

A "Loose Pitcher" is one who throws Several Additional Pitches

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Splitter - Used (1%) League Wide

Average Hit/Strike Rate For 2016 = 9.69%

The Splitter is essentially a change-up. It is thrown with the fingers split wide apart to give the appearance of a fastball, either two-seam or four-seam. However, the wide fingers allow arm, elbow, wrist and finger snap to appear strong, but the velocity is inhibited. There may be other variations of the splitter that I am not aware how the pitcher performs it, but this description probably covers most of the philosophy and mechanics. Since some of the velocity is taken off this pitch, then the effect of the air density is lessened as in the case of the change-up. It is used more as a surprise than as a movement challenge to the hitter. The Splitter is not used frequently and probably for good reason. It is one of those pitches that a Loose Pitcher can use effectively one day (especially against a High Plus VMI Team) and then get taken advantage of on the next (especially against a High Minus VMI Team).

The Splitter is most effective as a counter pitch to the two-seam or four-seam, but can also be an additional pitch in a slew of off-speed pitches. As I mentioned in another recent article, a "Loose Pitcher" presents many ways in which to get a hitter out. However, a Loose Pitcher also presents many ways by which to lose a game, especially to a team who sports a High Minus VMI. When using the VMI, look for a team who is High Minus against a pitcher who would probably be considered Loose. That is a combination that favors the hitters.

When you are utilizing our database at [baseballvmi](http://baseballvmi.com) – keep in mind that you can narrow the pitch data down to a single game by using the team name and the specific date, but that is only where the date is one of the options listed.

Knuckleball - (1% of the total pitches thrown in MLB)

Hit/Strike Rate for 2016 = 9.12%

The "Knuckleballer" is a category of its own

Oh, the knuckleball. It dives and darts every which way. Up, down, side to side and all angles in between. It confounds everyone, mathematical geniuses, physicists, engineers, and all who try to describe or especially to quantify it. Of course, I have never seen a mathematical formula put to an inflated balloon having been released with the valve open, either.

In Major League Baseball, there are only about four pitchers who throw this pitch at all. Since **Tim Lincecum** retired; only **Stephen Wright, R.A. Dickey, Kevin Plawecki, and Eddie Gamboa** throw a knuckleball regularly, and only Wright and Dickey are starters. Those two starters throw this pitch at a rate of about 60% each, making only a 1% dent in the total pitches thrown in all of MLB. However, for those pitchers it is as effective as, or more effective than any other pitch. It is just a difficult pitch to throw

because it must have no spin on it whatsoever as it releases from the pitcher's hand. Dickey throws an 84 mph knuckleball about 62% of the time with a 59% accuracy rate. Hitters get a hit on about 9% of his strikes thrown (2016-2017), and he pitches primarily in heavier air ranges 65 ADI to 72 ADI. Wright throws a slower knuckleball at a 78 mph average, approximately 70% of the time with an accuracy of about 69%. Hitters connect for a hit on about 11% of his knuckleball strikes (2016-2017). Gamboa threw only 131 knuckleballs representing 59% of his pitch selection decisions in 2016 with an accuracy rate of 60% and hitters connected for a hit on 6.33% of his strikes. Dickey is now pitching for the Atlanta Braves, and it remains to be seen in 2017 if his effectiveness is affected by the lighter air (55 ADI to 61 ADI). Thus far in 2017 his percentage is higher in the lighter air (60s ADI-12%) than in the heavier air (70s ADI-0% hits).

I'll attempt to describe the knuckleball from a layman's perspective. The best knuckleballs I've seen personally and attempted to catch regularly have been on a fastpitch softball in the 60-70 mph ranges, but I've also been victim to line drives in the outfield that knuckleballed off the bat at a much higher speed. And I've seen soccer balls and volleyballs knuckle in flight, as well. I'm quite sure you have experienced many of these too.

Unfortunately, aerospace engineers and physics professors are in a certain amount of disagreement regarding projectiles flying through the air. So, until someone puts this together better than the real world observations and experiential understandings of those of us who have thrown, hit, caught, observed, missed, been hit in the nose by, been made a fool of, explained a black eye, and studied them in flight, in my next article I will share with you how this phenomenon most likely works in the real world.

Visual Memory by Clifton Neeley, creator of the Visual Memory Index© and author of the web-site www.baseballvmi.com. Clifton pitched and played baseball and fast-pitch softball in the mountainous southwest Colorado area from 4,000 feet in Grand Junction to 6,000 feet in Durango to 9,000 feet in Telluride prior to his college experience in baseball.