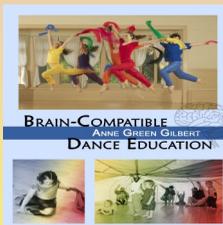


Dance Science and Wellness Resources

- *The Healthy Dancer: ABT Guidelines for Dancer Health* by the American Ballet Theatre Medical Advisory Board
- International Association for Dance Medicine and Science, <http://www.iadms.org>
- *Finding Balance: Fitness, Training, and Health for a Lifetime in Dance* by Gigi Berardi
- *Dance Kinesiology* by Sally Fitt
- *Dance Anatomy and Kinesiology* by Karen Clippinger
- *Science of Dance Training* by Priscilla M. Clarkson and Margaret Skrinar
- *Conditioning for Dance* by Eric Franklin
- *Dancing Longer Dancing Stronger: A Dancer's Guide to Improving Technique and Preventing Injury* by Andrea Watkins & Priscilla Clarkson
- "Fueling the Dancer" by Priscilla Clarkson <http://www.iadms.org/displaycommon.cfm?an=1&subarticlenbr=2>
- *Diet for Dancers* by Sally Fitt and Robin Chmelar

Dance for Brain Power: Brain Compatible Dance Education



By
Creative Danceh
Specialist
Anne Green Gilbert

Dance can promote brain growth!

Recent brain research has shown that movement plays an important role in brain development. This book reviews the research and describes how it is used to effectively help dancers think as well as move. ***Brain Compatible Dance Education* strengthens both body and mind!**

To order, call 1.800.321.0789 or go to www.aahperd.org/nda.

This book offers practical applications for dance class derived and developed to support intellectual learning.

-Virginia Wilmerding, International Association for Dance Medicine and Science



Dance for Health and Brain Power!

A Guide For Dance Wellness



National Dance Association
1900 Association Drive
Reston, VA 20191
www.aahperd.org/nda
nda@aahperd.org
1.800.213.7193 x464
703.476.3464

The National Dance Association is an association of the American Alliance for Health, Physical Education, Recreation, and Dance (AAHPERD)

Dance Keeps Your Body and Mind Healthy

Dance improves physical and mental health by:

- Improving heart and lung capacity
- Strengthening and toning muscles
- Increasing flexibility
- Strengthening bones and reducing the risk of low bone mass and osteoporosis
- Improving balance, posture, and coordination
- Enhancing brain capacity, mental function, and creativity
- Improving mood and psychological health
- Relieving stress
- Teaching effective problem-solving, decision-making, and teamwork skills
- Promoting positive behavior, self-expression, and self-confidence

Dance is a Great Way to Meet Physical Activity Recommendations

According to the U.S. Surgeon General's Report and Physical Activity Guidelines, children and adolescents (ages 6-17) should exercise at least 60 minutes daily and adults (ages 18-65) should exercise at least 30 minutes daily. **Most Americans do not get enough exercise, and dancing is a great way to increase physical activity while harmonizing body, mind, and spirit!**

Dance Helps Everyone Attain a Healthy Body, Mind, and Spirit!



American DanceWheels Foundation for Wheelchair Dance

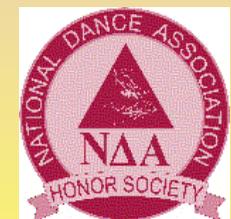
The National Dance Association Promotes Dance for Health

The Mission of the National Dance Association (NDA) is to increase knowledge, improve skills, and encourage sound professional practices in dance education while promoting and supporting creative and healthy lifestyles through high quality dance programs.

National Dance Education Standard 6 emphasizes dance as part of a healthy lifestyle. It promotes **making connections between dance and healthful living** as an essential part of dance education.

NDA's National Dance Education Standards were prepared as part of the National Arts Standards and were underwritten by grants from the U.S. Department of Education, National Endowment for the Arts, and National Endowment for the Humanities.

Honor Dance for Health



NDA's Dance Honor Society, Nu Delta Alpha, recognizes exemplary achievements of dance professionals and students at the middle/high school and college/ university levels. Honor academic and artistic achievements by establishing a Nu Delta Alpha Dance Honor Society within your dance environment.

Tips for Dance Teachers

- **Teach students about dance wellness**, including nutrition, conditioning, stress management, and injury prevention.
- Keep a **list of dance medicine specialists**, such as doctors, physical therapists, nutritionists, and others who treat dancers.
- Promote a **personalized range of motion**. Help students work within their own body structures and take pride in their bodies.
- Follow **proper class format** with a thorough warm-up and progression of integrated exercises. Work the whole body; avoid overworking one muscle group.
- Focus on **correct alignment, good posture, and core support** throughout class.
- Make sure the **studio is safe**, with plenty of space and a level sprung floor.
- Use a **Task-Involving Climate**. Encourage collaboration, discourage competition, and view mistakes as part of learning.
- Explain **purposes of exercises**. Give students a conceptual understanding of their bodies and movement.
- **Set effective goals and provide strategies**. Help students define areas for improvement, realistic goals, and appropriate exercises.
- **Keep perspective on students' long-term health and well being**. Remind students of long-term goals and other aspects of their lives. Always be supportive.

