

AN ANALYSIS OF PAUL BYRD'S PITCHING MOTION & MECHANICS

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General Comments About Paul Byrd

- Injuries...
 - Back problem (August 2005).
 - Triceps problem (June 2005).
 - Missed entire 2003 season due to Tommy John surgery (July 2003).
 - Five bone chips and a bone spur removed (April 2003).
 - Right elbow pain (June 2002).
 - Missed rest of 2001 season with shoulder problems (September 2001).
 - Tear in R. rotator cuff (July 2000).

Comments About Paul Byrd's Pitching Motion And Mechanics

- Starts out with an old-style windup.
- Byrd's motion has Tom House written all over it.
 - Motion is extremely similar to Mark Prior's.
 - Only difference is angle of elbow at the High Cocked position.
 - I believe his problems point to the problems Prior will experience over the next few years.

Year	Ag	Tm	Lg	W	L	G	GS	CG	SHO	GF	SV	IP	H	R	ER	HR	BB	SO	HBP	WP	BFP	IBB	BK	ERA	*lgERA	*ERA+	WHIP
1995	24	NYM	NL	2	0	17	0	0	0	6	0	22.0	18	6	5	1	7	26	1	1	91	1	2	2.05	4.18	205	1.136
1996	25	NYM	NL	1	2	38	0	0	0	14	0	46.7	48	22	22	7	21	31	0	3	204	4	0	4.24	3.93	93	1.479
1997	26	ATL	NL	4	4	31	4	0	0	9	0	53.0	47	34	31	6	28	37	4	3	236	4	1	5.26	4.21	80	1.415
1998	27	TOT	NL	5	2	9	8	2	1	0	0	57.0	45	19	17	6	18	39	0	2	233	1	0	2.68	4.36	162	1.105
		ATL	NL	0	0	1	0	0	0	0	0	2.0	4	3	3	0	1	1	0	0	11	0	0	13.50	4.24	31	2.500
		PHI	NL	5	2	8	8	2	1	0	0	55.0	41	16	14	6	17	38	0	2	222	1	0	2.29	4.36	190	1.055
1999	28	PHI	NL	15	11	32	32	1	0	0	0	199.7	205	119	102	34	70	106	17	11	872	2	3	4.60	4.61	100	1.377
2000	29	PHI	NL	2	9	17	15	0	0	0	0	83.0	89	67	60	17	35	53	3	1	371	2	0	6.51	4.73	73	1.494
2001	30	TOT		6	7	19	16	1	0	1	0	103.3	120	54	51	12	26	52	2	2	444	1	0	4.44	4.82	109	1.413
		PHI	NL	0	1	3	1	0	0	1	0	10.0	10	9	9	1	4	3	1	1	45	0	0	8.10	4.28	53	1.400
		KCR	AL	6	6	16	15	1	0	0	0	93.3	110	45	42	11	22	49	1	1	399	1	0	4.05	4.88	121	1.414
2002	31	KCR	AL	17	11	33	33	7	2	0	0	228.3	224	111	99	36	38	129	7	3	935	1	1	3.90	5.14	132	1.147
2004	33	ATL	NL	8	7	19	19	0	0	0	0	114.3	123	57	50	18	19	79	2	1	482	0	0	3.94	4.31	110	1.242
2005	34	LAA	AL	12	11	31	31	2	1	0	0	204.3	216	95	85	22	28	102	7	1	842	1	0	3.74	4.19	112	1.194
10 Yr	WL%	.529		72	64	246	158	13	4	30	0	1111.7	1135	584	522	159	290	654	43	28	4710	17	7	4.23	4.57	108	1.282
162	Game Avg			12	10	41	26	2	0	5	0	187.0	191	98	87	26	48	110	7	4	792	2	1	4.23	4.57	108	1.282

Glossary

- GS = Glove Side
- PAS = Pitching Arm Side



1. 1



2



3



2. 1



3. 1



4. 1



5. 1



2



6. 1



7. 1



8. 1



9. 1



10. 1



11. 1



2



12. 1



2



13. 1



14. 1



2



3



4

Notice the consistency between what Byrd does today with the Angels (frames 14.1 – 14.3) and what he did in Atlanta (frame 14.4).



15. 1



16. 1



2



3



17. 1



2



3

Notice the similarity to what Mark Prior is doing in frame 17.3. Up to this point Byrd looks OK, but he falls apart as soon as he starts to turn over his PAS forearm.



18. 1



2



19. 1



20. 1



2



3



21. 1



2

Notice the similarity to what Mark Prior is doing in frame 21.2. The only significant difference is that Prior is standing up straighter.



22. 1



2



3



23. 1



2



3

Notice the similarity to what Mark Prior is doing in frame 23.3. The only significant difference is that Prior is standing up straighter.



24. 1



2



3



25. 1



2



3



26. 1



27. 1



2

Note that in frames 27.1 and 28.1 he is turning his PAS forearm over with his elbows both behind his Acromial Plane and above his shoulders. This is likely the cause of his shoulder problems. Mark Prior does the same thing, which is why I believe he is on the road to having shoulder problems.



28. 1





29. 1

Seems to land on his heel, which might explain some of the control problems he seems to have experienced.



30. 1



2



3



4



31. 1



32. 1



2



3



4



33. 1



34. 1



2



35. 1



2



36. 1



2



37. 1

2

3

4

5

6



38. 1

2



3

4

The angle of the elbow at the moment the shoulders start to rotate is the most significant difference between Paul Byrd's motion and Mark Prior's motion. In frame 38.3, you can see that Byrd's elbow is bent close to 90 degrees at the moment the shoulders start to rotate while frame 38.4 shows that Prior's elbow is bent more like 135 degrees at the moment the shoulders start to rotate.





41. 1



42. 1



2



3



43. 1



2



3



44. 1

2



45. 1

2

When I first looked at frame 45.2 I was a little thrown because it looks like Early Pronation. This wouldn't make sense given Byrd's continual elbow problems. I believe that problem that Byrd has is that the orientation of his palm doesn't change as his elbow extends through the danger zone. This indicates that the Pronator Teres muscle either isn't active, or isn't active enough, as his elbow extends through the danger zone.

In order for his Pronator Teres to be active and protect his elbow, Byrd's forearm would have to change from a supinated position to a pronated position as his elbow extended through the danger zone. Instead, it doesn't look like the position of Byrd's palm really starts to change (e.g. to pronate) until frame 47.1, at which point his elbow has already extended through the danger zone.

That means that, while Byrd does pronate, he does so too late to protect his elbow.



46. 1



2



3



47. 1



48. 1



2



49. 1



50. 1



51. 1



52. 1



2



53. 1



54. 1



2



55. 1

2



56. 1

2



4

Pronating, but too late to protect his elbow.



57. 1



58. 1



59. 1



60. 1



2



61. 1



62. 1



2

Notice the similarity between Byrd in 62.1 and Prior in 62.2.



62. 1

Finishes in a very weak fielding position with his glove way off to the side. I sure hope the batter doesn't hit a come-backer or Byrd is a dead man.



63. 1



2



64. 1