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Thermophysiological models and their applications: A review

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# 1 Thermophysiological models and their applications: A review

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## 6 Abstract

7 The human body's heat exchange and its interaction with the surrounding environment has in the past  
 8 years been the research focus of a number of disciplines. As a result, a number of human  
 9 thermoregulation models have been developed since the first was developed in 1970. The aim of this  
 10 paper is to conduct a review existing thermophysiological models for the whole body and isolated  
 11 body segments. The course of the development from simple to more complex models is shown, and  
 12 most recognized thermal models such as Fiala, Berkeley Comfort Model, Tanabe, and ThermoSem  
 13 model are concisely described. Furthermore, possible applications of the models in various research  
 14 disciplines are introduced. In the built environment, the developed models are used as part of the  
 15 methodology for modelling thermal comfort in buildings.

16 **Keywords:** thermophysiological model, human thermoregulation, isolated body segments, thermal  
 17 comfort

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