

Drums Alive®: A Research-Based, Multi-Disciplinary Drumming Fitness Approach to Brain and Body Health and Wellness

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Introduction

Drums Alive® is the original and only research-based, comprehensive, all-inclusive program in the world that applies drumming fitness protocols in a multi-disciplinary way through physical education, fitness, dance, music education, mindfulness, relaxation and inclusion strategies for the improvement of brain and body health and wellness. The key to the success of this approach is the implementation of its multiple programs and modules that use music, movement, rhythm and drumming to improve all aspects of life throughout the physiological, psychological, neurological, educational, rhythmical, and socioemotional spectrum in all individuals, regardless of age or socioemotional ability. Its fully active participatory elements are designed to strengthen critical thinking abilities through timely, scientifically based executive functional activities that meet national fitness and general educational requirements.

Drums Alive originated out of necessity when, Carrie Ekins, the creator and founder, suffered a devastating hip injury in 2001 that resulted in extremely limited movement and exercise opportunities. Since Carrie was a competitive collegiate athlete and fitness professional, she wanted to expedite the long healing process while going through the normal medically directed recovery protocols. During her rehabilitation, Carrie found a few cardboard boxes in her room and a set of drumsticks and simply decided to begin drumming on those boxes to obtain some form of exercise. To her surprise, she unexpectedly experienced an overwhelming sense of euphoria, with additional physical benefits, that lifted her mood and increased her heart rate to a target zone for improved conditioning like those she experienced through years of teaching aerobic dance, yoga, tai chi, and qigong.

This experience led Carrie to study the attributes of drumming exercise, vis-à-vis the impact it had on health and wellness. Through her research and direct practical

application, she discovered that, in addition to improved cardiovascular health, muscular strength and endurance, there were measurable and significant evidence supported improvements to brain efficiency, neurotransmitter messaging and endorphin release that resulted from the synchronization of the two hemispheres of the brain and its associated improvements to physical and cognitive health, as well as to healing, learning, and creative capability. Her research led to the founding of the Drums Alive program in 2001. For the past 17 years, the protocols she created and espoused by thousands around the world have been used for research interventions by several universities to obtain data and establish research-based strategies to improve overall brain and body wellness in all population groups, including those with diverse abilities.

What is Drums Alive Drumming Fitness for Health and Wellness?

For the purpose of establishing a common understanding and providing an appropriate backdrop for discussion, Drumming Fitness is defined by Drums Alive as an “aerobically centric, cerebrally focused, multi-disciplinary, polyrhythmical, kinesthetic musical expression of communication.” The protocols require the use of various drumming exercises performed in an enriched environment with the purpose of improving cardiovascular health, motor skills, concentration, learning, memory, cognitive functioning, academic performance, and social-emotional development. All necessary resources (i.e., music, CDs, DVDs, choreography, and research) are provided to each instructor by Drums Alive at www.drums-alive.com or www.drumsalive.eu.

Equipment

The Drums Alive basic equipment consists of a stability ball, a ball holder and drumsticks. In addition, we utilize a variety of other equipment throughout the Drums Alive

Drums Alive
Stability Ball



Drums Alive
Bucket Base



Drums Alive Drumsticks



program that are listed in the curriculum, lesson plans and class designs.

Why Drum?

To fully understand the comprehensive utility, power and influence of drumming, Remo Belli, Founder and CEO of Remo, Inc, and arguably one of the world's experts on drumming, said, "It's time to stop thinking of the drum as just a musical instrument. Start thinking of it as a unifying tool for every family, a wellness tool for every retiree, and an educational tool for every classroom." He added the following comment: "The rhythm of life is a symphony and expression of our soul. When we drum, our inner voice resounds. Our energy raises, vitality improves, and our emotions are exhilarated. Group drumming opens the doors of communication and allows us to speak where words often do not pass. Music, rhythm, and dance enhance self-esteem, ensure a healthy workout, stimulate our minds, boost our creative potential, make us laugh, and connect us on many levels" (Remo, 2003).

