

Taira Kajisa, CEO, WorldTryout Inc.

“Disease prediction service by multi-monitoring of fatigue and excitement”

WorldTryout Inc. is a company that supports athletes from their playing career to after retirement. We research and develop many kinds of biosensors.

The multi-monitoring sensor is for detecting glucose affects the excitement and then also the oxidative stress reflecting from fatigue. We can predict diseases and prevent injuries for athletes. I would also like to show the potential to expand the opportunity for athletes to get back to the field. So, what is the problem nowadays? The injury risks from the physical and the mental state have increased. Nowadays sports-tech has remarkably progressed, such as a motion sensor and then management apparatus. Resulting in the younger athletes appearing and precociousness on the sophistication is the key characteristic in modern sports. On the contrary and now along with the precociousness, the number of injuries of the athlete has increased from both physical and mental aspects.

[Solutions]

One solution to this is by monitoring the adrenal hormones after reflecting on the excitement or the stress. If the athlete gets excited or stressed, Adrenal hormones are secreted. Degradation of the glycogen was promoted and then the glucose was released in blood. Then Adrenaline rush happens and athletes can perform physically and mentally better, but the fatigue will accumulate compared with the practice. It can lead to injury, autonomic ataxia. We can monitor the glucose data from the continuous glucose monitoring system. It can accumulate data on a smartphone.

We can monitor the athlete's data from the CGM in existence from the professional baseball pitcher. It proved with the very highest abnormal stage of the glucose level during playing the game. And then it can also get higher in the sleeping rate. So, it leads to autonomic disorder. A solution is the multi-sensor for detecting glucose under oxidative stress.

[Marketability]

The marketability of the glucose multi-sensing. They are sold in the sports business market so the sports-tech is getting improved year by year, and then also in the case of the mental health for athletes, I expect the new target of sports-tech. So nearly half of the elite athletes were experiencing depression.

[Milestones]

First of all, make the business for the athlete advising service from the CGM in existence, and then at the same time, develop the multi-sensor, after the clinical trial, medical certification. Then launch the multi sensor. This multi sensor can expand the market to a Diabetes field.

[Future Goals]

We would like to support the athletes with the combination of the bio on the IoT. I hope all athletes can extend their health adjusted life expectancy, both physically and mentally.

[Q & A]

Q.

Your product, up to now what is ready and what do you have to do for the development of your products, this is just I am not sure exactly.

A.

Truly product is over the multi-sensor is under development for the this stage, the lab scale, we can detect that glucose in physical level, lower on the higher glucose level and can detect the little redox

potential for the oxidative or the Adrenaline stages. So, for using a micro needle, imaging the penetrate the blood vessel.

Q.

Can be applied for the Adrenaline or other product?

A.

I already obtained the data, the massive data from the professional athlete. So then we accumulate this data and then using the AI we can discriminate the abnormal level in during the game or sleeping and separated from the oral increased of the glucose level. So this can be the service that soon as an advising services. And this technology is different from the previous technology which we patented at already launched the start-up company, although it's based on that technology. That is basically similar to the previous technology, but the previous company already pivot, not detecting the tears and then not determining the glucose. So then separating from this and then in the aspect of the patent. So WorldTryout get a patent as a new core technology to detection of glucose high sensitivity.

Q.

Do you have any survey data that you talk to athletes, you know, they have the very clear and mathematical needs that your product can study satisfied, because I'm not athletic, I'm just trying to understand from their perspective is this a real problem?

A.

Using our multi sensor, we cannot detect detected data from the athlete yet, but using the saliva from the athlete it can detect the fluctuate data of the redox potential. So, the oxidative stress reaction data can be corrected and then it can be a detected.

Q.

The question was the athletes said they want to monitor the fatigue?

A.

Yes, athletes can be interested in the where this CGM data, so because nearly half percentage of the athlete have the problem to hypertension and cannot perform a very well in the real game. And they also cannot sleep after the game. So, this problem is derived from the data. So, athletes can know the data themselves.