

# Fully immersed: Diving into baseball's player development culture

**A**s Cleveland Indians fans who enjoy arriving early to the ballpark know, a dedicated long-toss regimen is as much a part of pregame rituals for many pitchers as batting practice and shagging fly balls is for positional players. Starting pitchers Trevor Bauer and teammate Danny Salazar, in particular, are known to throw it from the outfield walls to targets over 350 feet away with power behind them.

The long toss itself is a beautiful exercise to behold. At first, it appears ballplayers are playing a relaxing game of catch with soft, high-arching tosses being thrown back and forth from a somewhat short distance. The players continue those high-arcs, but start to move to longer distances until they reach the farthest their arms can deliver the ball in such a fashion. It is a simple game any kids with a ball, gloves, and an open field have attempted if given the freedom to just play.<sup>1</sup> Then, just when an observer might believe they are watching players work on catching deep pop flies, the real fun begins. Those balls which traveled through the air as if they needed to clear an invisible wall high above the playing surface straighten out and are suddenly delivered with the power to smash through said wall. Each successive throw is a challenge to best the previous one.

As the players shorten the distance between them, the intent behind the throws does not decrease. The object of the exercise is using the strength and determination of the 300-plus foot toss, but pulling down into what becomes a 60-to-70-foot throw. Additionally, it allows the player to throw freely and aggressively in a fun manner without the mental hurdle of the mound. The arm becomes stretched out, strength and stability are acquired, and instincts in the mind are trained upon the one specific purpose of throwing the ball at high velocity. After such training, throwing the ball with speed becomes a naturally occurring process rather than an unnatural stressful event accompanied by jerky motions and poor mechanics.

Over the last decade, Major League Baseball has undergone a data revolution in which teams began utilizing statistical analysis to gain a crucial edge in a sport where the margin between success and failure is infinitesimal. While efforts are ongoing to find more areas to analyze, there has also been considerable growth in developing players more intelligently.

The long toss is just one of the many glimpses fans might see of the underbelly of the game beyond the game. While fans see the results three hours at a time, 162 times a year, the players are constantly churning behind the scenes to improve their skills with the help of their MLB organization and a growing faction of player development companies.

The Cleveland Indians have been one of the teams at the forefront of this advancing area of baseball and have been linked to some of the most respected companies in the field, including Jaeger Sports, Texas Baseball Ranch, Arizona Baseball Ranch, Dynamic Sports Training, and Driveline Baseball.

## JAEGER: MAESTRO

**T**he genesis of the long toss within the Indians is widely believed to have come from the acquisition of starting pitcher Trevor Bauer. While the beginnings do have roots with Bauer, they dig much deeper than his acquisition via trade in December of 2012 and burrow into the relationships of the Indians with the advanced player development community.

One of the main proponents of the long toss is Alan Jaeger of [Jaeger Sports](#), who has held the principles of the long toss at the core of his pitching regimen for the past 25 years. The initial discussion began innocuously enough with the Indians Senior Director of Scouting Operations John Mirabelli, who was scouting a pitching phenom from UCLA (yes, Trevor Bauer). Alan Jaeger just so happened to be present to watch one of his guys pitch near the Jaeger Sports base of operations in Southern California.

### Jaeger Sports J-Bands

The initial discussion laid the groundwork for a much deeper dive into the methodologies, research, and reasoning behind Jaeger's approach. Though the program was sensible, current Indians Director of Player Development [Carter Hawkins](#) required hard data to verify the logic. Jaeger provided 42 MiLB and MLB case studies. Pitchers who saw their velocity rise upon starting the program, and pitchers who saw their velocities regress when subjected to restrictive organizations. "The greatest fall for an arm is someone that is really well-trained and put them on a regressive throwing program," said Jaeger as he described the frustration many of his former pupils felt after they were drafted into such restrictive programs. "The fall is huge."