Tips for Parents

- Encourage **proper posture at home** (sitting and standing).
- Try to **observe dance classes and attend performances**.
- **Support effort and progress**. Focus on **strengths and improvement**, not level or comparisons with others.
- Help your child **set realistic goals**.
- **Be involved** in dance events and interests.
- **Assist in performance preparation and proper attire**. Help your child and others if possible.
- Make sure **dance shoes fit properly** for comfort and safety.
- **Encourage your child to practice at home**. Ask dance teachers for suggestions.

Teachers and parents should communicate openly and regularly. **Keeping students healthy is everyone's goal!**

Dance for Health and Brain Power

Scientific Research Supports Dance for Healthy Lifestyles and Brain Growth

Dance is great for heart and overall health.
-American Dietetic Association

Dancing is a great way to get the heart pumping and have fun too!
-American Heart Association

Fitness is about improving endurance, flexibility and strength through regular physical activity. That includes Dancing!

-President's Council on Physical Fitness and Sports

Weight-bearing exercises such as...dancing strengthen bones and improve brain, emotional, and social development.

-American Academy of Orthopedic Surgeons

Dance engages the brain's sensory and learning processes in a way unique among the arts.

-The Dana Foundation for Brain Research

Dancers Need to Stay Healthy By Following Special Wellness Guidelines

A healthy body and mind are essential for dance and optimal well being. Dancers should make sure they are in great shape to dance their best and prevent injuries. They need to follow special guidelines for:

- Proper Technique
- Nutrition
- Cross Training
- Injury Prevention and Treatment
- Adequate Rest and Recovery

The National Dance Association, Council of Dance Administrators, National Association of Schools of Dance, and Registry of Dance Educators all recommend that dancers study wellness and dance science.

Proper Technique

Proper Technique is Important For

- Moving efficiently
- Improving performance
- Preventing injuries
- Protecting joints
- Avoiding fatigue and stress on muscles
- Coordinating mind and body

Key Points in Correct Technique

- Maintain **correct alignment** in all movements
 - **Head, rib cage, and pelvis vertically stacked over legs and feet**
 - **Shoulders align over hips, which align over balls of feet** (remember "shoulder-hip-ball of foot")
 - Keep **core support** and **proper posture**
 - **Engage abdominals** (especially low abdominals)
 - **Lengthen spine**
 - **Release tailbone down**
 - **Keep ribs in normal position** (not thrust forward or closed in)
 - **Open shoulders and chest**
 - Work in your **personal amount of turn out—do not force turn out**
 - **Turn out from hips**— do not force knees and feet into turned out positions
 - **Do not roll in on feet or overly arch the lower back** when standing turned out
 - **Stretch to increase turn out safely**
 - **Turn out both working and supporting legs**
- When **bending knees**, keep **knees aligned over center of feet— do not let knees roll in**
- Whenever one or both **knees are bent**, be able to **see your big toe**
- Keep **weight on big toe, little toe, and heel—do not roll in or out on feet**
 - **Articulate feet**
 - **Work through all parts of foot** when brushing one leg
 - **Roll through feet** when preparing for or landing from jumps

Mind-Body Wellness

- Perform **mind-body conditioning** to increase mental control over movement, improve posture and core strength, and relieve stress.
- **Pilates, yoga, and Gyrotonics** are great mind-body conditioning programs that enhance strength, flexibility, and alignment.
- Try **somatic therapies**, such as Alexander Technique, Bartenieff Fundamentals, or the Feldenkrais Method, to improve body awareness and posture in all activities.



Injury Prevention and Treatment

- For most injuries, follow the **RICE** procedure right away.
 - Rest:** Stop using the injured body part.
 - Ice:** Apply an ice pack to the injured area, using a towel or cover to protect your skin. Ice for 20 minutes on, 20 minutes off.
 - Compression:** Apply a pressure bandage or wrap to the injured area. Never tighten the bandage or wrap to the point of cutting off blood flow.
 - Elevation:** Raise or prop up the injured area above the level of the heart.
- **Consult a physician or physical therapist immediately** if pain, swelling, or serious injury occurs.
- After an injury, **work with a physician to determine the parts of a dance class that are safe for you to take**. Gradually add more components of class.
- **Recognize your physical limitations; do not push or overwork beyond them, especially when fatigued.**
- Maintain **proper alignment** in all dance training and conditioning activities to prevent injury.

Adequate Rest and Recovery

- Make sure to **get enough rest**. Aim for **8 hours of sleep per night**.
- **Rest if you feel tired**. Try to **avoid strenuous dancing when fatigued** to prevent injury.
- **Balance dance classes with relaxation** and other activities that you enjoy.

