SweetWater Health™
Beat Healthy™

FAQS for SweetBeat and MySweetBeat

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What Hardware Do I Need?

- You need an iPhone 3GS or later, iPod touch third generation or later, or an iPad with iOS 5.x or later.
- You need a supported iPhone receiver key and compatible heart rate monitor.
    - For iPhone 4S and iPhone 5, iPad3, iPad4 and iPod Touch 5th generation:
        - Bluetooth heart rate monitor support. (any low-power Bluetooth HRM strap –except the Wahoo or the Pear).
    - For iPhone 3G – iPhone 4, iPad2 or older, iPod 4th generation or older:
        - 60beat iPhone receiver with Polar or other analog compatible heart rate monitor. See http://www.60beat.com/info/Receiver
        - Wahoo Fitness receiver or case with Garmin or ANT+ compatible heart rate monitor: http://www.wahoofitness.com
        - Numetrex heart rate monitor bra and cardio shirt. The Numetrex cardio products will work with both the 60beat receiver and the Wahoo receiver. Just snap off the transmitter from your chest strap and snap it into the Numetrex bra or cardio shirt. See http://www.numetrex.com
            - The Numetrex transmitter or a Polar analog 5.3khz transmitter will work with the 60Beat receiver.
            - A Wahoo or Garmin ANT+ transmitter will work with the Wahoo receiver.
            - If you plan to use Numetrex garments, be sure your chest strap has a detachable (snaps) chest strap.
- You need one of the SweetWater Health apps.
    - SweetBeat: http://itunes.apple.com/us/app/id492588712?mt=8

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What Hardware Works Best for Me?

- Bluetooth chest straps (for iPhone4S, iPhone5).
  These straps are convenient as they require no additional hardware to be inserted into the phone.

- **60Beat:** The 60Beat hardware is compatible with the most popular Polar chest straps. The receiver will work with a Polar analog chest strap as well as the 60Beat chest strap or any other 5.3KHz analog chest strap. The range of the 60Beat is around 5 feet and may be susceptible to interference from nearby computers.

  The 60Beat is right for you if:

  - You use SweetBeat while driving.
  - SweetBeat is used for meditation.
  - You are involved in any other activity where you are away from computers and can keep your phone close.

- **Wahoo Fitness:** The Wahoo Fitness hardware is compatible with the popular Garmin chest straps. The receiver will work with the Garmin digital ANT+ chest strap as well as with the Wahoo Fitness chest strap or any other ANT+ chest straps. The range of the Wahoo is around 10 feet and is not susceptible to interference from nearby computers.

  The Wahoo is right for you if:

  - You use SweetBeat near computers.
  - Sweetbeat monitoring is done during Yoga or QiGong where the phone can be off to the side.
  - You engage in any activity where the phone is within a 10-foot range.

- **Numetrix:** The Numetrix system allows you to wear a shirt with the sensors built-in.

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\When Do I “SweetBeat”?

- While the SweetBeat app provides the ability to do near-continuous (battery power limited) monitoring, many people will choose to SweetBeat when:
    - Driving, especially during stressful or frustrating traffic hours. SweetBeat will remind you to relax and breathe if you become stressed while driving.
    - Before an important meeting or event, SweetBeat will measure your stress and if needed, prompt you to breathe and relax so you can perform at your best.
    - While working. When we are stressed, the blood moves to our muscles and away from the brain and digestive system. If you have important creative work to do, it is best done when your HRV is high and you are relaxed. If your stress level is on the high side, this may be a good time to do busy work and reserve creative focus tasks for later.
    - On the golf course, nerves can ruin your shot. SweetBeat will help you stay balanced and play your best. (Remember to turn off Audio Alerts, or your playing partner’s stress levels will soar!).
    - During yoga, pilates or Qigong practice. SweetBeat will measure your balance and let you know if you are getting the most out of your practice.
    - During meditation, SweetBeat will measure your balance and let you see yourself progress through the meditation.
    - If you’re a “tracker,” you can SweetBeat any time.
    - While resting, napping or watching TV, SweetBeat will let you know if you are truly unwinding.

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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 allow SweetBeat to accommodate all types of personalities, such as Type A or Type B, 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.

    - Because HRV reduces naturally with age, persons over 50 may find that a lower level is suitable.

