

The Medicine

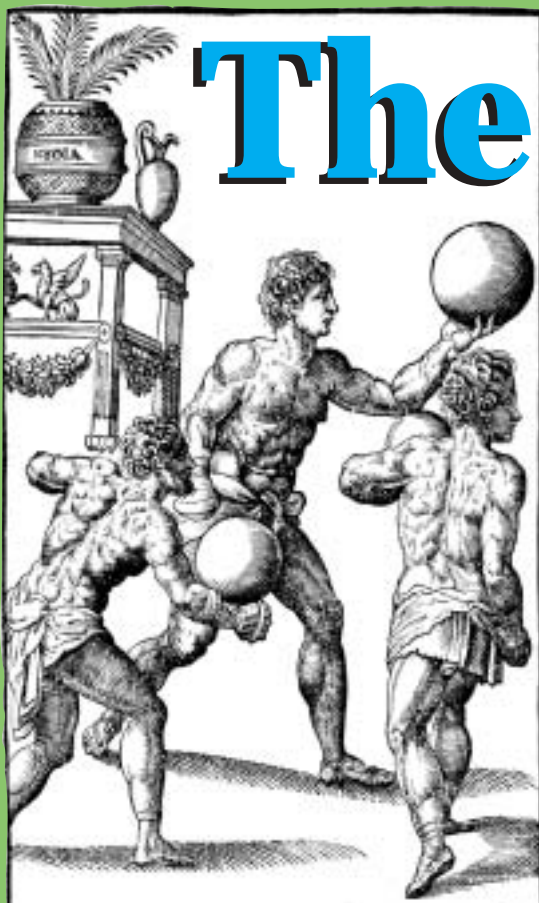
Pro salute animae

"For the health of the soul"

After decades of humble obscurity, the medicine ball is now widely used by martial artists to develop core strength and explosive power. Much of what emerges as new in physical training has a long history that reaches far back into the distant past. The linguistic, historical and philosophical high ground of physical culture can provide the down-to-earth insights needed to get the most out of rediscovered ideas. The medicine ball is a great example.

The origins of the medicine ball are lost to antiquity. The Ancient Egyptians left images of people exercising with what look like weighted bags. Ball games can be traced back to the dawn of recorded history, but the Ancient Greek physician Claudius Galen (c.a. A.D. 130-200) is credited with first prescribing the ball for therapeutic exercise. Galen's father was rich and highly educated, so young Claudius received the best available schooling and opportunity for mind-expanding travel. At around the age of seventeen, Galen's interest in medicine took him on a ten-year journey throughout the Mediterranean. He became known for his skillful treatment of Alexandrian Gladiators. He served in Rome as physician for the Emperor and Stoic Philosopher Marcus Aurelius. Among the Greek healers of his time, few if any were more widely respected than Claudius Galen.

Galen was troubled by the declining physical fitness of the sedentary masses among which he lived. His system of training was designed to restore their health and vigor and to heal them of disease and injury. He longed to live in the Greece of centuries earlier when beauty of form and grace of movement were the ideal, but he was stranded in a decaying culture where much of his message was generally ignored. Using exercise to prevent and heal disease was not new to Galen's generation, but he raised the notion to a new level and recorded his thoughts in writing.



An illustration of ball training from *De Arte Gymnastica* by Hieronymus Mercurialis.

Aaron Molyneux Hewlett, curator of the Harvard College Gymnasium in the mid-1800's was an advocate of heavy training with dumbbells, medicine ball, Indian Clubs, and the wand. He also taught gymnastics and boxing.



Ball

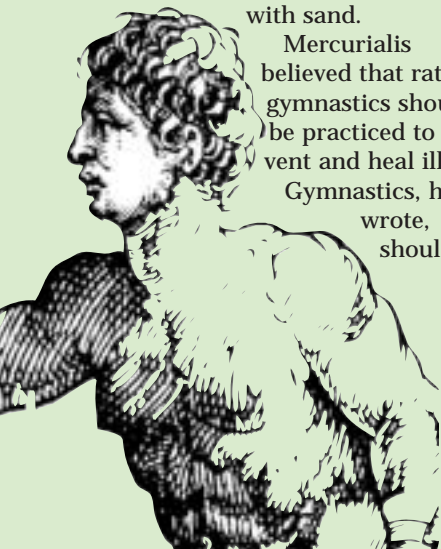
By Ed Thomas, Ed.D.

