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Heart Rate Music Device

Heart disease is the primary cause of mortality and morbidity in the United States. More people in the United States die every year from heart problems than from cancer, chronic lung disease, pneumonia, influenza, diabetes, and all accidents combined. Individuals face a challenging problem when attempting to achieve and then maintain a desired heart rate, and it is often difficult to maintain a steady rate and pace of exercise. However, it has been shown that music can induce changes in the cardiovascular and respiratory systems. Different types of music cause the heart to beat faster or slower and increase or decrease a person's pulse. Calm music with a slow tempo can affect respiration by producing slower breathing and lower blood pressure. On the contrary, music with faster tempos and simpler rhythmic structures result in increased ventilation, blood pressure, and heart rate. By synchronizing the heart rate with musical tempos, changes can be induced that have favorable effects on general health and welfare and aid athletic performance. Currently there is no device which allows the individual to input a desired heart rate and synchronize it to a piece of music. Therefore, an apparatus has been developed that synchronizes a music tempo and a desired heart rate in an individual and provides a direct feedback system between the individual's heart rate and the music being played. The synchronizing apparatus allows the individual to input a desired heart rate, automatically synchronizes the inputted heart rate to a piece of music, and provides feedback of the individual's heart rate after a period of time.

The University of Toledo is seeking a company interested in utilizing this heart rate synchronizing system which monitors and synchronizes music tempo and heart rate so that an individual's performance can be monitored and/or optimized.

Applications:

1. Athletes
2. Individuals seeking active lifestyles
3. Post-surgery cardiac rehab patients
4. The elderly
5. To reduce stress levels

Advantages:

1. Non-invasive and Cost-effective
2. Allows the individual to input desired heart rate
3. Automatically synchronizes to a piece of music
4. Allows individual to monitor heart rate
5. Allows for individuals to adjust exercise intensity
6. Acts as a feedback mechanism

This invention is patent pending

Contact

The University of Toledo Office of Research Development
MS 1034

3000 Arlington Avenue
Toledo, Ohio 43614

Phone: 419-383-6963

E-mail: stephen.snider@utoledo.edu

