

AMERICAN MUSCLE & FITNESS
AEROBICS INSTRUCTOR
CERTIFICATION PROGRAM
MANUAL

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1988 AAU MR. INTERNATIONAL

1987 AAU MR. NORTH AMERICA

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This program has minimal illustrations for fast loading on your computer and ease of use. *American Muscle & Fitness* presumes that you have enough life experience to master the material presented and are familiar with aerobic dance and step classes. If you require any additional clarification, contact AMFPT at amfpt@aol.com.

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INTRODUCTION

Welcome to the American Muscle and Fitness Aerobics Instructor Certification Program. Since you are pursuing a career as an Aerobics Instructor, you will have to decide whether you are going into business for yourself or if you will work for someone else at a public or private health club. Either way, the pay is as much as \$100 per hour and the work is rewarding.

Your customers concern is how you can help them achieve their desired results quickly, comfortably and safely. Most health clubs now require you to obtain certification and insurance before they allow you to teach classes on the premises. Certification lets club managers and owners know that you have completed a recognized course about how to teach aerobic step and dance routines to their members properly, so that you don't injure someone because you lack proper training yourself. This manual can show you all you need to know to become a safe, successful and prosperous Aerobics Instructor.

An Aerobics Instructor wears many hats. Always a coach first, students come to rely on him or her as a friend, confidant, psychologist, technician, problem solver, time manager, and businessperson. Keep in mind that you are in business to make money. Your current customers must become a constant source of referrals. Their excellent results will speak volumes about your expertise. When a student's friends start to notice the improvements they're making in their physique, naturally he or she will brag about the great Aerobics Instructor that they have (you), and the wonderful job that you are doing for them. They will also tell friends about any negative experiences. That can kill your business in a hurry if word gets out that your classes are poor. Always do the right thing, and be aware of your language (never swear or curse) and statements that can be perceived as sexual harassment, especially in today's litigation crazy world.

In order to determine their readiness for physical exercise, each student must fill out a health questionnaire and waiver before you teach them (see following page). You can make copies of this one and have students fill it out. Just add your name and/or gym name. The completed form should be kept in your files. Always protect yourself from any potential legal suit by purchasing a good insurance policy in case something does go wrong. The cost is \$150-\$200 annually for a \$1,000,000 policy. You can go to <http://loginid.com> to download the AMFPT Insurance form. Let your insurance agent know that each customer fills out a waiver form. Read the waiver to each student and go over it with him when they enroll for the class, or it may not be considered valid in court if you ever have to go. Use common sense in every situation, and if you think someone is going to cause a problem in the long run, decline to take that person as a customer. There are plenty of people who will want to be taught by you, and you won't have to explain to a potential new student about a negative rumor they

heard. That would start your relationship off on the wrong foot. Remember that your students will quickly become your friends.

Another aspect of an aerobics instructor's responsibility is to take a CPR course and know basic first aid. If someone does have a cardio-vascular accident, you may be able to help him or her while someone else dials 911. I recommend that you take a CPR class for your student's benefit. It is not a requirement of this program (you are not a paramedic), and I doubt you will ever have to use it.

PHYSICAL ACTIVITY READINESS QUESTIONNAIRE

FOR: _____

READ CAREFULLY AND CIRCLE YES OR NO IF IT APPLIES TO YOU.

YES NO 1. HAS YOUR DOCTOR EVER TOLD YOU HAVE HEART TROUBLE?

YES NO 2. DO YOU FREQUENTLY HAVE PAINS IN YOUR HEART OR CHEST?

YES NO 3. DO YOU OFTEN FEEL FAINT OR HAVE SPELLS OF DIZZINESS?

YES NO 4. HAS A DR. EVER SAID YOUR BLOOD PRESSURE WAS TOO HIGH?

YES NO 5. HAS YOUR DR. EVER TOLD YOU THAT YOU HAVE A JOINT OR BONE PROBLEM, LIKE ARTHRITIS, THAT CAN BE AGGRAVATED BY EXERCISE?

YES NO 6. DO YOU HAVE BACK OR NECK PROBLEMS?

YES NO 7. IS THERE A GOOD PHYSICAL OR PSYCHOLOGICAL REASON NOT MENTIONED HERE WHY YOU SHOULD NOT FOLLOW AN ACTIVITY PROGRAM IF YOU WANTED TO?

YES NO 8. ARE YOU OVER AGE 65 AND NOT ACCUSTOMED TO PHYSICAL EXERCISE?

IF YOU ANSWERED :

YES TO ONE OR MORE QUESTIONS:

IF YOU HAVEN'T RECENTLY DONE SO, CONSULT WITH YOUR DR. BY PHONE OR IN PERSON, BEFORE INCREASING YOUR ACTIVITY LEVEL! TELL HIM WHAT QUESTIONS YOU ANSWERED YES TO ON SURVEY. AFTER MEDICAL EVALUATION, SEEK ADVICE FROM YOUR DR. AS TO YOUR SUITABILITY FOR: UNRESTRICTED PHYSICAL ACTIVITY, PROBABLY ON A GRADUALLY INCREASING BASIS; RESTRICTED OR SUPERVISED ACTIVITY TO SUIT YOUR NEEDS, AT LEAST INITIALLY. IF YOUR DOCTOR IS AWARE OF THE PROBLEM, PUT YOUR INITIALS AND A NOTE NEXT TO THE QUESTION(S) YOU ANSWERED "YES" TO, EXPLAINING WHY IT IS O.K. TO PROCEED WITH CAUTION.

NO TO ALL QUESTIONS:

IF YOU ANSWERED ACCURATELY, YOU HAVE REASONABLE ASSURANCE OF YOUR PRESENT SUITABILITY FOR: A GRADUATED EXERCISE PROGRAM. IF YOU HAVE A TEMPORARY MINOR ILLNESS, LIKE A COLD, POSTPONE INCREASED ACTIVITY.