The middle ages that followed were a dark period for rational physical training, but the noted Renaissance physician Hieronymus Mercurialis brought medical gymnastics back to life in the mid-1500's. Traditional healers in the 1400's gave little attention to medical gymnastics, but the Renaissance brought a renewed interest in Greek wisdom. Mercurialis led the way when he authored *De Arte Gymnastica* (The Art of Gymnastics) in 1569. This six-book masterpiece included a reference of ninety-six Greek and Latin authors. It was filled with quotations from ancient poets, teachers, philosophers, theologians, and historians.

De Arte Gymnastica clearly shows the depth and breadth of study that led Mercurialis to guide his generation toward an appreciation of medical gymnastics. From its initial description of ancient gymnastics, it moves to a discussion of how specific exercises can heal and prevent illnesses. The ball was high on the list of tools Mercurialis recommended for both exercise and play. The light balls of his day were filled with feathers or air, and the heavy balls were weighted with sand.

Mercurialis believed that rational gymnastics should be practiced to prevent and heal illness.

Gymnastics, he wrote, should:



ABOVE: 1898 Gymnasium filled with traditional gymnastics equipment including medicine balls. RIGHT: LTC Herman J. Koehler trained thousands of cadets at West Point to use the medicine ball.



President Hoover playing Hoover-ball.



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Officers and Cadre at a Fort Jackson Infantry Training Brigade drilling with the Ooof Ball.



Medicine ball push-ups



Iowa Army National Guardsmen combine Body Bridge and medicine ball training



ABOVE: Soldiers preparing for Ranger School.
RIGHT: Mechanized Infantrymen attacking the Medicine ball.



*Preserve normal health.
Maintain the body's harmonies.
Be a part of everyone's life.
Be carefully considered in light of individual needs,
particularly in regard to the infirm.
Especially be practiced by those living sedentary lives.*

The German educator Friedrich Froebel added a meta-physical dimension to ball training in the early 1800's. No study of modern educational theory is complete without a careful look at Froebel and his mystical insights. He created the concept of the kindergarten. His rare understanding of child development has much to offer martial arts instructors who work with children, and his overall vision for education is relevant for students of all ages.

Froebel believed in the divine inner nature of humankind and often wrote and spoke of our innate tendency to evolve toward this ultimate state of transcendent awareness. "Education consists of leading man, as a thinking, intelligent being, growing into self-consciousness, to a pure and unsullied, conscious and free representation of the inner law of divine unity, and in teaching him the means thereto," Froebel wrote. "It is the destiny and life-work of all things to unfold their essence, hence their divine unity, and therefore, the Divine Unity itself--to reveal God in their external and transient being."

Froebel's ideal teacher promotes earthly and spiritual understanding by using practical methodologies that lead students to express their divine nature. "The educator, the teacher, should make the individual and particular general, the general particular and individual, and elucidate both in life," Froebel wrote. "He should make the external internal, and internal external, and indicate the necessary unity of both; he should consider the finite in the light of the infinite and the infinite in the light of the finite, and harmonize both in life; he should see and perceive the divine essence in whatever is human, trace the nature of man to God, and seek to exhibit both within one another in life."

The ball played a key role in Froebel's educational methods. To fully understand its purpose, keep in mind that he believed constructive play, in its noblest form, is an active meditation and the highest phase of child development. "Play is the purest, most spiritual activity of man at this stage, and at the same time, typical of human life as a whole—of the inner hidden natural life in man and all things," Froebel wrote. "It holds the source of all that is good. A child that plays thoroughly, with self-active determination, perseveringly until physical fatigue forbids, will surely be a thorough, determined man, capable of self-sacrifice for the promotion of the welfare of himself and others."



Fitness leaders from the Iowa Army National Guard combine inversion boots and medicine ball training



Army Rangers at Fort Benning, Georgia, took Hooverball to a whole other level.

