

## Appendix 1

**Table 1.** USA Baseball & Safety Advisory Committee guidelines

Categories	Recommendations																					
Maximum number of pitches thrown according to the pitcher's age	<b>9- to 10-year-olds</b> 50 per game 75 per week 1000 per season 2000 per year	<b>11- to 12-year-olds</b> 75 per game 100 per week 1000 per season 3000 per year	<b>13- to 14-year-olds</b> 75 per game 125 per game 1000 per season 3000 per year																			
Types of pitching	Do not perform breaking pitching (eg, curveballs, sliders) until bones have matured (approximately 13 years of age).																					
Pitching mechanics and physical condition	Should develop good mechanics as soon as possible and include physical conditioning exercises while growing.																					
Multiple appearances	Once the pitcher is out of the game, the pitcher should not pitch again.																					
Showcases (exhibits to recruit players)	Should not participate.																					
Multiple leagues	Do not play in 2 leagues when the seasons overlap.																					
Playing year round	Should not compete in the same sport for more than 9 months a year to give time to rest and recover. For at least 3 months, the pitcher should not play baseball nor participate in pitching practices or in any stressful activity that requires movement above the head level.																					
Procedure to follow when reaching the pitching limit	Once the pitcher reaches the maximum limit established for the age, the pitcher should be removed from the game and should not pitch again during that game.																					
Number of weekly games	The pitcher should not pitch more than 2 games per week.																					
Rest days	The pitching limits are established according to the number of pitches thrown during a game: <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th rowspan="2" style="background-color: #333; color: white;">Number of Rest Days</th> <th colspan="3" style="background-color: #333; color: white;">Pitcher Age, y</th> </tr> <tr> <th style="background-color: #333; color: white;">9-10 y # of pitches</th> <th style="background-color: #333; color: white;">11-12 y # of pitches</th> <th style="background-color: #333; color: white;">13-14 y # of pitches</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">21</td> <td style="text-align: center;">27</td> <td style="text-align: center;">30</td> </tr> <tr> <td style="text-align: center;">2</td> <td style="text-align: center;">34</td> <td style="text-align: center;">35</td> <td style="text-align: center;">36</td> </tr> <tr> <td style="text-align: center;">3</td> <td style="text-align: center;">43</td> <td style="text-align: center;">55</td> <td style="text-align: center;">56</td> </tr> </tbody> </table>			Number of Rest Days	Pitcher Age, y			9-10 y # of pitches	11-12 y # of pitches	13-14 y # of pitches	1	21	27	30	2	34	35	36	3	43	55	56
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Pitching with pain	The pitcher should stop pitching as soon as there are signs of pain in the arm. The parents should seek medical attention if the pain persists for 4 days or if the pain comes back immediately the next time he pitches.																					
Activities after a game	The pitcher should not pitch again during the same day once out of the game.																					

**Table 2.** Administrative Order Number 2006-01<sup>10</sup>

Categories	Recommendations																																										
Exercise program	The coach should implement a stretching and warm-up program for each member of the team before and after a game with the purpose of acquiring flexibility, resistance, and strength.																																										
Record keeper	Each team should have a record keeper who will write down the number of pitches thrown in the game.																																										
Maximum number of pitches thrown in a game according to the pitcher's age	<table border="1"> <thead> <tr> <th>Age, y</th> <th>Maximum Number of Pitches Thrown</th> </tr> </thead> <tbody> <tr> <td>9-10</td> <td>58</td> </tr> <tr> <td>11-12</td> <td>68</td> </tr> <tr> <td>13-14</td> <td>76</td> </tr> </tbody> </table>	Age, y	Maximum Number of Pitches Thrown	9-10	58	11-12	68	13-14	76																																		
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Procedure to be followed when the pitching limit is reached	If the pitcher reaches the pitching limit allowed, the record keeper should notify the main umpire and the coach, who should remove the pitcher and bring in a new pitcher.																																										
Pitching limit per week	No pitcher should pitch more than 2 games per week.																																										
Types of pitching	No pitcher under 13 years should throw curveballs.																																										
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Record of lesions	Each team should keep a record of lesions, and a copy will be sent to the Department of Recreation and Sports at the end of each game season.																																										

**Table 3.** Sociodemographic profile

	<b>Frequency, n</b>	<b>Ratio, %</b>
<b>Sex</b>		
Male	35	100
<b>Maximum school level</b>		
High school	15	42.86
Associate degree	3	8.57
Bachelor's	15	42.86
Master's	2	5.71
<b>Certification as coach<sup>a</sup></b>		
Yes	15	42.86
No	20	57.14
<b>Training in good pitching mechanics<sup>b</sup></b>		
Workshops	23	65.71
Television	10	28.57
Online	24	68.57
Books	17	48.57
Personal experience	4	11.43

<sup>a</sup>Refers to a valid baseball certification as coach, provided by the Department of Recreation and Sports of Puerto Rico.

<sup>b</sup>The coaches could have selected more than 1 method of training in good pitching mechanics.

**Table 4.** Compliance with lesion prevention guides reported by coaches (n = 35)

	All coaches		
	<b>Total Recommendations<sup>a</sup></b>	<b>Mean Recommendations Complied With</b>	<b>%</b>
Administrative Order No. 2006-01	20	14	70.0
USA Baseball	19	13.89	73.11

<sup>a</sup>Total number of recommendations provided by each guide..

**Table 5.** Compliance reported by coaches according to the recommendations to prevent lesions in juvenile pitchers (n = 35)

Compliance by Recommendation and Source	Total Coaches in Compliance	%
<b>Administrative Order</b>		
Official record keeper	34	97.14
Is there anyone in charge of notifying the pitching limit?	34	97.14
Who is in charge of notifying pitching limit?	19	54.29
Who should be notified when the pitcher reaches the limit?	28	80
Is the weekly number of games limit established?	28	80
Weekly number of games limited	2	5.71
Are rest days established according to the number of pitches thrown?	34	97.14
Rest days after 43 pitches thrown	25	71.43
Rest days after 51 pitches thrown	21	60
Does the team keep a record of lesions?	20	57.14
Procedure to be followed with the record of lesions	1	2.86
<b>USA Baseball</b>		
Education on good pitching mechanics	35	100
Participation in showcases	24	68.57
Playing in more than 1 league during a season	27	77.14
How many months does a season last?	34	97.14
How many months does the off-season last?	26	74.29
Procedure when the pitcher expresses pain <sup>a</sup>	32	94.12
Education to parents for pain management	33	94.29
Education to pitchers about what to do after a game	32	91.43
Recommendations after pitching in a game	12	34.29
Are pitchers allowed to throw sliders?	34	97.14
<b>Administrative Order and USA Baseball</b>		
Do you establish a pitching limit per game?	34	97.14
Established limit for the number of pitches thrown per game	17	48.57
Procedure once the pitching limit is reached	32	91.43
Are pitchers allowed to throw curveballs?	32	91.43
Do you include warm-up exercises?	35	100
Do you include stretching exercises?	34	97.14

Do you include strengthening exercises?	30	85.71
Do you include aerobic exercises?	29	82.86
Do you include cooling down exercises?	26	74.29

<sup>a</sup>For this recommendation, n = 34.