WAIVER/RELEASE FORM

YOU AGREE TO THE TERMS OF THIS RELEASE FORM. TRAINING AND EXERCISE IS A STRENUOUS ACTIVITY. YOU, THE GUEST/STUDENT/MEMBER, ARE AWARE THAT YOU ARE ENGAGING IN PHYSICAL EXERCISE AND THAT THE USE OF EQUIPMENT, TRAINING AND INSTRUCTION, COULD CAUSE INJURY TO YOU. YOU ARE VOLUNTARILY PARTICIPATING IN THESE ACTIVITIES AND ASSUME ALL RISKS OF INJURY THAT MIGHT RESULT. YOU AGREE TO WAIVE ANY CLAIMS OR RIGHTS YOU MIGHT OTHERWISE HAVE TO SUE _____, OR ANY AGENT, EMPLOYEES OR INSTRUCTORS, OR _____, FOR INJURY TO YOU AS A RESULT OF THESE ACTIVITIES. IT IS ALWAYS ADVISABLE AND RECOMMENDED TO CONSULT YOUR PHYSICIAN BEFORE UNDERTAKING THIS OR ANY EXERCISE PROGRAM.

SIGNED (PARTICIPANT): _____ DATE: _____

ADMINISTERED BY: _____

CHAPTER 1

SETTING UP YOUR BUSINESS

You can either work for an established aerobics studio in a commercial gym or rent space somewhere and start teaching classes on your own. Both approaches have advantages and drawbacks. If you work in a club, you'll be working for someone else, but you won't have any overhead or the headaches that come with running your own business. If you start a studio from scratch you will have a few lean months until your business becomes established, but the potential is greater for self-employed individuals to earn higher incomes than employees. Many experts recommend that you have enough cash on hand to meet expenses of at least six months when starting a new business.

The income for aerobics instructors is excellent. Health clubs will pay you about \$25 for each class you teach. Very few jobs pay \$25 an hour. The classes are 45 minutes to an hour long. You may only be able to teach three classes a day, which amounts to about \$380 weekly salary. If you fill up your own studio with twenty students three times a day, charging \$5 per session (the going rate), you can earn around \$300 a day! If your rent, heat and other expenses are \$1200 per month and your gross income is \$6000, you can pocket approximately \$4800 a month. That's over \$50,000 annually net pay potential versus about \$1500-\$2000 a month average working for someone else. The reality is that you will probably be running as many as eight classes each day, seven days per week. Since you won't be able to teach them all, you'll have to recruit instructors from the student ranks so that you can run the business. The most sensible approach is to start off in a gym or studio to build up a following and then venture out on your own.

The beauty of opening your own studio is that *you* can now pay someone \$25 per class and keep all the profit, just like the gym that you worked for. It's called leveraging your time. There are only so many hours in the day that you can trade for pay. When you hire assistants you don't even have to be there to make money. It becomes automatic.

Should you decide to go into business for yourself, you will need to go to the County Clerk's office and file a "Doing Business As" certificate, or D.B.A. You will be asked to select a name for your business. Try choosing a name that describes your business, like, "Barb's Aerobics Studio," or, "Ed's Step Aerobics Instruction," so that when people read your business card they know exactly what you do.

You will be assigned a tax identification number (usually your social security number) and you can write off your business expenses against your income at tax time. You may be required to file quarterly tax statements if you are making a lot of money, because the government doesn't want you to have their money for any longer than you are entitled. Start keeping track of your expenses and keep

all of your receipts. Keep a record of all of all training fees received and if you know any accountants, talk to one about setting up your business.

Even before you open, make some business cards on your computer (buy the peel off cards at *Staples*) with your phone number and start leaving them everywhere. Pass them out to your friends. Make sure to tell everyone you meet about your new business and ask if they know anyone who might be interested in taking your aerobics class.

Set your rates up as a base *per class* fee, for example: \$5 per class, and create packages based on that rate. The key is to reduce the overall cost of each class to the student if they purchase more sessions in advance. Each class should generally run 6-12 weeks at a time, six days a week. That's a lot of aerobics, but you'll be in great shape yourself at the end of the session! Make up some brochures and flyers to disburse to potential students. Try to be as consistent as possible with rates so that each student pays the same amount or you may end up in trouble when you invite them all to a party and they start talking. Don't be afraid to raise your rates as you get busier. An extra dollar per session, from 10 students who attend your class three times weekly, equals \$1440 yearly in additional income. You are running a business and are entitled to make a profit from your efforts even though you may have developed friendships with your students. Since now they *are* friends, they will understand your need to raise prices from time to time.

You must be prepared to teach and offer a variety of class types, from step and conventional aerobic dance classes to ab, buns, stability ball and wobble board classes. You can mix and match components of each exercise system with any of the others. You can have beginner and advanced classes for each of the types of instruction that you offer. Students should "graduate" to the more intense classes from the lower levels for liability and safety's sake.

MARKETING YOUR BUSINESS

New business owners should try advertising in local penny savers, newspapers, the Internet, and fitness magazines to develop your student base. They are inexpensive ways to attract customers. When you finally retain your first group of customers, ask for referrals. Hairdressers, hospital workers or restaurant employees always come into contact with a lot of chatty people who like to gossip. They will be your best references. If you can get a student who works in any of those fields, your aerobics business will really take off!

Your best income and long term financial security will come from having each student sign and pay for a long term training contract. Have them pay all the fees up front and let them know that your cancellation policy is at least twelve hours notice or they will lose any scheduled class that they miss. If you have already received the money for the missed session, you simply deduct the session as if the individual had trained. A pre-paid package will be more economical for the customer than a daily rate. If you charge \$75 for an 8-week package of three sessions weekly to 20 students, you will earn \$1500 for the class. At the rate of five classes daily, you will earn \$15000 for the two-month period. Most students will graduate to the next class. Promote it heavily as the end of the current program approaches. Set up a table at the back of the room the last couple of sessions to renew current students. Give them a discount for signing up again. Always provide refunds for those that ask, but find out their reasons so that whatever the problem is can be addressed.

It is in your best interest to give students a written copy of all your rules and post them on the wall of the aerobics room so you both know what your obligations are at the sign up. Have them sign it and keep a copy on hand. This will prevent misunderstandings and hard feelings in the future. Take a look at the fun "Ten Commandments of Aerobics." You can use this sheet and print copies to hand out to students to review. Both of you will be referring back to it from time to time. *Always let the customer know the rules up front.*

It is in your best interest to get each class fee ahead of time. The ability to process credit cards will greatly enhance your income. Ask your bank about getting a credit card machine when you open your business account if you own a gym or open a training salon.

When you get too busy, you need to develop a young instructor to pick up the slack and start taking your overload. It often tends to be someone who is taking a class. Find a fit young guy or gal, and introduce them to your current students. Tell them that he or she is your assistant, and they'll be training you once in a

while. Pay your new staff half the regular fee you charge. This way, you can leverage your time and make money even when you're home watching TV!

