

The Knuckle Curveball

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Importance of “Out Pitch”

- ◆ 75% of Success in Baseball Derives from Pitching
- ◆ 75% of Success in Pitching Derives from “Out Pitch”
- ◆ Thus 56% ($75\% \times 75\%$) of Coaching Efforts & Practice Time Should be Devoted to Development of “Out Pitch”



Characteristics of “Out Pitch”

- ◆ Usually Thrown Hard
- ◆ Sharp Break
- ◆ Typically at or below the Knee
- ◆ Easily Mistaken for Another Pitch
 - Especially for a fastball
- ◆ Easy on Arm
- ◆ Legal



Examples of “Out Pitches”

- ◆ Great Fastball with Movement – Nolan Ryan
- ◆ Splitter – Roger Clemens
- ◆ Slider – Randy Johnson
- ◆ Curveball – Sandy Koufax
- ◆ Spitter, Grease Ball, Scuff Ball, et al – Gaylord Perry
 - A number of pitchers prior to banning of spitter in 1921
 - Hall of Famer Big Ed Walsh (CHI-A, 1904-1917)

AND

- ◆ The Knuckle Curveball – Mike Mussina
 - A handful of pitchers prior to 1940s, including Hall of Famer Jesse Haines (STL, 1918-1937)

I'd be skeptical too...

- ◆ You may not have heard of pitch, but
 - It was thrown in 2004 ALCS by Mussina
 - It's not a new pitch, it's actually one of the oldest breaking pitches
 - First thrown by man that was born during the Civil War
 - Developed prior to the floating knuckleball, splitter, circle-change, and others
 - It has been thrown ever since, though only sporadically at MLB level
 - Eaton, CO (population ~3,500) could be the only place on Earth it's taught systematically, but results speak for themselves:
 - Pre-Knuckle Curve, 1972-1986
 - 199-78 (72% win), 0 State Championships
 - Using Knuckle Curve, 1987-2015
 - 608-85 (88% win), 21 State Championships (11 High School & 10 Legion)
 - 20 of 21 State Championship Game wins had Knuckle Curve pitcher on mound

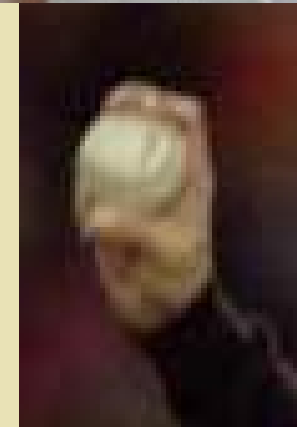
Former MLB Umpire Ron Luciano on Knucklers:

“Like some cult religion that barely survives, there has always been at least one—rarely more than 5 or 6—devotees throwing the knuckleball in the big leagues...

...not only can't pitchers control it, hitters can't hit it, catchers can't catch it, coaches can't coach it, and most pitchers can't learn it. The perfect pitch.”

Different from the Knuckleball

- ◆ Distinguished from Knuckle Ball
 - Rotations
 - More rotations (7-8 vs. 1-1 ½)
 - Speed
 - Thrown w/ max. velocity
- ◆ Knuckle Curveball
Commentary
 - Tim McCarver on Mike Mussina's Knuckle Curve
 - Dave Stenhouse
 - 1962 All-Star Game Starter for Washington Senators



Mike Mussina Showing Knuckle Curve Grip

Knuckle Curveball Characteristics

- ◆ All Characteristics of Out Pitch
 - Thrown Hard
 - 6-9 mph slower than fastball
 - Sharp Break
 - Similar to a spitball's break, not parabolic arc like regular curve
 - Typically at or below the Knee
 - Often ends up in the dirt
 - Easily Mistaken for Fastball
 - Spin
 - Speed
 - Easy on Arm
 - No elbow involvement, 12 year-olds throw it
 - Legal
 - Unlike similar spitball



