

## **Acupuncture in Sport Recovery: A Brief Review**

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### **Abstract**

Active and therapeutic sport recovery is becoming a popular and important component in improving performance for pro and recreational athletes alike. It is also helping in the realm of injury prevention. In the search of finding modalities that are widely effective, natural, and safe, acupuncture is a viable and cost-effective treatment for helping athletes achieve this goal. More direct related research is needed, but testimonials from pro athletes and the body of research that currently exists provides powerful evidence on acupuncture's ability to help with enhancing recovery. Specializing in acupuncture and exercise science, Chris integrates acupuncture into musculoskeletal rehabilitation therapy or fitness training for pain modulation, speedy recovery, and enhanced performance. Clients can choose to focus on one-on-one corrective exercise therapy, manual and massage therapy, or acupuncture. However, for best results, Chris recommends all three. Other modalities that he uses in therapy are acu-taping, herbal therapy, nutrition supplementation, cupping, guasha, and stretching techniques. The corrective exercise component is one-on-one body balancing management, focusing on strength and conditioning, post physical rehab – exercise therapy, integrative sport specific exercise, weight loss, core strengthening, dynamic lumbar stabilization, active recovery techniques, and myo-fascial release techniques. The acupuncture component focuses on sport injuries, myofascial pain, peripheral neuropathy, arthritis, facial rejuvenation, stress, smoking cessation, addiction detoxification program, weight management, sport recovery and performance.

**Keywords:** Acupuncture, Athletic, Exercise, Injury, Performance, Recovery, Sport, Training

**Major classification:** Health science.

### **1. Introduction**

There is a small body of research that specifically demonstrates the therapeutic viability that acupuncture has to offer in the field of sport and exercise recovery. Research articles, such as *Effects of Acupuncture on Exercise-Induced Muscle Soreness and Serum Creatine Kinase Activity* by researchers Lin & Yang (1999), and *Effects of tender point acupuncture on delayed onset muscle soreness (DOMS) – a pragmatic trial* by Itoh, Ochi, & Kitakoji, (2008), are some good examples. However, there is a large body of acupuncture research on the many biochemical systems of the body that directly and indirectly attests to acupuncture's restorative facility on the body after intense sport performance (Sun, Zhang, & Chen, 2009).

Today's ever-growing popularity of sport has made the athlete, and the industry as a whole, extremely competitive (no pun intended). Pro athletes, college and high school athletes, club athletes, and even the weekend warriors are all striving to be their competitive best, which consequently intensifies the physical and emotional demand placed upon them. Athletes are becoming more driven, obsessive, and focused on their sport, and can often neglect recovery necessary to perform at these very intensive levels. Increased time spent training, practicing, and competing takes a toll on one's body, and every year it seems to be placing an even bigger demand on an athlete's overall health, subjecting the athlete to injury. Due to this demand, many pro athletes need to spend time and money for recovery after routine training and athletic events. Amateur and recreational athletes naturally follow their lead.

A great deal of money is being spent yearly on active and therapeutic recovery. It is now becoming a separate but booming industry, all on its own. According to the author, Bedosky (2018), the number of people paying for restorative classes in US fitness centers grew by 16 percent in 2017. This overall movement in exercise recovery makes this the fastest-growing trend of 2018 (Bedosky, 2018). Along with Healthcare and Wellness clinics adding these services, there are actual retail fitness recovery and sport performance recovery boutiques popping up across the country to serve just this purpose, and it seems this trend is continuing to grow (Bedosky, 2018).

It is now the norm for all competitive athletes to participate in some kind of therapeutic recovery. Recovery strategies are playing a major role in athletic performance, but also allowing older athletes to continue playing and competing at very high levels along with their younger counterparts. In fact, the famous basketball player LeBron James, spends 1.5 million dollars alone on taking care of his body with a big proportion going toward therapeutic recovery (Davis, 2018).

The bottom line, according to authors St. Pierre et al. (2018), “is that recovery from sport training is a vital component of the overall training program and is essential for optimal performance and continued progression. If the rate of recovery is appropriate, higher training volumes and intensities are possible without the detrimental effects of overtraining, which can include an increased resting heart rate, disturbed sleep, or decreased hunger on multiple days.”

