

One Throw Can Change Everything:
Young Pitchers and the Effects of Tommy John Surgery

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PROLOGUE: The Quietest Moment

For college players, summer baseball games are usually a relaxed environment, a time to have fun and enjoy the sport that they love without the high stakes of being a collegiate athlete. These summer baseball teams are filled with not just those active on a college team; former collegiate players and professionals, and adults who just love the game, also play.

Matthew Brembs, 23, is a former Division I player, from Iona College, and he has played for the New Rochelle Tigers every summer since his freshman year of college at the New Rochelle campus. Brembs is a left-handed relief pitcher who has four different pitches: a fastball, changeup, curveball, and slider. Even though he is no longer in college, he keeps playing in the league because of his love and passion for the game. Throughout the summer of 2018, Brembs was tasked with being the team's closer, and he responded by having a great season, leading the summer league in saves.

On Sunday, Aug. 11, 2018, the Tigers of the Westchester-Rockland Wood Bat League hosted the first playoff of the season at Iona Prep High School against the Harrison Patriots. It was the seventh inning of a nine-inning game, and Brembs was told to start warming up in the bullpen. As he was getting loose, he heard his teammates and fans of the Tigers screaming, because the Tigers had just taken the lead in a win-or-go-home playoff game. Now almost done with his warmup, Brembs remembers his heart starting to race during his last few pitches before taking the mound to start the eighth inning. The third out was made in the bottom of the seventh, and it was time for Brembs to enter the game and protect a 4-3 lead.

As Brembs recalls it, his arm felt great that day, and he even felt like he was pitching with more velocity than usual. He faced the first batter of the inning and struck him out on four pitches. The next batter singled to center field, and the batter after that just happened to be the best player on the opposing team. It was a good battle between the pitcher and the hitter, and the count ran full: three balls, two strikes. On the next pitch, Brembs walked him on a way-too-high fastball, which the catcher, Joe Mandile, barely saved from hitting the backstop behind him.

Now with runners on first and second, Brembs and Mandile met at the mound to discuss the next batter. Both the pitcher and catcher were strategizing and hoping for a ground-ball double play to get out of the inning. The first two pitches to the next batter were very high, not even close to the strike zone. The third pitch skipped into the dirt and got away from the catcher, which allowed the runners to advance to second and third. With three balls and no strikes the next pitch Brembs threw—ball four—turned out to be his last.

After Brembs released the fastball he recalls “blacking out” for several seconds before immediately reaching for his left arm. Holding his elbow in pain, Brembs knew exactly what this pain was, he had just torn his ulnar collateral ligament for a second time in his career. After the walk the bases were loaded, but the only thing on everyone’s mind was that left arm. Brembs described the atmosphere in the stadium as “the quietest moment of my life.” As his coach ran out of the dugout and toward him, Brembs knew this was the end of his season.

After getting taken out of the game, he remembers looking around at his teammates and surroundings, trying to take everything in, just in case this was the final game of his playing career. He remembers both teams and all the fans standing in order to give him an ovation as he

walked off the field. Once he got back into the dugout he grabbed his baseball equipment and knew exactly where his next stop would be: the nearest hospital.

The next day Brems underwent Tommy John surgery, which ended his season and put him out of baseball activities for the next year.

The Tigers ended up rallying in the bottom of the eighth inning to win the game 6-5, but they lost their best relief pitcher and closer in the process.

Undergoing this surgery and rehab once is a lot to overcome, but twice, and trying to play baseball again, would almost take a miracle. Brems would end up missing the entire 2019 baseball season, while still attending games to support his teammates. He is currently still trying to rehab and get his arm healthy enough to play again in 2020.

Tommy John surgery, or ulnar collateral ligament reconstruction, is a serious elbow injury that has become more common among young athletes and professionals in recent years. The amount of surgeries performed by doctors on high school and college athletes has skyrocketed. What has changed so drastically over the last 30 years? According to Dr. James Andrews via WebMD, teenage Tommy John patients have increased from less than a dozen per year in the 1990s to more than 40 per year by 2010.

Former Los Angeles Dodgers pitcher Tommy John was the first player to get this surgery in 1974 and give it its nickname. It was first performed by Dr. Frank Jobe (1925-2014), but is now being performed by many doctors all around the world. Many Major League pitchers' careers have been saved by the procedure, but studies have shown teenagers have undergone more surgeries than any other age group. Pitchers between the ages of 15 and 19 account for over 55 percent of ulnar collateral ligament surgeries per year, according to WebMD. Young pitchers

have two options: have the surgery and hopefully salvage their baseball career, or not to have the surgery and instead go the rehabilitation route while hoping for the best.

