Supplemental Table 1: Changes in biomarkers by changes in body composition

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Biomarker** | **Weight (kg)** | **Lean Mass (kg)** | **Fat Mass (kg)** | **Trunk Fat Mass (kg)** | **Body Fat (%)** |
| **% Change** | **p-value** | **% Change** | **p-value** | **% Change** | **p-value** | **% Change** | **p-value** | **% Change** | **p-value** |
| hs-CRP\* | 5.1(3.7, 6.5) | 0.000 | 7.5(3.7, 11.4) | 0.000 | 8.4(6.4, 10.6) | 0.000 | 15.0(11.3, 18.8) | 0.000 | 12.0(8.9, 15.3) | 0.000 |
| IL1-beta | -0.1(-1.0, 0.8) | 0.833 | -0.4(-2.5, 1.8) | 0.738 | -0.1(-1.4, 1.2) | 0.885 | -0.7(-2.8, 1.5) | 0.543 | 0.0(-1.9, 1.9) | 0.971 |
| IL-6 | 2.1(0.9, 3.4) | 0.001 | 4.2(1.2, 7.3) | 0.007 | 3.2(1.4, 5.0) | 0.001 | 6.2(3.0, 9.5) | 0.000 | 4.2(1.4, 7.1) | 0.003 |
| IL-8 | 0.0(-0.5, 0.5) | 0.960 | -0.1(-1.3, 1.1) | 0.901 | 0.0(-0.7, 0.7) | 0.932 | -0.3(-1.5, 1.0) | 0.663 | 0.1(-0.9, 1.2) | 0.798 |
| TNF-alpha | 0.7(0.1, 1.2) | 0.016 | 1.0(-0.3, 2.3) | 0.142 | 1.0(0.2, 1.8) | 0.011 | 1.5(0.1, 2.9) | 0.032 | 1.7(0.4, 2.9) | 0.007 |
| Adiponectin | -0.9(-1.5, -0.4) | 0.000 | -1.6(-2.8, -0.3) | 0.017 | -1.5(-2.2, -0.7) | 0.000 | -3.0(-4.3, -1.7) | 0.000 | -2.0(-3.1, -0.9) | 0.001 |
| Leptin | 3.9(3.2, 4.7) | 0.000 | 4.5(2.3, 6.8) | 0.000 | 6.7(5.6, 7.7) | 0.000 | 11.2(9.3, 13.1) | 0.000 | 10.3(8.8, 11.9) | 0.000 |
| SAA | 2.0(1.2, 2.9) | 0.000 | 3.3(1.3, 5.4) | 0.002 | 3.2(2.0, 4.5) | 0.000 | 5.1(3.0, 7.3) | 0.000 | 4.6(2.7, 6.4) | 0.000 |
| IGF-1 | -0.2(-0.5, 0.0) | 0.099 | -0.5(-1.2, 0.2) | 0.155 | -0.3(-0.7, 0.1) | 0.123 | -0.4(-1.2, 0.3) | 0.249 | -0.4(-1.0, 0.3) | 0.236 |
| IGF-BP1 | -1.7(-2.4, -1.0) | 0.000 | -2.6(-4.4, -0.9) | 0.003 | -2.7(-3.7, -1.7) | 0.000 | -5.3(-6.8, -3.7) | 0.000 | -3.7(-5.1, -2.3) | 0.000 |
| IGF-BP3 | 0.1(-0.1, 0.4) | 0.331 | 0.5(-0.2, 1.1) | 0.138 | 0.1(-0.3, 0.4) | 0.756 | 0.2(-0.4, 0.8) | 0.540 | -0.1(-0.7, 0.4) | 0.708 |
| Insulin | 2.3(1.8, 2.9) | 0.000 | 3.9(2.4, 5.5) | 0.000 | 3.8(2.9, 4.6) | 0.000 | 7.2(5.7, 8.7) | 0.000 | 5.3(3.9, 6.7) | 0.000 |

Supplemental Table 2: Changes in biomarkers stratified by >1kg fat loss vs. >1 kg fat gain among women in the resistance training groups and compared to controls

