

Monmouth University



THE HAWK
AT BROCKRIEDE COMMON

A GIFT FROM THE BROCKRIEDE FAMILY

West Long Branch, NJ



Division I

Coastal Athletic Association

Previously Metro Atlantic Athletic Conference

22

Sports Teams

10

Men's

12

Women's

4

Full-time strength and conditioning coaches

Scan Counts

2019-2020 School Year to Present

10,880 Scans

843 Unique Scanners

12.9 Average Scans per User

During 2022-2023 School Year Alone

5,635 Scans

408 Unique Scanners

13.8 Average Scans per User



THE CHALLENGE

In 2017, Monmouth University's athletic department received an NCAA grant, opening up the opportunity to acquire Polar Team Pro heart rate monitors. As the sports performance staff and coaches witnessed the impact of this new heart rate and GPS technology, they became intrigued by other seamlessly integrable technologies that could benefit their student-athletes. At the time, only a handful of mid-major schools had access to such cutting-edge tools, giving Monmouth's sports teams a competitive edge in the Metro Atlantic Athletic Conference (MAAC), where they aimed to maintain a competitive advantage.

When first exploring the opportunity to integrate Sparta Science's Movement Health Platform (MHP) into the sports performance department, the initial goal was to collaborate with the Sports Medicine team and work towards reducing the risk of injuries among their 21 (now 22) varsity sports. To kick



off this initiative, they scanned over 500 student-athletes, conducting countermovement jump, balance, and plank scans. These scans provided objective insights into the athletes' movement ability, allowing the team to reverse-engineer strength, prehab, and rehabilitation programs that would mitigate injury risks and improve performance.

As with most organizations, the COVID-19 pandemic forced a shift in strategy. Months of inactivity and limited training resources meant that student-athletes returned to campus in a significantly detrained state, placing them at a higher risk of injury. Leveraging the insights gained from Sparta Scans, the sports performance staff reintroduced the fundamentals of resistance training. The combination of disrupted training schedules, missed training

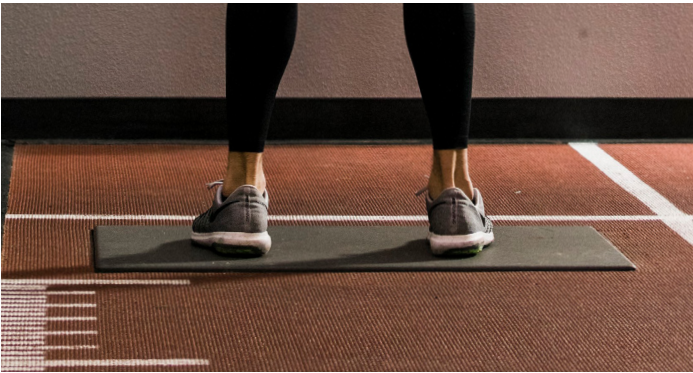
“When we came back from COVID-19, I would scan our teams on a weekly or biweekly basis and track their changes in vertical jump height and rate of force production. I wanted to ensure that the student-athletes were responding to the increases in our training volume and intensity in a positive way.”

Bri Rubino
Associate Director of
Strength & Conditioning



sessions, and increased exposure to high-speed movement and contact during practice resulted in a notable rise in season-ending injuries during spring competition.

In 2022, Monmouth University joined the Coastal Athletic Association (CAA), marking a new chapter for the entire athletics department. New rivalries were forged, and the university now found itself competing at a higher level. Once again, the sports performance staff adjusted their focus, aiming to transform their student-athletes into stronger, more resilient, and explosively skilled versions of themselves.



