

AN ANALYSIS OF CHAD BRADFORD'S PITCHING MOTION & MECHANICS

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General Comments About Chad Bradford

- 6' 5"
- 205 lbs.
- Pitches...
 - Fastball (88-89 MPH).

Relatively low velocity of fastball could help to protect his arm by reducing the forces it experiences.
 - Change-Up
 - Curveball
- Injuries...
 - Lower back surgery (herniated disc) caused him to miss 3-4 months (2005).
 - Sore back (2004).
- Relies on location and control more than velocity or movement.
- Not a great fielder.
- Holds runners fairly well.

Comments About Chad Bradford's Pitching Motion And Mechanics

- Extremely unusual motion.
 - Submarine-style sidearm.

Still has most of the same flaws as users of the traditional pitching motion.

 - Reverse Pitching Forearm Bounce.
 - Pitching Forearm Flyout.
- Relatively low velocity of fastball and early pronation during acceleration are probably what have protected his elbow.
- Good timing and keep elbows in front of Acromial Plane are probably what have protected his shoulder.
- Lower back problems are probably directly attributable to sidearm delivery.
 - He has some of the same problems (probably for the same reasons) as do cricket bowlers.
- His submarine style is probably what makes him effective.
 - He almost pitches underhand, which gives his balls a more vertical movement and not a horizontal movement like most side-armers.
- Unlike Byung-Hyun Kim, Bradford doesn't move his elbows too far behind the acromial plane, which should help to protect the front of his shoulder.

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	
1998	23	CHW	AL	2	1	29	0	0	0	8	1	30.7	27	16	11	0	7	11	0	1	125	0	1	3.23	4.56	141	1.109	
1999	24	CHW	AL	0	0	3	0	0	0	0	0	3.7	9	8	8	1	5	0	0	1	24	0	0	19.64	4.77	24	3.818	
2000	25	CHW	AL	1	0	12	0	0	0	5	0	13.7	13	4	3	0	1	9	0	0	52	1	0	1.98	5.17	262	1.024	
2001	26	OAK	AL	2	1	35	0	0	0	19	1	36.7	41	12	11	6	6	34	1	0	154	0	0	2.70	4.35	161	1.282	
2002	27	OAK	AL	4	2	75	0	0	0	14	2	75.3	73	29	26	2	14	56	5	0	311	5	1	3.11	4.65	150	1.155	
2003	28	OAK	AL	7	4	72	0	0	0	12	2	77.0	67	28	26	7	30	62	7	0	322	9	1	3.04	4.26	140	1.260	
2004	29	OAK	AL	5	7	68	0	0	0	16	1	59.0	51	32	29	5	24	34	5	0	251	9	0	4.42	4.68	106	1.271	
2005	30	BOS	AL	2	1	31	0	0	0	2	0	23.3	29	10	10	1	4	10	3	2	104	1	0	3.86	4.40	114	1.414	
8 Yr WL%				.590	23	16	325	0	0	0	76	7	319.3	310	139	124	22	91	216	21	4	1343	25	3	3.49	4.52	129	1.256
162 Game Avg				4	3	68	0	0	0	15	1	66.7	64	29	25	4	19	45	4	0	280	5	0	3.49	4.52	129	1.256	



1. 1



2. 1



3. 1



4. 1



5. 1



2



6. 1

Elbows aren't too far behind acromial plane.



7. 1

Just about to start rotating his shoulders. Pitching-arm-side forearm is nearly parallel to acromial plane, which should serve to protect his labrum.



8. 1

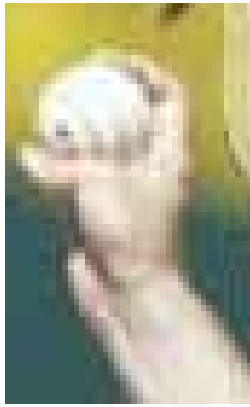


2

In frame 8.1, you can see that his forearm is starting to bounce backward due to the inertia of the ball in his hand.



9. 1



2

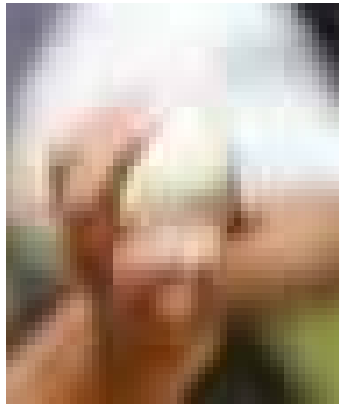


10. 1



2

In frame 10.1, his pitching-arm-side forearm is still bouncing and his wrist is supinated (especially relative to frame 9.1).



11. 1 2

Moving through zone of maximum load on the UCL.



12. 1

Elbow is starting to extend and PAS forearm is starting to fly out.



13. 1



2

Frame 13.1 is troubling from the standpoint of injury-prevention. He appears to have very severe Reverse Pitching Forearm Bounce, which will put a tremendous amount of strain on his UCL. The only saving grace is that he appears to be pronating his forearm while this is happening, which could help to take some of the load off of his UCL.



14. 1



2



15. 1

I'd be willing to bet that frames 15.1 and 16.1 explain Bradford's lower back problems. Because he is a submariner, when rotating his shoulders he also has to twist his back while he is bent over almost 90 degrees. It hurts just to look at these pictures.



16. 1 © James Venes, 2003



17. 1



18. 1



2

Frame 18.2 shows that Bradford can't be pronating too hard, because he has a classic case of Pitching Forearm Flyout.



19. 1

2



3

4



20. 1

2



21. 1



22. 1



2

Figure 22.1 shows some signs of moderate late pronation.



23. 1



24. 1



25. 1



2



26. 1



2



27. 1



2



3

Glossary

- Acromial Plane = A plane that runs vertically downward through the body through the shoulders. When you are lying flat on your back on your bed, think of the bed as the Acromial Plane. In order to protect the muscles of the front of the rotator cuff (e.g. the Subscapularis), pitchers must be careful to limit how far they move their elbows behind the Acromial Plane.
- GAS = Glove Arm Side
- PAS = Pitching Arm Side