

Does your training routine really need to be that complicated?

A new study led by researchers at Southampton Solent University suggests that complicated exercise programmes for strength and conditioning do not necessarily have greater benefit than simpler, less infrequent high intensity exercise.

The new study, published in the journal of Applied Physiology, Nutrition, and Metabolism, investigated the value of the Pre-Exhaustion (PreEx) training method and found that the order of different exercises is of less relevance than simply performing resistance training exercises with a high intensity of effort alongside correct form.

"Resistance training is becoming a major intervention for health and disease prevention, and improved understanding in this area is increasingly important," says James Fisher, lead author of the study and Senior Lecturer in Sports Conditioning and Fitness at Southampton Solent University.

PreEx training is based on the principle that the targeted muscles can be pre-exhausted with isolation exercises immediately prior to a compound exercise*- thereby providing greater stimulation to the target muscles.

To test these theories three groups of volunteers were given similar workout routines consisting of upper-body, lower-body, and core exercises in different orders, with either one- or two-minute rest intervals between moves. After 12 weeks, all routines proved to produce similar results.

Contrary to popular belief that the major stimulus from resistance training revolves around the high degree of effort at the end of a set of repetitions, the study found that the order of exercises or interval between sets has minimal to no added benefits.

"This research study represents a real work-out, by real people in a real gym not a laboratory gym as in much strength training research. Our results suggest that exercise order and rest interval make no difference to chronic strength increases following 12 weeks of training, but rather should be chosen based on personal preference," explained James Fisher, lead author.

"In addition, while scientific research in trained participants is lacking, maybe as a result of the diminished gains compared to untrained persons, the present study shows that significant strength increases can continue as a result of brief (23 minutes) and infrequent (2 x / week) resistance exercise when intensity of effort is maximised. This research demonstrates ecological validity as well as scientific rigour; it shows practical results from an approach to resistance exercise that most people can immediately utilise."

The authors of the study were James Fisher and James Steele from Southampton Solent University; Dave Smith from Manchester University; and Luke Carlson of Discover Strength, Plymouth, Minnesota.

Notes to editors:

*A compound exercise involves more than one joint and muscle group

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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 kitemark 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).