Using Technology to Monitor Athletes-Sweat Analysis

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Training and competition increase metabolic rate (energy expenditure) and heat production, which initiates an increase in sweating to help facilitate heat loss (or at least minimise heat gain) via evaporative cooling. This sweat is mostly water, but also contains appreciable amounts of some minerals, particularly sodium and chloride, as well as small amounts of other minerals. Importantly, total sweat volume, as well as the amount of sodium and chloride lost through sweating is highly variable both between and within athletes, making individualisation of fluid, sodium and chloride losses an important consideration for some athletes. Athletes, coaches and practitioners have access to an increasing number of technologies to assist with the measurement (or estimation) of sweat loss and composition, but little information is available on how to optimise this process. This presentation will consider some of the common technologies available for sweat analysis in athletes, how best to use them, and how the data produced might be best used to optimise athlete performance and recovery.