Eventually you should groom two or three helpers so you don't have to teach any classes yourself. Try to sell your aerobics services to a local health club at that point, especially a new club opening up. They'll welcome your help with their staffing problems. I hope these ideas give you a new way to look at your aerobics business.

THE TEN COMMANDMENTS OF AEROBICS

1. Thou shalt always be ready to exercise at thy appointed time.
2. Thou shalt call at least twelve hours ahead to cancel or pay full price for thy missed session.
3. Thou shalt do all that the trainer tells thou with no murmuring.
4. Thou shalt eat the way thou are commanded to by thy teacher.
5. Thou shalt not bounce any checks lest thou pay a \$20 fee for it.
6. Thou shalt tell all of thy friends about the wonderful things thy teacher has done for thou.
7. Thou shalt not use foul language or take the name of God in vain.
8. Thou shalt cheerfully and joyfully attend thy aerobics sessions, and reflect lovingly upon them.
9. Thou shalt get good results and blessings if thou doest all thy teacher commands thee.
10. Thou shalt have curses (fat and weak) if thou failest to follow any of thy teacher's commands.

Thy mark_____This day_____

QUESTIONNAIRES

Here are the questionnaires that your students should fill out and sign. The first one should be filled out during your initial conversations with the customer. Read each question to the student and make sure they understand it. Have them tell you the answer verbally, then let them check the appropriate box.

The second assessment form should be used as a measuring stick after several weeks of training to determine whether or not you are meeting their expectations. Sometimes people may not feel comfortable telling you that they don't like some aspects of their class because they like you, but you may lose them if the issues are not addressed. You will be unaware there is a problem until they suddenly stop showing up for classes with you. That's the hard way to find out they are not happy, so use these assessment sheets and administer them frequently.

The feedback from questionnaires can help guide the direction of your business. When you get a glowing response, always ask the student for a referral. Tell them there's always room for one of their friends in the class. If someone is not satisfied with his or her routine, be flexible and let him or her know that the workout is for him or her, so you can make any changes they want. Never be dogmatic or pig headed. Training is customer service, and keeping your customers happy is your number one priority. Your livelihood depends on it.

PHYSICAL IMPROVEMENT ASSESSMENT FORM

WEIGHT: DESIRED WEIGHT: BY (DATE):
WOULD YOU DESCRIBE YOURSELF AS (CIRCLE ONE): ACTIVE OR
SEDENTARY?

HAVE YOU BEEN ABLE TO ACHIEVE GOOD RESULTS WITH TRAINING AND
DIET IN THE PAST? (CIRCLE ONE)
YES NO NEVER TRAINED

IS YOUR JOB PHYSICALLY DEMANDING OR DO YOU SPEND A LOT OF
TIME SITTING? (CIRCLE ONE) ACTIVE SITTING

WHERE ARE YOU ON THIS SCALE?

LEAN 1 2 3 4 5 6 7 8 9 10 FAT

WHAT DO YOU WANT FROM AN AEROBICS PROGRAM? (LOSE WEIGHT,
TONE UP, ETC.)

HOW MUCH TIME CAN YOU DEVOTE TO AEROBICS EACH WEEK (HEALTH
EXPERTS RECOMMEND 3-5 HOURS OF EXERCISE PER WEEK FOR
OPTIMUM RESULTS)? 1 2 3 4 5 HOURS

ARE YOU WILLING TO FOLLOW ALL INSTRUCTIONS TO THE LETTER FOR
8-12 WEEKS IN ORDER TO ACHIEVE YOUR GOALS?

DID YOU KNOW THAT NUTRITION IS AT LEAST 80% RESPONSIBLE FOR
WEIGHT GAIN OR LOSS, EVEN WHEN EXERCISING (BED RIDDEN
OPTIFAST PATIENTS ROUTINELY LOSE 100 POUNDS WITHOUT
EXERCISING)? YES NO

WHAT SERVICE DO YOU EXPECT FROM AN AEROBICS INSTRUCTOR?

AEROBIC CLASS FEEDBACK FORM

DO YOU FEEL LIKE YOU'RE GETTING THE RESULTS YOU WANT FROM YOUR CLASSES (ALTHOUGH, THEY'RE NEVER FAST ENOUGH)? YES
NO

IF NOT, WHAT DIRECTION DO YOU FEEL WE SHOULD MOVE IN?
(EXAMPLE: MORE MOTIVATIONAL TALKS, NEW ROUTINES, ETC.)

WHAT DO YOU LIKE ABOUT YOUR AEROBICS PROGRAM (EXAMPLE:
PACE, EXERCISES ETC.)?

WHAT DO YOU DISLIKE ABOUT YOUR AEROBICS TRAINING?

WHAT WOULD YOU LIKE TO CHANGE IN YOUR AEROBICS TRAINING?

WHAT DO YOU WISH TO KEEP THE SAME?

WHAT AREAS DO YOU FEEL YOU WOULD LIKE TO FOCUS ON?

DO YOU PREFER SPONTANEITY OR A ROUTINE THAT YOU CAN SETTLE
INTO?

LIST ANY "MUST" OR "MUST NOT" DO'S:

WHAT OTHER SERVICE WOULD YOU LIKE FROM YOUR AEROBICS
INSTRUCTOR?

SUGGESTIONS:

FITNESS FUNDAMENTALS

Here are the scientific components of fitness and exercise that are the basis for any exercise or training program, including aerobic dance. It also helps to know these gems when answering your well-informed student's fitness questions.

Fitness is defined as a combination of aerobic, strength, flexibility, and cardiovascular endurance that allows one to perform physical activity free from injury, well above sedentary levels. Fitness should also include excellent health, but does not necessarily. Some individuals with chronic illnesses or injuries may be quite fit aerobically.

The general components of fitness are: 1.) Agility; 2.) Cardio vascular / cardio respiratory endurance; 3.) Dynamic balance; 4.) Explosive strength; 5.) Flexibility; 6.) Freedom from disease; 7.) Freedom from injury and stress; 8.) Limit strength; 9.) Local muscular endurance; 10.) Percent body fat; 11.) Preventative past lifestyle; 12.) Speed endurance; 13.) Starting strength; 14.) Static balance; 15.) Strength endurance; 16.) The mirror and photo progress comparison test.

Strength is defined as one's capacity to apply maximum muscular force within structural, anatomical, physiological, biochemical, psychoneural, psychosocial, and environmental constraints.

