

Table SDC 5 Associations of cardiorespiratory fitness, fat mass, lean mass and adiponectin with endothelial function, arterial elasticity, and arterial stiffness with different adjustments for observed (non-imputed) data

| Variable | n | Model 1 | | Model 2 | | Model 3 | | Model 4 | | Model 5 | |
|--|------|----------------------------|-------------------|---------------------------|-------------------|---------------------------|-------------------|---------------------------|-------------------|---------------------------|-------------------|
| | | β (95% CI) | P-value | β (95% CI) | P-value | β (95% CI) | P-value | β (95% CI) | P-value | β (95% CI) | P-value |
| Flow-mediated dilation (%) n= 5566 | | | | | | | | | | | |
| CRF (W) | 2813 | -0.016 (-0.031 to -0.002) | 0.027 | -0.015 (-0.030 to 0.000) | 0.053 | -0.003 (-0.019 to 0.014) | 0.758 | -0.002 (-0.018 to 0.014) | 0.825 | -0.020 (-0.049 to 0.010) | 0.192 |
| CRF/BM ^{0.21} (W·kg BM ^{-0.21}) | 2810 | -0.025 (-0.055 to 0.006) | 0.119 | -0.026 (-0.058 to 0.005) | 0.102 | -0.010 (-0.042 to 0.022) | 0.551 | -0.005 (-0.040 to 0.029) | 0.763 | -0.041 (-0.104 to 0.022) | 0.202 |
| CRF/LM ^{0.54} (W·kg LM ^{-0.54}) | 2683 | -0.016 (-0.106 to 0.074) | 0.724 | -0.020 (-0.110 to 0.070) | 0.668 | -0.015 (-0.104 to 0.075) | 0.751 | -0.009 (-0.106 to 0.089) | 0.858 | -0.098 (-0.278 to 0.082) | 0.285 |
| *Adiponectin ($\mu\text{g/ml}$) | 3767 | -0.077 (-0.324 to 0.169) | 0.539 | -0.067 (-0.318 to 0.184) | 0.600 | -0.147 (-0.400 to 0.107) | 0.257 | -0.255 (-0.535 to 0.024) | 0.074 | -0.304 (-0.705 to 0.097) | 0.137 |
| *Total fat mass (kg) | 5304 | -0.042 (-0.207 to 0.123) | 0.616 | -0.146 (-0.388 to 0.096) | 0.237 | 0.182 (-0.010 to 0.374) | 0.063 | 0.539 (0.258 to 0.821) | <0.0001 | 0.731 (0.159 to 1.303) | 0.012 |
| *Trunk fat mass (kg) | 5304 | 0.005 (-0.135 to 0.145) | 0.943 | -0.073 (-0.279 to 0.132) | 0.482 | 0.197 (0.036 to 0.358) | 0.016 | 0.522 (0.284 to 0.761) | <0.0001 | 0.759 (0.265 to 1.252) | 0.003 |
| Lean mass (kg) | 5304 | -0.063 (-0.093 to -0.033) | <0.0001 | -0.080 (-0.115 to -0.045) | <0.0001 | -0.109 (-0.159 to -0.060) | <0.0001 | 0.046 (0.005 to 0.088) | 0.029 | 0.050 (-0.027 to 0.127) | 0.204 |
| *Distensibility co-efficient (% per mmHg) n= 5566 | | | | | | | | | | | |
| CRF (W) | 2813 | 0.002 (<0.0001 to 0.004) | 0.017 | 0.002 (<0.0001 to 0.004) | 0.045 | 0.003 (0.001 to 0.005) | 0.009 | 0.003 (<0.0001 to 0.005) | 0.034 | 0.003 (-0.001 to 0.008) | 0.107 |
| CRF/BM ^{0.21} (W·kg BM ^{-0.21}) | 2810 | 0.006 (0.002 to 0.010) | 0.008 | 0.005 (<0.0001 to 0.009) | 0.036 | 0.006 (0.001 to 0.010) | 0.011 | 0.005 (<0.0001 to 0.010) | 0.050 | 0.006 (-0.003 to 0.015) | 0.174 |
| CRF/LM ^{0.54} (W·kg LM ^{-0.54}) | 2683 | 0.017 (0.004 to 0.029) | 0.009 | 0.016 (0.004 to 0.029) | 0.011 | 0.017 (0.004 to 0.029) | 0.009 | 0.014 (<0.0001 to 0.028) | 0.055 | 0.015 (-0.010 to 0.041) | 0.240 |
| *Adiponectin ($\mu\text{g/ml}$) | 3767 | -0.007 (-0.041 to 0.027) | 0.670 | -0.005 (-0.040 to 0.029) | 0.766 | <0.0001 (-0.036 to 0.035) | 0.979 | -0.002 (-0.042 to 0.038) | 0.917 | 0.032 (-0.025 to 0.089) | 0.267 |
