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PROFESSIONAL BASEBALL ATHLETIC TRAINERS SOCIETY

IN THE SPOTLIGHT: **RON PORTERFIELD**

By: Mark Vinson, MEd, ATC, CSCS, Assistant Athletic Trainer, Tampa Bay Rays

On Opening Day 2018, as players and coaches take the field for the first time in the new season, one notable face will be missing from the Tampa Bay Rays' baseline. For the first time since 2003, Ron Porterfield will not take his place alongside the players he developed, trained and even helped lead to the 2008 World Series. This past fall, Porterfield was named as the new director of player health for the Los Angeles Dodgers, a newly created position to which he will bring more than 30 years of experience working with current and future Hall of Famers, and also molding and adapting to the ever-changing role of athletic trainers in Major League Baseball.

Porterfield began his career in baseball in 1987, just one semester shy of completing his undergraduate degree at New Mexico State University, when the Houston Astros offered him a summer position as an athletic trainer with its short-season affiliate in Albany, NY. "Back then, because teams did not require athletic trainers to be certified, I was able to join the team prior to graduating," he said. "That first year, I had to petition my professors to allow me to take my spring exams early and also get their permission to start the fall semester late, after the minor-league season had finished."

Porterfield graduated with his bachelor's degree that December, and while he had planned to attend physical therapy or graduate school, another call from the Astros changed his course, starting him in a full-time position with the club—one that carried a $9,000 salary. Over the next 10 years, he worked his way up the Astros farm system to the AAA level. In 1997, he received a call from Jamie Reed and Ken Crenshaw with the newly formed expansion team, the Tampa Bay Devil Rays, asking him to join the franchise as minor league medical coordinator.

As would be expected, there were numerous growing pains in building a major league franchise with only minor league players, but the opportunity to help build a medical program from the ground up was tremendously rewarding for Porterfield. In 2003, he was promoted to the major leagues as the Rays' assistant athletic trainer, and again in 2006 to head athletic trainer—a title he held for the remainder of his tenure with the team.

Perhaps the two greatest accolades Porterfield received during this time with the Rays were being named Baseball Operations Employee of the Year in recognition of his remarkable work to help transform the team from worst to first and earning them a World Series appearance in 2008. Prior to that year, the Rays had never even had a winning record. And, in 2013, Porterfield was named to the American League All-Star team as an athletic trainer.

Porterfield's infectious energy and tireless work ethic are matched by his invaluable experiences and stories from his journeys throughout virtually every level of professional baseball. He is an important link to the days when athletic trainers served a multitude of roles for the organization—even more than today. He vividly recalls the days in Auburn when he would be responsible for driving the team to away games in a school bus, in addition to handling team laundry and equipment duties.

He has also worked through the significant changes to the administrative roles of minor league athletic trainers, primarily in terms of record keeping. Today, all major and minor league player medical records are required to be kept in a league-wide, web-based database. While injury-tracking software has evolved within the last two decades, Porterfield came up in an age when access to computers was not a given. "When I first started, we would send in handwritten reports through the mail every two weeks, then it progressed to where we would fax in reports," Porterfield remembers. Fast forward to today when cell phones

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are a primary mode of communication. “Athletic trainers are truly on call now 24/7.”

While he wouldn’t trade these experiences for anything, taking a step back from the everyday, intense player involvement will be a welcomed change in his new role with the Dodgers. “I will miss some parts about not being in the dugout, but at the same time, I will not miss the stress that comes with being a head athletic trainer—having to sit in the dugout and know every little ache and pain that each player is dealing with behind the scenes and holding your breath when a player has to try to beat out a close play at first, for example.”

For the Santa Fe, NM native, the new role is an opportunity to move back closer to home and family. Porterfield will be based out of the team’s Spring Training facility at Camelback Ranch in Arizona. His new responsibilities will be to oversee and provide support for the Dodgers' major league and minor league athletic training staffs, as well as handle various administrative duties within the department.

And while the new role is a long way, literally and figuratively, from the days of driving buses or hauling laundry, the Dodgers should expect the same energy and work ethic that got Porterfield to where he is today. Can the Dodgers get back to the World Series in 2018? Let’s see what he has to say about it.

Walking Away Having Done My Best

By: Magie Lacambra, MEd, ATC, Gatorade Team Sports Manager

When the Baltimore Orioles began their Spring Training in Sarasota last month, they were minus one key member—Richie Bancells.