Dance Conditioning Program

Cardiovascular Endurance

- Cardiovascular activities improve the ability of the heart and lungs to pump blood and deliver oxygen to power muscles.
- Build up to **30 minutes of cardiovascular activities 3-5 days per week**. Start with 10 minutes every other day.
- Choose **low-impact cardiovascular activities**, such as walking, swimming, or biking. If using aerobic equipment, such as ellipticals or treadmills, use low resistance.

Muscle Strength Training

- Strength training uses resistance to strengthen major muscle groups.
- Perform strength training exercises **2-3 non-consecutive days per week**.
- Work up to **1-2 sets of 8-12 repetitions**. Rest between sets.
- Use **light weights**.
- Repeat exercises until muscles feel fatigued, not exhausted or sore.
- Perform all exercises in a **smooth, controlled manner with proper form and alignment**.
- Exercise large muscle groups before smaller ones.



Flexibility

- Stretching increases flexibility, a joint's range of motion.
- **Hold each stretch for 30-60 seconds**. Stretch at **least 3 days per week**.
- Hold the stretch position, relax the muscle, and release carefully. **Do not bounce**.
- The center of the muscle should feel a **slight pull, not pain**.
- Make sure to **stretch calves, hamstrings, hips, and thighs**.
- Always **stretch after working muscles**.



Nutrition For Dancers

Consult with your physician before beginning any nutrition program or changing your diet.

- Dancers need to **consume enough calories** every day. Females need 17-22 calories per pound of body weight and males need 18-24 calories per pound of body weight.
- A dancer's daily diet should be **55-60% carbohydrates, 12-15% protein, and 20-30% fat**, with **adequate fluid intake**.
- **Carbohydrates** provide energy
 - Eat mostly **whole grain complex carbohydrates**, such as cereal, bread, English muffins, rice, and pasta. Eat 6 ounces of whole grains daily.
 - Eat a **variety of fruits and vegetables**. Aim for 5 servings of fruits or vegetables every day.
 - Eat a **carbohydrate snack 1-2 hours before dance class**.
- **Fat** is essential for fueling muscles during long endurance activities and producing hormones
 - Eat **healthy unsaturated fat**, such as **fish, nuts, seeds, and plant oils**.
 - **Limit saturated and trans fat to less than 10% of total calories**. Saturated and trans fats are found in butter, cream, meat, fried and processed foods, and baked goods.
- **Proteins** are important for body structures, muscle repair, and metabolism
 - Eat **lean and low-fat proteins**.
 - **Grilled chicken, fish, turkey without skin, tofu, beans, and rice** are excellent protein sources.
 - Eat about 5 1/2 ounces of protein daily.

Nutrition For Dancers



- **Vitamins and minerals** are needed for vital body functions, including bone health and energy production
 - Eat a diet rich in a **variety of fruits and vegetables, dairy products, and whole grains**.
 - **Build strong bones with plenty of calcium and vitamin D**. Milk, yogurt, and low-fat dairy products are great calcium and vitamin D sources.
 - Iron and zinc are needed for energy production. **Lean red meat and whole grains are great sources of iron and zinc**.
 - Take a **daily multivitamin containing no more than the recommended amounts of all vitamins and minerals**.
- **Drink enough fluids** to stay hydrated
 - **Water and sports drinks** are the best fluid sources.
 - Daily fluid needs are **9 cups for women and 13 cups for men**.
 - **Always bring a water bottle** and drink every 15 minutes.
 - Continue to **increase fluid intake after class, rehearsal, or performance**.
 - **Match fluid intake to fluid lost in sweat**.



Cross Training for Dancers

Dancers should cross train outside of technique class in order to increase strength and flexibility and enhance fitness and performance. A good dance conditioning program complements technique and is essential for preventing injuries. **Consult a physician before beginning an exercise program.**

Basic Conditioning Principles

- **Always warm up**. Warm up with low-intensity movements that work large muscle groups for at least 15 minutes.
- **Always cool down**. Gradually decrease movement intensity by slowing down and restoring circulation to normal.
- **Stretch after the active part of a warm-up or during a cool-down**. Stretch when muscles are warm, not when they are cold. Stretching after class is a great way to increase flexibility.
- **Progress gradually**. Add small increments of exercise at a time. Increase exercise intensity, duration, or frequency by no more than 10% per week.
- **Listen to your body**. Stop before you feel fatigued or overworked. Stop if you feel pain and consult a physician.
- **Condition your entire body**. Make sure to strengthen and stretch your upper body, lower body, and core (abdominals, back, pelvis).
- **Maintain a long-term conditioning program**. Follow your conditioning regimen throughout your dance training— it only takes 2 weeks to lose fitness gains. Do not cross-train too much if dance classes, rehearsals, or performances are frequent and intense.
- **Include cardiovascular endurance, muscle strength training, and flexibility exercises**. A well-rounded conditioning program includes all 3 components to strengthen and stretch muscles and improve energy.