| *Total fat mass (kg) | 5304 | 0.015 (-0.008 to 0.037) | 0.212 | -0.013 (-0.047 to 0.021) | 0.449 | 0.008 (-0.019 to 0.034) | 0.576 | 0.009 (-0.031 to 0.049) | 0.662 | -0.022 (-0.103 to 0.059) | 0.590 |
| *Trunk fat mass (kg) | 5304 | 0.015 (-0.005 to 0.034) | 0.142 | -0.007 (-0.035 to 0.022) | 0.649 | 0.009 (-0.013 to 0.032) | 0.403 | 0.010 (-0.024 to 0.044) | 0.559 | -0.019 (-0.089 to 0.051) | 0.590 |
| Lean mass (kg) | 5304 | 0.003 (-0.001 to 0.007) | 0.132 | 0.002 (-0.002 to 0.007) | 0.313 | -0.007 (-0.011 to 0.003) | 0.215 | 0.008 (0.002 to 0.013) | 0.012 | 0.008 (-0.002 to 0.019) | 0.130 |
| Pulse wave velocity carotid-radial (m/s) n= 5566 | | | | | | | | | | | |
| CRF (W) | 2813 | -0.010 (-0.015 to -0.005) | <0.0001 | -0.007 (-0.012 to -0.002) | 0.009 | -0.004 (-0.013 to -0.001) | 0.015 | -0.004 (-0.010 to 0.002) | 0.155 | -0.007 (-0.017 to -0.003) | 0.162 |
| CRF/BM ^{0.21} (W·kg BM ^{-0.21}) | 2810 | -0.011 (-0.022 to -0.0001) | 0.046 | -0.016 (-0.027 to -0.005) | 0.006 | -0.007 (-0.019 to 0.005) | 0.238 | -0.010 (-0.023 to 0.002) | 0.108 | -0.017 (-0.038 to 0.005) | 0.127 |
| CRF/LM ^{0.45} (W·kg LM ^{-0.54}) | 2683 | -0.040 (-0.073 to -0.008) | 0.014 | -0.049 (-0.081 to -0.017) | 0.003 | -0.040 (-0.072 to -0.008) | 0.015 | -0.038 (-0.074 to -0.003) | 0.035 | -0.059 (-0.120 to 0.003) | 0.061 |
| *Adiponectin ($\mu\text{g/ml}$) | 3767 | 0.115 (0.025 to 0.206) | 0.012 | 0.089 (-0.003 to 0.180) | 0.057 | 0.089 (-0.004 to 0.183) | 0.060 | 0.067 (-0.037 to 0.171) | 0.067 | 0.086 (-0.062 to 0.233) | 0.254 |
| *Total fat mass (kg) | 5304 | -0.380 (-0.440 to -0.320) | <0.0001 | -0.347 (-0.433 to -0.262) | <0.0001 | -0.357 (-0.427 to -0.288) | <0.0001 | -0.272 (-0.374 to -0.170) | <0.0001 | -0.394 (-0.589 to -0.199) | <0.0001 |
| *Trunk fat mass (kg) | 5304 | -0.319 (-0.370 to -0.268) | <0.0001 | -0.292 (-0.365 to -0.219) | <0.0001 | -0.295 (-0.354 to -0.237) | <0.0001 | -0.228 (-0.315 to -0.141) | <0.0001 | -0.336 (-0.504 to -0.167) | <0.0001 |
| Lean mass (kg) | 5304 | -0.041 (-0.052 to -0.030) | <0.0001 | -0.008 (-0.021 to 0.005) | 0.206 | -0.032 (-0.050 to -0.014) | 0.001 | 0.011 (-0.004 to 0.027) | 0.153 | 0.025 (-0.003 to 0.053) | 0.077 |

BM, body mass; CI, confidence interval; CRF, cardiorespiratory fitness; LM, lean mass; W, watt. The regression coefficient (β) quantifies the association between dependent and independent variables. A 2-sided P-value <0.05 was considered statistically significant and is bolded.

*Logarithm transformation of skewed variables were used in analyses.

Model 1: Adjusted for age and sex.

Model 2: Adjusted for age, sex and total fat mass or cardiorespiratory per lean mass when predictor variable is total fat mass.

Model 3: Adjusted for age, sex, lean mass or cardiorespiratory fitness per lean mass when predictor variable is lean mass.

Model 4: Additional adjustment of Model 2 for puberty and brachial artery diameter

Model 5: Additional adjustment of Model 4 for low-density lipoprotein, systolic blood pressure, maternal socio-economic status and time (years) between predictor and outcome measurement