e. 90 ft. (25 throws)
- f. Rest 10 minutes
- g. Warm-up throwing
- h. 90 ft. (25 throws)

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### **120-foot Stage**

Step 1:

- a. Warm-up throwing
- b. 120 ft. (25 throws)
- c. Rest 15 minutes
- d. Warm-up throwing
- e. 120 ft. (25 throws)

Step 2:

- a. Warm-up throwing
  - b. 120 ft. (25 throws)
  - c. Rest 15 minutes
  - d. Warm-up throwing
  - e. 120 ft. (25 throws)
  - f. Rest 15 minutes
  - g. Warm-up throwing
  - h. 120 ft. (25 throws)
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### **160-foot Stage**

Step 1:

- a. Warm-up throwing
- b. 160 ft. (25 throws)
- c. Rest 15 minutes
- d. Warm-up throwing
- e. 160 ft. (25 throws)

Step 2:

- a. Warm-up throwing
- b. 160 ft. (25 throws)
- c. Rest 10 minutes
- d. Warm-up throwing
- e. 160 ft. (25 throws)
- f. Rest 10 minutes
- g. Warm-up throwing
- h. 160 ft. (25 ft. throws)

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### **180-foot Stage**

Step1:

- a. Warm-up throwing
- b. 180 ft (25 throws)
- c. Rest 15 minutes
- d. Warm-up throwing
- e. 180 ft. (25 throws)

Step 2:

- a. Warm-up throwing
  - b. 180 ft. (25 throws)
  - c. Rest 10 minutes
  - d. 180 ft. (25 throws)
  - e. Warm-up throwing
  - f. Rest 10 minutes
  - g. Warm-up throwing
  - h. 180 ft. (25 throws)
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## **II. ON THE MOUND**

1. 60 ft.: 50 % of normal velocity fastball (15→rest→30→rest→45 pitches)
2. 60 ft.: Batting practice at 50% of normal velocity fastball (30→rest→45→rest→60 pitches)
3. 60 ft.: Batting practice at 75% of normal velocity fastball (15→rest→30→rest→45 pitches)
4. 60 ft.: Batting practice at 75% of normal velocity fastball, 50% breaking ball (45→60→75 pitches)
5. 60 ft.: Batting practice at 75% of normal velocity both fastball & breaking ball (60→rest→90 pitches)
6. Simulated game\* (75→skip ≥ 2 days→90→skip ≥ 2 days→105 pitches)