RESULTS: A main effect of time (pre-test to post-test) was significant for both upper- (F(1,19) = 15.136, p=0.001) and lower-body (F(1,18) = 16.412, p=0.001) strength. Training groups did not significantly differ for upper- (p=0.969) and lower-body (p=0.899) strength. There were no group by time interactions for upper- (p=0.116) or lower-body (p=0.962) strength. Effect sizes were d=0.13 for upper-body strength and d=−0.11 for lower-body strength.

CONCLUSION: Both training groups were able to improve upper- and lower-body strength after eight weeks of resistance training, with no differences between the training groups. More research is needed in evaluating the effectiveness of non-traditional training modes, such as kettlebells and plyometrics, on muscular strength outcomes in youth.

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3055 Board #120 June 3, 2:00 PM - 3:30 PM
Does one Bout of High Intensity Resistance Training Change Circulatory Levels of Irisin?
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(No relationships reported)

The recently novel identified myokine, irisin, has gained attention as a way to increase energy expenditure by enhancing metabolic function. Exercise and active lifestyle increase the synthesis of contraction-regulated myokinases that have direct effect on cells metabolism.

METHODS: A total of 24 participants (age 21.3 ± 2.1 years, body mass index [BMI] 22.12 ± 1 kg/m2, lean body mass [LBM] 46 ± 10.1 kg, and relative body fat [%BF] 25.9 ± 9.9) were recruited. Subjects were blocked by sex, BMI, LBM, and %BF content and randomized to either control (n=13) or intervention (n=11). Physical Fitness was assessed by means of dual-energy x-ray absorptiometry (DXA), strength tests (Bench press and Leg press one repetition maximum [1RM]), and cardio-pulmonary maximal stress test. Blood samples were collected to assess irisin at baseline, during (45 minutes), and post-intervention.

RESULTS: Irisin (ul/ml) levels for control and intervention groups were 6.1 ± 1.7 and 5.77 ± 0.9 at baseline, 5.6 ± 1.3 and 6.03 ± 1 at pre, and 5.3 ± 1.1 and 6.2 ± 1.0 at post respectively. Interaction effect (time x intervention) was close to significance (F[1,22]=0.091, p=0.766) factors were not significant.

CONCLUSIONS: Irisin levels were not significantly altered with resistance training with or without the high intensity intervention. More research is needed in evaluating the effect interventions have on irisin synthesis.

3056 Board #121 June 3, 2:00 PM - 3:30 PM
The Durational Effects of High Intensity Interval Training on Physiological Variables in Recreationally Active Individuals
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(No relationships reported)

PURPOSE: The purpose was to compare the effects of high intensity interval training (HIIT) and steady-state aerobic exercise (AER) on VO2max and visceral fat and to quantify the effects of a two week detraining period.

METHODS: 27 college-aged participants (17 males, 10 females), who met minimal ACSM aerobic guidelines for aerobic exercise, were randomly assigned to a HIIT or AER training group. Each group underwent 30 minutes of treadmill-based exercise during their respective session. Both HIIT and AER sessions included a five minute warm-up, a 20 minute training period, and a five minute cool-down. The HIIT period consisted of 10 intermittent bouts of one minute high intensity exercise (90-95% HRmax) followed by one minute of moderate intensity exercise (60-65% HRmax). The AER group maintained a pace at 60-65% HRmax for 20 minutes. Participants completed two sessions per week over a three week period. Following training participants engaged in a two week detraining period. Values for dependent variables were assessed pre-training (PreT), post-training (PT), and post-detraining (PDT).

RESULTS: A significant main effect for time was determined for visceral fat (p <.05) with post hoc testing showing a decrease in visceral fat occurred from PreT to PT in the AER group. Combined as a whole, there was significant decrease (p <.05) in visceral fat from PreT (50.24 ± 23.07) to PT (47.05 ± 21.67), and significant increase from PT (47.05 ± 21.67) to PDT (49.22 ± 22.93). No significant change in VO2max (p >.05) in either group over time was noted.

<table>
<thead>
<tr>
<th></th>
<th>HIIT (n = 14)</th>
<th>AER (n = 13)</th>
</tr>
</thead>
<tbody>
<tr>
<td>VO2max (mL·kg·min⁻¹)</td>
<td>55.53 ± 8.29</td>
<td>55.48 ± 10.21</td>
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<tr>
<td></td>
<td>55.20 ± 10.17</td>
<td>53.62 ± 7.46</td>
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<tr>
<td></td>
<td>53.76 ± 6.89</td>
<td>52.70 ± 7.2</td>
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<tr>
<td>Visceral Fat (cm²)</td>
<td>50.38 ± 20.44</td>
<td>47.5 ± 16.71</td>
</tr>
<tr>
<td></td>
<td>49.33 ± 16.38</td>
<td>50.1 ± 26.47</td>
</tr>
<tr>
<td></td>
<td>46.55 ± 26.73</td>
<td>49.09 ± 29.13</td>
</tr>
</tbody>
</table>

*Significance versus PreT (p <.05)

CONCLUSION: A three week, six-session HIIT and AER program elicited significant reductions in visceral fat mass. HIIT is a viable, time efficient method to improve measures of fitness among college-age individuals.