    - Some people have chronic stress or are naturally high strung. This means that even at rest, they carry some level of stress in their bodies. For these individuals, SweetWater Health recommends starting at Level 1.

- The general recommendation is to start with level 3. If you feel you are stressed and are not showing a high stress state, then it is time to move to level 4. If you feel the stress state shown is too high, then move to level 2. Continue to increase your sensitivity level as your baseline stress levels decrease. If you find that you are showing a high-stress state when you are not feeling stressed, reduce your level until SweetBeat is predicting a more accurate state.

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 health.

What's a Healthy HRV Level Look Like?

- 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.

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- HRV tends to decrease normally with age, so an HRV that is healthy for a 60-year-old may not be healthy for a 20-year-old. For this reason, HRV references are age-dependent (also gender-dependent).

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

- HRV is a "view" into what your nervous system is doing. 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 helps restore calm and increase HRV.

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 doing exercise, 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 what your autonomic nervous system is doing. 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.

- The good news is that there are many practices people can do to balance their nervous systems and increase their HRV and overall health. These practices range from simple slow, deep breathing to exercise and nutrition, to modification of perception and belief

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systems. Deep breathing naturally balances the nervous system, exercise helps decrease stress hormones and increase endorphins, while modification of perception changes how we see a situation and whether or not it causes stress for us.

What More Can You Tell Me about HRV?

- 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, ageing, fetal health, diabetes and more.

- For more details on the science of HRV: http://en.wikipedia.org/wiki/Heart_rate_variability

What is in the SweetBeat app?

- The Monitor Screen displays your heart rate, HRV and detected stress level.
    - There are five levels of stress to indicate the balance of your nervous system, from low stress (blue) to high stress (red). It is normal to be somewhere in the middle-warm range when you are working, driving or performing other activities. If a traffic jam causes one to get frustrated, SweetBeat will generate an alert and start the relaxing breath-pacing screen, bringing the nervous system back into balance.
    - The HRV number shown in the SweetBeat Monitor is a measure of your heart's beat-to-beat variation, and may change from day to day. SweetBeat displays HRV as a number ranging from 0 -100 and most people will have a resting HRV of 50-90. This HRV number may change substantially when you are very relaxed and "in the zone" or when you are having a stressful moment. Also, many athletes use this number to decide when to train hard and when to take it easy.
    - Enter how you feel by pressing the "Happy" and "Set Stress" buttons. These entries will be saved with the session and can be reviewed from your MySweetBeat website location.
- The Food screen is where you run a Food Sensitivity Test. To get a quick quide to how to use the Food Sensitivity Test, please read Quick Start Guide (Food Sensitivity).
- The Relax screen provides a breath pacer and a visual feedback image based on your stress level.
    - The breath pacer prompts you when to inhale and exhale. It is set at a breathing frequency that is known to calm and balance the nervous system. So breathe deeply and relax!

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- The visual image changes as your stress level changes. You can choose the beautiful fractals (default) or you may choose your own images from the camera roll. Just navigate the Settings menu and choose your Relax screen images.

- The History screen shows you your saved sessions by date and allows you to view those session summaries.
- The Settings Screen provides options to go to all the other SweetBeat screens.
    - Heart Rate Monitors
        - Allows the user to choose which Heart Rate Monitor to use.
    - Application Settings
        - Stress Sensitivity allows you to change the Sensitivity Level.
        - Stress Alerts allows the Alerts to be turned ON/OFF and the threshold to be set.
        - Heart Rate Alerts allows the Heart Rate Alerts to be turned ON/OFF and the threshold to be set.
        - Breath Pacer allows the Breath Pacer to be turned ON/OFF, the Audio Cues to be turned ON/OFF and the Vibrate Cues to be turned ON/OFF.
        - Relax Screen allows the Default Images (fractals) to be shown on the Relax page or your own Custom Images to be shown.
        - HRV For Training is where the Daily Reminder's time is set .
        - Baseline is where you can view your Baseline results or record a new Baseline.
    - Account Settings
        - Login takes you to the Login page.
        - Persona is a great way to assess yourself and to tell us who you are so that we can provide you with the health management information that best suits your interests.
        - The MySweetBeat screen is a link to your personal and secure

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MySweetBeat website location. This is where you can review, track, and compare your results as well as find health and stress management professionals and venues.