In addition, William Two Feathers, a notable Native American Spiritual leader said, "The drum is one of the most ancient instruments, dating back tens of thousands of years. It has been used for festivals, celebrations, healings, and rituals in the most diverse cultural areas. The sound of the drum, and its simple, strong rhythms allow humans to experience a connection with the earth and its natural flow. Drumming awakens a noticeable energy, a vitality in us, which lets us know intuitively that rhythm is good medicine. The beating of the drum is an intimate dialogue that shifts us into another world, where spirit, bodies, soul and nature can dance together as one. Drumming has been used for generations. Drumming is good medicine. It captures our innermost senses and provides us with the gift of rhythm and personal expression. Drumming connects our mind, body, and soul with the deeper rhythms of life. Rhythm and music allow us to share our intimate dialogue and speak with a common tongue. Drumming is a powerful experience and simply put, it is FUN! It reminds us of the experiences of our childhood and allows us to view the world in a new light, with opportunities for growth" (William Two Feathers, 2004).

Drumming Exercise Protocols Supported by Scientific Research

In 2009, the Drums Alive Program, with its multidisciplinary drumming approach to fitness, health, and wellness, was selected by Chemnitz University of Technology for their protocols to conduct an extensive and comprehensive scientific study called, "THE DRUM BEAT Chemnitz Drumming Project." The research members consisted of an interdisciplinary team of scientists, musicians, teachers, physicians, therapists, and communal authorities that investigated the broader application of drumming, movement, and exercise. The results and findings provided research-based evidence that the Drums Alive Intervention, with all its drumming fitness methodology that combined endurance, strength training, cognitive exercises and highly coordinated movements, and emotional elements in an enriched environment, provided cognitive, physical and behavioral improvements for a majority of the participants.

We all experience the world through our senses (sight, touch, sound, smell, and taste). There is a continual flow of information sent to the brain from these sensory organs which is then filtered, analyzed and stored for current or future use, or ignored if the information is deemed irrelevant. This is important because we interpret and react to our surroundings based on this information the brain receives and processes from these senses; and those with learning disabilities find that the difficulty is not with one specific sense, but with how multiple senses are experienced all at once. Homo sapiens are the only species that can follow complex rhythmic patterns that afford synchronized group behaviors, such as singing, drumming, and dancing (Brown, 2011). In addition, they are also the only species that forms cooperative alliances between groups that extend beyond consanguineal ties (Hagen, 2004). One way to form and strengthen these social bonds may be through music, specifically the kind of temporal and affective entrainment that music evokes from infancy (Phillips, Keller, 2012). In turn, these musical entrainment-based bonds may be the basis for Homo Sapiens' uniquely flexible sociality (Janata, 2003). If this is the case, then our evolutionary understanding of music is not simply reducible



Pictures courtesy of Chemnitz University using Drums Alive Protocols to conduct their research

to the capacity for entrainment; but, rather music is the arena in which this and other capacities participate in determining evolutionary fitness. Music stimulates the brain's reward centers and as a result releases certain levels of dopamine, a neurotransmitter, which mediates pleasure and is released during pleasurable situations and stimulates one to seek out those pleasurable activities (Diamond, 1964).

Our brain has the ability to associate an event to a certain influence, and many times music is that stimulus. Those influences are converted to memories and stored in dormancy until retrieved by a repeat of the stimuli that produced that particular association. The multi-sensory nature of music taps upon many regions of the brain simultaneously and engages and delights multiple sensory systems (i.e., tactile, kinesthetic, auditory, and visual). Music also stimulates unique changes and improvements in the brain; and, capacities unrelated to music, such as learning new sensory and motor skills. It also transfers to other domains including speech, language, emotions and general auditory processes.

According to British psychologist Cariona Morrison, music is a powerful cue for storing and retrieving data. You can use music to process new information more deeply. Our brain has the ability to associate an event to a certain influence and many times music is that stimulus. Those influences are converted to memories and stored in dormancy until retrieved by a repeat of the stimuli that produced that particular association. The multi-sensory nature of music taps upon many regions of the brain simultaneously and engages and delights multiple sensory systems, i.e. tactile, kinaesthetic, auditory, and visual. Music also stimulates unique changes and improvements in the brain; and, capacities unrelated to music, such as learning new sensory and motor skills. It also transfers to other domains including speech, language, emotions and general auditory processes.

