HRV trend functions – information

Estimating HRV age and stress levels based on heart rate variability

Due to the various influences, our heart rate variability (HRV) parameters change frequently throughout the day. Our current physical activity and state of mind have a big impact on our HRV values, but even drinking a coffee can cause significant changes in our heart rate. Therefore, it is not possible to determine how specific the recorded HRV parameters are for the individual, based on a single measurement. To determine an individual-specific HRV (called a "baseline HRV"), several days of HRV measurements need to be taken into account. The value of basic HRV provides the opportunity to extract additional information, such as biological age and current stress levels.

Determination of baseline HRV:

Baseline HRV is based on measurements from the last 7 days, taking the first (evaluable) HRV measurement of each day into account.

To increase accuracy, the first WIWE measurement of the day shall preferably be taken in the morning (for night shift workers before going to work) at full rest, before breakfast/coffee. It is advisable to take the first recording of the day under approximately the same circumstances, skipping as few days as possible, as consistent measurements lead to a more accurate result.

Although HRV age is often consistent with the so-called biological age, the definition of the latter is a much more complex task that goes beyond the study of the heart rate. At the same time, the HRV age estimated by WIWE can also be informative regarding our fitness and health condition, as lower HRV age groups typically indicate better condition. WIWE assigns one of the following age groups to baseline HRV:

- Under 25 years
- 25-30 years old
- 30-40 years old
- 40-50 years old
- 50-65 years old
- 65-75 years old
- Over 75 years

Since HRV age is derived from the evaluation of the baseline HRV, a more accurate estimate can be obtained by following the suggestions described in the previous subsection. Furthermore, HRV age is updated in line with baseline HRV, so changes in our lifestyle and health conditions can also significantly affect HRV age. This way HRV age can on the one hand help to monitor the effects of certain diseases and on the other hand can motivate a more health-conscious life.

It is important to note that certain arrhythmias can distort HRV, but the vast majority of these can be effectively screened out by WIWE.

Estimation of stress levels:

It is known from the literature that there is a strong correlation between HRV and stress levels. WIWE estimates stress levels by comparing a given "current" HRV (which can occur at any time of the day) to a baseline HRV (to which morning rest measurements contribute). Based on the current deviation of HRV from baseline HRV, WIWE may result in the following stress levels:

- Low stress level
- Moderate stress level
- High stress level

HRV trend subscription fees:

HRV age, stress level and HRV (Heart Rate Variability) trend analysis			
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Monthly HRV trend subscription	350	0,99	
Quarterly HRV trend subscription	990	2,79	5%
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