Another convincing factor from those case studies was the relative health shown in the long-toss arms compared to that of an average MLB pitcher. Barry Zito and Dan Haren are noted clients of Jaeger Sports. Zito had never been on the disabled list for an arm injury until his farewell season.<sup>2</sup> Haren exhibited similar arm durability though he did have a problematic back for parts of his career. Using similar techniques for arm health, the health of the 2015 Cleveland Indians pitching staff should not be a surprise. Other than a few missed starts in August from Carlos Carrasco for shoulder soreness, there were zero starts missed due to arm injuries. Ace Corey Kluber strained his hamstring and Salazar fell ill, but neither was an arm ailment.<sup>3</sup>

All of the discussions, research, and case studies led to Jaeger presenting his methodologies to the Indians front office in March of 2012. According to Jaeger, the entire organization was receptive to his presentation and it immediately became a [significant tool](#). The Indians, however, did not become rigid. The importance on individualizing to the specific needs of each player remained the most significant philosophy.

While Jaeger is a firm believer in throwing more and often as a way of preparing your arm, MLB organizations have a need and a pressure to continuously evaluate all development tools. “Do you spend bullets on the mound, long-toss, bullpen? Our job as a development leadership group determines which (exercises) spend and which gain and constantly are researching to gain evidence to support or not support these issues,” Hawkins explained. The process is fluid and each athlete is different.

### THAT BASEBALL RANCH IN TEXAS

**A**s one of the rising leaders in the baseball player development world, that the famed Texas Baseball Ranch (TBR) uses the long toss among its methods should not be surprising. TBR is led by a man named Ron Wolforth. It has been credited with helping the emerging career of Bauer, resurrecting the career of former Indians starter [Scott Kazmir](#), and helping to change the mentality toward developing pitchers along the way.<sup>4</sup>

While MLB pitchers Bauer and Kazmir are among the most well-known from the Texas Baseball Ranch, the Cleveland Indians also have another key member of the organization from Wolforth’s school of thought in their current Assistant Director of Player Development [Eric Binder](#). Binder, nicknamed Lake for his propensity to leave sweat puddles everywhere he went during workouts, is among the legendary success stories of coach Wolforth. After his sophomore year at Northwestern, Binder visited The Ranch and had a self-proclaimed “eye-opening experience of how to develop athleticism and translate to throwing patterns.” Binder transferred to Trinity University in San Antonio, Texas, where he continued his relationship with the relatively nearby Texas Baseball Ranch.

#### Working at the Ranch

An 83-mile per hour fastball had persisted with Binder at Northwestern despite an ability to long toss 350 feet. (Such distances are usually reserved for pitchers throwing above 90 miles per hour.) After some frustration and experimentation, Wolforth introduced a technique called blending. Upon reaching maximum distance during the long toss segment of a workout, a portable mound would be brought out and a catcher would be placed 60 feet away. The pitcher is to then throw with the same motion and intensity he had for the maximum distance but pull the ball down to the catcher’s mitt. Almost immediately, Binder’s velocity rose several miles per hour and before long he was throwing above 90. After a short stint in the St. Louis Cardinals farm system, Binder’s life would move in another direction to keep him connected to the game he loved. Various Indians personnel

visited the ranch and recognized that Binder understood the detail-oriented approach required to bring about research-based results when they attended a presentation he gave at the [Ultimate Pitching Coaches Boot Camp](#) (UPCBC). After many discussions, Binder accepted the position as an advanced scouting intern under Alex Eckelman early in the spring of 2013.<sup>5</sup>

## DURATHRO COGS

**W**hile the long toss is among the tools used, TBR philosophies center on arm care, individualized athleticism, and proper mentalities. Everything with an ability to be measured and recorded is in fact measured and recorded. Assessments are used to not only give athletes an awareness of their current status but also to challenge them to continually improve. “Ron has had a huge impact on the game of baseball,” says Binder. “He brings great creativity and innovation to the game and is always pushing himself and the Ranch to be better today than yesterday.” Exercises are carefully chosen to mirror the overall motion and mindset desired in order to organize the body efficiently and take care of the arm.