In addition, music uses both the right and left hemispheres of the brain and coordination between these two hemispheres is highly stimulated by using rhythm and music —like drumming for example! Music influences every cell of our body and evokes emotions and lifts our spirits! Recent studies show that this phenomenon can be directly related to a person's IQ level. Cognitive Neuroscience of Music demonstrates that when hearing and reacting to music, the sensory cortex, auditory cortex, hippocampus, visual cortex, cerebellum, amygdala, prefrontal cortex, and motor cortex are all firing together and awakens our cerebral processing capability.

Drums Alive and Diverse Abilities

Working with individuals who require adaptations is a challenging but very rewarding experience. Drumming is an activity that most will be able to enjoy regardless of ability. The following are adaptations that will help design a class that provides the opportunity for everyone to participate in a safe and enriched environment. Participants with learning disabilities and/

or cognitive delays may need extra instructional tools to assist in learning. The use of visual schedules, Drums Alive Rhythm Cards, Number Cards, Feeling and Emotion Cards, and any other form of modified instructions to ensure their understanding of the lesson may be helpful and necessary. Some may have physical challenges with the equipment; so, consider making adjustments to the pieces you are using to accommodate for ease of use and adherence to safety rules. Be aware of any allergies to ingredients such as latex, different fabrics, or dyes before handing out equipment. Remember to teach each lesson in layers and monitor the growth in learning to determine how quickly to add additional layers to challenge cognitive skills. In general, many simple and easy modifications can be made to help students enjoy the fun in each lesson, embrace the social interaction and the community of the group; and, still benefit from the physical and cognitive exercises. Positive encouragement and eye contact when speaking is always the best method to keep all students engaged; and, matching "exceptional" students with typical peer models has proven successful in many cases. Inclusion strategies ideas and techniques include the following:

- Use poly spots or masking tape for anchor spots to show where to stand
- Mark directions for movement of routines, choreography, entrance and exit points
- Place masking tape or markers on the ball showing where they are to hit
- Place masking tape or markers on the drumsticks to show where to grasp
- Use colored markers or colored wrist bands on hands and feet to mark left and right Red for right; Lime, Lemon, Lavender for left. (Note: Hair bows work well for this)
- Use slower, simple, and repetitive movements when trenching new routines
- Select proper tempo of music for choreography; slow at first then faster when able



- When performing specific locomotor skills, allow those with diverse abilities to move according to ability (e.g., jump vs hop; gallop vs skip; walk vs run, etc.)
- Encourage teachers and parents to allow time to practice skills at home or in class
- Consider placing individuals with disabilities closer to the end of parallel lines when doing partner activities for ease of monitoring and assisting if needed
- Use adult or peers as mentors to provide extra verbal or physical cues

Neurophysiologist Dr. Carla Hannaford states that, “Movement is an indispensable part of learning and thinking. Children need to move and physically reinforce the content they learn in school in order to make it more comprehensible.” (Hannaford, 1997). Teachers need to understand each individual’s routine and help him or her follow their patterns to prevent anxiety, anger, injury and a possible meltdown or tantrum. If children have obsessions, use it in a positive way to help them learn new material. Drumming, rhythm, music and movement are multi-sensory experiences that provide powerful tools to address an array of physical, mental, and emotional needs. The combination of motor movement, blended with auditory and visual feedback, facilitates greater engagement, encourages learning, facilitates brain function, and strengthens multiple skills for student with special needs. When people are engaged with the world

around them, they are more prepared to embrace, interact, learn and contribute to it in a positive way.

Drums Alive Ability Beats is a vehicle that stimulates this engagement and can address a variety of needs and propose constructive solutions. According to music therapist Bill Matney, drumming can be a powerful tool that has adaptations for individuals in need of such instruction. Drumming is multi-sensory and combines motor movement with auditory and visual feedback. It facilitates engagement, encourages learning, activates the brain and provides multiple skill-building opportunities—all while having fun! Besides its many benefits for children with special needs, movement through dance therapy has been found to have very positive results for children on the autism spectrum. Dance therapy also provides rich sensory/motor experiences for children with autism and may minimize the frequency and intensity of negative behaviors. Dance therapy’s calming and relaxing effects also help children on the spectrum control and regulate their emotions while engaging in a typical, age-appropriate recreational activity with other children.