The demand for Acupuncture by the general public has also been on the increase. It is now widely being accepted in the Western medical arena progressively more, due to the momentum it has gained as a viable treatment option for pain management, sport injuries and musculoskeletal conditions. According to the authors Dominic and Gabriel Lu (2013), it has taken 300 years for Europe and 400 years for the US to finally appreciate the therapeutic value of acupuncture. Americans are spending 30 billion dollars a year out-of-pocket on complementary health approaches (Nahin, Barnes, & Stussman, 2016). Since 2014, well over 10 million acupuncture treatments are administered annually in the United States alone (Has & Mittleman, 2014). It has become a complementary and alternative treatment option for many athletes and sport teams. Acupuncture therapeutic recovery is a new area of exploration in the athletic world. All athletes and coaches search for the safest and most effective ways to enhance performance, prevent injury, and increase recovery time. Many of them are utilizing acupuncture for just these purposes. Sport recovery used to be a simple concept called passive recovery or doing nothing but resting after vigorous exercise training. However, as mentioned, many athletes feel they work too hard at getting fit, with the mentality that they don't work hard enough, and they see rest as being counterintuitive. They are usually more concerned about undertraining than overtraining. Research has now shown that active recovery and therapeutic recovery increases recovery time and enhances performance (St. Pierre, Buchanan, Dalleck, & Green, 2018). It doesn't just help the athlete recover physically, but also provides mental security when being recovery active and/or therapeutically responsible during recovery. It can give the athlete that psychological edge, knowing that their body is 110% ready for that next high-performance athletic event or bout of training.

Acupuncture for recovery is utilized by many pro athletes. In fact, many NFL teams are now adding acupuncturists to their therapeutic support staff (Revett, 2016):

NFL Linebacker, James Harrison of the Cincinnati Bengals spends \$350,000 a year for his overall recovery (Lauletta, 2018). He regularly flies in his NY acupuncturist, who will utilize, per his request, over 300 needles per treatment (Hoffmann & Gwin, 2018).

Pittsburg Pirate Pitcher AJ Barnett, who helped the Yankees win the World Series; contributes acupuncture and related recovery therapies to his performance. He negotiates his contracts to have an acupuncturist on staff (Star-Ledger, 2010).

Philadelphia Eagles Jordan Matthews used acupuncture to help him recover from injury and now has regular visits throughout the year (Kasinitz, 2016).

The famous Tour de France cyclist Vincenzo Nibali is proud to say the only needles he uses are those used in acupuncture (Robinson, 2014). He receives acupuncture regularly but will have it to help recovery after each stage of the Tour (Robinson, 2014).

Green Bay Packers Aaron Rodgers remarks on how his acupuncturist helped him to recover from injury, and getting him ready for his games (Boscamp, 2015)

Other athletes, NFL, and NBA players who have reported using acupuncture as part of their healing and recovery include: NFL fullback Tony Richardson, NBA shooting guard Kobi Bryant, Former NFL player James Farrior, NBA Houston Rockets Chandler Parsons, Former NFL defensive end Michael Strahan, NBA forward Grant Hill, Olympic swimmer Wang Qun, NFL Jacksonville Jaguars Chris Ivory, NFL New York Jets Darrelle Revis, etc. etc.

From an elementary understanding, acupuncture helps the body do what it ultimately does, and that is to heal. It can be seen as a modality to help facilitate or trigger the body to regulate itself and maintain balance or homeostasis. It allows the energy or physiological properties of the body to properly flow from the points along the meridians

(energy pathways defined by Traditional Chinese Medicine). This healing energy needs to flow freely without blockages in order for the body to function at an optimal level.

The exact mechanisms underlying the recovery effects of acupuncture on athletes are not completely understood, however, in summary, findings from basic medical research demonstrate that acupuncture stimulation causes release of endorphins, serotonin, enkephalins, and c-amino-butyric acid (GABA), norepinephrine, and dopamine helped to explain the acupuncture effect through bio-medical and chemical principals (Lu & Lu, 2013).

The goal of any sports-injury treatment is to eliminate pain, reduce inflammation, increase mobility by reducing muscle tightness and spasms, and re-activate the injured, weakened muscles (Kerzner, 2016). With intense athletic events and exercise training, an injury may not be present, but overall, the body has been impacted with these elements of injury, on a much lesser scale. This micro trauma is more diffuse and on a broader level throughout the body structures. Acupuncture for the purpose of recovery will address these issues. Results can immediately reduce pain, release muscle spasm and stricture, decrease swelling, increase micro circulation, decrease inflammation, increase range of motion, restore flexibility, help improve mobility, recover strength from fatigued and weakened muscles, strengthen the immune system, and quicken healing time (Acupuncture, 2017; Han, 1997).