**“We must realize that God is a better pitching coach than we are.”**

### – Ron Wolforth

While the programs are all heavily individualized<sup>6</sup>, the trust and relationships coach Ron Wolforth has built throughout the baseball community have become part of a larger culture grown from the Texas Baseball Ranch and their philosophies. The importance of those philosophies can be seen directly from the [Durathro throwing program](#) at The Ranch. There are nine cogs in the program, but only one of the nine focuses on actual throwing. Instead, the main focus is on preparing and developing the arm and body. In fact, six of the nine cogs have such a focus.<sup>7</sup>

Despite only one throwing cog, Coach Wolforth believes in throwing more rather than less. He simply believes in placing the utmost importance on preparation and mentality first. If the body is not prepared, then injuries will occur—throwing a baseball with maximum velocity is an inherently stressful event. There is significant emphasis on “starting with the pain” because if the arm is hurting, then the pain points to the weakness. Additionally, if the mind is not in a proper state, then the player will not be successful regardless of physical preparation and talent.

One of the main principles employed is an adherence to the [Bernstein principle](#) that “the body will organize itself in accordance with the overall goal of the activity.” Coach Wolforth carefully thought about this principle from a baseball perspective. Baseball is more similar to football than most believe. A player waits, has a burst of action, and then waits again. Therefore, with the desired results being explosive, the activities to prepare for those results should match. Gone are long distance runs (pitcher poles), which teach the body to

conserve energy. In their place are highly organized, researched muscular training regimens.

The Indians will not comment about exact exercises or implementations, but the organization does align with the philosophical thoughts on building athleticism. “It is all inter-related,” says Hawkins. “The bigger the motor, the bigger the engine, the more agile, the more at ease he’ll be able to fix his hitting mechanics, throwing mechanics.”

The last two cogs deal with mindset and integrity. Coach Wolforth states, “Without question, it is who we become along our journey that matters most,” and he believes a properly cultivated mindset is the single most important variable in obtaining high achievements. Therefore, encouraging messages, stories, Bible verses<sup>8</sup>, music, sermons, or whatever an athlete might need to encourage them is a significant piece of their development plan.

Unsurprisingly, focusing on the mind is a theme the Indians share in their player development. Hawkins notes, “Mentality is a huge part of the what the organization does and individualizes where needed, but provides programs organizational-wide to get the guys as mentally prepared as possible.”

## PARTNERSHIPS MATTER

**O**ne under-reported portion of Kazmir’s career resurrection was the Houston-based [Dynamic Sports Training](#) (DST) actually had referred Kazmir to the Texas Baseball Ranch. [Coach Wolforth](#) went as far to say, “An unsung hero in this process was a little known assistant strength coach named Kevin Poppe.”<sup>9</sup> Having such trusted professional trainers who can partner with the athlete and professional organization to achieve their offseason goals is a crucial portion to the overall success of the athlete.

### Ben Tate at DST with Kevin Poppe

The success of DST equipping athletes with plans and encouragement to empower them is why Fiocchi and his staff have worked with athletes throughout MLB, NBA, and NFL. Among Cleveland athletes, Bauer, Kazmir, Michael Bourn, Manny Ramirez, Ben Tate, Kellen Winslow, and Binder (among others) have trained in their facility. “We joked for a while about opening a DST in Cleveland,” said Kevin Poppe about the Houston facility’s connection with a great number of Cleveland athletes.

Whether it is with a professional athlete or someone who merely walked in, forging relationships often require time and must be earned. DST begins building such trust through a three-part assessment of every athlete including biomechanical, nutritional, and goal-oriented segments to properly create an individualized program.

