How to Calculate Your Sweat Rate

(adapted from articles in *Triathlete*© magazine, October 2007 and *The British Journal of Sports Medicine*. Douglas Casa PhD, ATC)

1. Empty yourself as much as possible (bowels and bladder). The best time to do this is early in the morning.

2. Get completely naked and weigh yourself. If your scale allows, measure your weight in kilograms, otherwise use pounds. Record this number.

3. Exercise at a hard, game-like pace for 20 minutes. Since running is when we typically get dehydrated the most, go and run for 20min. You can do a more sport-related activity (ex. running football drills) but it must be *constant* activity for the 20 minutes – no stopping. For example, starting at your house, run at a constant until you reach 10min., then turn around and run back (20min. total).

4. **Do not eat, hydrate or urinate** during or after the activity (until you complete step 6).

5. Remove all your clothes and, using a towel, get as dry as possible. Use the towel to get as much sweat out of your hair as possible. Do not shower.

6. While naked, weigh yourself one more time. Get dressed.

7. Subtract post-exercise weight (step 6) from pre-exercise weight (step 2). This gives the *weight* of the sweat you lost during exercise.
   a. If you measured your weight in **kilograms**, go directly to step 8.
   b. If you measured both weights in **pounds**, multiply the weight difference by 0.45 to convert to kg then go on to step 8.

8. Multiply the number from step 7 by 3 (since workout was 20min. long) to determine hourly sweat rate. Each kg of sweat is equivalent to 1 Liter. So this number is your sweat rate in L/hr. This number, in liters per hour, is the amount you need to replenish. ***The volume of fluids you consume during & after workout (until bedtime that same day), should equal your total sweat loss.***

Calculation worksheet

	–		=		X 0.45 =		X 3 =	
(pre-run weight in lbs)		(post-weight)		(weight loss)		(converted to kg)		Sweat rate L/hr

Example

174lbs	–	172lbs	=	2lbs	X 0.45 =	0.9kg	X 3 =	2.7 L/hr

Notes:

1. Environmental temperatures will affect sweat rate. When performing this test, it is best to recreate the conditions that are typical of your sport.
2. Alternatively, you may exercise longer, such as 30min. then multiply X 2 to determine hourly sweat rate (2 X 30min = 1 hour).
3. Google has a built-in converter into its search engine for step 7b. Ex: try typing "5lbs to kg" into the search bar.