



How 30 minutes a week can take years off your biological age - no surgery required

As an ageing population, it's not surprising that we're spending an awful lot on maintenance. Statistics released by the British Association of Aesthetic Plastic Surgeons (Baaps) confirm that over 50,000 procedures were carried out in 2013 and there was a 41% increase in liposuction. But in the rush to focus on looking younger and slimmer, are we really gaining anything if our bodies aren't able to keep up?

James Fisher, a Senior Lecturer at Southampton Solent University, has published new research that shows how just two 15-minute sessions a week can take decades off our biological age, reversing some of the most debilitating acute and chronic effects of ageing. It means a 60-year old could have the body of a 40-year old, and there is no plastic surgery required.

Results showed:

- Increased bone mineral density reducing the brittle bone syndrome that causes an increase in fractures as we get older
- Decrease in obesity, reducing likelihood of type 2 diabetes
- Increase in muscle mass resulting in increased strength
- Improvement in cardiovascular fitness and metabolic health
- Decrease in potential for injuries through strengthening joints, tendons and ligaments

Fisher and his team have spent years studying strength training and, in 2011, published a paper that looked at different variables such as free weights or machines, multiple or single sets of exercises. They also looked at any benefit to be gained from training more often. The findings were good news for those that like to get in and out of a gym as quickly as possible - there is no evidence to support the need for repeating sets.

The new study supports the previous findings, showing that significant improvements can be seen by maintaining muscular tension for around 60-90 seconds, equating to a single set of 8-12 repetitions.

"What is important", says James, "is that it is the muscle does the work. A lot of time when you see people in the gym they move the load very quickly. This takes the effort away from the muscle as it brings momentum into play. What you need to do for resistance training is to move the load slowly and make sure that the muscle is working at full capacity for the duration of the exercise."

The study was undertaken in a private gym rather than in Southampton Solent University's facility as the research team were keen to ensure their results could be replicated.

"Our study was undertaken with 33 adults aged 55+", James continues, "none of whom had previously trained in a gym. Weights were set to levels that meant participants pushed themselves really hard, to the point that muscles were starting to ache and they were not be able to do another set. There were just five pieces of equipment and they were encouraged to move onto the next within 30 seconds."

Although the research was undertaken in a gym, James maintains that the exercises could easily be undertaken at home.

"The muscle doesn't identify the difference between a free weight, a resistance machine, a can of baked beans or a bottle of water", he explains, so any resistance is good. "What's important is to do five or six exercises a couple of times a week,

make sure your posture is good and train to a high degree of muscular effort. If you could do the same all over again then you haven't worked hard enough!"

FOR FURTHER INFORMATION CONTACT THE MEDIA OFFICE ON 023 8031 9079 or press.office@solent.ac.uk

About Southampton Solent University

Southampton Solent University offers more than 23,000 students over 200 qualifications ranging from HND to PhD, in subjects such as maritime education and training, fashion and design, media and television, music, health, sport and leisure, business, IT and technology. The University was awarded the 2013 Quality Assurance kite mark for quality and standards of teaching and learning. Solent was voted one of the most creative universities in the UK in a Which? University 2013 poll of students. Solent Business School has been awarded the Small Business Charter Award, which is supported by the Association of Business Schools and the Department for Business, Innovation and Skills and 'gold approval' by the Association of Chartered Certified Accountants (ACCA).