3684 Board #131 June 3 9:30 AM - 11:00 AM

Training Unloading During Winter Break Improves Fitness in Male Rugby Players

J. Mark VanNess, Jeremy McConnell, Derek Gleason, Courtney Jensen. *University of the Pacific, Stockton, CA.*
Email: mvanness@pacific.edu

(No relationships reported)

When athletes experience training distress, a break in training may facilitate recovery and improve performance. Conversely, when team training is interrupted, such as occurs during winter break in collegiate athletes, deconditioning may result. In the current study, physiological responses to exercise were made before and after an unstructured winter break in male collegiate rugby players.
PURPOSE: The purpose of the study was to examine detraining effects that occurred when structured training was interrupted for four weeks.
METHODS: Fourteen (n=14) male club rugby players underwent exercise testing to assess aerobic capacity (VO_2 max), strength (maximal bench press and leg squat), speed (10 yd dash), power (vertical jump), and body composition (body weight and % body fat by underwater weighing). A subject orientation of the testing was performed for all tests, and the treatment data were collected just prior to, and after the winter school break. T-tests were performed on pre- and post-winter break values.
RESULTS: There was no evidence of detraining after four weeks of unstructured training. No changes were observed in bench press strength (183 versus 188.6 lbs) or speed (1.69 versus 1.69 seconds) across the break. However, performance measures for aerobic capacity (45.45 versus 47.70 ml/kg/min), squat strength (269.6 versus 308.2 lbs) and vertical jump (22.52 versus 23.94 inches) all showed significant improvements following the break. Additionally, there were significant increases in body weight (176.96 versus 178.63 lbs) and percent fat (12.76 versus 15.27% fat).
CONCLUSION: Four weeks of unstructured training over the winter school break appears to have provided a recovery period that allowed for increases in physiological function despite increases in body fat.

3685 Board #132 June 3 9:30 AM - 11:00 AM

No Acute Effect of Sled Towing on Sprint Acceleration or Maximum Speed

Megan A. Wong, Casey M. Watkins, Ian J. Dobbs, Saldiam R. Barillas, Anne Lin, David C. Archer, Jared W. Coburn, FACSM, Robert G. Lockie, Lee E. Brown, FACSM. *California State University, Fullerton, Fullerton, CA.*

(No relationships reported)

Sled towing is a popular method of overload training in many field sports. The initial acceleration and top speed phases are components in developing peak velocity in athletes. Acute training may lead to postactivation potentiation (PAP), which occurs when subsequent muscle performance is enhanced following a preload stimulus. However, this is highly dependent on rest time.
PURPOSE: To investigate acute sprinting in the acceleration and maximum speed phases following different rest periods after sled towing.
METHODS: Eleven male field sport athletes (age=23.00± 2.79yrs, height=177.45± 6.34cm, mass=82.52± 8.79kg) completed a standardized warm-up then performed a baseline 30 meter (m) sprint (measured with acceleration and maximum speed splits). They were then attached to a waist harness and towed a sled equal to 30% of their bodyweight for 30m with maximal effort. Following a random rest period (2, 4, 6, 8, or 12min), they performed another maximal effort bodyweight sprint without the sled.
RESULTS: A 4x6 (split x condition) ANOVA revealed that baseline split times (split 0-5m 1.14±0.05s, split 5-10m 0.77±0.04s, split 10-20m 1.30±0.06s, split 20-30m 1.25±0.07s) were not different than split times for any rest condition (collapsed across rest conditions, split 0-5m 1.14±0.75s, split 5-10m 0.78±0.03s, split 10-20m 1.33±0.07s, split 20-30m 1.27±0.07s).
CONCLUSIONS: Sled towing did not increase or decrease acute maximal effort bodyweight acceleration or maximum speed sprint times. The different rest periods did not elicit a PAP effect, which may be attributed to less than optimal loading.

3686 Board #133 June 3 9:30 AM - 11:00 AM

The Effect of Reduced Training Volume during Tapering on Kicking Response in Taekwondo Competitors

Pedro J. Carazo-Vargas, José Moncada-Jiménez. *University of Costa Rica, San José, Costa Rica.*
Email: pcarazov@hotmail.com

(No relationships reported)

PURPOSE: The purpose of the study was to evaluate the effect of training volume during tapering on kicking performance in college Taekwondo competitors trained under a periodization block model.
METHODS: Participants were eight men and four women of the taekwondo team at the University of Costa Rica. All individuals completed a 13-week macrocycle loading phase (10 weeks of load and 3 weeks of taper). Following the loading phase, participants were paired by gender and randomly assigned to either a condition in which they kept the same training volume or a condition were training volume was reduced by 50% using a linear pattern. Kicking motion time was measured by instructing individuals to perform a circular kick to a target located at 1.10m high followed by another kick to a target located at 1.60m high. Kicking time response was obtained by recording the time required to kick a random sequence of 10 targets. The “Fitlight Trainer system” was used to time both dependent variables. Measurements were recorded at the beginning of the loading phase, the sixth week of the load period and twice a week during each of the three weeks of the tapering phase. Effect sizes (ES) were computed and analysis of variance (ANOVA) tests were used to detect significant interactions.
RESULTS: No significant interactions were found on kicking motion-time (Pre = 1.39 ± 0.09s vs. Post = 1.26 ± 0.06s) and kicking time response times (Pre = 9.63 ± 1.01s vs. Post = 8.47 ± 0.51s) in the group following the same training volume and the group with reduced training volume (Pre = 1.35 ± 0.10s vs. Post = 1.26 ± 0.11; Pre = 9.42 ± 1.52s vs. Post = 9.57 ± 1.78s, respectively). ANOVA results showed that regardless of the training volume, during the tapering phase improvements were observed on kicking motion time ($p = 0.03$) and kicking time response ($p = 0.04$), with the best performance observed at the end of the third week of the tapering phase. The 50% training volume reduction produced a higher ES on kicking motion time (1.50) and kicking time response (3.32) compared to no reduction in training volume (0.86 and 0.04, respectively).
CONCLUSIONS: The reduction of volume training during tapering under a periodization block model improved kicking performance on taekwondo competitors. In the analyzed conditions, tapering must extend at least three weeks.

3687 Board #134 June 3 9:30 AM - 11:00 AM

Effects of a 3-week Core Training Program on Different Unstable Platforms

Alexa J. Chandler[1], Sebastian Harenberg[2], Joseph DiSalvo[2], John Fausold[2], Larissa Melendez[2], Rachel Simkins[2], Collin Gill[2], Victor Lopez-Carmen[2], Thomas Swensen[2]. *[1]Rutgers, The State University of New Jersey, New Brunswick, NJ. [2]Ithaca College, Ithaca, NY.* (Sponsor: Shawn Arent, FACSM)

(No relationships reported)

The untested InertiaCore Balance Trainer (ICT) is designed to improve core function. Users engage the core musculature to maintain balance on the unstable device; its stability is adjusted by adding weight. This flexibility makes the ICT appropriate for all fitness levels.