Limit strength is the muscular force that an individual can apply to an object eccentrically, statically, or concentrically, over a given unit of time, or for a number of repetitions, usually one. An example is a one-rep maximum on the bench press.

Starting strength is one's capacity to enervate a muscle's cells all at once, immediately, such as in throwing.

The six components of strength that can be augmented through resistance training are:

1.) Eccentric or deceleration strength; 2.) Transition or static strength; 3.) Pushing off or concentric strength; 4.) Speed strength; 5.) Limit or absolute strength; 6.) Maximum force applied to an object.

Agility is the ability to change physical direction of the body in a short period of time using explosive strength, dynamic balance, limit strength, and starting strength, like when a football player executes a play.

Flexibility is not as important as strength in a stretched position. Flexibility in athletics is more important than in every day situations.

Proprioceptive neuromuscular facilitation (PNF) is a form of resistance training that builds strength in a stretched position.

There are four technologies of fitness equipment are:

1.) Constant resistance devices that keep the resistance on a muscle uniform throughout the range of motion (like a bench press machine); 2.) Variable resistance devices (like Nautilus machines) which vary the resistance through the range of motion; 3.) Accommodating resistance devices (like Hydra Fitness and Life Fitness) that control the speed of contraction; 4.) Static resistance, or isometric, which contract the muscles without movement.

There are eight fitness technologies: 1.) Heavy weight resistance training; 2.) Light resistance systems like exercise bikes, rowers, stair climbers and aerobic dance; 3.) Psychological techniques like hypnosis or mental imagery; 4.) Therapeutic techniques like ice, heat, massage, ultra sound, and whirl pools; 5.) Medical support such as Chiropractors, drugs, and medical monitoring; 6.) Bio-mechanics or skill training; 7.) Diet; 8.) Supplements.

The body fat percent considered good for men is 8-12 %, while 12 to 16% is considered good for women. Clinically obese values for men are 30% and for women are 35%. Chronically obese numbers for men is 25% and for women is 30%.

The causes of over training or over use syndrome is either too great a frequency, or too great an intensity or duration of exercise over a given period of time, to allow for systemic and / or localized recovery. Shin splints are a slight tearing away of the gastrocnemius from the tibia.

A pump in a muscle is experienced when blood is shunted away from the spleen and organs and toward working muscles during exercise, thus providing oxygen and nutrients, and removing waste products and carbon dioxide.

Lactic acid build up and connective tissue trauma cause post exercise muscle soreness. *Hydroxyproline* is an enzyme released from connective tissue that causes delayed onset muscle soreness (DOMS) from about 24 to 48 hours after exercise. It can be reduced by using a whirlpool or warm bath immediately after training, or through massage, or by over the counter anti-inflammatory agents. Easing into an exercise routine or aerobics class as a precaution reduces or eliminates delayed onset muscle soreness.

Diastole and Systole are the upper and lower values on a blood pressure test, with normal values ranging from 60 to 80 Systole to 90-139 Diastole.

The five components of cardiovascular endurance are: 1.) Heart rate; 2.) Stroke volume; 3.) Ejection fraction of the left ventricle; 4.) Maximum oxygen uptake; 5.) Gas exchange efficiency of the lungs.

MUSCLE FIBER TYPES

There are three major muscle fiber types. Fast twitch provides explosive strength and has the greatest capacity for hypertrophy. Intermediate twitch fibers allow medium speed contractions, usually in the twelve to twenty repetition ranges with a medium weight. Slow twitch, or endurance fibers, provide contractions during twenty-five rep plus exercises performed in slow, continuous fashion while weight lifting. They make long term endurance and aerobic sessions possible. The slow and intermediate muscle cells have less capacity for growth than fast twitch. Each type is laced throughout the muscle, and research has shown the ability of one type to transform into another type because of specific training.

It is necessary to understand muscle fiber types in order to develop a routine for each individual's goals. The three basic muscle fiber types are called *fast* (pennate), *medium* (bi-pennate) and *slow twitch fibers* (fusiform).

Fast twitch fibers are responsible for explosive movements such as sprinting, moving heavy weight, boxing, football etc. They will grow, or *hypertrophy*, to a much higher degree than medium or slow twitch muscle fiber and will respond best to 70% of one rep maximum weight or above. Muscle cells can also split or divide, but they mainly enlarge. Usually heavy, explosive training in the 1 to 12 repetition range builds mass.

Medium and slow twitch muscle fibers don't have the capacity for great size increases that fast twitch muscle fibers do. Examples of athletes with a lot of slow twitch fibers are marathon runners, tri-athletes or endurance competitors like Tour De France cyclists. They are lean and defined, but not heavily muscled. Women do not usually wish to develop a lot of muscle mass, so it is best to avoid training fast twitch muscle fibers by employing light weights and long duration training. It helps when creating exercise routines to help meet your student's divergent goals.

Physical trainers generally refer to only fast and slow twitch muscle fibers. Muscle fibers can actually change from fast to slow twitch and back again, depending on training modality. That is an important point to remember if someone is training for a specific goal. A football player should always train explosively for short periods. A marathon runner should only train slowly for long workouts. A bodybuilder would lift heavy weights for explosive, short interval training. A fat reducing routine for someone who doesn't want added muscle mass requires extremely light, high repetition training, like step or low impact aerobics.

