

"The Clinical Advantage"<sup>TM</sup>

**NEW**

# Integrated Music Therapy

For the Biodex Gait Trainer 3



## Sensory-Enhanced Treatment for Neuroplasticity

Enhanced Rehabilitation  
Gait Trainer 3 scales guidance of a music therapist to improve functional movement.

[www.biodex.com/musictherapy](http://www.biodex.com/musictherapy)

### Under guidance of a Music Therapist

Rhythmic Auditory Stimulation (RAS) is combined with gait training technology to bring neurologic music therapy to the plan of care.



**BIODEX**

[www.biodex.com](http://www.biodex.com)  
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# Integrated Music Therapy

For the Biodex Gait Trainer 3

*In response to the strong, evidence-based value of Rhythmic Auditory Stimulation (RAS) and pattern sensory-enhanced movement, Biodex brings Integrated Music Therapy to the Gait Trainer 3.*

Music therapy is the use of music in rehabilitation and medical settings to improve functional movement, treating such conditions as:

- Parkinson's disease
- Multiple sclerosis
- Cerebral Palsy
- Stroke
- Traumatic Brain Injury
- Ligamentous Disorders



## Treat More Patients with Music Therapy

The current ratio of Physical Therapists to Music Therapists is 30:1. The need is there. The increasing rate of Parkinson's diagnosis alone reinforces this point. Integrating music therapy with the Gait Trainer 3 becomes an efficient rehabilitation tool that enables the Music Therapist to treat more patients on a broader scale. The value of music therapy can now be measured - prove faster outcomes with documented, quantitative reporting.



*Fit the music to the patient. Select the correct tempo (bpm) to accommodate patient's step cadence or steps per minute (spm).*

## The Biodex Gait Trainer 3 is an Ideal Platform for Integrating Music Therapy

Music tempo, or beats-per minute (bpm), can be managed to influence certain gait characteristics. Walking, or gait cycle time, can be described as steps-per-minute (spm). Biodex Gait Trainer 3 has the capability to control belt speed (individual's walking speed) in units of spm (gait cycle time).

While the repetition of gait training addresses neuroplasticity, music therapy-informed compositions in the correct beats per minute (bpm) elicit the desired gait pattern. The Gait Trainer includes a starter library of compositions and enables music therapists to incorporate their own. Music can also be transferred to a patient's personal device to reinforce learning outside the clinical setting.

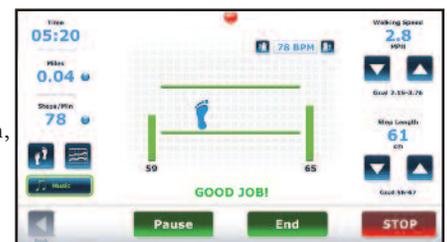
The Gait Trainer 3 provides real-time biofeedback and quantifiably displays step length, step cadence (spm) and step symmetry. With the Music Therapy option, the Gait Trainer 3 serves as a platform for rehabilitative collaboration.



1. Select appropriate song from library



2. Adjust tempo

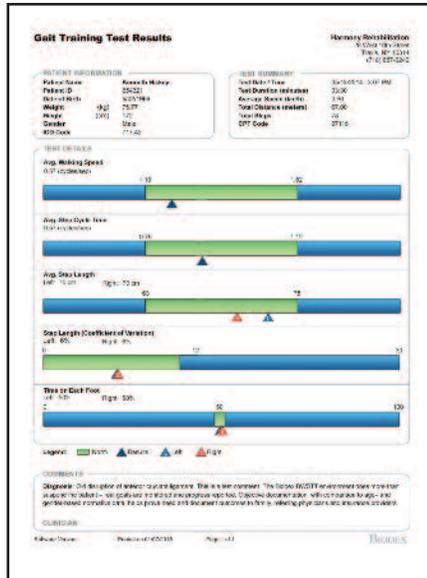


3. Provide gait training biofeedback with music therapy

## How Music Therapy Impacts Physical Rehabilitation

The brain, when affected by debilitating neuropathologies, i.e. Parkinson's, Stroke, Cerebral Palsy, and TBI, will respond favorably to Rhythmic Auditory Stimulation (RAS) in the form of Music Therapy. RAS is sometimes referred to as Rhythmic Auditory Cueing (RAC). The response is neuroplasticity, the reorganization of neuropathways to relax and/or induce muscles for movement.