**2008 Colorado Pitcher of the Year Kyle Ottoson,
Drafted 5 Times, Signed with Padres**

History of the Knuckle Curveball

- ◆ 1868-Bobby Matthews of the Lord Baltimores is credited with 1st spitball
- ◆ 1885-Thomas “Toad” Ramsey (LOU/STL), from Indianapolis, becomes first pitcher in history to throw knuckle curveball, pitch known as “drop curve”
- ◆ 1886-Ramsey leads AA with 66 CGs, throws 588 2/3 innings, .198 Opp. BA
- ◆ 1890-Ramsey completes stellar career with lifetime 3.29 ERA, .234 Opp. BA
- ◆ 1906-Ramsey dies; Eddie Cicotte & Ed Summers take credit for inventing knuckleball in minors (Indianapolis)
- ◆ 1909-Cicotte goes 14-5 (BOS) with 1.94 ERA (knuckleball); Summers goes 19-9 (DET) with 2.24 ERA (“dry spitter”)
- ◆ 1921-Spitball banned from MLB
- ◆ 1922-Eddie Rommel (PHI-A) relies on knuckleball to lead majors with 27 wins
- ◆ 1922-Jesse Haines (STL) begins throwing knuckle curve
- ◆ 1923-Haines uses knuckle curveball as primary pitch and goes 20-13 with 3.11 ERA
- ◆ 1925-Fred Fitzsimmons (NYG/BRO) begins throwing knuckle curveball as primary pitch, becoming 2nd such pitcher of the era to do so
- ◆ 1927-Haines leads N.L. in CGs (25) and shutouts (6) with 24-10 record
- ◆ 1930-Fitzsimmons leads N.L. in winning percentage with 19-7 record
- ◆ 1934-Haines leads N.L. in fewest runs allowed
- ◆ 1937-Haines completes Hall of Fame career with lifetime ERA of 3.64
- ◆ 1940-Fitzsimmons leads the N.L. in winning percentage with 16-2 record