The increase in surgeries would seem to result from the fact that high school and college players are playing baseball more than ever before. Besides playing during baseball season, players are now playing summer baseball and fall baseball competitively for travel teams and Little League teams. Even when there's snow on the ground during the offseason, players are training indoors and working out extra hard in the gym to be ready for the next season. Do young baseball players push themselves just a bit too much?

Another reason athletes are playing baseball more often and working out more frequently is to hopefully get a scholarship in college and keep it all four years. High school baseball is serious these days, because getting even a partial scholarship might reduce the cost of college. Some parents also push their children to play as much as possible in order to save money while paying college tuition, as well as seeing their child succeed on a college sports team. To what extent does the pressure for a college scholarship lead to overuse and potentially serious injury?

Another possible cause is a desire on the part of coaches and scouts for pitchers to throw with greater velocity than in previous years. Recently, the average speed at which a player throws has increased drastically at the Major League level from under 90 miles per hour to over 93 miles per hour over the last 10 years, according to MLB.com. Most players start playing between the age of 5 and 8 so after 10 or more years of throwing and playing their arm gets stronger, but also has more wear and tear. To what extent do trends in Major League Baseball have a trickle-down effect on Little Leaguers?

At the same time, Tommy John surgery can save a player's career. A 2012 WebMD survey reported that 28 percent of college and high school players thought surgery would improve performance above pre-injury level. Among high-school players in the survey, 51 percent said they thought it was a good idea for healthy players, whose elbows were not injured, to have elbow reconstruction as a means to enhance their performance. That perception probably came about because players typically perform better after ligament repair surgery than immediately before, because they are no longer injured. The surgery itself does not improve performance. But young athletes who have the Tommy John surgery in high school actually have a higher risk of reinjuring their arm later, especially if they haven't acted with any extra precaution prior to the injury, according to WebMD and Tommy John surgeons.

Baseball players (as all athletes) are on the field to have a good time and play the sport that they love and enjoy. No one ever thinks they are going to get hurt, especially playing the same sport they've played your entire life. Elbow reconstruction surgery has been increasing in recent years, and it is important to understand and learn how to keep pitchers arms injury free in the future.

CHAPTER 1: *The Patients of Jobe*

Tommy John is a retired pitcher who played in the league for 26 seasons between 1963 and 1989. He was a four-time All Star with 288 career victories, which is the seventh-highest total among left handed pitchers in the history of Major League Baseball. John played for six different teams throughout his career, but is most well known for his time spent with the Los Angeles Dodgers and New York Yankees. In July of 1974, he was on track for his best season ever. He was 13-3 with a 2.59 ERA. He then experienced pain in his left elbow. After a few weeks of rest

didn't cure it, Jobe, the Dodgers team physician, suggested a new procedure—removing the ulnar collateral ligament in his elbow, and replacing it with a tendon from somewhere else in the patients' body such as a forearm, wrist, or toe.

“Tommy John looked around my office very seriously, then looked me in the eyes and said, ‘Let’s do it,’” Jobe said in a 2012 interview with Reid Forgrave of Fox Sports. “Those are the three words that changed baseball.”

Despite a poor outlook at first, John recovered and earned more than half of his career victories after the surgery. The exact procedure, in short, is elbow reconstruction, involving drilling holes into the elbow and then weaving a tendon from another part of the patient's body, usually the wrist or forearm, to form a new ligament. Since 1974, this surgery has become common among Major League Baseball pitchers. Jobe made sports medicine history in September 1974 when he first performed the procedure.

John had pitched for 12 seasons prior to the surgery, and he was able to pitch another 14 seasons until the age of 46 with his new elbow and showed improved results after the surgery was completed. Soon after the initial surgery, Jobe wasn't sure the procedure's benefits would last, so he waited two years before performing another Tommy John surgery on a patient.

