

# Full Body Model

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The Full-Body Model is a SIMM musculoskeletal model of an average, adult male. It contains 86 degrees of freedom, 117 joints, and 344 muscle-tendon actuators. The joints have anatomically accurate kinematics (e.g., the knee model accounts for the sliding and rolling of the tibia and patella on the femur). The muscle-tendon actuators include the force-generating properties so that SIMM can calculate the length, moment arm, force, and joint moment for any muscle in any body position. The model was jointly developed by biomechanics research labs at several universities. All of the model parameters are from published sources and a bibliography is provided. In addition, the model is fully customizable, so you can change any of its parameters or add additional muscles or degrees of freedom.

The Full-Body Model is an excellent resource for anyone who wants to perform a musculoskeletal analysis of any portion of the human body. The model can be animated by recorded motion data, and used to examine muscle strengths and joint moments during the activity. By using the model scaling utility that comes with SIMM, the model can be scaled to match any size individual. Workspace designers, biomechanics researchers, and people involved in task analysis and ergonomics will find this comprehensive, accurate model especially useful.

