

Abstract Submitted
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Procedure to Measure Effect of Excess Body Mass on Musculoskeleture: II. Implementation SAAMI J. SHAIIBANI, Independent Modeling, Algorithms & Analytical Studies (IMAAS) — There are a number of ways in which the musculoskeletal system can be affected by excess body mass. One representative quantity for these is the torque exerted on the spinal column about a horizontal lateral axis; hence, its use as an illustrative mechanical indicator in the research reported here. Values of the torque are determined for all subjects in an exceptionally broad adult population that was developed during a companion study. Increases in body mass index caused nearly uniform increases in torque for all height percentiles in both sexes. Overweight individuals had torques that were 35 and 30 percent greater (females and males, respectively) than those for healthy individuals of the same height. Corresponding increases for obese individuals occurred at the much higher levels of 75 and 66 percent. Any resulting musculoskeletal damage from this is in addition to other problems arising from obesity, such as heart disease, diabetes, and high blood pressure. However, whereas the latter can be treated or managed with medication, some facets of the former might be irreversible and/or irremediable.

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