Pioneers of the Knuckle Curve & Knuckleball



Toad Ramsey

1885-1890

Knuckle Curve



Eddie Cicotte

1905-1920

Floater



Ed Summers

1908-1912

Knuckle Curve



Eddie Rommell

1920-1932

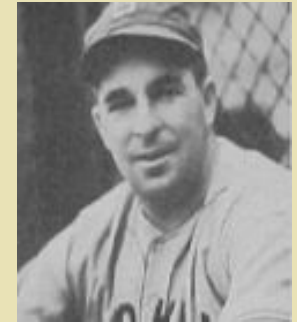
Floater



Jesse Haines

1918-1937

Knuckle Curve



Fred Fitzsimmons

1925-1943

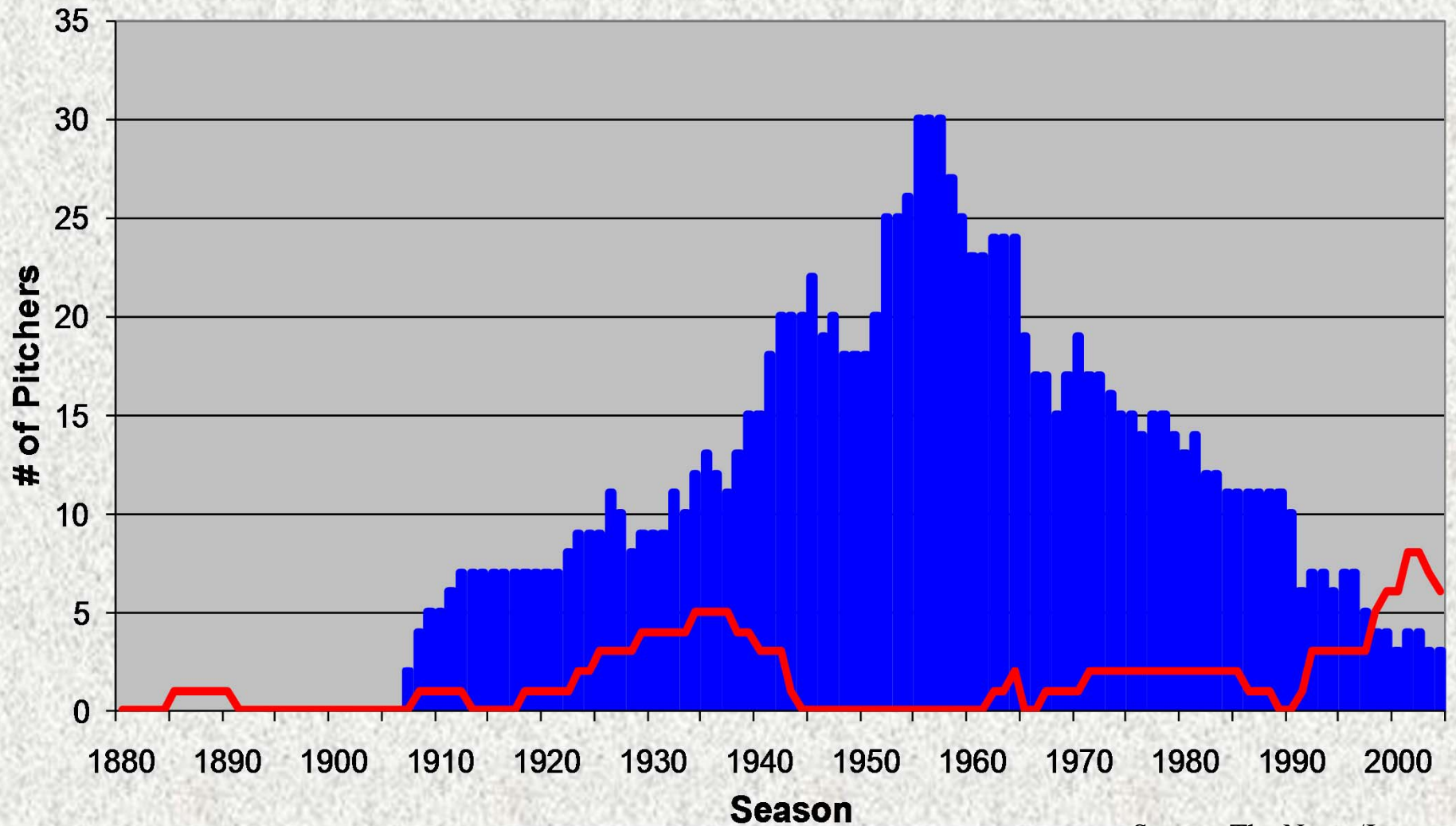
Knuckle Curve

“Nowadays these fellows call theirs the wobbly type. It doesn’t turn like a curve. It floats. Some of them call it a floater. They never know which way it will break. Sometimes it breaks down and sometimes it breaks up. That’s why they are so hard to catch.

When I threw a knuckler—the right way—I pushed my two fingers forward and usually knew exactly where the ball was going.”

Fat Freddie Fitzsimmons, June 10, 1953, *The Sporting News*

MLB Knuckleball and Knuckle Curveball Pitchers



Knuckleball **Knuckle Curveball**

Source: The Neyer/James Guide to Pitchers & Internet Research

The Pitch Fades Into Obscurity...

- ◆ 1940s – World War II
 - # of players drafted
 - Larry French drafted
 - Few pitching coaches
- ◆ 1950s – Rise of the Slider
 - Easy to control in era of shrinking strike zone
 - Easier to throw than knuckler
 - Success of Bob Feller, Jim Bunning, Bob Lemon
 - “Knucklers belong in the bullpen”
 - Hoyt Wilhelm, Eddie Fisher, Wilbur Wood
- ◆ 1960s – Era of Pitching Dominance
 - Heyday of low ERAs and runs scored
 - Less reason to throw difficult pitch
- ◆ 1970s – Circle Change-Up Becomes Prominent 3rd Pitch
 - Success of Andy Messersmith, Mario Soto
- ◆ 1980s – Splitter En Vogue
 - Success of Bruce Sutter
 - Teaching by Roger Craig