Physical development was essential for a truly educated person, wrote Froebel. He believed that rational physical training could lead children to a vivid knowledge of the inner structure of their body. Froebel devised five “gifts” for awakening this knowledge. The first was a ball. In Froebel’s system, the ball is much more than a mindless plaything. He wrote:

“For the ball itself, being the representative of all objects, is the unity and union of the essential properties of all objects. Thus the ball shows, content, mass, matter, space, form, size, and figure; it bears within itself an independent power (elasticity), and hence it has rest and movement, and consequently stability and spontaneity; it offers even color, and at least calls forth sound Therefore the ball . . . leads to the consideration of the most important phenomena and laws of earth-life and Nature.”

It would be, of course, much simpler to see the ball with a common mind, as Froebel’s philosophical agility might seem at first glance too difficult to follow. Further study of his genius will bring his thoughts into focus. His work is best appreciated by thorough study. Perhaps a final glimpse of his methods will inspire some of you to search further. Of the ball, Froebel wrote:

“As the child’s first consciousness of self was born of physical opposition to a connection with the external world, so through the play with the ball the external world itself began to rise out of chaos and assume definiteness. In recognizing the ball, the child moved from the indefinite to the definite, from the universal to the particular, from mere externality to a self-included, space-filling object. In the ball,

especially through the movement, through the opposites of rest and motion, through departing and returning, the object came forth out of general space as a special space-filling object, as a body; just as the child, by means of his life, also perceives himself, his corporeal frame, as a space-filling object, as a body. . . . He feels and perceives himself as life; so he may and does perceive the ball at least, outside of himself in motion and as motion.”

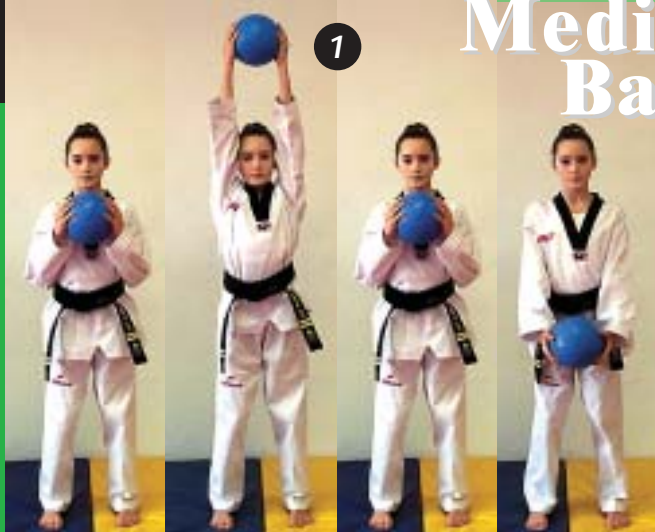
From its ancient origins, medicine ball training for both the fit and ill found life in American physical culture. Early physical trainers commonly used four hand-held tools. Aaron Molyneux Hewlett, curator of the Harvard College Gymnasium in the mid-1800s was photographed with them. Dumbbells promote muscular strength and endurance. The wand is for flexibility. Indian clubs provide neural training and joint mobility, and the medicine ball works the deep core muscles, arms, and legs.

The United States Military Academy used medicine balls in the late 1800’s and early 1900’s, and The United States Army used medicine balls for physical reconditioning during WWII. American pugilists have employed medicine balls for decades. From the mid-1800’s through the 1930’s, medicine balls were often seen in YMCAs, colleges, and private gymnasiums.

President Herbert Hoover was a medicine ball enthusiast. He had seen it used in a game called “bull-in-the-ring,” played by sailors on board the battleship Utah while he was returning from a trip to South America in 1928. Sailors formed a circle with a “bull” inside. The bull tried to intercept a nine-pound medicine ball thrown across the circle by the other players.

Hoover began to play a modification of the game using a net. It looked somewhat like tennis, and *New York Times*

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EXERCISE 1: High Set Press
STARTING POSITION: Regular stance. Arms in forward down position.
CADENCE: Slow
MOVEMENT:
 1. Raise arms to high set position.
 2. Press arms overhead.
 3. Return to count 1.
 4. Return to starting position.



EXERCISE 2: Low Set Turn
STARTING POSITION: Regular stance. Arms in low set position.
CADENCE: Slow
MOVEMENT:
 1. Turn and look left.
 2. Return to starting position.
 3. Turn and look right.
 4. Return to starting position.

