Complete Chiropractic Healthcare

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STOP Teaching the "Safety Curve"

May 6, 2016

The 5th of my "STOP" Newsletters:

STOP Doing This Throwing Drill
STOP Focusing On The Throwing Arm
STOP Making Your Pitchers 'Stand Tall'
STOP Thinking Long Toss Is About Arm Strength

In this newsletter we address coaches teaching a "safety curve" to young pitchers. When I worked in California they called it a "low-torque slider".

While the goal is correct...to protect young pitchers from getting hurt by throwing the curveball.

The premise is incorrect...that the snapping of the wrist is how the curveball injures pitchers.

It's NOT the snap of the wrist that damages the elbow.
It's the tilt of the shoulders.

I've done 4 newsletters highlighting how severe shoulder tilt increases arm stress:

In 2008 (click here for this newsletter):

Are Curveballs Harmful?
November 21, 2008

Kinetic Comparison Among the Fastball, Curveball, Change-up, and Slider in Collegiate Baseball Pitchers

Where they showed ***curveballs to put 9% less stress on BOTH the elbow and shoulder*** compared to throwing a fastball:

TABLE 1
Comparison of Joint Force and Torque Among Pitch Types (N = 29)

	Fastball	Curveball	Change-up
Arm cocking phase			
Elbow varus torque (N·m)	34.8 ± 15.4	31.6 ± 15.2	29.0 ± 14.8
Shoulder internal rotation torque (N·m)	35.2 ± 15.6	31.9 ± 15.3	29.5 ± 15.0

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UCL strain. Therefore, all present scientific evidence seems to indicate that the curveball is not a more dangerous pitch than the fastball at the youth or collegiate level.

2012 (click here for this newsletter):

Why Throwing "Over the Top" May Hurt Your Arm

May 16, 2012

Influence of Shoulder Abduction and Lateral Trunk Tilt on Peak Elbow Varus Torque for College Baseball Pitchers During Simulated Pitching

where 10 degrees of shoulder tilt was "the best":

Andrews, 1998; Matsuo et al., 2000). The best angle combination for minimizing peak elbow varus torque was 100° of shoulder abduction with 10° of contralateral trunk tilt. The peak elbow varus

What does 10 degrees of shoulder tilt look like?

while 40 degrees of shoulder tilt DOUBLED elbow stress:

greatest value of peak varus torque of the elbow (125 ± 21 Nm) was found with the combination of 120° of shoulder abduction and 40° of contralateral trunk tilt, and was more than double the smallest value of

What does 40 degrees of tilt look like?

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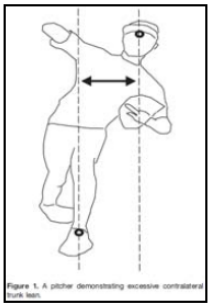
2013 (click here for this newsletter):

1 Way Pitchers Can Decrease Shoulder and Elbow Stress

August 6th, 2013

Effect of Excessive Contralateral Trunk Tilt on Pitching Biomechanics and Performance in High School Baseball Pitchers

found that when the upper body tilts more than 1 head's-width from the center line (see right picture):



Shoulder stress increased by 11.1%

Elbow stress increased by 11.4%

Leading them to conclude:

pitching with excessive contralateral trunk tilt may increase the pitcher's susceptibility to injuries.¶

2015 (click here for this newsletter):

The Harm of Throwing 'Over the Top', Part 2

June 5, 2015

Lateral Trunk Lean in Pitchers Affects Both Ball Velocity and Upper Extremity Joint Moments

In the study, the average shoulder tilt for each pitcher was 24 degrees. And while velocity increased by 1.5% (1.1 mph) for every 10 degrees of shoulder tilt over 24 degrees, shoulder stress increased by 3.2% and elbow stress increased by 4.8%.

This increase in arm stress WAS NOT worth the price of the extra 1.1 miles per hour:

the increase in ball velocity is minimal when compared with the increase in joint loads at the elbow and glenohum-

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If a young pitcher can throw his curveball with the same mechanics as the fastball, there is NO increased risk of injury compared to throwing a fastball.

BUT...very few young pitchers have consistent throwing motions just like very few young hitters have consistent swings.

SO...establish a consistent throwing motion, learn the changeup,

THEN learn the curveball.

It's not the snap. It's the tilt.

Questions About This Newsletter?

Contact (PitchingDoc@msn.com / 631-352-7654) Dr. Arnold!