- Support
  - Support is where Quick Start Guides, FAQs, and Help are found.

- About
  - Version shows SweetBeat's software version.
  - Legal is where the legal docs are found.
  - End of Session Stats, Reset Stats.

What is MySweetBeat?

- MySweetBeat is your secure, personal login site where you can access your SweetBeat session data as well as the SweetWater Health community.
  - The online tools allow you to track your SweetBeat sessions and data.
  - The SweetWater Health Partners give you a wide variety of tools and education to improve your SweetBeat sessions over time.
  - Coming Soon! The SweetYou section provides:
    - An HRV chart for athletes to plan rest and recovery workouts.
    - A Heart Rate Recovery chart to track your fitness levels.
    - SweetBeat vital signs charts by activity, day of week and time of day.

What Does SweetBeat Tell Me?

- SweetBeat can let you know when you are at ease and in the zone of productivity.
- SweetBeat can tell you when you are stressed, even if you don't know it.
- SweetBeat can let you know if you are truly balanced during yoga, qigong or meditation.
- SweetBeat can tell you when to train hard and when to rest.

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

- During exercise, your nervous system changes to a stress state to support the activity.
- After exercise, it may take several hours for the nervous system to return to normal.
- So after exercise, you may see elevated stress levels.

Can I Listen to Music through My Headphones While I "SweetBeat"?

- If you want to listen to music while you SweetBeat, start your music and then launch SweetBeat. The music will continue to play during your SweetBeat session.

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/ihm/e-newsletter/publica-tion/2010/winter/coherence.php
- When we are in a coherent state, our nervous system activity is confined to a small region that happens to fall in the range we consider the "fight or flight" region. SweetBeat sees this as a stress state.
- Rest assured that if you are meditating and SweetBeat indicates high stress, you are likely in a coherent state. Don't be concerned about it; it doesn't mean anything is wrong with you or with the app.
- You may notice that your HRV increases during meditation, regardless of the detected Stress state.

What is the HRV Information Screen (the Circular Arrow on the EKG-Like Monitor)?

- The HRV Information Screen (Seen by Pressing the Circular Arrow on the EKG-Like Monitor) shows details of HRV.

Why is the Location on my Saved Sessions Not Always Accurate?

- Your location may not be accurate. Your location is determined based on your cell phone carrier antenna locations and other factors out of SweetBeat's control.

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How can I use SweetBeat to improve my Fitness Training?

- Alternating periods of intense training and rest help an athlete avoid physical fatigue caused by over-training. HRV can be used to show when the body has rested and is ready to train again. Please see the HRV for Training White paper in MySweetBeat.
- Heart Rate Recovery (HRR) is an easy and effective way to measure and track your fitness level and overall cardiovascular health. HRR can also be used during a weight loss program to maximize effectiveness. Heart Rate Recovery is simply the speed at which your heart rate declines after a workout.

Why is the Wahoo Blue HR monitor/strap not supported?

- Although the Wahoo Blue HR monitor works great for heart rate, it is not accurate enough for precise RR intervals making it incompatible with SweetBeat.

What is the Average HRV for Age?

- The following is a rough 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
100 and over	0.0

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Why did SweetBeat change the HRV scaling?

- We made this change to accommodate some of you ultra-fit individuals who were "maxing out" the HRV reading at 100. The new algorithm fixes this with the result that the calculated HRV will appear lower than in previous versions of SweetBeat. When you see a lower HRV score, this does **not** mean that your HRV level has dropped; only the scale has changed. We have included some charts to illustrate what you can expect with version 1.2.2.

  IMPORTANT: For SweetBeat users who have been measuring HRV for athletic training, your HRV will appear to decrease with version 1.2.2. For this reason we recommend starting with a new baseline taken on a day that you know you are fully recovered. We do apologize for any inconvenience this causes, though we believe this will provide more accurate results in the long run as your fitness levels improve.

How does SweetBeat calculate HRV?

- SweetBeat 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 "Geek Screen" on the flip side of the ECG heart beat screen. To see the Geek Screen, press the button in lower right corner of the window where the animated ECG appears. You will see the summary numbers from your last session.

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