The biomechanical segment is a comprehensive study which allows for a foundation for the strength and re-education programs to be built upon.<sup>10</sup> The nutritional segment requires a current audit of their eating habits, dietary understanding, and a detailed body composition status. Some athletes walk in the doors ready for the precise meal plans about to be unleashed upon them. Others come in with [Smashburger 11](#) and Popeye's Chicken as staples in their diet. The final segment might be the most important, as the end-game goals might determine many of the preceding steps. Also, while discussing goals with each athlete, what they want to achieve is only a portion of the discussion. Why they want to achieve the goals is just as important and can help direct the discussion and plan.

Merely laying out a detailed and research-backed plan of action is not enough. Actually caring about the athletes through actions is where true relationships are formed. Actions such as those demonstrated by Poppe are why Binder, Cleveland Indians assistant director of player development, said, "[DST] genuinely care about the guys in their programs and truly want them to succeed at whatever they're training for. I felt that as a player when I was training with them as well as observing it after playing."

### **THAT OTHER RANCH**

**A** few thousand miles west is another baseball ranch with direct ties to the Cleveland Indians. Ken Knutson runs the [Arizona Baseball Ranch](#), which is a baseball development company that specializes in teaching the Texas Baseball Ranch curriculum but is a little bit closer to the team's facility in Goodyear. Knutson also added duties as the throwing and rehabilitation coordinator for the Indians in January 2015.<sup>12</sup>

Though Knutson had coached college baseball for 30 years, he never stopped learning about teaching. He was among the collegiate coaches unafraid to embrace the world of weighted balls, shoulder tubes, connection balls, band work, and more. Having a like-minded coach located in central Arizona near the Indians' Goodyear facility made his relationship with the Indians organization a natural fit.

#### Coach Ken Knutson teaching

"Ken works with the guys in Arizona throughout the year and rehabs pitchers and players down in off-season programs," Hawkins says. "Ken is a pitching coordinator that keeps players on task, programs running smoothly, and he knows about building arm strength and endurance as part of those programs."<sup>13</sup>

One of the companies most closely affiliated with the Arizona Baseball Ranch and coach Knutson was started by a former Knutson-coached Washington Huskie. [Crossover Symmetry](#) began when Duggan Moran wanted to continue his baseball career, but knew his options would be limited as a first baseman. With the help of his father, who was a physical therapist specializing in shoulders, Moran was able to devise a [rotator cuff and scapular](#)

[muscle](#) strengthening program to help him increase his velocity by six miles per hour in just four months of training. The program gained traction in the player development world, and New York Mets fireballer Noah Syndergaard is among its MLB clientele.

Rotator cuff exercises are a commonality throughout player development programs and are especially important during the rehabilitation, which coach Knutson coordinates. There are several different methods for these exercises. Band work is a rotator cuff and scapular-targeted area exercise that appears to be growing in popularity throughout baseball, including the Crossover Symmetry programs used extensively at the Arizona Baseball Ranch.<sup>14</sup> The main principle behind band work is to target the supportive areas of the shoulder. These areas are incredibly difficult to strengthen through non-directed exercises, so using a directed method is essential. Without a properly supported shoulder, pitching becomes problematic.

[Band work](#) has long been utilized to aid in rehabilitation. There is a growing understanding, however, that these exercises are also proper for *pre*habilitation. Coach Knutson described prehab as, “Do a lot of the things you would do after TJ surgery, but do them before you get hurt to prevent it from happening — from training to conditioning to warming up properly.”

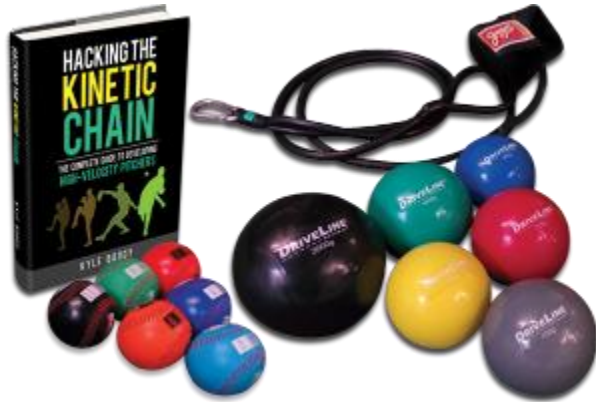
The exercises also increase blood flow to the shoulder and arm. Increased blood flow has been demonstrated to be an effective method of recovering from the stress of pitching. A session of band work (or another rotator cuff exercise) before a player does any throwing exercises, along with another session of band work upon completion of throwing for the day, is advisable.