THE MUSCULAR SYSTEM

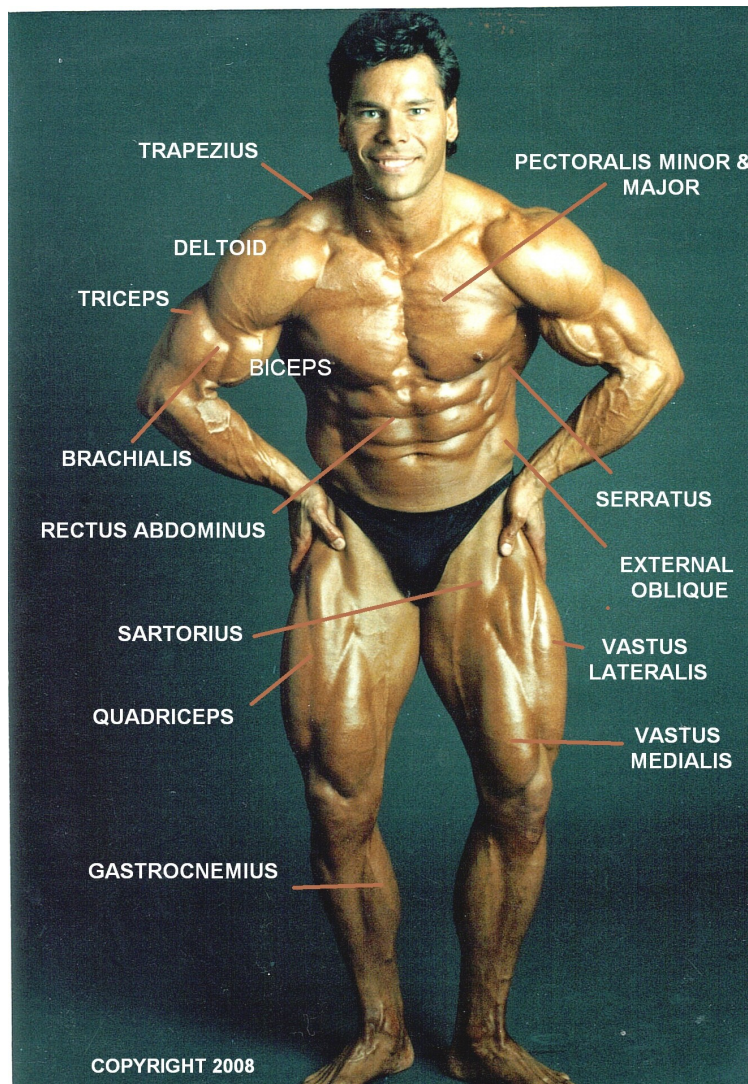
As an aerobics teacher, you will need to know the basic muscle groups of the body. Here is a synopsis of the major muscle groups and how they work. Let's start at the head and work our way down.

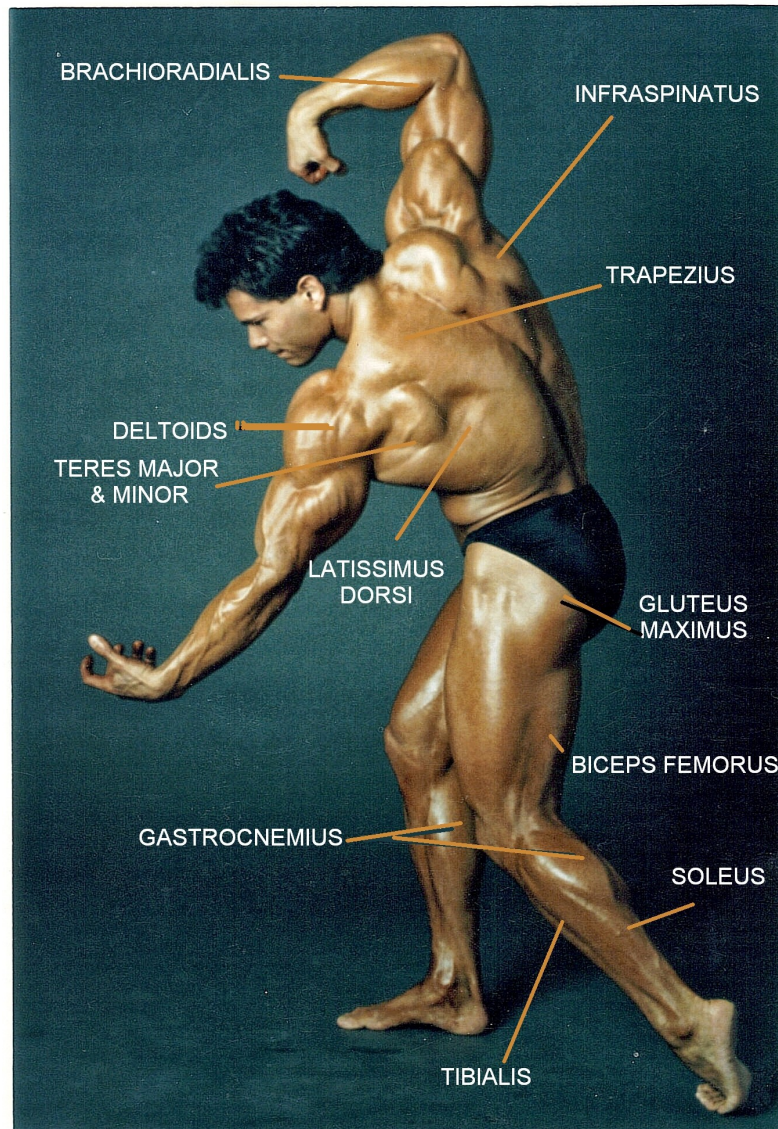
The muscles in the sides of the neck are called the sterno mastoids, which hold the head up and rotate it. In the front of the body, beneath the neck, there are the pectoralis major and minor commonly called pecs/chest. Their job is to push objects away from the body. The deltoids, which cap each arm and attach it to the shoulder joint, are a three-headed muscle with the anterior, lateral and posterior heads. The deltoids raise each arm to the side and overhead. Beneath that, on the front of the arm are the biceps (curl the arm) and on the back of the arm are the triceps (straighten the arm). The forearm is made up of the brachialis on the top and the extensor carpi on the bottom of the forearm that curl the hand up and down.

Below and behind the neck are the trapezius muscles or "traps." These are responsible for the shrug motion. Down the back below the traps, there is the latissimus dorsi that gives the back its V-shape. Other muscles included in the upper back are the rhomboids, teres major and minor, sub-scapularis, supraspinatus and infraspinatus which hold the arm and shoulder joint together and are involved in pulling things towards you from the front. They are generically referred to as the *rotator cuff*. Beneath those muscles are the spinal erectors or lumbers, located in the lower back. They keep us upright or bring one to the standing position after bending over. The gluteus maximus is the buttocks, used in extending our legs and standing straight. The biceps femoris are located under the glutes, commonly called hamstrings, which kick the heel up towards the buttocks. The gastrocnemius and the soleus make up the calf muscles and allow us to stand on tiptoe and jump.

This short lesson should be enough to help you answer questions about what a particular exercise or muscle group does. Here is a rule to help you determine what muscles a machine or exercise works even if you have never used or seen the machine or exercise. Always remember that muscle fibers twitch, or shorten. This is called a *concentric contraction*, which causes pushing or pulling. *Static contractions* are isometrics, where a muscle or group of muscles pushes against an immovable force. The third type of contraction is *eccentric, or negatives*, a controlled lowering of a weight. So, remember the rule, muscles always pull on levers (bones) by shortening to cause movement, even when the exercise requires pushing a weight.

