How Does Stress Monitoring Work on a Smartwatch?

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Smartwatch stress monitoring uses physiological measurements and software algorithms to estimate changes in the body's stress response.

These estimates are commonly based on heart rate information and, where supported, heart rate variability (HRV).

What Is Heart Rate Variability (HRV)?

Heart rate variability refers to the variation in time between consecutive heartbeats. Although a person's heart rate may appear relatively steady, the intervals between individual beats naturally change.

HRV can provide information about the body's autonomic nervous system, which helps regulate functions such as heart rate, breathing and the body's response to physical and environmental demands.

How Is This Related to Stress?

Changes in heart rate and HRV can be associated with changes in the body's physiological state. Smartwatch algorithms may analyze these patterns to estimate a stress level.

However, these measurements do not directly detect emotions or determine whether someone feels anxious, worried or upset.

Physical activity, illness, fatigue, sleep, hydration and other factors can also influence physiological measurements.

What Does a Stress Reading Mean?

A stress score or level is an algorithm-generated estimate based on the information available to the watch. It should be interpreted as a general indication of physiological patterns, not as a definitive assessment of emotional stress or mental health.

Stress monitoring is intended for general wellness purposes and is not a medical diagnostic tool.