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Effects of Exercise on Susceptibility to Environmental and Disease Stressors

Guest Editor:

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Message from the Guest Editor

Exercise is often prescribed as a method to prevent or to treat cardiovascular and metabolic diseases. However, recent data suggest potential mechanisms by which exercise produces substrates (exerkines) which promote crosstalk between all organ systems to maintain health in the face of internal and external stressors. For example, the release of myokines from exercising muscles has been shown to influence the function of the brain, the liver, bone, adipose tissue, blood vessels, the pancreas, and even the skin. Exercise is known to alter gut permeability and intestinal microbiome diversity, with effects on the gut-brain axis and immune function. And the release of heat shock proteins during exercise may increase tolerance to several forms of environmental stress, improve immune function, and stabilize gut permeability. Some, or all, of the above responses influence our susceptibility to cognitive, metabolic, skeletal-muscle, and immunological diseases and tumor growth, as well as preventing cardiovascular diseases.



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Message from the Editor-in-Chief

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