Application of A Successful Drums Alive Program

The Drums Alive program is not about just hitting the stability ball for a fun workout. It is also about teaching the “whole individual” concept and adding the elements of rhythm, movement, cognitive education, socialization and teamwork, and right and left-brain activation. Ensure you focus on “whole brain–whole body” training and use all of the



elements found in our programs. Integration of the cognitive and physical processes will create a balance for the body, mind and spirit. Teach to the individual, create an enriched environment, and, allow time for creative expression. But most of all, have fun!

A safe and successful Drums Alive program depends on the instructor's application of sound instructional principles and practices as well as understanding the desired learning objectives used to develop the research protocols and subsequent positive results. Additionally, following the American Council of Exercise guidelines will help provide the instructor with a sound foundation of these principles and practices.

The Drums Alive programming suggests paying special attention to:

- Safety First! Promote safety on all levels and periodically review general safety rules for teaching a movement program
- Know your audience, execute proper form, and utilize safe, yet effective, movement and rhythmical skills for all levels of ability
- Be prepared for medical emergencies (emergency contact numbers, evacuation procedures, overstimulation protocols, CPR, Defib Kit, etc.)
- Use appropriate equipment or modifications and reinforce its proper care and usage (Refer to the Drums Alive website for information: www.drums-alive.com)
 - Recommend approved "Anti-Burst Stability Ball." Size of the ball and holder is dependent the class that is taught as well as the height of each participant
 - Use good quality drumsticks and check condition each time before use
 - Use modifications to drumsticks if needed (i.e., pool noodles, foam insulator tubes, foam grips on drumsticks or any creative use of a safe striking device)
 - Use a solid ball holder to maintain a good foundation and avoid tipping during workout (bucket, step riser, basket, etc.)
- Provide an enriched environment that is conducive for learning, self-expression; and, if needed, a breakout room to desensitize and soothe
- Use appropriate music and be mindful of the volume and tempo
 - Some students may be sensitive to loud music; so, recommend a volume level between 85 dBA–90 dBA
 - You may need to use music with slower tempo or slow the tempo of the music (using pitch control)

- Adagio (slow and stately—literally, “at ease”—tempo is 66 – 76 bpm)
- Allegro tempo (fast, quickly, and bright—tempo is 120 – 168 bpm)
- Modify the drumming or movement patterns (e.g., instead of drumming on every beat, drum once on every two beats)
- Songs or music over 100 bpm need to be monitored carefully and adapted or modified based upon capability
- Be prepared and teach using a suggested “Class Design” and execute good class delivery and sound teaching skills, including audio, visual and technique cues
- USE KIND WORDS —this applies to the students, assistants, and teachers
- Remind everyone to keep hands and feet to themselves (“GENTLE HANDS AND FEET”)
- Remind everyone to LISTEN AND FOLLOW DIRECTIONS but, to HAVE FUN!
- Provide time for WATER BREAKS or REST AND RELAXATION BREAKS

Elements in A Drums Alive Class Design

The Drums Alive class design can vary according to the demographics of your class vis a vis physical and mental levels. Below is an example of a design that may be implemented in a Drums Alive class.

- Greeting and Welcome
- Warm-Up Activities (Rumble Games)
- Fine and Gross Motor Skills
- Fine Motor Drumstick Skills
- Balance and Proprioception
- Listen and Learn Cognitive Skills
- Follow the Leader—“Simon Says,” Call and Response
- Brain Beats – Cognitive applications
 - Working Memory and Executive Thinking
 - Speech Patterning with Rhythmical Timing
 - Functional Living Skills
 - Functional Academics that include Self-Help and Daily Living Skills
 - Rhythm and Musical Interpretation
 - Beat Keeping with Movement Applications
 - Activate the Anticipatory Pleasure Response
 - Health and Fitness Exercises
 - Cardiovascular Drumming and Movement Skills
 - Team-building Skills and Games
 - Creativity and Expression
 - Creating Your Own Moves, Groves and Fun!
 - Hand-Clapping Games



- Working Memory, Social Skills, and Rhythm
- Rest and Water Breaks
- Sensory and Quiet Breaks
- Cool Down and Relaxation
- Stretch and Release
- Moving Meditation and Mindfulness
- Gathering and Review
- Goodbye

















