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Safeguarding athletes' bodies at the highest levels of professional beach volleyball

By Dillon Stickle

BUMP SET SPIKE

Every summer, the Association of Volleyball Professionals (AVP) kicks off their annual beach volleyball tournament tour, leading into a season of fun in the sun (or rain).

Founded by Leonard Armato in 1983, the AVP has been the United States' premier beach volleyball tour for professional athletes. This year's open locations included New Orleans, Huntington Beach, Cincinnati, Seattle, New York City, San Francisco, and Manhattan Beach.

The championship tournament will take place Sept. 1-4 in Chicago. Behind the scenes of excitement and competition is a fully staffed medical tent, including PT clinicians, prepared to take on any illness or injury that strikes these elite competitors.

Heroes off the Sand

Karena Wu, DPT, MS, COMT, CSCS, CKTP, CPI, FMS & SFMA, president of ActiveCare Physical Therapy in New York City, and member of the medical board of the AVP, had previously volunteered in the medical tent before being asked to return in 2013 to run the show.

"Our day is usually 12 hours or more," said Wu. "Medical is expected to be ready one hour before matches start and then up to one hour after matches end, which is when a lot of athletes routinely come in." Wu's interest in volleyball stems from her time managing the boys' volleyball team as a way to get out of participating in her high school gym class, though she's always enjoyed the sport.

Derrick Sueki, PT, DPT, PhD, GCPT, OCS, FAAOMPT, assistant professor in the physical therapy department at Azusa Pacific University, Azusa, Cal., and president of Knight Physical Therapy Inc. in Garden Grove, Calif., first became interested in volleyball while in college, playing intramurals at Cal Poly San Luis Obispo. "After that, I played in leagues weekly for the next 20 years," he said. "So, volleyball has been in my blood."

After receiving his post-doctorate degree, Sueki began teaching continuing education courses. "At one of the courses I taught, Stephen Paulseth approached me and asked me

to become involved in the AVP," said Sueki. "He was in charge of medical staffing at the time. I jumped at the opportunity because it gave me the chance to work in a sport that I loved."

The Three Phases

When it comes to injuries, there are three phases of "at-event" medical provision — pre-play, during play, and after-play — each with specific requirements and injuries.

"For pre-play, the role of the medical provider is to get the player ready for play," said Sueki. "It involves stretching, warming up muscles, and loosening up structures. As the season progresses, players generally need more work in order to get ready to play."

According to Wu and Sueki, it's important during this time for the physical therapist to not use a diagnosis, as this could have a psychological impact on the player's performance. "Of course," Sueki admitted, "there is assessment and diagnosis that goes on if there is a legitimate injury that is new and will potentially endanger an athlete. This is brought up to the player and an informed decision is made on whether they should compete."

During play, the job switches to managing any crises that develop during the game. "We provide on-court coverage that oversees the health of the athlete," explained Sueki. "Common acute injuries during play include blisters, cramps, ankle sprains, dehydration, dislocated fingers and shoulders, ACL injuries, and low-back injuries."

Finally, post-play involves managing injuries. According to Sueki, overuse injuries are usually the main target during this phase. "Common overuse injuries include lumbar pain, cervical pain [and] ankle sprains, but probably the most common injury is shoulder pain caused by overuse," he said. "These can include impingement, rotator cuff pathology, bicep tendinopathy, and labral involvement."

Unpredictable Events

There are risks among beach volleyball players that hard-court players wouldn't normally "face." One is facial lacerations. "This comes from athlete's jumping so high above the net that they take a ball into the face when it's hit," said Sueki. "Unlike indoor play, players are wearing sunglasses that can cause injury to the face."

Photo by Kyle Kielinski



Semi-pro beach volleyball player Rachel Johnston (pictured on cover with her sister and team partner Devon) serves on the sand at a recent competition in Cape May, N.J.

Beach Volleyball in the Olympics

Beach volleyball at the 2016 Summer Games in Rio de Janeiro will see 96 athletes representing 24 countries battle for the gold medal. Beach volleyball was introduced at the 1992 Summer Games in Barcelona as a demonstration event, and officially debuted in Atlanta in 1996 as an Olympic sport.

Since its inception, the United States has won a gold medal at every Summer Games in either the men's or the women's competition, while Brazil has won gold or silver in every men's or women's tournament.

The AVP follows the Rule Book of the FIVB.

- **The court:** A sand court is 26 feet, 3 inches by 52 feet, 6 inches.
- **The net:** A 28-foot long net stands 8 feet high for men and 7 feet, four inches high for women. It is forbidden to touch the net. A blocker may reach beyond the net as long as it does not interfere with the opponent's attack. A ball can be played off the net as long as it's within the limits of a team's three hits.
- **Points:** When a team wins a rally they are awarded a point and serve.
- **Set:** The first two sets are to 21 points and the third is to 15 points. Teams must have a two-point advantage to win set, with no cap.
- **Match:** The best of three sets. In the case of a 1-1 tie, a third set is played.
- **Serve:** The team that wins the point serves, with servers alternating.
- **Hit:** A team has three hits (including blocks) to return the ball. The ball may touch any part of the body but cannot be caught or thrown.



