Measurement of Sweat Loss

An effective and simple way to look at fluid loss is to monitor body weight changes before and after exercise (see also measuring body mass). To distinguish sweat only losses, the fluid intake and fluid and weight losses through going to the toilet must also be taken into account.

- **purpose:** calculate sweat loss by measuring body weight changes.
- **equipment required:** body weight scales, scales for bottle weights, marked drink bottles, urine collection containers (optional)
- **procedure:** Start with the measure of body mass prior to exercise. Ideally this should be done nude, but usually it is appropriate to do the measure in minimal clothing. Any volume of drinks taken during exercise will also need to be measured. You can easily do this by weighing their water bottles at the start and end of exercise. During exercise, if at any time the subject wishes to visit the toilet, their weight must be taken before and after. After exercise, body weight should be taken in the same clothing as before exercise, and any excess sweat on the skin should be towed off.

- **results:** Total sweat loss can be determined using the following equation: 
  \[ \text{sweat loss} = (\text{body weight before} - \text{body weight after}) + \text{amount of fluid intake} - \text{toilet loss} \]. Whole body sweat rate can be calculated by dividing the sweat loss by the time period of collection.
- **advantages:** no expensive equipment is required
- **disadvantages:**
  - It is not always possible or appropriate to measure body weight when taking a toilet break during exercise or sporting events.
  - Unless weight are done completely nude, after exercise it is difficult to determine the amount sweat collected in the clothing that is still worn.