Sweat Rate Calculation

Sample Sweat Rate Calculation*

Α	В	С	D	E	F	G	Н	1	J
		Body Weight							
Name	Date	Before Exercise	After Exercise	Change in BW (C-D)	Drink Volume	Urine Volume †	Sweat Loss (E+F-G)	Exercise Time	Sweat Rate (H/I)
8		kg	kg	g	mL	mL	mL	min	mL/min
		(lb/2.2)	(lb/2.2)	(kg x 1000)	(oz x 30)	(oz x 30)	(oz x 30)	h	mL/h
		kg	kg	g	mL	mL	mL	min	mL/min
		(lb/2.2)	(lb/2.2)	(kg x 1000)	(oz x 30)	(oz x 30)	(oz x 30)	h	mL/h
		kg	kg	g	mL	mL	mL	min	mL/min
		(lb/2.2)	(lb/2.2)	(kg x 1000)	(oz x 30)	(oz x 30)	(oz x 30)	h	mL/h
		kg	kg	g	mL	mL	mL	min	mL/min
		(lb/2.2)	(lb/2.2)	(kg x 1000)	(oz x 30)	(oz x 30)	(oz x 30)	h	mL/h
Kelly K. ‡	9/15	61.7 kg	60.3 kg	1400 g	420 mL	90 mL	1730 mL	90 min	19 mL/min
		(lb/2.2)	(lb/2.2)	(kg x 1000)	(oz x 30)	(oz x 30)	(oz x 30)	1.5 h	1153 mL/h

^{*} Reprinted with permission from Murray R. Determining sweat rate. Sports Sci Exch. 1996; 9 (Suppl 63).

Formula for Calculating Sweat Rate

Calculate each athlete's sweat rate (sweating rate = pre-exercise body weight - post-exercise body weight + fluid intake - urine volume/exercise time in hours) for a representative range of environmental conditions, practices, and competitions.

The simplest way to get athletes to focus on their hydration needs is to teach them to compare preexercise and postexercise body weights. If the athletes lost weight, they need to drink more at the next practice. This gives the athletes immediate feedback about their drinking habits.

A simple way to assess fluid means would be to weigh the athletes before and directly after activity, and then modify rehydration based on findings. If weight loss, hydrate more. If weight gain, hydrate less.

http://www.ipmba.org/printables/Heat_Illness.pdf

[†] Weight of urine should be subtracted if urine was excreted prior to post-exercise body weight.

[‡] In the example, Kelly K. should drink about 1 L (32 oz.) of fluid during each hour of activity to remain well hydrated.