Bancells, the Orioles head athletic trainer for the past 30 years, and one of the club's longest-tenured employees with 41 years of service, retired this past offseason. "When you go into a career, you don't think about the end point, it's just too early. Before you know it though, the years tick off and you are at this point," Bancells said. Serving as only the third head athletic trainer in the club's history, Bancells always kept each player's well-being as the main focus of his job. "You have to make the player understand that he is not inventory. You have to gain his trust and respect. He has to know that you care for him and have his best interest at heart," Bancells said. "The most serious injury I deal with is the one in front of me at the time because it is serious to the player."

A strong work ethic, dedication and a selfless mentality are key factors to Bancells' longevity in MLB. "I always just thought it was doing your job, whether it was with the Orioles or PBATS, you just do your best every day," Bancells said. Despite his tenure as head athletic trainer, Bancells never allowed himself to feel comfortable in his role. "The minute you are comfortable and content is when it will start going downhill for you," Bancells said.

One thing that weighed on Bancells' decision to retire was leaving PBATS. "Being disconnected from PBATS when I retire was more important to me than anything," Bancells said. As a charter member and former president of PBATS, Bancells takes great pride in the growth of the organization, helping take it from seclusion to being an integral component of Major League Baseball. The mission of PBATS is to serve as an educational resource for major league and minor league athletic trainers. "PBATS is a motivating factor to keep you engaged, learning and working at your best. It helps you go into your training room better prepared with better weaponry. It becomes not so much a job, but a profession," Bancells said.

As any athletic trainer knows, days on the job can be long and stressful. The baseball season is not only lengthy but includes many multi-day road trips. Despite these demands, Bancells managed to have a good work-life balance. "One of the nicest things I ever heard was from my son, Christopher. He never felt that dad ever neglected him. He always felt that dad was dad," shares Bancells.

Respect from Orioles players and the PBATS membership became clear to Bancells the day he announced his retirement. "I was absolutely overwhelmed by the phone calls and emails that I got from current and former players just saying thank you and congratulations. I got more phone calls from players and athletic trainers than I did anyone else, and that really made me feel good," Bancells said.

Bancells was one of seven people named by Cal Ripken Jr. in his Hall of Fame induction speech. "It still chokes me up. He said that I was a friend that would listen and that he could trust, which meant the world to me," Bancells said. This is a testament not only to the great athletic trainer Bancells is, but most importantly, the outstanding person that he is.

Bancells can leave the game knowing that players will remember him as a good person who did his best every day to help them, and as someone they could trust.

With the support of his family, Bancells is walking away from the game because the time is right. "My kids and their spouses were ready for us to spend more time with them and their kids," Bancells said. "My eight grandkids are my new team," states Bancells.

Bancells isn't sure what he will do next, but he knows what he will not do. "I won't scramble for the phone like it is a fumble on the one yard line worrying about who is trying to get ahold of me," Bancells said. "Carol and I want to sit back for a year, take a deep breath and not rush into anything."

TRICKS OF THE TRADE:

Finger Care

By: Mark Vinson, MEd, ATC, CSCS, Assistant Athletic Trainer, Tampa Bay Rays

Blisters

One sports injury that is unique to baseball is a blister on a pitcher's finger. Typically blisters form on the middle finger of the pitching hand since this is the last contact point as the ball is released for a fastball. Blisters can also form on the index finger or the thumb, depending on a pitcher's grip for other pitches.

The friction created between the ball's seams and the tip of the finger can lead to irritation and eventually form a blister. In addition to being painful, blisters on pitching fingers can lead to a lack of command as a result of the adjustments a pitcher may make to avoid irritation with each pitch.

There are several causes of blisters on pitching fingers, including changes in grip, but the most common is pitching in a humid environment. Skin friction with the ball is increased when the hand gets damp due to perspiration or moisture in the air. There are ways to help offset this moisture though.

To aid in the prevention of blisters, some pitchers use spray-on antiperspirant, which has been shown to help prevent sweat and reduce added moisture from sweat.[1] The antiperspirant is sprayed over the hand and fingers and may be reapplied between innings.

Some starting pitchers place their pitching hand into a bag of rice in between innings to help reduce moisture on their fingers. The rice absorbs moisture and prevents the "pruning" of the fingers that can occur with prolonged moisture.

Prevention of blisters is vital; however, once one has formed, there are various ways to treat it. Pitchers who frequently suffer from small blisters may be accustomed to draining the blister using a sterile syringe.[2] When using this method, caution must be ensured. First, prep and clean the skin thoroughly. When draining, use extreme care to only penetrate the top layer of the blister, which will help avoid infection. Drainage provides immediate relief, but if the pitcher remains in the game, monitor the blister to ensure that it does not create a skin avulsion (open wound) and to confirm that a second blister does not form underneath the original.