After finding early success, Jobe knew the benefits were long-lasting. Originally, Jobe estimated a 1 in 100 chance of a full recovery, but now that percentage has risen to about 85 to 90 percent. In the decades since the first Tommy John procedure, it has become common practice for players of all levels of baseball who suffer damage to the ulnar collateral ligament. The recovery time for pitchers is around 12 months, and today, nearly one third of current Major

League Baseball pitchers have undergone the surgery. This proves surgery has not only changed the game of baseball, but it may have saved it completely.

Some notable Major League Baseball pitchers who have extended their careers due to the surgery include Stephen Strasburg who was the 2019 World Series MVP and champion with the Washington Nationals, and just signed a free agent contract for more than \$240 million this offseason. Another great Tommy John success is Jacob DeGrom, New York Mets pitcher and two time reigning Cy Young Award recipient. There is also John Smoltz, who is the first pitcher to be elected into the Hall of Fame after undergoing Tommy John surgery. Several position players (that is, non-pitchers) have also undergone the procedure successfully, including Salvador Perez, catcher for the Kansas City Royals, and Gleyber Torres, the current New York Yankees shortstop.

Since the first Tommy John surgery was performed there have been more than 500 more performed on professional baseball players. The number of patients continues to grow, especially among young players. By 2011 more than half of all Tommy John surgeries were done on players aged 15 to 19 years old. In 2017, out of 5,300 pitchers a study found that 134 needed ulnar collateral ligament reconstruction surgery, according to Tom Verducci of Sports Illustrated. These numbers keep growing at an alarming rate each year and will continue to do so in the future.

The cost of Tommy John surgery is not cheap. Depending on the surgeon and health insurance coverage, the surgery cost is around \$15,000, according to WebMD. The procedure itself ranges from \$500 to \$5,000 with insurance coverage. Without insurance the cost ranges from \$10,000 to \$25,000. That price consists of just the procedure, and doesn't include physical therapy afterward, according to Howmuchisit.org. Physical therapy without insurance can cost \$100 to \$150 each visit.

CHAPTER 2: Coach's Perspective

Young athletes look up to their coaches for guidance, and expect them to set a good example. Joe Mandile is the head coach at John Jay College, and John Meyer is a high school summer ball head coach for the Putnam Dutchess Diamondbacks. Both coaches have years of experience playing and coaching baseball, and have seen their fair share of arm injuries.

Mandile has been playing baseball his entire life, and his love for the game has only gotten stronger since transitioning to coaching. Prior to being the head coach at John Jay College, he was an assistant coach at Manhattanville College and Fordham University. Each summer for the past several years, Mandile has also been the head coach of the New Rochelle Tigers, while also pitching for the team when necessary. "As a former college athlete I know how much hard work and dedication is needed to succeed at this level," said Mandile. "Now my goal is to help these young men be successful, and more importantly stay healthy whether during the college season or during summer ball."

Throughout his college and youth playing days Mandile was mainly an infielder, but for his adult playing days he has been pitching. "I never pitched until after college. I wasn't the best hitter so I said why not try pitching. I was willing to do anything to keep playing baseball as long as possible."

Meyer, 57, is an older man who hasn't been able to play baseball in quite some time, but his passion for the game has never changed. "Baseball is my life," said Meyer. I don't have a wife or kids so I usually just tell everyone I'm married to the game." He has been coaching for more than 20 years and continues to love and adapt to the new age of baseball players. "One of the proudest coaching career achievements I've had is to be able to keep my players healthy, for

the most part,” stated Meyer. “I do not put my players in harm’s way by playing them every single game or having them pitch 150 pitches in one game.”

Tommy John surgery is a major surgery that can force a player to miss an entire year of baseball. Coaches play an important role in arm injury prevention, and in many cases they have the future of the player in their hands. Most players are going to want to play every game or pitch until they are tired, but the coach has the power to give rest to players who are fatigued or just need a day off.

“Never in my coaching career has a player asked me to not play him, and I would’ve never asked my coach either as a young player,” Mandile said. “It’s my responsibility to know my players and make sure I’m not pushing them too hard. When you know a player, it’s not hard to tell when they look tired or fatigued.”

Parents oftentimes have an impact on their child’s athletic career and their decisions. Many parents are hoping for their athlete to play at the collegiate level. Jose Claudio, is a former Rutgers University baseball player and a father and uncle. He currently lives in New York City, and constantly surrounds himself with sports. “I have a son named Aidan, who I have been pushing from a young age to play sports,” said Claudio. Aidan ended up playing basketball and track in high school. As a college freshman he is no longer pursuing sports competitively. “My son stopped playing sports after high school and was never really into baseball, but my nephew went to college to play baseball years ago and I couldn’t have been more proud,” said Claudio with a smile.