For a printable infographic on common volleyball injuries and their treatments visit www.advanceweb.com/pt and look for the 'Infographics' box.

"One of the more uncommon injuries is a hyphema, a collection of blood inside the front of the eye, which can potentially block vision," added Wu. "That's basically treated with eye drops, an eye patch and even bed rest. One player had a partially detached retina from getting hit in the eye — that unfortunately requires surgery."

A big difference between beach and indoor, according to Sueki, is the weather and terrain.

"Unlike the indoor game, which is a relatively controlled environment, the beach game is unpredictable," he explained. "The ground is unstable, the wind is never the same, and the sun affects play. So the player is forced to make quick adjustments, and many times are required to hit the ball in less-than-ideal positions." This, he says, is why shoulder injuries are so common.

Erratic weather can affect the players'

bodies, according to Wu. "If it rains, which it often does, the sand gets wet and becomes more hard-packed, and athletes feel a lot of compression from that," she said. In addition, many athletes fly to international events in economy class due to a lack of money. "A lot of the athletes become concerned about their low-back pain from flying," she said.

Commitment to Athletes

A large part of maintaining the volleyball athlete's condition is preventing and tending to injury when they're not on the sand.

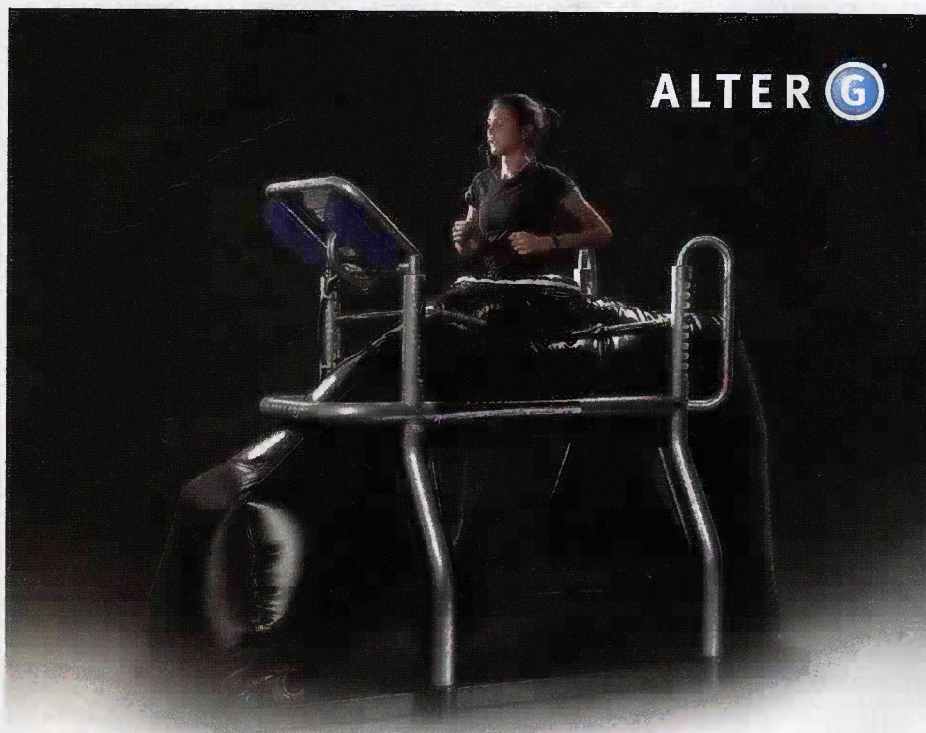
"Prevention really involves off-season programs and cannot be done well during the season," said Sueki. "During the season the goal is athlete management, but change occurs during the offseason. I am a big proponent of at least a six-week off period to allow athletes to recover and heal. This is when injuries and movement faults can be corrected."

He emphasized that without an off-season, athletes "never get a chance to heal, and continue to break down until catastrophic injury forces them to take time off."

Asked why he enjoys working for the AVP and beach volleyball athletes, Sueki had a clear idea. "I think the one thing that speaks volumes about the AVP is the fact that every single medical provider is volunteering their time," he said. "They are working with the AVP medical team because they love volleyball and love working with the athletes. They work for the love of the game. When I first started working AVP events, I was excited to work with the people that I had admired both on the court and in the medical tent. I loved having the opportunity to work and learn as part of an interdisciplinary team. There were and are no egos in the medical tent. We treat in the scope of our practice but also have no turf to defend. We work together, all with a common goal of helping the athletes in any way we can."

"It's a lot of work, but it's also so gratifying," added Wu. "When you can work with the athletes and help them, at least, because they got off a flight with low-back pain and get them to move and get them through the match — when you see them at their most broken at the start of the tournament and come in to see you each day and you see that you're helping their performance — it makes all the difference." ■

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