Please study the following diagrams and memorize the major muscle groups mentioned above.





INTENSITY VS. VOLUME

The Nautilus Company and a Mr. Universe, Mike Mentzer, came up with a high intensity, one set per body part training system. They said it was the only way to train for muscle mass increases or anything else, for that matter.

While Mike lobbied for hard, short and infrequent training (which is correct up to a point), many trainees were thriving and growing on longer duration, high volume systems. It was in Nautilus' best interest to limit a person's training session to ten minutes so that each Nautilus Center could accommodate a greater number of members. Come on, ten minutes of exercise is really just a warm up. Many folks fell for the ruse, though.

In the real world, thirty minutes of hard, fast exercise in an aerobic dance class is about right. Students can perform additional stretching, warm ups and cool down before and after your session. Often one of the students leads this segment of the session. You can schedule many more appointments following this guideline. More than 30-45 minutes will cause you to run out of time. You will have to move classes as quickly as possible, almost rushing them out the door (tactfully) feeling well exercised and happy, if you want to be successful. Remind students of their next class with a smile as they go. End every session on a positive note by telling them how well they did. Recap their workout and emphasize the high points or any breakthrough they had.

If someone wants more muscle, they should attend a class with weights, 10-20 reps per movement, and gradually increase the intensity after breaking them in for the first two or three sessions. There is a class of proteins that protect muscle cells from the by-products of exertion, heat damage, formaldehyde, alcohol, and lactic acid. These are called, not surprisingly, *protector proteins*. They take about a week to fully develop. During the break in period, the size and number of muscle, heart, and lung cell mitochondria are also increasing. That is why stamina and endurance increases rapidly after commencing training. It is also why muscular adults are leaner than those with little muscle tone are. Mitochondria convert chemical energy into muscular movement. There is a slight amount of muscular tension at all times in the muscles to maintain the body's 98-degree temperature.

SPOT REDUCING REVISITED

For years scientists and exercise physiologists said that there was no such thing as spot reducing. Arnold Schwarzenegger, in his book, *Encyclopedia of Modern Bodybuilding*, said, "Exercise authorities tell us there is no such thing as spot reducing. But there is something that LOOKS like spot reducing." He then went on to detail how it works in real life. He was right.

It turns out that when you increase blood flow to a muscle group during exercise, the high level of adrenal hormones in the blood stream act forcefully on the fat tissue surrounding the working muscle. This increase allows the proximity fat deposits to be broken down quickly and used as an energy source by the working muscle.

An effective way to take advantage of this new information is to train the area or muscle group several times a day for five to ten minutes with a moderate resistance, pumping routine. This will work especially well for the thighs, hips, glutes and abdominals. A good way to get quick results for your students is to start the session off by training the body part they wish to reduce, and by finish the workout with it, too. For example, if you are running a "buns" class, train the buns at the beginning, middle and end of the session. If you teach an "abs" class, do the same with that group's training.

AB TRAINING MYTH

Many infomercials for stomach training equipment talk about training the upper and lower abs. Always remember this: **ANY SIT UP, CRUNCH, OR LEG RAISE WORKS THE ABDOMINAL MUSCLES FROM TOP TO BOTTOM!** Fred Hatfield, Physiologist and author of many weightlifting books including the ISSA certification manual, even appeared on an infomercial and talked about upper and lower abs. If you have read any of his books, he states that there is no way to isolate top or bottom abs. He may have had a vested interest in the ab machine he was selling. Who knows?

To prove this, do a little experiment. The next time you do any ab exercise, reach down and touch the stomach muscles to see where they tense up. You may be surprised to find that they are hard as a rock from top to bottom, no matter what exercise you do.

The only part of the midsection that can be isolated in addition to the abs is the obliques, or love handles on the sides. Lying side leg raises, side crunches and side bends for 3-5 sets of 20 to 40 reps are the best remedy (beside diet) for them.

AEROBICS AND WEIGHT LOSS

Weight loss training involves high volume, high repetition or duration exercises, sometimes incorporating as many as 1000 repetitions per workout with an ultra low weight or no weight. Aerobic dance exercise classes provide an excellent high volume, weight loss training system. Circuit training with a moderate resistance also works well for some individuals when weight loss is their goal.

The main focus for weight loss should always be diet, although exercise and diet go hand in hand whatever the goal may be. Most people in the over weight category will need to start with a very easy, low intensity work load in order to fully gauge their degree of cardio-vascular fitness, or lack of it. The first session should last no more than five or ten minutes of actual aerobic exercise.

Overweight people may have underlying health problems such as cardiovascular disease or other unknown conditions, which may be exacerbated by any exercise. Always have them sign off on the health questionnaire and waiver form and explain to them that they need to start off with a very easy and short beginner aerobic dance session, and gradually increase the training volume over a period of days and weeks. They can advance to a more intense class after six weeks.

Aerobic dance classes are the ultimate high repetition system that can develop definition by training primarily slow twitch muscle fibers, which have little capacity for growth or hypertrophy. Women (and men) won't have to worry about gaining bulk from your classes. This training will also increase the number and size of mitochondria in the muscle cells, which are responsible for burning fat and transforming it into energy. Make sure you tell them about that feature of aerobics. The weight loss aspect of aerobics can also be enhanced with endurance training on cardio-vascular equipment such as the stationary bicycle or treadmill. Advise students to avoid the stair master because the intensity level is too high for fat burning purposes. Thirty minutes, to one hour each day will produce great weight loss results for anyone, and excellent cardio-vascular fitness.

With the students that want to lose fat, work up to 500-1000 reps per class at a quick cadence. The count cadence should be about like this: one thousand one, one thousand two, one thousand three, one thousand four. Start them out at 10 reps per movement the first day, 15 the next, then 20 the next until you get in the range of 20 reps on each movement variation. Make them lift or exert with a one thousand one count up and a one thousand one count down rhythm for best weight loss results. You will be counting each rep out loud, like a drill instructor sounding off for his or her troops doing pushups.