Fitting the music to the patient synchronizes gait for pattern sensory-enhanced movement. Walking can be aligned with Rhythmic Auditory Cueing (RAC) to improve temporal (velocity), special gait (stride length) and gait symmetry (left/right stride deviations). The qualitative component of what is done musically is quantified and documented by the system's computer. The pre-test, comparison to normative data, and post-test results are presented in scientific data: the songs, beats per minute, the dates and progress are now part of the treatment conversation, giving music therapists a greater voice in the plan of care.



An Exercise Summary Report shows need, progress and outcome of the therapy.

## Clinical Application

Biodes provides a manual and eLearning instructional videos to help choose which compositions are best suited for various clinical categories, for example:

Neurologic Diagnosis:

- Extreme gait impairment
- Moderate to severe gait impairment coupled with cognitive impairment

Orthopedic Diagnosis:

- No cognitive impairment

The Music Therapy option for the Biodes Gait Trainer 3 is accessed via USB flash drive that activates the music player software. A library of music therapy-informed compositions, as well as various metronome beats and tones are offered. Sound bar and bracket includes input for headphones and microphone.



Sound Bar shown beneath the Gait Trainer 3 display.

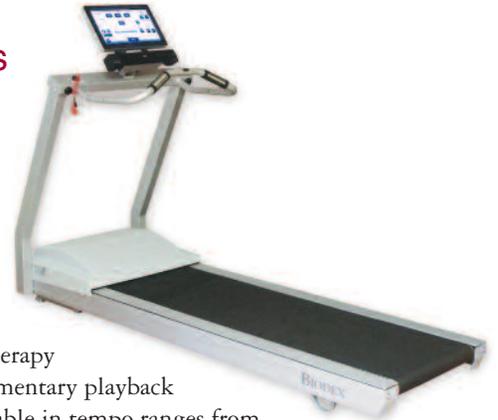


*The right music, the correct beats per minute (bpm) and gait repetition help reinforce neuroplasticity and get patients better, faster. Documented.*

**950-413** Integrated Music Therapy Package  
 Compatible with Biodes Gait Trainer 3 featuring Windows OS.  
 Includes music library and sound bar.

## Music Library – recorded among top performers

Biodex Music Library contains recordings produced at historic and internationally renowned studios, known for high commitment to sound integrity and technological excellence. Locations include Premier Studios, New York City, NY, (where industry artists such as Madonna recorded “Erotica”) and Bismieux Studio, Austin, TX, which has seen the likes of Ray Benson and Asleep at the Wheel, Willie Nelson, George Strait and many others.



*With the increasing number of patients enduring debilitating neuropathologies, Music Therapy is more in demand than ever.*

**Silvery Moon Medley**® is a music therapy arrangement that has a clear, complementary playback structure for walking patterns. Available in tempo ranges from 90-140 bpm.

**Street Walking**® is an original music therapy-informed composition provided at two different tempos between 60- and 140 bpm, each with a different arrangement, and geared toward specific movement needs. The composition provides a clear, complementary playback structure for walking patterns that are well below normal gait ranges.

**Animals Everywhere**® is an original music therapy-informed composition provided at five different tempos between 45- and 130 bpm, each with a different arrangement and geared toward initiation and continuation of gait at extremely impaired levels of steps per minute or beats per minute.

These songs are in 4/4 time signature, with distinct, consistent down beat, without the confusion of non-complementary instrumentation for gait training. Street Walking® and Animals Everywhere® were recorded in DXD format as is used in SACD, (Super Audio CD) for Full Analog Bandwidth.

Additional non-music therapy-informed compositions of various genres and tempos, as well as a wide range of metronome tempos and sounds are available in the Biodex Music Library.

Silvery Moon Medley® is an original arrangement from The Center for Music Therapy, Inc. Street Walking® and Animals Everywhere® are original compositions from The Center for Music Therapy, Inc.

[www.biodex.com/musictherapy](http://www.biodex.com/musictherapy)

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