Other treatments include covering the blister with skin adhesives, such as Dermabond or Super Glue. However, these adhesives may need to be reapplied throughout the game. Liquid bandages do not hold up well to the force pitchers produce.

Once a pitcher has been removed from the game, treatment typically consists of drainage of the blister if it is still intact. Soaking the finger in a mixture of warm water and Betadine solution for 5 to 10 minutes is also helpful. The Betadine helps to clean the area, prevent infection and toughen the skin around the affected area over the long-term.

Creams and salves have been developed to aid in promoting blister healing. These mixtures use a mixture of alum powder and tincture of benzoin. Traditional antibiotic ointments and creams should be avoided as they tend to soften the skin around the affected area.

Fingernail Fractures

Another common injury for pitchers is fingernail fracture. A fracture typically occurs on the nail of the middle finger and can occur in vertical or horizontal fashion. Again, the fracture occurs due to the repetitive pressure of the ball coming off the tip of the finger. Treatment for the fracture involves a nail cast made of Steri-Strips that are cut and placed perpendicular to the fracture (Fig. 1 and 2). A second layer of Steri-Strips is then placed perpendicular to the original set of strips to create a cross-hatch effect (Fig. 3). The strips are then trimmed along the nail (Fig. 4).

Super Glue is then applied to the Steri-Strips (Fig. 5). Allow the Super Glue to dry and then reapply. Repeat for 3 to 4 applications. Any imperfections can be gently filed down using a nail file.

Athletic trainers working with pitchers face unique challenges to prevent and treat blisters and other hand injuries, but with some creative thinking, there are solutions.

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Fig. 1

Fig. 2

Fig. 3

Fig. 4

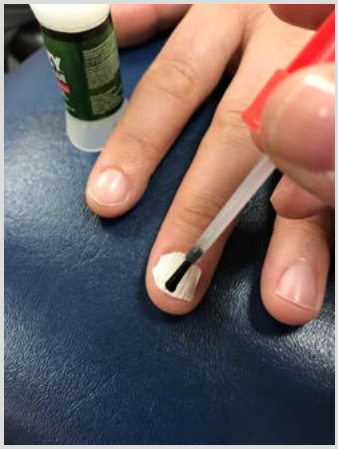


Fig. 5

THE ROLE OF BIOLOGICS IN SPORTS MEDICINE

By: Matthew Lucero, ATC, LAT, Assistant Athletic Trainer, Texas Rangers
Keith Meister, MD, TMI Sports Medicine
Rathna Nuti, MD, TMI Sports Medicine

In recent years, regenerative medicine has grown in popularity with professional athletes to treat both sports-related injuries and theoretically enhance off-season recovery with common biologics, such as platelet-rich plasma (PRP) and mesenchymal stem cells (MSCs). Theoretically, biologics offer enhanced potential to fully restore damaged tissues by enhancing the healing process and provide a less-invasive and more holistic alternative to surgery.[1, 2] This potentially allows for expedited recovery time while sustaining athletic performance. In spite of its growing popularity, there is still a significant need for rigorous investigation of the application and efficacy of both PRP and MSCs in sports medicine.[3]

Platelet-Rich Plasma

PRP refers to autologous blood that has been centrifuged to produce a higher-than-average concentration of platelets. The theory is that PRP concentrates cytokines and growth factors to promote tissue healing.[2-4] Typically 30-60 ccs of blood are obtained through venipuncture. Upon capture, the blood is centrifuged to separate out the platelet concentrate. The activated platelets are then injected back into the individual's joint or specific area of tissue damage, with or without a clotting activator (thrombin), to enhance a healing response.

Injectable Composition. A number of studies have attempted to but have yet to determine the optimal concentration of platelets.[2] Additionally, the concentration of cytokines and growth factors released fluctuates and depends upon platelet recovery methods, amount of whole blood used, platelet activation, final volume of platelets and other variables. Along with cytokines and growth factors, white blood cell concentration becomes controlled creating leukocyte-rich PRP (LR-PRP) and leukocyte-poor PRP (LP-PRP) concentrates. ***At this time, no randomized or prospective clinical studies have been performed to compare outcomes between LR-PRP versus LP-PRP.[4]***

