



By Dr Brian Moore,
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RETURN TO PLAY AND THE ELITE ATHLETE, NO SUCH THING AS THE NEW NORMAL

Brian is co-founder and CEO of Orreco. Brian has worked in sports haematology since 1999 when he uncovered patterns in the haematology of elite athletes as part of his doctoral research at Brunel University, London. He has worked directly with multiple World and Olympic medalists, and numerous pro sports teams and athletes competing in MLB, NBA, NHL, PGA Tour, UEFA, America's Cup Sailing and Formula1. An Applied Physiologist and expert in blood biomarker technologies, Brian has an international reputation for using sports science and data science to provide evidence-based actionable analytics to accelerate recovery, optimize performance and prolong the careers of elite athletes.

Orreco helps the best athletes on the planet be ready to perform. From rookie players to veteran pros, the company with offices in Galway, Ireland, London and Los Angeles, helps elite athletes tolerate the physical demands of professional leagues, accelerate recovery and extend playing careers. Orreco uses biomarkers and data science to identify an athlete's individual thresholds and provide personalized strategies to keep athletes in their peak performance zones. The Covid19 pandemic has focused the company on helping players and athletes to maximise their training and performance in difficult circumstances. The importance and power of the immune system is clear for us all to see, and has the attention of the world as we chart our way through these challenging times.

"Orreco is passionate about helping athletes to be the best that they can be on any given day. With Covid 19 our technologies have helped teams and federations to resume playing as quickly and safely as possible. Limited training time and truncated off-seasons are associated with an increase in soft tissue injuries risk as their tolerance to training load is lower, as was seen in the NFL Lockout of 2009 and the rash of achilles tendon ruptures and muscle tears were recorded "

Orreco's Senior Sports Scientist Dr. Georgie Bruinvels has been exceptionally busy in 2020, helping our roster of athletes and players to adapt to the realities of the Covid19 (C19) pandemic and various lockdowns. Georgie is calling attention to the data that suggests Female athletes have been disproportionately hit by the pandemic. We know from Orreco research that the physiological impacts of the lockdown have also been profound as evidenced by disturbances to the menstrual cycle.

As they fight against more limited training opportunities and drastic cuts to their competitive calendars, the challenges are many but there is opportunity too.

"How do they find that extra edge when they have time to kill and can't get to training grounds and tracks?" With a lot of their sports completely cancelled, female athletes have had to learn a lot about themselves this year," says Georgie.

"There has been a monumental shift in understanding about female health in particular. Female sport may be seriously impacted but a negative has been capitalised on and women's sport is slowly recovering," she says.

Orreco reacted to the C19 pandemic by doing what it does best – making available to its clients an evidence-based treasure trove of expert knowledge and insights about athlete's performance and physiology. We organised a series of webinars and online conference for athletes, coaches, physios and sports practitioners.

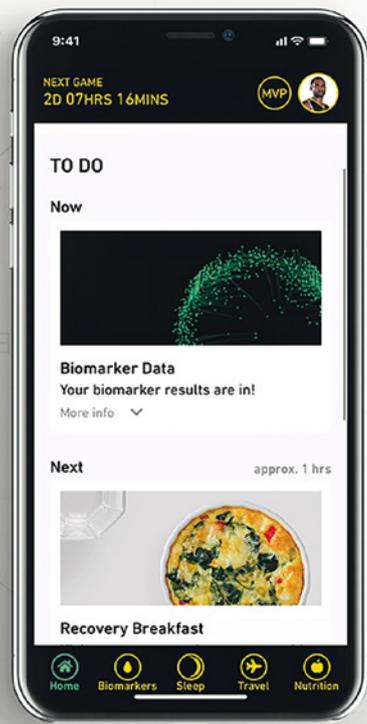
Where possible, we use our 15 years of expertise in biomarkers to gain more context. So, in many ways our response to C19 has been an agile but natural evolution of our work rather than a sudden pivot or forced reaction.

So how have we helped female athletes and players in particular?

