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The Importance of Hydration, Electrolytes, and Mineral Balance: A Scientific Overview

Executive Summary

Hydration is a fundamental biological necessity—water supports cellular function, circulatory health, metabolic reactions, and thermoregulation. However, drinking water alone does not fully address the body’s hydration needs because water must be balanced with essential minerals (electrolytes) such as sodium, potassium, calcium, and magnesium. Electrolytes regulate fluid distribution between intracellular and extracellular spaces and enable efficient water absorption and function at the cellular level. This document explores why electrolytes matter, how mineral salts enhance hydration, and what current research (including PubMed-indexed studies) reveals about mineral intake and hydration physiology.

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