Clinical Use. PRP use has been studied in various musculoskeletal (MSK) injuries to bone, tendon, muscle and ligaments. Several systematic reviews and meta-analyses have found improved functional outcome scores with LP-PRP for the treatment of knee osteoarthritis (OA).[3, 4] Furthermore, there has been suggested significant improvements in clinical outcomes in patients with lateral epicondylitis and rotator cuff injuries, but results of good scientific studies in the treatment of other tendinopathies are lacking.[4-6] Theoretically, there are increasing arguments for using PRP in tendinopathy based on its tendo-inductive factors.[7] At this time, further studies are required to conclusively determine the efficacy and role of PRP therapy in muscle and ligamentous injuries.[4-6] ***In general, more high-quality studies are necessary before widespread clinical recommendations can be implemented.***

Regenokine. This alternative therapy was developed in Germany. Autologous venous blood is obtained, centrifuged and incubated (heated). The incubation process stimulates the release of IL-1 receptor antagonist. IL-1 modulates inflammation in the body. The released chemical blocks the receptor to decrease inflammation. It has 100 times the concentration of that in normal PRP preparation and may have a higher level of potency.

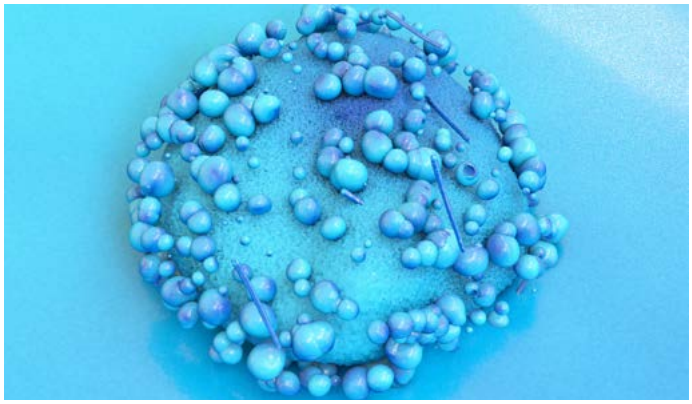
Unlike PRP, Regenokine preparation has no cells. Additionally, unlike PRP, which is a single or even a

second injection given weeks apart, Regenokine is a series of 5 to 6 injections into the joint/tendon given on 5 to 6 consecutive days. Although a broad worldwide use has taken hold, and anecdotally there has been a very positive response in many professional sporting circles, studies of true efficacy have still yet to be presented.[12]

Additional Considerations. In the United States, many insurance plans do not cover PRP therapy due to insufficient data supporting its use in MSK injuries.[5] Furthermore, PRP products are not subjected to oversight like prescription drugs, which leads to a lack of standardization and quality control.[5] However, PRP injections are relatively benign and are not classified as performance enhancing.[5] After a short ban in 2010, the World Anti-Doping Agency (WADA) removed this in 2011 due to lack of substantial evidence.

Mesenchymal Stem Cells

MSCs are precursor cells that provide replacement units for normal cell turnover and are defined by International Society for Cell Therapy Mesenchymal Stem Cells as having the capacity for differentiation to osteoblasts, adipocytes and chondroblasts in vivo.[1, 8]



Cell Sources. MSCs can be derived from either embryonic cells (human embryo or more commonly amniotic fluid) or adult tissue.[9] Embryonic stem cells have the ability to proliferate indefinitely in vitro without loss of differentiation, but there have been reports in the literature over concerns in its potential for oncologic transformation.[1] Adult stem cells are considered to be less complicated by political and ethical ramifications.[1] Adult cells can be isolated from adipose tissue, peripheral blood, periosteum, synovium, pericytes, blood, bone marrow, skeletal muscle, umbilical cord and dental pulp.[1, 8] Fat and bone marrow are the most commonly sourced in adults.

Clinical Use. Studies have shown variable results in utilizing MSCs as therapeutic modality for various MSK conditions. Currently, studies show improvement in cartilage architecture and function, as well as meniscus volume in knee OA when injecting MSCs.[9] However, many of the current studies in the treatment of knee OA are heavily biased and still lack long-term risk assessment.[10] Recommendations presently stand for clinicians to refrain from using MSCs in patients with knee OA, but if utilized, extensive monitoring is required.[10] A few trials have been conducted to investigate the role of MSCs in tendon disorders. Although improved healing was noted, these investigations were of poor quality, had high risk of bias and safety was inadequately reported.[11] Therefore, the use of MSCs for tendon disorders in clinical practice is not suitable outside of an appropriate ethics-approved clinical trial.[11]