In response to C19, we ran an online series with physicians and scientists on the impacts. These had contributions from NASA immunology, Harvard MGH, UCL, medical directors of EPL teams, team physicians and scientists and athletes from NBA, MLB, Olympic Sport, NCAA, F1, PGA tour, ATP, WTA, FIFA and our Wasserman roster.

With schedules disrupted and compromised, we deployed our experts and our bespoke suite of female athlete consultancy tools including the acclaimed FitrWoman to advise on training and competition in difficult circumstances.





This year has seen sports teams everywhere investing heavily in the health, well-being and longevity of their athletes and players. At Orreco, we've doubled down and accelerated the development of our cutting-edge data products.

Orreco Chief Science Officer Dr. Charles Pedlar says: "Never before has the awareness of health and well-being, particularly among elite athletes, been so heightened. Everyone wants to look after themselves and looking after people is Orreco's business."

For 15 years, our goal has always been to use evidence-based data to help elite athletes to perform better – to help them find that extra edge that puts them on the winning podium, that helps them be the first over the line, or the best on the pitch.

We have worked with athletes on how to align and maximise their performances, and manage their menstrual cycles, while minimising the risks of injuries associated with relative inactivity and the resumption of training loads, such as soft-tissue injuries.

Our individualised training programmes are delivered and monitored with our platforms that have powerful AI engines built by our technologists. These include not only FitrWoman but FitrCoach, a new Covid 19 Symptom Tracker and an exciting new Orreco platform that we call @thlete.

This suite of products will be to the fore in 2021 in helping our athletes and teams return to winning ways. Georgie adds: "So many people get pleasure from sport and from a female athlete perspective, it is essential that things get back up and running – with the Tokyo Olympics (2021) and other marquee sports events looming."

Georgie participated in Nike's Trained podcast, demonstrating that the menstrual cycle can serve as a guide for planning how you train, eat and recover to get more out of all three.

She outlined a plan for each of the cycle's distinct phases; discussed the long, hard fight for gender equality in research and debunked some enduring myths.

Among the Orreco tools that can help them maximise performances is @thlete, which we like to say acts as 'the coach in your pocket'. It has the ability to crunch and analyse multiple streams of data. @thlete gives athletes and players the best possible chance to protect health and wellbeing, perform optimally in their next game and, ultimately, prolong their careers.

Built by a team of 17 Orreco Phd scientists, the platform is being used by female athletes, in the NBA by the Dallas Mavericks and Atlanta Hawks and also by players such as the Toronto Raptors' Pascal Siakam. In the UK, @thlete will be deployed by Premier League soccer teams including Newcastle United FC and Tottenham Hotspur FC as well as by Chelsea FC. Women in the WSL.

So what does it do?

@thlete uses powerful AI to compute key data and give player-personalised insights drawn from performance metrics and daily wellness signals such as energy, muscle soreness. @thlete can suggest appropriate pre-game or pre-training meals and other nutrition actions on non-game days. It even applies metrics to a player's contract value and calculates values based on current performance.

