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Northumbria University scientists find looking in the mirror makes you stronger

Experts at Northumbria University, Newcastle are working with Newcastle Clinic to explore how innovative new research on muscular strength in healthy adults could be applied to accelerate recovery from strokes and limb fractures.

Researchers within the [Department of Sport, Exercise and Rehabilitation](#) at Northumbria have gained valuable insight into the way muscles are strengthened and in doing so, have partnered together with Newcastle Clinic with the aim to apply this work in athlete injury management.

The research found that when a person exercises a muscle on one side of their body in front of a mirror, the muscle on the opposite side can also get stronger due to the reflection stimulating a specific areas the brain. Through the illusion of the stationary hand moving and its muscles contracting during strength training, the excitability of the untrained muscle on the opposite side is stimulated and as a result, strengthened.

This new research has the potential to be crucial in the future of stroke rehabilitation, fractures or other unilateral clinical injuries and in collaboration with Newcastle Clinic, experts will be able to analyse sports injuries with speedy access to state of the art MRI equipment.

Explaining the next stage of the research, [Professor Glyn Howatson](#), a Sport and Exercise Physiologist from Northumbria, said: “Volunteer participants will be immobilised in a wrist cast for 1 week and we will measure, with an MRI scanner, how the muscle structure changes with and without resistance training on the opposite side.

We are very excited at the potential application of this work in athlete injury management and perhaps more importantly in clinical populations, such as stroke and fractures, that require rehabilitation.”

Northumbria has been delivering Sport degrees for over 30 years and is one of the original providers in UK Higher Education and graduates from our Sports programmes have included successful medal winning athletes such as Olympic Cyclist Victoria Pendleton. With access to £30 million Sport Central facility, the University is committed to delivering excellent care for athletes, providing a world class service. For more information on the Sports programmes Northumbria offer, visit: <https://www.northumbria.ac.uk/about-us/academic-departments/sport-exercise-and-rehabilitation/>

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Contacts



Rik Kendall

Press Contact

PR and Media Manager

Business and Law / Arts, Design & Social Sciences

rik.kendall@northumbria.ac.uk

07923 382339



Andrea Slowey

Press Contact

PR and Media Manager

Engineering and Environment / Health and Life Sciences

andrea.slowey@northumbria.ac.uk

07708 509436



Rachael Barwick

Press Contact

PR and Media Manager

rachael.barwick@northumbria.ac.uk

07377422415



James Fox

Press Contact

Student Communications Manager

james2.fox@northumbria.ac.uk



Kelly Elliott

Press Contact

PR and Media Officer

kelly2.elliott@northumbria.ac.uk



Gemma Brown

Press Contact

PR and Media Officer

gemma6.brown@northumbria.ac.uk