Controversies over use of MSCs prevail since professional athletes in the National Football League and Major League Baseball have traveled abroad to receive cell-based therapeutic procedures for a variety of sports-related injuries.[1] Unmonitored practice concerns arise with regard to risk exposure to an unproven therapy, as well as concomitant exposure to adjuvants of currently banned substances, such as human growth hormone (HGH).[1]

Overall, biologics have a potential role in providing promising therapeutic options for sports injuries. ***However, high-quality studies and clear delineation of safety profiles are severely lacking in order to fully endorse in clinical practice.***

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RECOVERY MODALITIES:

An Update on the Science

By: Kimberly Stein, PhD, Gatorade Sports Science Institute

Pick up a trade publication, walk through an expo at a conference, check out your Twitter feed—the latest and greatest recovery modalities are often front and center, but it can be difficult to navigate which ones to include in your recovery programs. When evaluating recovery modalities, your questions might include: Will the athletes like using it? How easy is it to use? How portable is it? What is the cost? Is there science to support its use?

The science question is often the toughest to answer. To be cutting edge, new technologies are often not based on sound theories but are put into play before a strong body of scientific evidence is established to advocate for the benefits. Furthermore, if athletes "feel" a benefit, that might be all the evidence that is needed for adoption.

New recovery modalities are a great example of this. While a body of published literature does exist around the use of modalities to promote recovery, it's difficult to make strong evidence-based recommendations on which to use since the work is fairly scattered. The work is scattered among different approaches with different outcomes, such as soreness, biochemical measures, subsequent performance (and there are many ways to define performance), etc.

While it is beyond the scope of this article to do a full literature review, the following table summarizes the most recent literature on the benefits of recovery modalities, not inclusive of those techniques you may use to treat specific injuries:

MODALITY	SCIENTIFIC REVIEW
Hydrotherapy *(cold water immersion and contrast immersion)*	Data on cold water immersion are mixed, with newer research suggesting no benefit over active recovery.[1,2,3] Contrast immersion is beneficial for recovery of performance outcomes (for example, sprinting), although studies with team sport athletes are limited.[8]
Compression Garments	May be beneficial for recovery from exercise-induced muscle damage, particularly to reduce swelling, perception of soreness and recovery of muscle function. Data are limited on the impact of use during sleep, although one recent study does indicate a benefit.[8,13,15]
Intermittent Pneumatic Compression	Data so far are limited, but do appear to improve blood flow and decrease pain.[14,17]
Massage	Likely psychological benefit for recovery, but no evidence to support functional or physiologic recovery.[8]
Neuromuscular Electrical Stimulation *(NMES)*	May have subjective benefits, but body of literature does not support a benefit to enhance subsequent performance.[11]
Vibration	Data are mixed. One study found vibration applied to the elbow flexors following eccentric exercise alleviated muscle soreness;[5] another study did not find a benefit of whole body vibration on soreness or performance outcomes following.[12] Data do not exist to compare whole body to localized vibration.
Dry Needling	Effective for short-term pain relief and increased range of motion.[7]
Myofascial Release	May be beneficial to decrease muscle soreness.[3]
Whole Body Cryotherapy	Appears effective to decrease pain related to inflammation and promote recovery; however, appropriate use guidelines and safety procedures should be followed.[6,9,10]

Baseball: In-Game Modality Use

Specific to baseball pitchers, two published research studies evaluated modality use between innings. In the first, the use of an NMES device on the shoulder decreased ratings of perceived exertion (RPE) when used between innings of a simulated game, as compared to passive and active recovery.[16] In the second, intermittent arm cooling between innings of a simulated game also decreased RPE, led to maintained pitch velocity in the later innings and improved perceived recovery as compared to no cooling.[4] While this work is far from conclusive, it does indicate modality use for in-game recovery could be useful.

Which Is Best?

In the scientific literature, most often the effectiveness of a given modality is compared to rest or active recovery. Without direct comparisons in a well-designed study, we don't have evidence to determine which is the "best."

In the absence of this type of evidence, it is likely a good practice to narrow in on the benefit your athlete is looking for, and then find the modality within that category that really makes a difference in how your athlete feels. See the following chart for examples. While this is a bit simplistic, since several of the modalities have overlapping benefits, it is a good starting point.