Basic Beginner Drills

reporter William Atherton DuPuy eventually named it Hoover-ball in a 1931 article entitled "At the White House at 7 a.m." Hoover and his staff often played it on the South Lawn of the White House. Hoover-ball was actually invented by Hoover's physician Admiral Joel T. Boone to help the President stay in shape. They eventually decided to use a six-pound ball that teams of two-four players attempted to toss over a net eight feet high.

Medicine Ball training gained popularity in Great Britain in the



1930's. In his 1939 book entitled *Medicine-Ball Exercises and Games*, E. Major of the Carnegie Physical Training College in Leeds, notes that medicine ball exercises:

"Have definite physiological and psychological values. They bring into activity the large muscle groups of the body, especially those of the arms, legs and trunk, and the circulatory, respiratory and digestive systems are stimulated. Many of these exercises also assist in the development and maintenance of mobility in the joints, particularly in



EXERCISE 4: High Forward Reach
STARTING POSITION: Regular stance. Arms in forward down position.
CADENCE: Slow
MOVEMENT:
 1. Keeping arms straight, raise arms frontward and overhead.
 2. Return to starting position.
 3. Repeat count 1.
 4. Return to starting position.



Pro salute animae: for the health of the soul



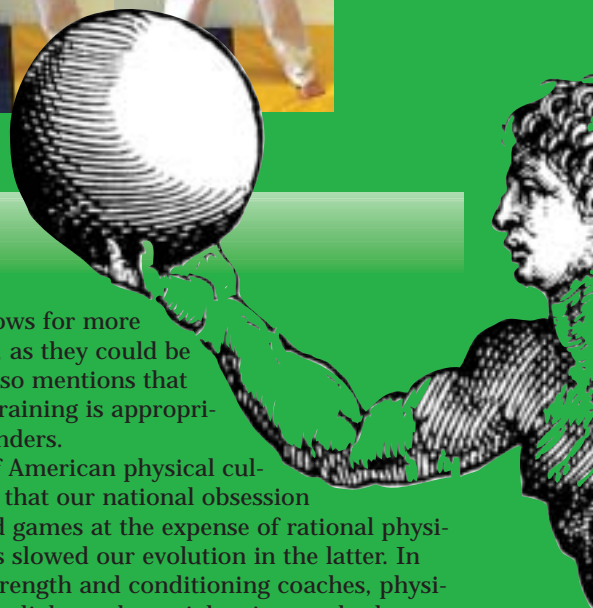
EXERCISE 3: High Set Bend and Reach
STARTING POSITION: Straddle stance. Arms in high set position.
CADENCE: Slow
MOVEMENT:
 1. Raise arms overhead.
 2. Bend knees and touch ball to ground between legs.
 3. Return to count 1.
 4. Return to starting position.

the joints of the spinal column. They provide vigorous activity in a concentrated form, and in a short space of time the whole body can be exercised. The massive bending, stretching, and turning movements, which constitute the majority of medicine-ball exercises, are a valuable palliative to the ill-effects of sedentary occupations. The amount of exercise can be easily regulated to suit individual requirements. Many of the exercises also demand quickness of thought and action, thus providing a useful means of developing neuro-muscular control."

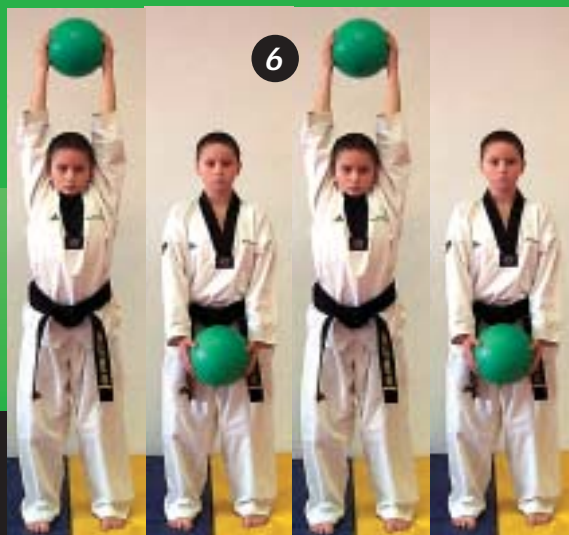
Major adds that rubber balls weighing from one to nine pounds were less expensive than the traditional

leather and allows for more lively activities, as they could be bounced. He also mentions that medicine ball training is appropriate for both genders.