The biggest success story of coach Knutson’s season was Josh Tomlin’s successful recovery from an April 2015 [arthroscopic debridement surgery](#) on his pitching shoulder. Tomlin finished the 2015 season with a 7-2 record in just over 65 innings of work with career bests in ERA (3.02), WHIP (0.838), and strikeout-to-walk ratio (7.13). “The intent was always there,” said Knutson. “A focus. A seriousness. The biggest separator is that every throw was important to him from bullpens in Arizona to MLB games. I was so happy for Josh as I think he’s in a good spot and I think he really helped the Tribe.”

## THE WEIGHTED BALL PLACE

**S**ometimes the coach with the perfect skill set and desire is camped out in the exact location where there is a need. Other times, the pitching consultant needed is a native of Parma, Ohio living in Washington state, and his connection to the club is through a Californian pitcher traded from Arizona to Cleveland, and the consultant only knows said pitcher because of a pitching conference in Houston. Such is the case of [Kyle Boddy](#) of Driveline Baseball.<sup>15</sup>

The research side of the company is where Driveline Baseball truly separates itself. Everything endorsed has been tested thoroughly in their lab, which is why Driveline Baseball has contracts with three MLB teams—including the Indians—to provide some analysis on the MLB Amateur Draft as well as ongoing player development support.



#### Driveline Baseball training kit

On the [Driveline Blog](#), [reasoning and explanations](#) behind many of their methods are unveiled along with guest posts from doctors and researchers. [Pitching myths](#) are confirmed or debunked. Despite its diverse training methods, Driveline is best known for its usage of [weighted baseball](#) training.<sup>16</sup>

The main goals of any pitching program are to throw a baseball with more velocity while simultaneously decreasing the risk of injury. Intuitively, these might seem as if they are diametrically opposed. Throwing a baseball with more velocity is inherently putting more force on the pitcher's arm, which could also put more stress upon the joints, ligaments, and tendons, which are often the weakest portions of the anatomy.

[Driveline](#) can achieve both if the arm is properly prepared. Boddy studied the anatomy of the arm and noted there are over 10 muscles which cross the elbow. He theorized that increasing the endurance and strength of these muscle groups specifically exercised during the pitching motion would allow the baseball to be thrown with more velocity, while decreasing the stress (or force) on the ligaments and tendons utilized during the same motion. After researching and reading the research of many others, he was convinced.<sup>17</sup>

The current level of strength and endurance an individual's arm has is then referred to as "arm fitness." Once the arm itself is considered in the terms of its own fitness ecosystem, the path to creating a program which achieves both increased velocity and decreased injury becomes possible. A regimented program gradually increasing in load<sup>18</sup> over the training period is necessary to improve strength. A regimented program that gradually increases in duration over the training period is necessary to improve endurance. And, in order to ensure the correct muscles are being worked, similar motions to pitching should be used. If a pitcher desires to increase arm fitness, then resistance and ballistic training



make sense. By implementing weighted baseballs, the load of the exercise can be controlled much in the same way a weight lifter might increase the load for a bench press.

Using overweight baseballs can also have the added benefit of helping correct mechanical deficiencies. Olympic sprinters train by sprinting uphill, on sand, or with a parachute attached to their back. These elite athletes do so in order to provide extra resistance to build up their targeted muscle groups, but also to force their motions to become more efficient. Similarly, pitchers feel it is more difficult to throw a heavier baseball with improper mechanical motions and naturally adjust to compensate for the weight.

