

Unified Weapons Master Launches New Armour Prototypes

17 June 2014 - Australian-based Company Chiron Global - the founder of combat sport Unified Weapons Master® (UWM) - this week released video of the latest prototypes of its 'Lorica' intelligent armour.

The upgraded Lorica suits were battle tested during a recent video shoot in New Zealand. Multiple full contact sequences were recorded using a variety of blunt but real martial arts weapons including long-handled machetes, long and short staffs, European and Japanese swords, a three sectional staff, tomahawks and shields. The Lorica suits were wirelessly connected to an advanced scoring system allowing data capture and analysis of every strike to the suit including force, location and trauma profile information.

The fight action named the "UWM Unleashed" series was the first time that the suits have been used in a full contact competitive environment utilising multiple weapons and martial arts styles, capturing force measurement data. The information captured has been measured using the company's proprietary medical algorithms to determine what damage would have been sustained by the competitors had they not been wearing armour.

The data is collected via 40 independently sensed areas in the head and torso with sensors being read 6000 times a second to ensure maximum accuracy. Once the strike has occurred, the process is very fast with impact detection occurring in 5-10 milliseconds and the data being transmitted to the computer in under 100 milliseconds, where it is then displayed on screen.

UWM CEO David Pysden says that the data collected from the suits has provided valuable information about specific strike techniques and their force.

“Our technical team has spent hours analysing the UWM Unleashed series data and this information will be used to refine and improve the Lorica armour as we move into Stage 2 which involves building production versions.”

“The data captured revealed some interesting facts. The most damaging strike recorded in the UWM Unleashed series was a spinning backfist to the temple, using the butt of a tomahawk, measuring 6.1 kilonewtons or about 1,371 pounds of force” says Pysden.

Chiron Medical Specialist Dr Nick Fletcher who designed UWM’s fracture profiling algorithms that underpin its scoring system, says that it is the first time to his knowledge that this type of medical data has been used in this way in a sports environment. Dr Fletcher spent many months compiling the fracture profiling algorithms based on the historical medical literature from the past century, as well as recently-updated medical research sources.

“The force of the most damaging single strike during the UWM Unleashed series would have fractured bones in the right fronto-temporal region of the skull, causing serious injury or worse to an unprotected fighter.” says Dr Fletcher.

In the next evolution of the Lorica the team plans to include technology to also monitor biometric data including heart-rates, oxygen saturation levels and body temperature, giving useful insights into the health of the fighters.

“This information will be useful as it means we can monitor the physical state of the competitors during bouts in real time,” says Pysden. “The safety of our fighters is paramount at all times and by keeping track of the fighters’ heart rates, body temperature and oxygen saturation levels we can make sure that they are competing within safe parameters.

Once we launch our first events, which we plan to hold in 2015, this information will provide an additional level of detail for interested fans who can track their favourite fighter’s progress,” says Pysden.

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