“Of course as a former athlete I tried to push my son and nephew to play sports in college. Not only because of my love and passion for the game, but also to provide them with more

scholarship opportunities,” he continued. “The less money they’d have to spend on college tuition the better. I also strongly believe that having teammates means you will have friends for life. I am still extremely close with my baseball teammates over the years.”

The recovery for Tommy John surgery is a long process for anyone, but especially for someone who has had the surgery twice. Some young athletes have severe elbow injuries, but elect not to get Tommy John surgery. Instead these players choose to rehab their injury for different reasons. Some would rather attempt rehab so the recovery process isn’t as long, but some people don’t get the surgery because they can’t. Nicholas Lasala, a Purchase College senior outfielder, tore his UCL ligament in his right elbow just before the 2020 season started. As a senior in college he decided to battle through the pain and play. “I was at the trainer everyday before practice,” said Lasala. “It was difficult. Most days I was taking Advil and icing my arm all the time.

“Thank God, I’ve been rather healthy throughout my baseball career. If I wasn’t a senior in college I most likely would have undergone the surgery, but there was no way I was losing my last season to an injury.” Due to COVID 19, Lasala ironically had his final season cut short anyway because of the pandemic. After taking some time to let this sink in, he decided to go through extensive rehabilitation and will not undergo the surgery. “I will not be having the surgery anytime soon just in case,” said Lasala with a smile.

In recent years doctors have been urging coaches, parents, and players to focus more on injury prevention. “You have to trick coaches to attend injury prevention talks,” said Dr. James Andrews to Sports Illustrated in 2016. Andrews, a renowned orthopedist, was Jobe’s protégé and has been largely credited with perfecting Tommy John surgery, according to the Los Angeles

Times. He has performed successful surgeries on Hall of Fame pitchers Roger Clemens (torn labrum) and John Smoltz (UCL), among many other athletes.

Brembs underwent his second UCL surgery in the summer of 2018 and has had an even longer recovery process than most. “Undergoing this surgery for the second time really was exhausting,” he said. “I knew what to expect the second time around, and for me that made it even harder than the first time.” Brembs’ recovery process was broken down into five steps. Step one lasted two to three weeks and basically consisted of no movement, because of the hard brace on his arm. Step two consisted of light arm movements, and the goal is to have full range of motion. This step lasted about a month, according to Brembs. Step three was physical therapy, and the goal is to strengthen and regain your arm muscles over the course of three months. Step four was finally when baseball activities started. The goal is to start gradually with light tossing and end up long tossing. This step lasted about four months. Step five, the final step consists of throwing off the mound which normally starts 10 months after your surgery.

Brembs wanted nothing more than to play as much baseball as possible at a young age. “I don’t regret a thing,” he said. “Sometimes I felt like I overdid when I was younger, prior to my first surgery. I just love to play ball, but the second surgery really came as a shock to me. I knew it right away when it happened even after being so careful for years.”

Recently he started a throwing program, but hasn’t stepped foot on the pitcher’s mound yet. “I’m just trying to move slowly this time and not push myself back too quickly,” stated Brembs. He is hoping to be ready to play at some point this summer, but won’t rush. Playing catch in his backyard is the best Brembs can do right now, but he’s OK with that. After more than 18 months on the recovery trail, Brembs is still hoping to return to baseball as a player.

SOURCE LIST

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Jose Claudio, March 2020; Former Rutgers University baseball player, a father and an uncle for young athletes. Contact information: 646-353-1556.

Anthony Gigante, September 2019; Shortstop for New Rochelle Tigers, was teammate for Brembs. Contact information: Contact information: 914-262-4326.

Rosalie Kearns, March 2020; helped John Meyer with Diamondbacks scheduling, mother of twins Brandon and Jared, one of them became college athlete and the other went to the military. Contact information: 845-514-3436.

Nicholas Lasala, February 2020; Purchase College senior outfielder, tore his UCL in February of senior year and did not get the surgery.

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Joe Mandile, August 2019; head coach of John Jay College and New Rochelle Tigers, also plays on New Rochelle Tigers, was the catcher for Brembs.

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John Meyer, July 2019 and March 2020; heach coach of Putnam Dutchess Diamondbacks.

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