“In general, as the implement gets heavier, it gets harder to throw it with inefficient mechanics,” Boddy noted. “This forces the brain and body to adapt.”

Using underweight baseballs has a similar effect to that of sprinters running down a steep slope. The sprinter allows themselves to feel the speed, their legs to feel the differing stress, and their mind to understand the complexities and feelings of such speed. Mentality, once again, is a key component. Pitchers will be able to increase their arm speed with the underweight baseball and allow themselves to visualize the motion at the greater rate of acceleration.

“We pride ourselves on having a robust training protocol that self-corrects mechanical flaws without the need for direct intervention in most cases,” Boddy said while discussing their multi-modal process. “This is in stark contrast with the usual pitching coach who verbally instructs the athlete to get into different positions, which has a very low success rate.”

### Tribal Assembly

**T**he St. Louis Cardinals being [investigated by the FBI](#) for intellectual property theft was among the more controversial stories of the 2015 MLB season, as the events demonstrated the importance of MLB clubs protecting the information gathered in all facets of their organization, including player development.

Many of the companies, writers, researchers, and organizations outside of MLB can act with a business model similar to how Android was developed. Despite being led and directed by Google, the open source nature of Android allows many different competing companies to submit their best minds and ideas into a cooperative effort. Those companies will then look to differentiate themselves through the hardware or additional software.

The Indians, and other MLB teams, are more restricted. These ballclubs operate more on the closed method of Apple’s iOS. Apple differentiates itself by developing everything in-house. The advantage is an end-product all based on the same vision. The disadvantage is not tapping into those brilliant minds across the industry. But, Apple does use industry

knowledge because the dirty secret is that everyone uses the same base architecture. The difference begins with the implementation of the common base.

The Cleveland Indians follow Apple's lead. "We are open to learning from wherever we can and add to our programs or research more in certain areas," Carter Hawkins told WFNY. The Indians listen and discuss player development with the most knowledgeable minds in baseball. There are a number of these specialists on the Indians staff. They employ several others as consultants and have developed relationships with many more.

"Our Player Development department consists of an incredible group of passionate baseball minds," said Binder. "Their daily effort, energy and commitment to our players is the driving force of this department and allows our players to develop to be the best versions of themselves."

Even so, Hawkins believes there is a simpler differentiating factor.

"All 30 teams have no real secrets here. There is no specific drill that the Indians have in athletic training or even hitting and pitching training. It is all about the culture created; speed/strength/agility are all about how well it is implemented and how bought-in they are and how hard they work. That is where the coaches separate themselves and we work to have them separate themselves."

Part of the culture is requesting and listening to the feedback from the players and working with them to become partners in their development.

"If they want to do something specifically, we hear them out," Hawkins explained. "The big thing is to not be rigid. We individualize for each player and provide evidence for all our methods."

One example is former Indians starting pitcher CC Sabathia. Sabathia did not have a highly technological development plan, but he knew what he wanted to accomplish. His coaches developed a great relationship with him to help guide his way. Sabathia then put forth the effort and intent into building an incredibly successful MLB career.

And through all the focus, work, and determination on developing players, Hawkins was emphatic in stating everything the team does is with one specific intent. "Our sole focus is bringing a championship to Cleveland."

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1. Note: If you have kids or coach, then letting them have free time to "just play" will often lead to finding their seemingly random games can be as effective as some of your dedicated drills. [[↵](#)]
2. 2015, this year, Zito spent some time on the DL with a shoulder injury. [[↵](#)]