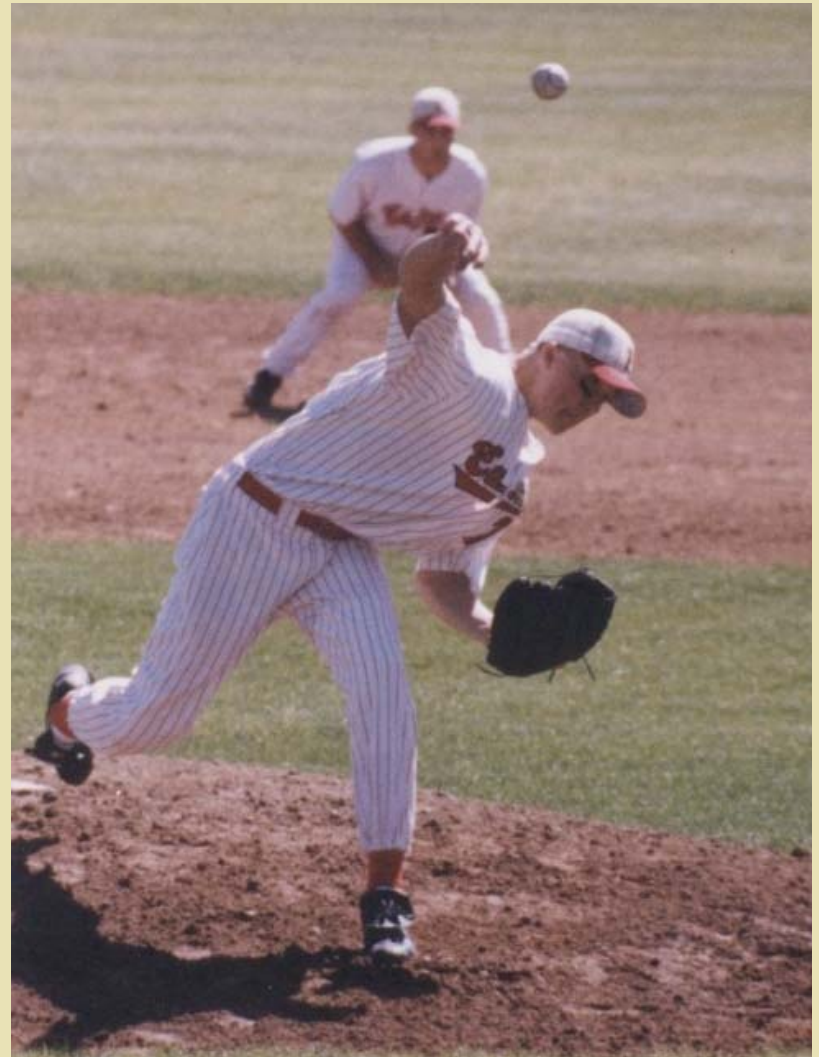
...But Doesn't Disappear Completely

- ◆ 1962-1964 Dave Stenhouse (WAS)
 - Started '62 All-Star Game
- ◆ 1971-1985 Burt Hooton (CHC/LA)
- ◆ 1987 – Knuckle Curveball Makes Debut at Eaton High School
 - Every roster since has included at least 1 knuckle curveball pitcher, usually many knuckle curveball pitchers on roster
 - 21 State Championships won, 20 of them with 1 or more knuckle curve pitchers on the mound
- ◆ 1990s – Present
 - Mike Mussina (NYY)
 - \$16MM/yr.; Game 1 Starter
 - Doug Brocail, R.A. Dickey, Wade Miller, Jared Fernandez, and others



Advantages of Knuckle Curve

- ◆ Looks like fastball
 - Velocity
 - Spin
 - Trajectory
 - Physics experiments
 - Grip
- ◆ Snaps down
- ◆ Pitcher confidence
- ◆ Ground balls put in play
 - Very few extra base hits
- ◆ Hard to hang



