

What hardware do I need?

- You need an iPhone 4S or newer, iPod touch fifth generation or newer, or an iPad 3 or newer. These devices must be running iOS 7.x or later.
- You need a supported heart rate monitor. It must be a Blue Tooth Low Energy compliant chest strap. See the SweetWater Health supported sensors page at www.beathealthy.com to purchase a compatible heart rate monitor.
- Download the Recover Faster app from the App Store.

When do I use the app?

- The Recover Faster App is intended to be used in the morning to measure your recovery from the previous day's workout. Run the 3 minute Morning Recovery Checkup session every morning at the same time, preferably when you wake up, before any activity. Run your session in the same position every time, either laying down, sitting or standing.
- You can also run an Anytime Checkup session for any length of time to monitor your stress or sleep. You can see real time changes in your nervous system while running a session as you work or relax. You can also see changes in HRV with 60-90 minutes after taking supplements.

Which Sensitivity setting should I use?

- The sensitivity settings are similar to challenge levels in video games. The novice starts on the lowest level then increases this level as his or her skill increases.
- The sensitivity settings allows the app to accommodate all types of users as well as different age groups. They also provide challenge levels for reducing stress and increasing balance. Starting at level 1, the easiest level, the goal is to progress to level 5, the most challenging level.
- Some athletes have particularly high LF and high measured stress levels. It is recommended if your stress level is always greater than 5 that you begin with the easiest sensitivity setting.

What is Heart Rate Variability (HRV)?

- When we think of our heart rate, we think of a number between 50 and 90 beats per minute (BPM). This number represents our average heart rate. In reality, our heart rate changes from beat to beat. For example, when you inhale, your heart beat speeds up and when you exhale, it slows down. So an average heart rate of 60 BPM may actually vary between 55 and 65 BPM. Heart Rate Variability (HRV) is a measure of this naturally occurring variation in the heart rate.
- Research shows that lots of variation in the heart beat intervals, or high HRV, is a sign of a healthy nervous system.

What Does My HRV Tell Me (in Simple Terms)?

- HRV is a “view” into your nervous system. There are two branches of the nervous system that work together to stay balanced. When you are stressed, one branch of your nervous system, the “fight or flight” branch, becomes very active. When this happens, HRV goes down and represents imbalance between the two branches. When the stressful situation passes, HRV goes up as the nervous system returns to normal.

- High HRV is a sign of calm and low HRV is a sign of stress. The good news is that there are many simple solutions, such as deep breathing, that help restore calm and increase HRV.
- Take the example of a rubber band. An old, stiff rubber band cannot stretch very well, whereas a new, fresh rubber band can stretch in many directions and return to its original shape. A regular heart beat (low HRV) is like an old rubber band that does not stretch, while a heart beat with lots of variation (high HRV) is like a new, stretchy rubber band. A healthy body, like a new rubber band, is able to respond to a wide variety of environmental and psychological situations and quickly return to normal (referred to as resilience). So high HRV is a sign of health and resilience.

What Does My HRV Tell Me (in Scientific Terms)?

- Our bodies, organs and brain have many different “systems” such as the cardiovascular system and the autonomic nervous system. These systems are interconnected and work together closely to keep the body functioning. For example, when we stand from lying down or are exercising, our heart rate increases, and our blood pressure adjusts, keeping the correct amount of blood flowing to all parts of the body. When we see something that frightens us, our heart rate increases and our blood flows to our muscles in preparation for flight from the danger.
- The autonomic nervous system (ANS) controls many automatic functions such as heart rate, digestion, respiration and blood pressure and is divided into two subsystems: the parasympathetic and sympathetic nervous systems. In general, these two subsystems are in a constant dance to keep the body in balance. However, when danger is present, the sympathetic subsystem takes over in what is called the “fight or flight” response. Fight or flight is a stressful state and evolved to protect us from danger. Once the danger has past, the ANS returns to balance.
- As it turns out, the pattern of the heart beat (HRV) is a reflection of your autonomic nervous system. Because of this, HRV can be used to measure the sympathetic nervous system and the fight or flight response. Also, because the nervous system, heart rate, blood pressure regulation and respiration are under control of the autonomic nervous system HRV is an excellent indicator of many health parameters.
- Low HRV is a symptom of stress and imbalance in the nervous system. This imbalance can be transitory, such as the case of temporary stress or it can be a persistent imbalance caused by busy, hectic and stressful lives inducing a constant state of fight or flight response. Low HRV can also be the result of over training for athletes.
- There are many practices users can do to balance their nervous systems, increase their HRV and overall health. These practices range from simple slow, deep breathing to exercise and nutrition, to modification of perception and belief systems. Deep breathing naturally balances the nervous system, exercise helps decrease stress hormones and increase endorphins.
- HRV has been the topic of more than 30 years of clinical research funded by the National Institute of Health, the American Heart Association and others. HRV research areas include heart arrhythmias, asthma, sleep apnea, stress, aging, fetal health, diabetes and more.
- For more details on the science of HRV: http://en.wikipedia.org/wiki/Heart_rate_variability

Why Is My Stress Level High after Exercise Even When I Feel Relaxed?

- After exercise, it may take several hours for the nervous system to return to normal.

Why Is My Stress Level High When I Meditate?

- When you meditate, you may enter a state called “coherence.”
- For information about coherence, see <http://www.heartmath.org/templates/ihtm/e-newsletter/publication/2010/winter/coherence.php>
- When we are in a coherent state, our nervous system activity is confined to a small region of the heart spectrum in the frequency domain in the range we consider the “fight or flight” region. Recover Faster measures this as a stress state.
- You may notice that your HRV increases during meditation, regardless of the detected Stress state.

What is the Stats Screen (“Stats” button on the EKG Monitor)?

- You can view the stats screen by selecting the stats button below the EKG animation and can toggle between various screens by repeatedly pressing that button. Some metrics can not be measured with a BTLE chest strap currently but are available in the app for new sensor technology.
- You can see the signal quality of your session on the Stats Screen. If your signal quality is “Lousy” rerun your session since your reading may not be accurate. Follow the Troubleshooting recommendation for a better ECG connection.

What is the Average HRV for Age?

- The following is a chart of Average HRV for Age:

Age Range	HRV
10–20	76
20–30	73
30–40	69
40–50	65
50–60	62
60–70	58
70–80	55
80–90.	51
90 – 100	48

How does Recover Faster calculate HRV?

- Recover Faster measures the RR intervals (the time between heartbeats) then calculates the HRV parasympathetic parameter rMSSD. We then run a scaling algorithm on rMSSD to create an HRV value. Typical values will be in the range of 0-100. rMSSD is the square root of the mean squared difference of successive RRs. Elite athletes will experience very high rMSSD scores compared to others.
- If you want to see the raw numbers, look at the “Stats” Screen also known as the “Geek” Screen on the flip side of the EKG screen. To see the Geek Screen, press the “Stats”

button in lower right corner of the window where the animated EKG appears. You will see the summary numbers from your last session.

How do I use the mindfulness meditation in the app?

- You can run a Recover Faster session while you listen to the mindfulness meditation.
- Go to the monitor screen and start an Anytime Checkup session.
- Tap the General gear icon while your session is running and scroll down to select Mindfulness Session with the Yin/Yang icon.
- Press play and follow the meditation, then press stop.
- Tap the monitor icon to return to your session and press stop.
- Tag your session "meditation" and save it.
- If you notice a particularly high Stress level or LF power reading, review the FAQ "Why is my Stress level high when I meditate?"