

Multi-sensors for heart rate, perspiration amount, skin temperature, and activity level!

Heat Stroke Prevention Device WLS-1000

Advanced heat stroke danger prediction using multi-sensors.

Danger signs of heat stroke appear at various locations on the body. This device uses multiple sensors for heart rate, perspiration amount, skin temperature, and activity level to detect the danger of heat stroke at a higher level.



World's unique "perspiration sensing technology".

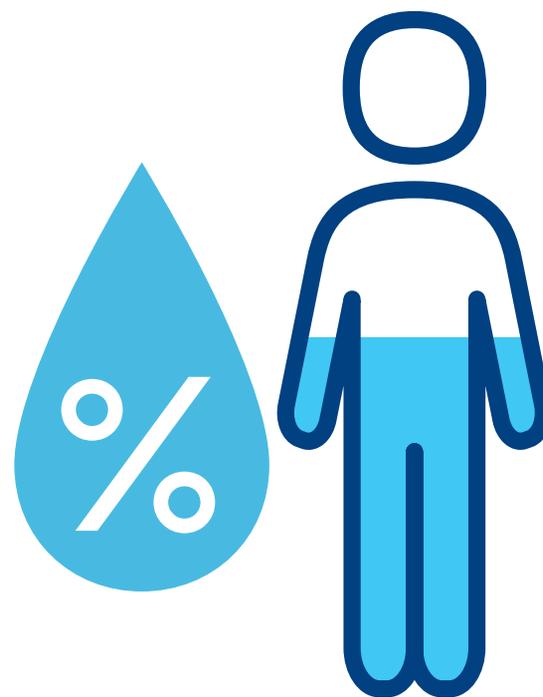
Perspiration is a familiar physiological phenomenon, but measuring it with high precision requires unexpectedly sophisticated technology. This device is equipped with a perspiration sensor that uses a world's unique patented perspiration sensing technology developed by a venture company from Shinshu University to measure perspiration changes



WLS-1000

"Hydration alert" detects loss of body water content and promotes hydration.

It is estimated that the human body is made up of about 60-70% water, and even a water loss of about 2% of body weight is said to reduce physical performance. Perspiration is a major cause of body water loss. The effects are especially noticeable under the blazing sun and during exercise and work. This device senses the degree of water loss in the body through changes in perspiration amount and displays alerts when necessary. Following the water supply alerts, appropriate rest and water supply can help maintain physical performance.



Science of sweat

SKINOS

SKINOS Co., Ltd.
2-1-24,Fumiiri, Ueda City,Nagano,Japan
〒386-0017
TEL: +81-268-75-9071
Mail: info@skinos.co.jp
Web : <https://www.skinos.co.jp>



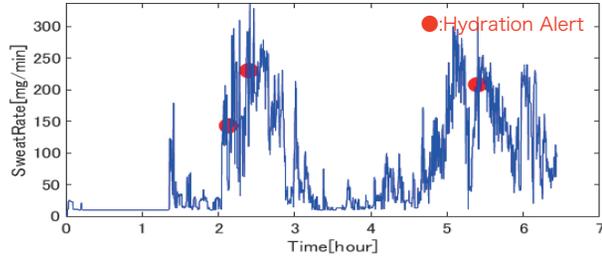
A demonstration experiment to measure the sweating volume of construction site managers and workers.

Sweating volume was measured for workers performing site work under the hot sun, and for their managers.



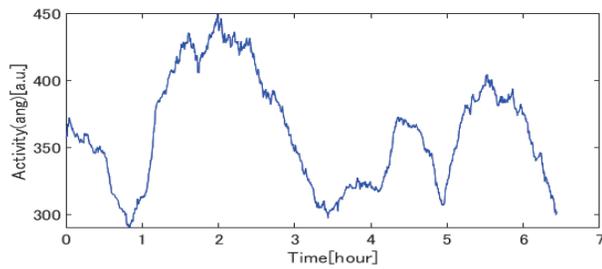
WSL-1000

Sweating rate and activity during work.



Manager representative example

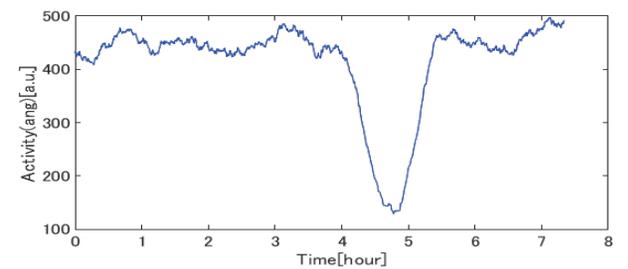
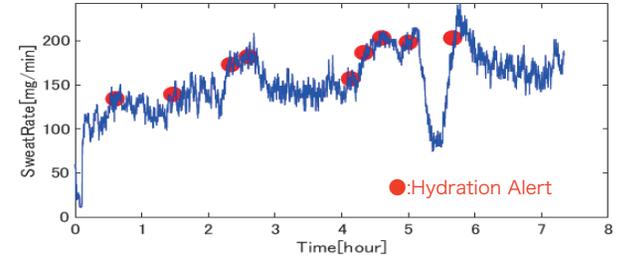
Sweating rate increases as activity level increases.