Modify your classes based on the make up of the group by doing more for the lower body and glutes for primarily female groups and more upper body and abs for men. Exercises like standing leg kickbacks, standing side leg raise; top end

squats and top end lunges (all with no weight) are great aerobics moves for women. Constantly mix up the exercises to keep interest high. Have students work abs or glutes at the beginning, middle and the end of the workout to incorporate spot reduction. Only do one set of each movement, because after 20-30 high burn reps, your students be happy to move on to something else.

AEROBIC TRAINING SYSTEMS

The customers that come to you will want a specific result, either weight loss, muscle building, or cardio-vascular fitness. Some will want a combination of all three. Each type of training involves different techniques, exercises, and movements. Each system will be covered in detail.

A rep, or repetition, is an exercise movement performed by lifting a limb or weight from the start to the top of a movement, and back down again. A series of single repetitions done in succession and then terminated is called a *set*. Aerobic routines are traditionally comprised of combinations of sets and reps. Other variations of sets and reps include partial range reps, isometric (no movement) reps, and peak contraction (squeezing a muscle at the top) reps. Each of these elements have a place in a well rounded aerobic dance program.

Sets can become elaborate. A super set is when a trainee performs two sets for the same or different muscles, without resting in between them. Tri-sets are three sets performed in a row with no rest. Circuit training is one *giant set* performed with no rest at all until the prescribed number of sets is complete. Aerobic dance sessions are generally performed in a continuous movement fashion from warm up to cool down.

It is a good idea to briefly explain sets and reps to your customers because they may not understand the concept, especially if they have never been in a weight room before. The aspiring aerobics instructor must already be familiar with the rudiments of exercise and aerobics by working out themselves, and attending various kinds of aerobics classes. The aerobics instructor should be an inspiration and example to students. It is hard (but not impossible) to attract students if you are 20 pounds overweight yourself. Being out of shape doesn't help sell your services or showcase your abilities.

AEROBICS BASICS

There are beginner, intermediate and advanced levels of aerobics students. Ideally they will be attending classes that match their fitness levels (but not always). It is the exercise intensity level rather than complexity that determines

class levels and accelerates the heartbeat to the target range. Overly complicated movements may be difficult for some students to learn. Most customers will be attending standard aerobic dance and step classes to lose fat and gain cardiovascular fitness rather than to learn highly technical dance movements. Keep your movements basic and simple enough for even the most uncoordinated individuals. They will thank you for it.

Note:

There is a growing segment of society that is moving toward various jazz, ballroom and traditional dance classes as their primary recreation and fitness activity. Ethnic dance classes also make great aerobic workouts, and your aerobics business may benefit nicely by expanding in that direction. You will probably either need to enroll in classes and learn the dances yourself, or put an ad in the paper and hire someone with a dancer's background. Dance teachers are more common than you think, and would probably love moonlighting as a dance instructor at your aerobics studio. You may be able to cultivate a wide variety of teachers with all kinds of dance backgrounds. It will really give you something unique and refreshing to offer to your steady customers, and help attract new customers that would never consider aerobic dance classes. You still have to pay rent on your aerobics room whether or not it's full of students.

MUSIC SELECTION

Aerobics classes are best accompanied by music of 120 -130 beats per minute. The instructor selects the music, so try to choose standard high intensity fare. If the music is too loud or contains obnoxious or offensive lyrics, you'll lose your customers fast. There are entire libraries for aerobics teachers that can be accessed online. Simply do a search on *aerobics songs* for the most popular selections.

WEIGHT TRAINING CLASSES

An aerobic workout with hand held weights could be incorporated into the aerobics class. Studies have shown that fat burning is increased for up to eight hours after high resistance training. There is no residual fat loss effect with lower intensity aerobic dance or equipment like the treadmill. Since high intensity step aerobics are similar to weight training, the residual fat burning benefits apply. Just the calories burned during any aerobic class will help with weight control. About 440 calories are burned during every hour of aerobic dance for a 120-pound woman.

Light dumbbell exercises that lend themselves well to the aerobics studio are arm curls, triceps kickbacks, triceps extensions, upright rows, overhead shoulder press, bent over row (45 degree angle), squats, calf raises, front raises, and front punches. The form should be controlled and the elbow and knee joints should

never be locked out on any of the actions. To do so may hyper-extend the joint and cause serious injury. Weight training should be a major component of aerobics instruction classes.

The aerobics goal for heart fitness is to maintain the heart rate at about 70% of the trainee's maximum heart rate for 20 minutes at least 3 times a week. The formula for figuring out the student's maximum heart rate is 220 minus their age. If someone is 20 years old, then their maximum heart rate is 200 beats per minute. 70% of 200 is 140, so 140 beats per minute is their correct training zone.

Never take the pulse by pressing on the neck, always use the wrist. You may dislodge a piece of fat and cause a stroke when using the neck as a pulse point. Students may also cut blood flow to the brain and pass out. The neck is used for emergency pulse checking only.

Some beginners may not be able to do much more than move a little when performing aerobic dance steps. In that case, just keep an eye on them and continue teaching. You will keep them entertained and they can go at their own easy pace for cardio-vascular fitness and weight loss. If they can hold a conversation without becoming breathless, then they are generally training at the right pace. Refer them to a beginner's class. Many aerobic dance movements may be hard on the joints and lower back. Offer low impact classes with plenty of stretching for students with back problems.

FIRST DAY TRAINING BEGINNER STUDENTS

Once you have had the student fill out the health questionnaire, waiver, physical assessment form and Ten Commandments of Aerobics handout, it's time to teach class. Where do you begin?

Some aerobics certification programs advocate fitness tests, but the physical activity questionnaire negates the need for a standardized fitness test, if answered honestly. The student's fitness test should be his or her actual first workout as your student. You'll know exactly where you need to go with that person's training and how much they can stand if you just pay close attention to their response to the initial training session. Let them know that they must go easy and quit early the first time if they feel over tired or short of breath. Let them put their arms down or on their hips if they feel like that are over doing it. You can't have new students passing out each session. Some students may have to be placed in beginner classes if they are having trouble in a more advanced class.

Remember to start out the session with an easy pace and each exercise with no weight or an extremely light weight if you are using hand held weights. The actual initial dance or jumping session should last no more than 15-20 minutes. Have new students perform only ten counts per set of each exercise initially, or go one

rep to every two that you call out. Let new students know that you both need to know their training level today, and that they will work up to the class training pace as they progress.

