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Commentary

The Effects of Various Blood Flow Restriction

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The primary purpose of this study was to assess the acute effects of blood flow restriction (BFR) at 70 percent of full arterial occlusion pressure on bench press strength and endurance performance. The individuals did three sets of the bench press at 80 percent 1RM per formed to failure in a randomized crossover design with two separate conditions: without BFR (CON) and with BFR (BFR) (BFR). Blood flow restriction (BFR), also known as ischemia or occlusion, is a typical training strategy utilized in a variety of physical activities. Through the use of an acuff, external pressure is delivered to the most proximal region of the upper and/or lower limbs. This training method induces a mechanical compression of the vasculature underneath the cuff, which reduces arterial blood flow while severely restricting venous blood flow, preventing venous return during the workout. The cuff pressure level utilized during BFR training is pre-determined based on the value equivalent to 100 percent arterial occlusion pressure (percent AOP) at the point where blood flow is fully shut off, and then the cuff pressure can be individually adjusted to perform training. Only a few research have compared BFR's acute impact on strength-endurance performance to date. Wernbom and Loenneke come to mind in this sense. Compared to control conditions, resistance training under BFR reduced the maximum number of completed rep-etitions (REP) during leg extension at 30 percent of 1 repetition maximum (1RM). This conclusion was somewhat consistent with Wernbom's findings, which indicated a much decreased number of repetitions under BFR. At loads of 20, 30, and 40% 1RM, the results were compared to the control circumstances. At larger loads, however, no such changes were seen (50 percent 1RM). The study's key finding was that, contrary to the initial prediction, BFR utilized during strength-endurance training does not reduce endurance performance based on the number of performed repetitions and time under tension. The number of executed repetitions did not change significantly across conditions in the present investigation, but there was a significant increase in duration under tension for BFR when compared to control conditions. In comparison to control conditions, there was a significant decrease in peak and mean bar velocity for BFR, but only in the first set of the bench press exercise. The current study looked at two key features of the effects of BFR during resistance exercise on strength-endurance performance. The first is concerned with the effect of BFR on effort volume, whereas the second is concerned with variations in bar velocity. In terms of the effects of BFR on work volume, our findings contradict those of earlier studies. The results of this study showed that using BFR during up-per-limb resistance exercise conducted to muscle failure does not reduce strength-endurance performance, although it did cause a drop in bar velocity. Furthermore, the findings of this study revealed that a training session involving the bench press exercise performed to muscle failure at 80% 1RM increases time under tension without reducing the number of repetitions completed.

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