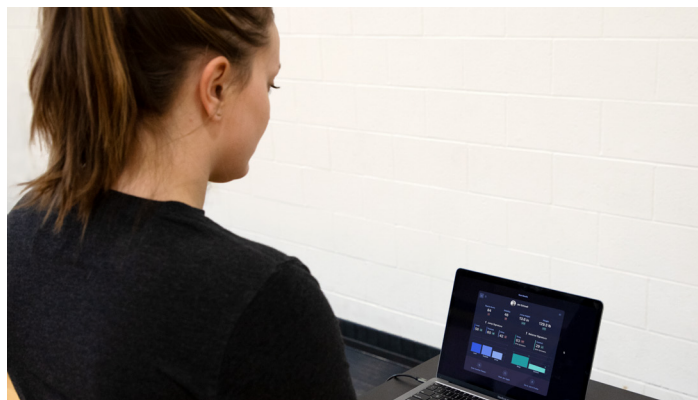
“The Sparta Science platform essentially functions as an additional performance coaching resource for our student-athletes because it provides meaningful data with actionable feedback. It gives us important data that can help shape how we train our student-athletes, and provide the necessary information for performance coaches to create better programs and fine-tune development tracking over time.”

Tim Rehm
Director of Strength
& Conditioning



THE SOLUTION

During the early stages of integrating Sparta Science's MHP into the sports performance framework, the primary objective was to gather two scans per student-athlete, measuring their progress from the beginning to the end of the offseason. This approach allowed for a deeper dive into sport-specific qualities like force production and power outputs, going beyond the traditional focus on linear increases in 1 rep max lifts. Following the COVID-19 shutdown, the Sports Performance staff invested time in developing a deeper understanding of the MHP, discovering its potential for more than just tracking outputs over time.



2294

Movement screens

<5

months

1193

athletes reached



“ I utilize the Movement Health Platform as a means to gain information on the specific needs of my student-athletes at any point over the course of the year. Along with this, I analyze the data to gain further insight into their readiness every week. This instant feedback allows me to confidently push forward or pull back on training loads at the individual level. ”

Mike Thiers
Assistant Strength &
Conditioning Coach

THE IMPACT

Since incorporating the MHP into its sports performance framework, Monmouth University has witnessed an exponential improvement in the overall student-athlete experience. The platform empowers the sports performance staff to efficiently collect data on a regular basis, scanning entire teams within minutes and analyzing the data immediately.



Women's Basketball Since September 2021:

17% decrease in ankle sprains

27% decrease in number of days missed due to sprains



For a student-athlete, availability is the key to success. Star players must be present and performing at their peak throughout the season. Since transitioning to a data-driven approach, Monmouth Athletics has experienced a decrease in the number of injuries and a reduction in the time missed due to injuries. For instance, since September 2021, the women's basketball program has seen a 17% decrease in ankle sprains and a 27% decrease in the number of days missed due to such sprains. Similarly, the football program has observed a 15% decrease in the total number of injuries sustained since the fall of 2019.



Furthermore, in addition to year-to-year increases in vertical jump heights, there have been significant improvements in force production, speed, and power outputs. While some of these gains can be attributed to weight training modalities, the instant feedback, and insights provided play a crucial role in helping to interpret and validate other data sources. The MHP has increased student-athlete buy-in thanks, in part, to the ability to educate on the why and how training is structured over the course of the calendar year. That, coupled with instant feedback provided to the student-athlete and coach, builds trust in the sports performance program and long-term athletic development.



I combine the results from weekly Sparta Jump Scans and GymAware outputs with daily Polar Team Pro heart rate and GPS data to monitor player loads over the course of the basketball season. If the Sparta Scan shows a significant decrease in vertical jump height, I'll look further into the raw metrics: is there also a decrease in force production or asymmetry? I'll look at the data from our other technologies: is there an indication of CNS fatigue, local muscular fatigue, or could it be the result of an acute injury? These questions will drive conversations with our athletic training staff and coaching staff that ultimately guide practice decisions.



Bri Rubino
Associate Director of
Strength & Conditioning

Football

15% decrease in total number of injuries since fall 2019

“ We have been able to truly transform our sports performance department into a data-driven culture which helps everyone, including medical staff and sport coaches, in their decision-making process. The Sparta Science Movement Health Platform has become a huge asset in our football program’s weekly evaluation process. With all this information, we can have greater discretion on a student athlete’s return to play from injury with full confidence that the student-athlete is ready to be reintroduced to their sport. Our student-athletes are fully engaged when the platform is being used because they know what the information is being used for and the impact it serves throughout their playing careers here at Monmouth University. ”

Gio Grassi
Assistant Strength &
Conditioning Coach