3. While Gavin Floyd's elbow injury was pre-existing to his Indians tenure, T.J. House, Josh Tomlin, and Nick Hagadone all suffered significant arm injuries over the past calendar year. "This is a good reminder that no one has it all figured out and that while we're doing the best we can, we can still make bigger strides." noted Kyle Boddy of Driveline Baseball when discussing Nick Hagadone's injury. [[↵](#)]
4. Note: WFNY did not reach out to the Texas Baseball Ranch for this article. Coach Ron Wolforth provides a wealth of information on his website and to his coaching distribution emails. While there are many great articles written about the Texas Baseball Ranch, WFNY saw those articles all took a similar angle from similar Wolforth talking points and desired a different angle for the purposes of this article. The information about TBR was taken from "friends of the Ranch" interviews as well as from their website and coaching emails. [[↵](#)]
5. The hiring of Eric Binder into a MLB front office was not a surprise to those who knew him. "He is a tremendous competitor and a perfectionist. He is really well liked, and he can relate to people on any level." Poppe began. "He's going to be a GM someday. He just has too much going for him between the ears, and in how he treats people." [[↵](#)]
6. "We MUST realize that GOD is a better pitching coach than we are and we should take our lead from the Ancient Greeks from which we get the word 'educate'. The Greek root for educate is 'educare' which means to 'draw out'. Presupposing that excellence already resides inside each athlete already and simply needs to be 'drawn out' by the teacher. We MUST find ways to draw out innate athleticism and power from each unique individual athlete." -Ron Wolforth in an email he sends out to coaches who first sign up for his distribution list. [[↵](#)]
7. Wake Up/Warm Up, Arm Care/Recovery, Mobility/Flexibility, Strength/Stability, Conditioning/Recovery II, Nutrition/Hydration/Sleep/Recovery III [[↵](#)]
8. One such verse on TBR site is from Col 3:23 "Whatever you do, do it enthusiastically, as something done for the Lord and not for men." [[↵](#)]
9. Poppe went above the normal call of duty as a trainer by catching bullpen sessions for Kazmir several times a week throughout his entire rehabilitation process, even traveling to Kazmir's house to do so. [[↵](#)]
10. Re-education programs refer to the corrective exercises, which are meant to balance out the bodies weaknesses. [[↵](#)]
11. Texas fast food; let's just say the BBQ Bacon Cheddar Burger with Smashfries and a PB&J milkshake is not on a proper professional athlete diet. [[↵](#)]
12. He had previously been the head coach at the University of Washington for 17 seasons and holds their all-time record for coaching victories (584-399-2 overall, 240-189 in Pac-10 games) before spending five seasons as pitching coach for Arizona State University. Binder refers to Knutson as one of the "incredible coaches up and down our player development system who all help us advance our organizational philosophies." [[↵](#)]
13. From coach Knutson's side, the fit was all about being able to focus on the purity of baseball along with eliminating the long travel schedules so he could enjoy time with his family and his children now in high school. [[↵](#)]
14. The most popular version of the bands though are the J-Bands from Jaeger Sports due to their [availability](#) in nearly every possible color. [[↵](#)]
15. Kyle Boddy and Trevor Bauer began a relationship through the research Boddy presented on high-speed cameras at the 2012 UPCBC in Houston. The relationship continued as the men found they had a common interest in fully understanding the reasoning behind pitching through scientific testing. The relationship led to the Indians visiting with Driveline Baseball and coming away with an appreciation for the level of research being done and Kyle Boddy became a consultant for the team. [[↵](#)]

16. This section on Driveline Baseball could have just as easily been written about their usage of high-speed camera work, which is taking root in more and more in MLB as seen in the rollout of Statcast, along with the Tampa Bay Rays' announcement of the implementation of the Kinatrax camera system. "It is a big part of baseball development and analysis." noted Hawkins though he preferred to keep the Indians resources confidential. [[↵](#)]
17. It should be noted Kyle Boddy is always exploring and is quite clear in what is and is not understood about the human arm. For instance, many of the studies he read were done with cadavers as the testing is not quite possible with live subjects. Learning is a constant process. [[↵](#)]
18. The load is the amount of resistance of an exercise. If one is lifting weights, then one method is adding weight. [[↵](#)]