manager

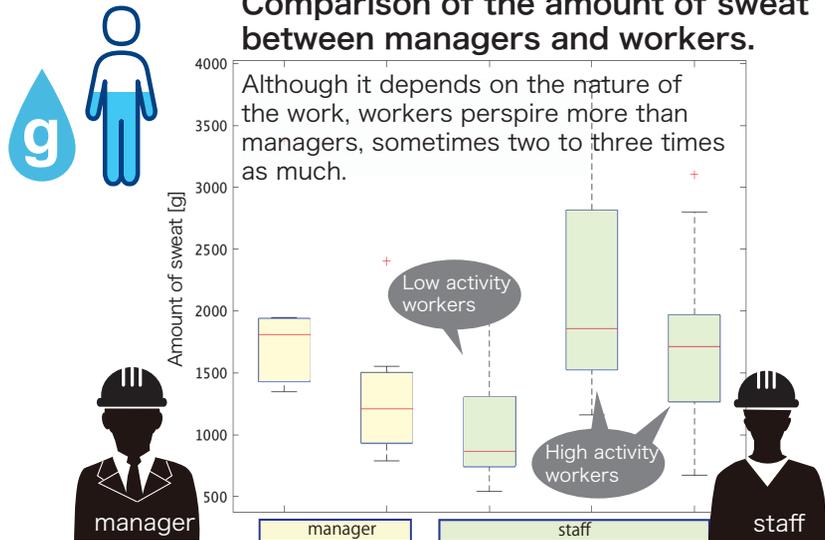
Worker representative example

Activity level is always high and perspiration level is always high.



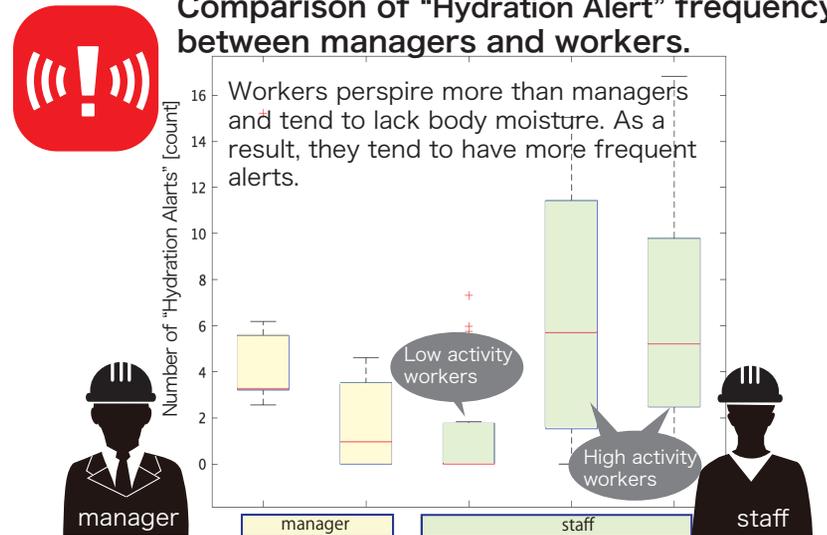
staff

Comparison of the amount of sweat between managers and workers.



Although it depends on the nature of the work, workers perspire more than managers, sometimes two to three times as much.

Comparison of "Hydration Alert" frequency between managers and workers.



Workers perspire more than managers and tend to lack body moisture. As a result, they tend to have more frequent alerts.

Weight loss of managers and workers during work estimated from the amount of perspiration and water supply. We estimated the amount of weight loss during work by obtaining the amount of water supply during a day's work using a questionnaire and comparing it with the amount of perspiration, and found that workers in particular lost more than 1.5% of their heat exposure limit (American Conference of Industrial Hygiene Professionals standard), Some days exceeded 2%, which is considered performance loss.

You can prevent water shortages by following the "Hydration Alert" and hydrating yourself appropriately. When you receive a Water Alert, it is recommended that you drink 100 ml (g) of water. Assuming that you follow the Water Alert and hydrate accordingly, the water balance (the balance between water withdrawal and intake) is calculated to be significantly reduced on days when you are estimated to exceed the heat exposure limit. It is thought that following the "Hydration Alert" and maintaining proper hydration will help reduce the body's water deficit.