Drums Alive Ability Beats™ is an “ALL-INCLUSIVE, NO PARTICIPANT IS LEFT BEHIND” program that provides a comprehensive approach for those with diverse abilities. It opens the door for individual participants to develop their skills and coordination alone, with a partner or within a group to improve their physical, cognitive, and social health in an exciting and enriched environment regardless of ability, limitation or life challenge. In this respect, Drums Alive Ability Beats™ provides the participants a platform for socialization, as well as developing lifelong essential motor skills. Another tremendous benefit of this program is that it provides an outlet for aggression; because, all too often our participants do not normally have the proper venue to release negative feelings of fear or anger.

Drums Alive Golden Beats™ is specially designed for the senior population. This program employs a drumming and movement workout protocol that is specifically designed to enhance emotional and cognitive health; as well as, social competence and can contribute to satisfaction of one’s individual needs as it provides a unique, fun, and exciting alternative to traditional aerobics for seniors.

Drums Alive Bambini Beats™ is a didactically and methodologically based program that is full of energy and pure fun designed specifically for toddlers between 3 and 5 years of age. The music and the movements are selected and adapted for small children and their physical development. The Bambini Beats concept is geared towards a holistic promotion and exercise their innate abilities and skills while appealing to all their senses and emotions. The focus is on the promotion of concentration, memory, sensory perception, motor skills, social behavior, body awareness, relaxation, language development and the possibility of playful stress and aggression reduction.

Drums Alive Drumbata® is a power-packed workout that combines cutting-edge “Athletic Functional Interval” training with the energy and passion of Drums Alive. Drumbata got its roots from one of the most popular forms of

Drums Alive Sample Choreography

DRUMS ALIVE FUN DRUM			
			
8x DOUBLE BEATS	8x OVERHEAD CLICKS	8x DOUBLE BEATS	8x OVERHEAD CLICKS
			
FIGURE EIGHT R & L (8 counts)	8x SINGLE BEATS	FIGURE EIGHT L & R (8 counts)	8x SINGLE BEATS
			
8x DOUBLE BEATS	8x CROSS OVER RIGHT	8x DOUBLE BEATS	8x CROSS OVER LEFT
			
FIGURE EIGHT R & L (8 counts)	8x SINGLE BEATS	FIGURE EIGHT L & R (8 counts)	8x SINGLE BEATS

Drums Alive Ability Beats (Fit Clixx) Sample Choreography

DRUMS ALIVE FIT CLIXX			
			
8x RUMBLE DOUBLE BEATS	8x OVERHEAD CLICKS	8x RUMBLE DOUBLE BEATS	8x OVERHEAD CLICKS
			
8x RUMBLE TO THE RIGHT	8x RUMBLE TO THE LEFT	8x RUMBLE TO THE RIGHT	8x RUMBLE TO THE LEFT
			
8x RUMBLE DOUBLE BEATS	8x OVERHEAD CLICKS	8x RUMBLE DOUBLE BEATS	8x OVERHEAD CLICKS
			
8x RUMBLE TO THE RIGHT	8x RUMBLE TO THE LEFT	8x RUMBLE TO THE RIGHT	8x RUMBLE TO THE LEFT

high-intensity interval training (HIIT) called “Tabata.” It’s a timed interval method that alternates between 20-second intervals performed at maximum effort and 10 second stages of rest, repeated eight times for the ultimate exhaustive four-minute workout.

Drums Alive Fit Clixx is a fun and exhilarating full-body workout that uniquely combines the powerful rhythms of drumming fitness with elements of simple to follow hi/low dance aerobic choreography and integrated muscle training to build strong lean muscles, improve core stability and strength

Drums Alive Wellness Beats: The “Mind-Body” Connection is an interactive mind-body connection with the use of powerful rhythms, percussive beats and the sheer joy of moving while drumming to exciting and inspiring music. The power of the drum, and the releasing of encumbered emotion through movement, harnesses the elements of wellbeing and captures an activity that anyone can enjoy regardless of age or ability. This alternative to traditional exercise can improve brain wave activity and increase synchronization of the brain hemispheres.



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