# Chapter 4 The Fight-or-Flight Response

# A Cornerstone of Stress Research

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Table 1

Sympathetic-Adrenal Medullary Components of the Flight-or-Flight Response

|  |  |  |
| --- | --- | --- |
| System | Physiological effect | Physiological consequences |
| Heart |  |  |
| 1. • Increased rate |  |  |
| 1. • Dilation of coronary vessels |  |  |
|  |  |  |
| 1. • Increase in blood flow |  |  |
| 1. • Increased availability of O2 and energy to cardiac myocytes |  |  |
|  |  |  |
| Circulation |  |  |
| 1. • Dilation of vessels serving skeletal muscle cells |  |  |
| 1. • Vasoconstriction of vessels serving digestive organs and skin |  |  |
| 1. • Contraction of spleen |  |  |
|  |  |  |
| 1. • Increased availability of O2 to skeletal muscle cells |  |  |
| 1. • Facilitates shunting of blood to skeletal muscles and brain |  |  |
| 1. • Increased delivery of O2 to metabolically active cells |  |  |
|  |  |  |
| Lungs |  |  |
| 1. • Dilation of bronchi |  |  |
| 1. • Increased respiratory rate |  |  |
|  |  |  |
| 1. • Increased availability of O2 in blood |  |  |
| 1. • Increased availability of O2 in blood |  |  |
|  |  |  |
| Liver |  |  |
| 1. • Increased conversion of glycogen to glucose |  |  |
|  |  |  |
| 1. • Increased availability of glucose in skeletal muscle and brain cells |  |  |
|  |  |  |