In the Journal of Acupuncture & Tuina Science (2009), the authors Sun, Zhang, and Chen reviewed and analyzed 20 years of literature regarding the effects of acupuncture and treating sport fatigue. The article is called *Research Progress in Sports Fatigue Prevented and Treated by Acupuncture*. The review summarized that “acupuncture is able to eliminate free radicals, resist lipid peroxidation, prevent dysfunction of the motor hypothalamus-pituitary-gonadal axis, reduce the creatine kinase content, and lower lactic acid concentration, so as to play an important role in the elimination of sports fatigue and improvement of athletic ability of the body (2009).”

There is a paucity of large, randomized controlled trials specific to this topic. There is, however, a large body of research that indirectly offers a variety of mechanisms on how acupuncture works when used for sport recovery. There is a need for larger controlled trials of acupuncture for sports medicine and specifically for sport and exercise recovery.

## 2. Biography

Chris Chapleau, LAc, Dipl Ac, CES, is a practicing acupuncturist and is currently finishing the doctorate program in acupuncture at PCOM. He also possesses an MS in Human Performance and is certified in orthopedic/musculoskeletal acupuncture and Kampo herbal medicine. Chris combines Western knowledge & Eastern practice to help his clients be productive and energetic to meet the demands of daily life. Besides the traditional Eastern approach with acupuncture therapy, Chris integrates a Western biomedical approach to using acupuncture, motor and trigger point therapy, manual, and movement therapy. His experience training himself and others for triathlons, Rucking, bike racing, MMA, and similarly demanding athletic endeavors uniquely prepares him to assist serious athletes in realizing top performance while preserving peak immune function, and general good health.

Specializing in acupuncture and exercise science, Chris integrates acupuncture into musculoskeletal rehabilitation therapy or fitness training for pain modulation, speedy recovery, and enhanced performance. Clients can choose to focus on one-on-one corrective exercise therapy, manual and massage therapy, or acupuncture. However, for best results, Chris recommends all three. Other modalities that he uses in therapy are acu-taping, herbal therapy, nutrition supplementation, cupping, guasha, and stretching techniques. The corrective exercise component is one-on-one body balancing management, focusing on strength and conditioning, post physical rehab – exercise therapy, integrative sport specific exercise, weight loss, core strengthening, dynamic lumbar stabilization, active recovery techniques, and myo-fascial release techniques. The acupuncture component focuses on sport injuries, myofascial pain, peripheral neuropathy, arthritis, facial rejuvenation, stress, smoking cessation, addiction detoxification program, weight management, sport recovery and performance.

Chris is the official acupuncturist and strength coach for Cannondale/fashionThink’s Stage 1 Cycling Team, and he is a CTSA Board Member.

## References

- Acupuncture: In Depth. (2017, February 21). Retrieved February 2, 2019, from <https://nccih.nih.gov/health/acupuncture/introduction>
- Boscamp, E. (2015, May 21). Packers Quarterback Aaron Rodgers Uses Acupuncture To Treat Injury. Retrieved