Eaton Red throwing Knuckle Curveball

Disadvantages of Knuckle Curve

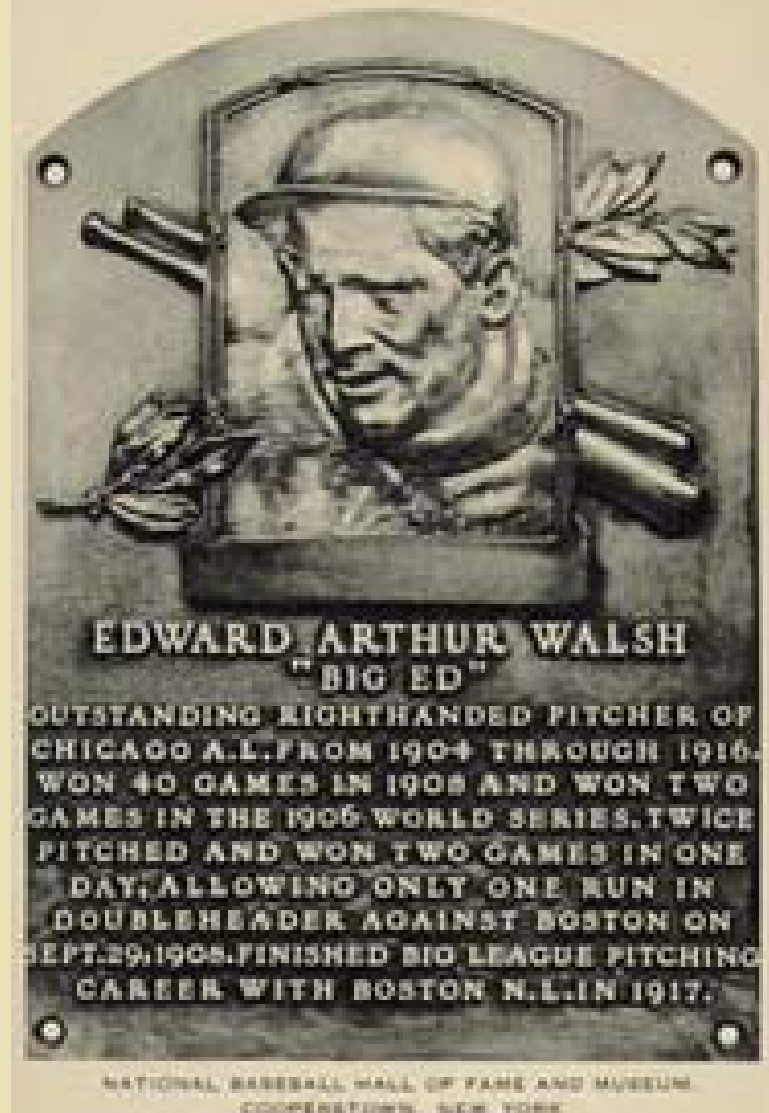
- ◆ Time commitment
- ◆ Difficulty with control
- ◆ Have to disguise grip
- ◆ Finger/Fingernail strength
- ◆ Requires stud catcher



Eaton 7th Grader Throwing Knuckle Curve

Similarities with Spitball

- ◆ Spin
- ◆ Velocity
- ◆ Break
- ◆ Trajectory
- ◆ Big Ed Walsh
 - 40-15 Record in 1908
 - Lifetime 1.82 ERA
 - Lifetime Opp. BA .218



Technique

- ◆ Grip
- ◆ Release
 - Push Over
 - 7-8 Rotations
- ◆ Thrown for:
 - Strike
 - Strikeout



Drills

- ◆ Knuckleball
- ◆ Spin
- ◆ Push Over
- ◆ Reverse Spin Toss
- ◆ Big Ed Walsh “Aim Small, Miss Small” Drill



**Eaton 7th Grader
Gripping Knuckle Curve**

Success of Knuckle Curveball

- ◆ Eaton Reds Baseball
- ◆ 1972-1986
 - 199 - 78 (72%)
 - 0 State Championships
- ◆ 1987-2015 (Knuckle Curve Implemented)
 - 608 - 85 (88%)
 - 21 State Championships
 - 11 High School & 10 Legion



1995 State Championship