PRIMARY PROPOSED BENEFIT	MODALITY
Enhance Blood Flow	Pulsed compression, compression garments, contrast water immersion, NMES
Decrease Pain	Dry needling, vibration, myofascial release (including foam rolling & deep tissue massage)
Decrease Pain, Inflammation & Swelling *(particularly post injury)*	Ice, cold water immersion, whole-body cryotherapy
Feels Good	Massage, stretching

Key Takeaways

1. Offer a variety of modalities to decrease physical and psychological adaptation.
2. Allow the athletes to find the modalities that help them feel the best.
3. Consider easy-to-apply modality use during travel when movement is limited, such as compression garments and mobile NMES units. Data do not exist to support a benefit during travel, but in theory, promoting blood flow when the athlete cannot be mobile may be beneficial, and anecdotally, athletes report feeling less stiff and sore.

Many would argue that the scientific evidence clearly points to the two "best" recovery modalities—nutrition and sleep. Of course, athletes may not perceive or feel a benefit from these as immediately as with the modalities discussed above, but nothing can overcome poor nutrition and sleep. Additionally, improving nutrition and sleep habits can require some significant behavior changes. An ideal recovery program should be a blend of ground work put in, helping your athletes achieve solid nutrition and sleep habits paired with additional modalities that fit within your program that the athletes find beneficial.

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NEWS & NOTES

2017 PBATS Major League Staff of the Year

Houston Astros: Jeremiah Randall, Scott Barringer, Daniel Roberts (not pictured)

2017 PBATS Minor League Athletic Trainer of the Year

Scott Johnson (Chicago White Sox)

2017 PBATS Major League Athletic Trainer 20 Year Service Award

Roger Caplinger (Milwaukee Brewers)
Ken Crenshaw (Arizona Diamondbacks; pictured)
Paul Lessard (Washington Nationals)
Mark O'Neal (Chicago Cubs)

2017 PBATS Major League Team Physician 20 Year Service Award

Dr. Roger McCoy (Arizona Diamondbacks)

2017 PBATS Minor League Athletic Trainer 20 Year Service Award

Lee Slagle (Pittsburgh Pirates)

2017 PBATS Minor League Team Physician 20 Year Service Award

Dr. John Monteleone
(San Francisco Giants, Houston Astros)

2018 Futures Game Athletic Trainers

Scott Johnson (Chicago White Sox)
Jonathan Kotredes (Washington Nationals)

2017 PBATS Minor League Athletic Trainers of the Year – Individual League Awards

LEAGUE	ATHLETIC TRAINER	MAJOR LEAGUE TEAM	MINOR LEAGUE AFFILIATE
Minor League Coordinator	Joe Rauch	Philadelphia Phillies	
International League	Scott Johnson	Chicago White Sox	Charlotte Knights
Pacific Coast League	Masa Abe	Arizona Diamondbacks	Reno Aces
Eastern League	Jeremy Heller	Cleveland Indians	Akron Rubber Ducks
Southern League	Tyler Moos	Cincinnati Reds	Pensacola Blue Wahoos
Texas League	Masa Koyanagi	Kansas City Royals	Northwest Arkansas Naturals
Florida State League	Michael Becker	New York Yankees	Tampa Yankees
California League	Joshua Guterman	Colorado Rockies	Lancaster Jethawks
Carolina League	Bobby Ruiz	Cleveland Indians	Lynchburg Hillcats
Midwest League	Jeff Paxson	Milwaukee Brewers	Wisconsin Timber Rattlers
South Atlantic League	Michael Sole	New York Yankees	Charleston Riverdogs
New York – Penn League	Brian Newman	Tampa Bay Rays	Hudson Valley Renegades
Northwest League	Mickey Clarizio	Colorado Rockies	Boise Hawks
Appalachian League	Kris Russell	Tampa Bay Rays	Princeton Rays
Pioneer League	Margaret Rall	Chicago White Sox	Great Falls Sox
Arizona League	Randy K. Roetter	Seattle Mariners	AZL Mariners
Gulf Coast League	AJ Cano	New York Yankees	GCL Yankees
Dominican Summer	Allison Wood	Los Angeles Dodgers	DSL Dodgers

2018 All Star Game Athletic Trainers

National League

Paul Lessard
(Washington Nationals)

Paul Navarro
(San Diego Padres)

American League

Steve Donohue
(New York Yankees)

Rob Nodine
(Seattle Mariners)

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To provide the members of PBATS and other healthcare providers with an insider's view of the life and work of PBATS members, and facilitate the membership's sharing of knowledge about the care and prevention of baseball related injuries.

Direct
Inquiries to: **Emily Meyer**
200 E. Randolph, Floor 37
Chicago, IL 60601
(312) 729-3653
emily.meyer@fleishman.com

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