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# Thirst and Body Fluid Regulation

From Nephron to Neuron

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*University of Florida*

Body fluid regulation is pivotal to human health and is served by extensive clinical and pre-clinical science. By combining modern advances with previous findings in the field, this book presents a comprehensive treatment of major experiments, theories, and new advances in the field of body fluid regulation, thirst, and drinking. It features the main integrative brain mechanisms for fluid regulation, the development of such systems, fluid balance during heat and exercise, aging and clinical disorders, and comparative aspects of fluid regulation. The volume focuses on mammalian thirst or drinking behaviour alongside relevant aspects of the physiology of fluid balance. The principal fluid compartments and their regulation by both intakes and losses are highlighted, using both human and animal studies to illustrate the main concepts.

1. Fundamentals of Thirst and Body Fluid Regulation; 2. Body Fluid Compartments, Inputs, and Outputs; 3. Intracellular Dehydration Thirst and Drinking; 4. Intracellular Dehydration: Mechanism; 5. Extraellular Dehydration Thirst and Drinking; 6. Pregnancy and the Ontogeny of Thirst; 7. Food Associated Drinking and Nycthemeral Rhythms; 8. Hybrid Dehydrations: Water Deprivation; 9. Hybrid Dehydrations: Thermal Stress and Exercise; 10. Thirst in Aging and Clinical Populations; 11. Comparative Aspects of Body Fluid Regulation; Appendix: Methods in Physiology and Neuroscience.

## July 2021

229 x 152 mm c.400pp

Hardback 978-1-108-83991-4

<i>Original price</i>	<i>Discount price</i>
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