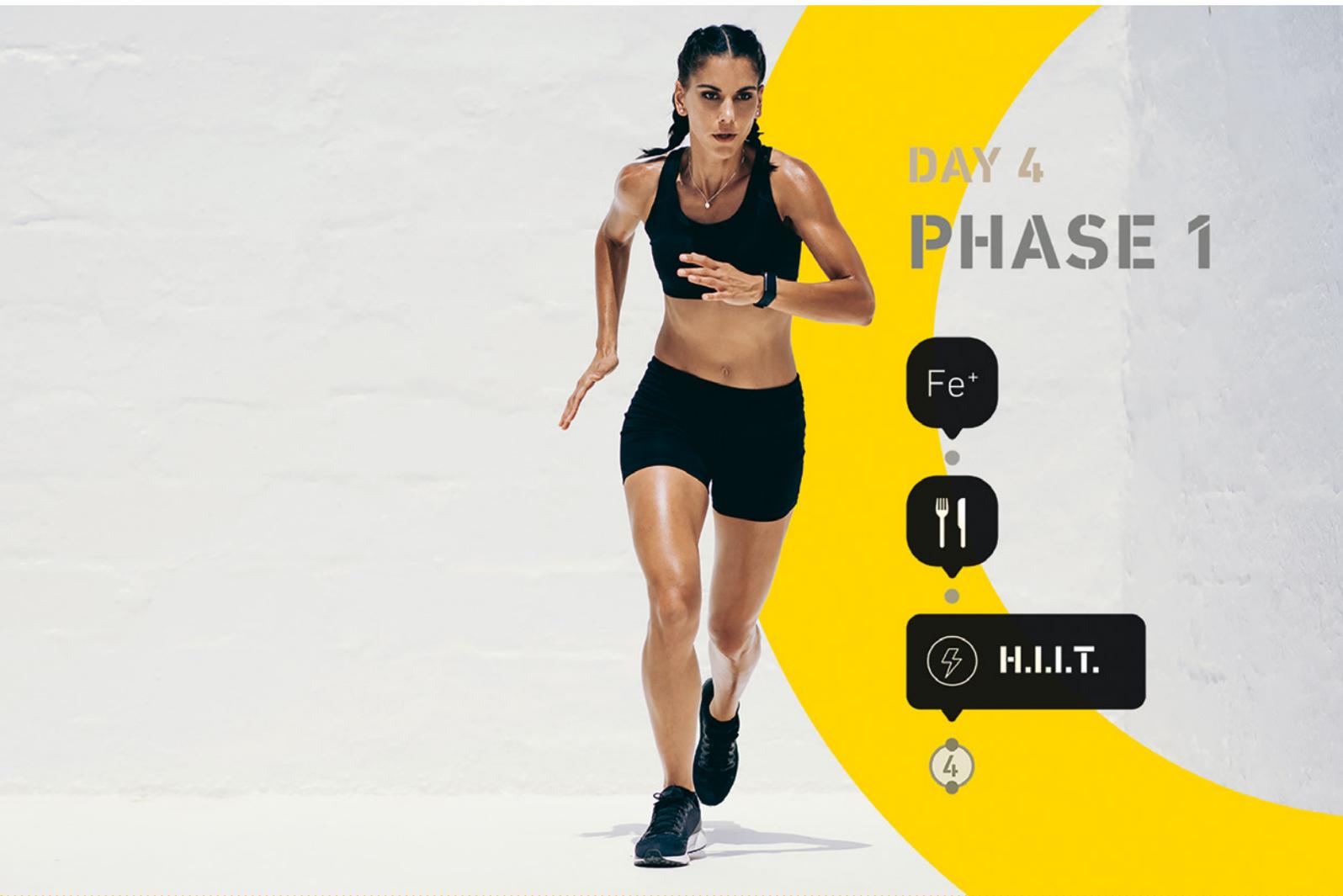
Remarkably, @thlete offers individualised game and performance data including a heatmap of successful and unsuccessful shots, fouls and even how players measure up against named opponents. It also analyses sleep patterns and travel schedules to maximise performance. We have adapted @thlete for female athletes to help monitor the menstrual cycle and maximise performance

All of this sounds like the realm of science fiction, but we at Orreco are pleased to say that our platforms are in demand and becoming more sophisticated every week with ever more precise data. In 2020, we identified the need for a reliable tool that could help athletes, teams and coaches to monitor and pre-empt problems with C19. Our team, in a rapid turnaround, developed a trusted app called the Covid Symptom Tracker. It is in use by 30pc of EPL teams and also in the NBA. On training and game days, players can use the app installed on their phone to

identify C19 symptoms and check temperature and other daily wellness signals. If they receive a red warning, the app tells them 'Contact your team doctor and do not enter the training facility' - a warning that is received in real time by the coach and club.

For the year ahead, I am excited that we will continue to build on our success as athletes and teams continue to invest in services that can protect and enhance their health and well-being. We will continue to innovate with our female athletes.

The next steps are ones that I anticipate with excitement. One day our science and tech will be available to people everywhere, protecting health and wellbeing, maximising performance and guarding against injury.



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