- January 29, 2019, from <https://www.mindbodygreen.com/0-17012/packers-quarterback-aaron-rodgers-uses-acupuncture-to-treat-injury.html>
- Bedosky, L. (2018, June 21). Health Clubs and the Rise in Recovery. Retrieved February 2, 2019, from <https://www.clubindustry.com/trends/health-clubs-and-rise-recovery>
- Cummings, M. (2009, March). Modellvorhaben Akupunktur--a summary of the ART, ARC and GERAC trials. Retrieved February 2, 2019, from <https://www.ncbi.nlm.nih.gov/pubmed/19369191>
- Davis, S. (2018, July 29). LeBron James reportedly spends \$1.5 million per year to take care of his body - here's where it goes. From <https://www.businessinsider.com/how-lebron-james-spends-money-body-care-2018-7>
- Han, J. (1997, December 01). Physiology of Acupuncture: Review of Thirty Years of Research, *The Journal of Alternative and Complementary Medicine*. Retrieved February 2, 2019, from <https://www.deepdyve.com/lp/mary-ann-liebert/physiology-of-acupuncture-review-of-thirty-years-of-research-eA07SsdGW9>
- Has, J., & Mittleman, M. (2014). Acupuncture: Past, Present, and Future. *GLOBAL ADVANCES IN HEALTH AND MEDICINE*, 3(4), 6-8. Retrieved January 25, 2019, from [www.gahmj.com](http://www.gahmj.com).
- Hoffmann, F., & Gwin, P. (2018, February 02). Pictures of Patriots Linebacker James Harrison's Extreme Workout Recovery. Retrieved January 29, 2019, from <https://www.nationalgeographic.com/photography/proof/2018/february/james-harrison-nfl-cupping-therapy-football/>
- Itoh, K., Ochi, H., & Kitakoji, H. (2008). Effects of tender point acupuncture on delayed onset muscle soreness (DOMS) – a pragmatic trial. *Chinese Medicine*, 3(1), 14. doi:10.1186/1749-8546-3-14
- Kasinitz, A., & Kasinitz, A. (2016, December 10). Philadelphia Eagles' Jordan Matthews uses acupuncture, kids' prayers to return to field. Retrieved January 29, 2019, from [https://www.pennlive.com/philadelphiaeagles/index.ssf/2016/12/philadelphia\\_eagles\\_jordan\\_mat\\_7.html](https://www.pennlive.com/philadelphiaeagles/index.ssf/2016/12/philadelphia_eagles_jordan_mat_7.html)
- Kerzner, P. (2016, January 31). Top Athletes Who Use Acupuncture | Above & Beyond Acupuncture | Scottsdale Acupuncture. Retrieved January 29, 2019, from <https://www.aboveandbeyondacupuncture.com/top-athletes-who-use-acupuncture/>
- Lauletta, T. (2018, February 03). Patriots linebacker James Harrison reportedly spends \$300,000 a year to fly out specialists to keep his body in top form. Retrieved January 29, 2019, from <https://www.businessinsider.com/james-harrison-reportedly-spends-300000-a-year-o-stay-young-2017-8>
- Lin, J., & Yang, S. (1999). Effects of Acupuncture on Exercise-Induced Muscle Soreness and Serum Creatine Kinase Activity. *The American Journal of Chinese Medicine*, 27(03n04), 299-305. doi:10.1142/s0192415x99000343
- Lu, D. P., & Lu, G. P. (2013). An Historical Review and Perspective on the Impact of Acupuncture on U.S. Medicine and Society. *Medical Acupuncture*, 25(5), 311-316. doi:10.1089/acu.2012.0921
- Nahin, R., Barnes, P., & Stussman, B. (2016, August 02). Americans Spend \$30 Billion a Year Out-of-Pocket on Complementary Health Approaches. Retrieved February 2, 2019, from <https://nccih.nih.gov/research/results/spotlight/americans-spend-billions>
- Revett, T. (2016). Does your favorite NFL player use acupuncture? Retrieved January 29, 2019, from <http://synergyacupunctureandwellness.com/blog-feed/doesyourfavoritenflplayeruseacupuncture>
- Robinson, J. (2014, July 28). Nibali's Secret to a Tour de France Win: Acupuncture. Retrieved January 29, 2019, from <https://blogs.wsj.com/dailyfix/2014/07/27/nibalis-secret-to-a-tour-de-france-win-acupuncture/>
- Star-Ledger, M. C., & Star-Ledger, M. C. (2010, May 25). Yankees starter A.J. Burnett credits acupuncture with helping him stay healthy. Retrieved January 29, 2019, from [https://www.nj.com/yankees/index.ssf/2010/05/yankees\\_starter\\_aj\\_burnett\\_cre.html](https://www.nj.com/yankees/index.ssf/2010/05/yankees_starter_aj_burnett_cre.html)
- St. Pierre, I., Buchanan, C., Dalleck, L., & Green, D. (2018, March). Certified™: March 2018 – ACE-SPONSORED RESEARCH: Active vs. Passive Recovery and Exercise Performance: Which Strategy Is Best? Retrieved January 25, 2019, from <https://www.acefitness.org/education-and-resources/professional/certified/march-2018/6919/ace-sponsored-research-active-vs-passive-recovery-and-exercise-performance-which-strategy-is-best>
- Sun, D., Zhang, Y., & Chen, D. (2009). Research progress in sports fatigue prevented and treated by acupuncture. *Journal of Acupuncture and Tuina Science*, 7(2), 123-128. doi:10.1007/s11726-009-0123-7