

Metabolic Profile of Reciprocal Supersets in Young, Recreationally Active Women and Men, Rogelio A. Arealzola, et al, [Journal of Strength and Conditioning Research](#), 36 (10)2709-2716, 2221.

Resistance exercise (RE) is an exercise modality used to elicit positive health and sports performance. Older adults may use RE to decrease fall risk, maintain overall muscle mass, increase independence and quality of life. Athletes incorporate RE to improve performance by increasing strength, power and speed and also improve muscle mass. Studies have shown that consistently performing RE at intensities ranging from 30 to 100% of 1 repetition maximum (1RM - what amount of load you can lift for one repetition in a movement) can elicit muscle hypertrophy (size), increases in lean muscle mass and other aerobic and metabolic benefits.

Traditional RE (TRAD) involves completing a set of repetitions (reps) to meet certain criteria (i.e., momentary muscular failure, a certain number of reps, a percentage of 1RM), followed by an adequate rest period before the next bout of the same exercise. Recent studies have shown that shortening rest times play a key role in creating a more potent metabolic stimulus by triggering greater increases in heart rate (HR), oxygen uptake (VO₂) and blood lactate (BLa).

Although the benefits of exercise are well known, only 51.6% of adults meet the [ACSM](#) aerobic activity guidelines, 29.3% meet muscle strengthening guidelines, and 20.6% meet both guidelines, with most blaming a lack of time as the main barrier. Using more efficient (and more effective) training modalities should improve exercise compliance for most people.

Reciprocal supersets (RSSs), also known as opposite action superset training, consists of performing 2 consecutive exercises with opposing muscle groups with minimal rest between the movements. This concept can also be used to add in any other movement of the body, in the series of exercises for a particular training session, so that no “muscle group” is trained in succession and that local muscle recovery is achieved. It is a more specific variation of traditional circuit training and will have no effect on how much load is lifted, how many reps of that load are performed or how many total sets of each movement required are performed in the training session.

Training programs with lower rest times, such as RSSs and its many variations as described above, have shown to elicit greater metabolic energy costs (calories burned per unit of time, increased exercise heart rate and oxygen consumption) increases in BLa (which is a measurement of higher exercise intensity) and increases in excess post-exercise oxygen consumption (EPOC - the body burns calories at a higher rate, while at rest, post exercise bout) when compared to TRAD.

These benefits, when coupled with a decrease in exercise duration (approximately half the total training time), make RSSs and its many variations a favorable training modality for anyone, including competitive athletes.

This study shows that RSSs training produces an acutely higher metabolic and physiological demand on the body than volume-load equated TRAD and provides a cardiorespiratory exercise benefit. When coupled with the time-saving aspect, in my opinion, this type of training is now considered the gold standard for program design within almost all progressive overload models and specificity frameworks.