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Control** | **Fat loss** | **p** | **Control** | **Fat gain** | **p** |
|  | **n** | **% change** | **n** | **% change** | **n** | **% change** | **n** | **% change** |
| CRP | 77 | 56.5 | 26 | -14.0 | 0.816 | 77 | 56.5 | 24 | 5.0 | 0.236 |
| IL1-β | 100 | -5.4 | 26 | -13.6 | 0.547 | 100 | -5.9 | 28 | 4.7 | 0.454 |
| IL-6 | 100 | -5.3 | 26 | -36.9 | 0.147 | 100 | -4.0 | 28 | -6.3 | 0.929 |
| IL-8 | 100 | -9.5 | 26 | 0.3 | 0.360 | 100 | -9.2 | 28 | -4.7 | 0.635 |
| TNF-α | 100 | -7.0 | 26 | -7.8 | 0.956 | 100 | -7.1 | 28 | -19.3 | 0.920 |
| Adiponectin | 92 | 1.3 | 27 | 7.5 | 0.564 | 92 | 1.4 | 27 | -4.5 | 0.544 |
| Leptin | 77 | 8.2 | 26 | -30.4 | 0.000 | 77 | 8.3 | 24 | 59.0 | 0.006 |
| SAA | 65 | 25.9 | 25 | -11.6 | 0.092 | 65 | 26.1 | 23 | 12.4 | 0.559 |
| IGF-1 | 102 | 1.0 | 28 | -1.0 | 0.744 | 102 | 0.9 | 29 | 1.8 | 0.887 |
| IGF-BP1 | 77 | -4.7 | 27 | 16.1 | 0.176 | 77 | -4.6 | 24 | -10.8 | 0.651 |
| IGF-BP3 | 77 | -1.6 | 27 | -1.2 | 0.931 | 77 | -1.5 | 24 | -0.9 | 0.903 |
| Insulin | 102 | -17.4 | 27 | -34.5 | 0.102 | 102 | -17.1 | 29 | -30.0 | 0.307 |

Supplemental Table 3: Changes in biomarkers stratified by >0.5kg trunk fat loss vs. >0.5 kg trunk fat gain and compared to controls

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Control** | **Trunk fat loss** | **p** | **Control** | **Trunk fat gain** | **p** |
|  | **n** | **% change** | **n** | **% change** | **n** | **% change** | **n** | **% change** |
| CRP | 77 | 56.7 | 29 | -10.4 | 0.081 | 77 | 56.2 | 23 | 13.3 | 0.357 |
| IL1-β | 100 | -5.4 | 28 | -4.4 | 0.938 | 100 | -5.9 | 26 | 8.5 | 0.310 |
| IL-6 | 100 | -4.9 | 28 | -4.2 | 0.981 | 100 | -4.9 | 26 | -3.2 | 0.952 |
| IL-8 | 100 | 10.3 | 28 | 25.1 | 0.235 | 100 | -9.3 | 26 | -2.5 | 0.502 |
| TNF-α | 100 | -6.9 | 28 | -1.7 | 0.669 | 100 | -7.2 | 26 | -9.8 | 0.837 |
| Adiponectin | 92 | 1.2 | 29 | -2.7 | 0.707 | 92 | 1.2 | 26 | -13.3 | 0.162 |
| Leptin | 77 | 8.1 | 29 | -22.3 | 0.001 | 77 | 8.1 | 23 | 47.0 | 0.029 |
| SAA | 65 | 25.9 | 27 | -20.1 | 0.015 | 65 | 26.0 | 22 | 20.0 | 0.812 |
| IGF-1 | 102 | 1.0 | 30 | 1.2 | 0.974 | 102 | 0.8 | 27 | -0.9 | 0.802 |
| IGF-BP1 | 77 | -4.9 | 29 | 9.6 | 0.311 | 77 | -4.5 | 23 | -3.2 | 0.931 |
| IGF-BP3 | 77 | -1.6 | 29 | -1.7 | 0.986 | 77 | -1.5 | 23 | -1.9 | 0.931 |
| Insulin | 102 | -17.4 | 29 | -22.5 | 0.638 | 102 | -17.2 | 27 | -20.0 | 0.833 |