Historians of American physical culture often note that our national obsession with sports and games at the expense of rational physical training has slowed our evolution in the latter. In recent years, strength and conditioning coaches, physical therapists, enlightened martial artists, and others interested in physical training have pushed us significantly forward toward an understanding of functional



EXERCISE 5: Low Set Turn and Push
STARTING POSITION: Straddle stance. Arms in low set position.
CADENCE: Slow
MOVEMENT:
 1. Turn and look left, extending arms away from body.
 2. Return to starting position.
 3. Turn to right, extending arms away from body.
 4. Return to starting position.



EXERCISE 6: High Reach
STARTING POSITION: Regular stance. Arms forward down.
CADENCE: Slow
MOVEMENT:
 1. Raise straight arms forward to overhead position and stretch upward on toes.
 2. Return to starting position.
 3. Repeat count 1.
 4. Return to starting position.

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fitness, core strength, and other important physical fitness concepts that can be linked to past wisdom. This paradigm shift has led to the rediscovery of physical tools and training methods from the past, of which the medicine ball is one.

It is truly a race against time, as American youth grow steadily more inert, malformed, and clumsy. "A myriad of social forces are robbing our youth of their physical potential," said Tae Kwon Do Master Lance Farrell. "Today's martial arts instructors must learn all they can about quality physical training, and build that knowledge into their teaching methods."

For the 1000 youth and adult students who study in Des Moines, Iowa, with Master Farrell and his team of instructors, physical fitness is an essential partner to the specific martial arts skills they teach. "Progression, variety, and precision--the three fundamental principles of quality physical training are simple," explained Master Farrell. "But the art and science of properly teaching them is a lifetime study."

Master Farrell explained that postural alignment and dynamic balance form the foundation for his training methods. "We train for motion before muscle," he added. "Fundamental movement skills precede specific martial arts skills." Master Farrell stresses core strength before extremity strength and control of one's body weight before using external resistance. "We also encourage our students to develop a solid base before pushing themselves to the extreme. Over-training is as harmful as under-training."

Master Farrell's team has tested a series of three medicine ball drills appropriate for middle school youth.

Each drill has twelve exercises done in either a four or eight-count cadence. "The drills move from the simple to the more complex," said Master Farrell. "The weight of the ball varies from two to four pounds. Progression, variety, and precision are emphasized at all times."

The ball remains in the student's hands during the first three drills. Once these skills are mastered, more complex movements are introduced. In other drills, the ball is handed from one student to another in a series of partner exercises. These drills lead to others where the ball is tossed between students. Students can also bounce the ball off walls or the floor. "Numerous games have also been tested, but initial emphasis is always on structured skill development," said Master Farrell.

Medicine balls have also reappeared in United States Army Physical Readiness Training. LTC Herman J. Koehler, Father of modern United States Army physical readiness training, taught medicine ball skills at the United States Military Academy at West Point over 100 years ago. The United States Army Physical Fitness School rediscovered medicine balls in 1998, and many units throughout the Army have since profited from them.

Increased popularity has led to the development and sale of numerous incarnations of the medicine ball, but the industry standard is probably the Oof Ball. Introduced over a decade ago, it has gone through a number of innovative changes that have made it virtually indestructible. It bounces, floats, and comes in a variety of colors, sizes, and weights.

As with all physical training, the benefits gained from the medicine ball will depend upon the quality of equipment used, the instructor's knowledge, and the commitment of students to train properly. As for the medicine ball itself, it will surely remain a physical training force-multiplier for martial artists who correctly employ it. To the degree that it connects serious students of physical training to the past, its study will also lead to other innovations yet to be uncovered by the masses.

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Ed Thomas is Iowa's K-12 public school Health and Physical Education Consultant. He is a Fulbright Scholar and physical educator with over 25 years of teaching experience at numerous schools including The University of Iowa, Northern Illinois University, and Emory University. He can be reached at: www.ihpra.org



Exercises that follow Drills 1-3. Once basic skills are mastered to standard, students move on to more complex movements.