

# What is Heart Rate Variability Biofeedback?

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Heart rate variability (HRV) refers to the interval between one beat of the heart and the next. The interbeat interval (IBI) is the time between one R-wave (or heart beat) and the next. It is reported in milliseconds. The IBI is highly variable within any given time period. Multiple biological rhythms participate to produce the pattern of variability. The pattern reveals the individual's ability to recover after physiological arousal, reflecting a smooth or coherent transition between the sympathetic (fight or flight) system and the parasympathetic (rest and digest system). Heart rate variability (HRV) is an adaptive quality and is pertinent to physical, emotional, and mental wellbeing. One's HRV measurement value might be thought of as indicative of physical, emotional, and mental adaptability.

## How can HRV be Improved with Biofeedback?

The practitioner guides the trainee to:

1. Notice the area of his heart.
2. Engage in belly (diaphragmatic) breathing.
3. Focus on positive thoughts such as love, appreciation, and gratitude.

Software designed to respond to improved HRV provides positive visual imagery and auditory feedback.

## How Can Heart Rate Variability Biofeedback Help?

Heart rate variability biofeedback has been used in the treatment of:

- Learning and emotional problems such as attention deficit disorder (ADD/ADHD).
- Anxiety disorder associated with social situations, learning, and test-taking.
- Anxiety associated with Asperger and autism.
- Lower variability in heart rate predicts a greater risk for death after a heart attack and death from all causes in adults, especially sudden death.
- Lower HRV also predicts higher glucose among diabetics and non-diabetics.
- Studies have also shown that rumination and worry, and clinical depression lower heart rate variability.
- Improved test score, social and family function, and sleep have also been documented with HRV biofeedback training.

At Chrysalis Center we employ HRV biofeedback with parents of children with special needs for the improvement of self-efficacy and coping associated with their children's specific needs.

Contact Carmen McGuinness, clinical director of Chrysalis Center for Change, for information about how HRV biofeedback can help with your child's special learning needs.



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