Observe a new student's physiology during the initial session and continually ask for their feedback about how they feel. If they look like they are over working, ask if they are dizzy, short of breath, etc., especially if they are seniors or severely overweight. You don't want someone to turn pasty, gray or to pass out, which can easily happen to an unconditioned individual. If you see signs of overexertion in new students, have them get a drink and take a break until they feel ready to resume. Many newcomers will only be able to take three to five minutes of the dance portion of a strenuous step class before they are exhausted. Peer pressure, a great motivational tool, may also cause them to push too hard initially. You have to take authority as the instructor and demand that they rest for a few minutes. The safety and well being of each student is your responsibility. Let them know ahead of class that you will not be asking them to rest to embarrass them, but for their safety, and that everyone who starts in your class gets the same treatment. Better to err on the side of caution.

COMPONENTS OF AN AEROBIC CLASS

Aerobic classes are 45 minutes to an hour in length. The warm-up segment should last about 10 minutes and be composed of loosening up exercises to raise body temperature. Warming up the muscles helps prevent injuries. Finish the session with low back and general stretching for 5 - 10 minutes.

Begin stepping using simple moves. The aerobic segment should last about 25 minutes and should increase gradually in intensity and complexity. All moves should be less than full range until full warm-up is achieved. Heart rate can be checked about half way through the aerobic segment (by checking the wrist-never the neck) and is an ideal time for a water break. The class intensity level should be adjusted up or down according to the results of the heart rate check. A cool-down segment follows the aerobic portion, which should last 5-10 minutes.

Heart rate should be checked again to assure a rate of less than 120 beats per minute. Those students with heart rates higher than 120 should be told to continue walking in place or around the room. Floor work (pushups, crunches, leg raises) can start at that point and continue for the next few minutes followed by static stretching for the last 5 minutes of class. All times may be adjusted according to the class preferences and response to your instruction. You may wish to reduce the aerobic segment to 20 minutes and increase the final stretching segment to 10 minutes.

CLASS SEQUENCE

Warm Up

Start with wide stance taking deep breaths.

Marching in place, side stepping pumping the arms.
Go to wide stance toe tapping while reach out and up.
Reach across the body.
Go from reaching across to reaching up.
Do a static stretch for calves and hamstrings.
Finish by lifting the toes for ten reps.

Technique

Step with toe first, then heel.
Lean slightly forward.
Heels must come up off the floor when lunging.

Limit step and cool-down music tempo to 120 bpm.
Gradually increase warm-up tempo range from 120 bpm to 135 bpm.
Avoid moves that require stepping forward off the step.
Keep strength sequences to no more than 1 minute at a time.
Use no weights on the step unless one foot is on the floor.
Avoid twisting moves on the knees.
Change only one movement at a time.
Offer students low impact substitutes for high impact movements.

Direct students to stop if:

Their legs become over fatigued and uncoordinated.
It becomes obvious to you that they are in pain.
They tell you that they feel dizzy.
They tell you that their heart rate or breathing seems too fast.

AEROBICS GUIDELINES

All Students Must:

Step with toes to the floor first, then the heel when stepping to absorb shock.

Keep the heel off the floor when lunging, while keeping weight on the ball of the foot.

Never jump down hard.

Lean with the legs, not the hips.

Keep abs tight during movements.

Never hold the breath.

Never lock out the knees.

Keep hands on hips when learning moves until comfortable with pattern.

AEROBIC DANCE ROUTINE

WARM UP

Body Pump

While standing, have students put their weight on one leg and reach up with the opposite hand. Instruct them to raise the heel of the opposite foot to protect the back. Alternate to the other leg by lowering the arm and bending the knees. Perform for 30 seconds to one minute.

Twist And Pump

With the arms at shoulder level, punch out with one arm, twisting the torso and lifting the heel. Bend knees slightly and repeat punch to the opposite side. Perform for 30 seconds to one minute.

Marching In Place

Have the class march in place for one minute, raising the knees to and pumping arms back and forth.

Jogging

To finish the warm-up, have students jog in place for a couple of minutes to make sure their heart rates are in the target training range.

HEART ZONE TRAINING SEGMENT

Arm Scissors

With arms out to the sides, jog in place and cross the hands back and forth in a scissors motion. Repeat action with hands in front of the hips, overhead and behind the back, for 30 seconds.

Chest Press

Raise the upper arms to shoulder level with elbows bent and jog in place. Have students bring the arms together in front of the body and out again for 30 seconds.

High Knee Lifts

Have the class place their hands on their shoulders with elbows out while lifting the knees in a march for a minute, touching the left elbow to the right knee and alternating sides for 30 to 60 seconds.

Leg Kicks

Students kick one leg across the body and jump on the other leg while swinging the arms in the opposite direction, alternating for 30 to 60 seconds.

Twist

In a wide stance, have students turn their bodies from side to side by lifting the heels and pivoting on the toes. Swing one arm up and the other down, alternating for 30 to 60 seconds.

Kickout

Direct students to jump on one leg while extending their free leg out to the side. Base knee should be bent. Perform for 30 seconds, hanging one arm down while bringing the opposite arm to chest level.

Jumping Jacks

You had better already know how to do these.

Jumping Jacks Variation 1

Jump on one leg while kicking the free leg to the side and raising the arms. Repeat jump again bringing the legs together while pulling the arms down to the sides. Alternate with the other leg for 30 to 60 seconds.

Jumping Jacks Variation 2

Jump on one leg while kicking the free leg to the side and straighten the arms out to the sides at shoulder height. Jump on one leg while kicking the free leg to the side and drawing in the arms. Alternate with the other leg for 30 to 60 seconds.

Lunges

Jump up and turn to one side, raising the arms overhead. With one leg extended in front and one behind (keeping the heel off the floor), jump forward alternating to sides.

Leg and Arm

With arms bent, lift a knee up to the waist. Lower the knee and lift both arms straight overhead. Drop the arms back down while you lifting the opposite knee for 60 seconds.

COOL DOWN

Jogging

To start the cool down, have students jog or walk around the room for 5 minutes to bring their heart rates gradually back down.

Marching In Place

Have the class march in place for a minute.

Body Swing

With students standing slightly forward with arms at sides, have them step from side to side for one minute. Swing arms in the direction of the motion.

Stretch

Complete the session down with static (not ballistic) stretching. Congratulate everyone on a great training effort and remind students of the next session's schedule.

STEP AEROBICS

Before starting class clear the training area by putting weights, gym bags or any loose items. You are responsible for making sure the training floor is obstacle free. Even a misplaced towel can create a safety hazard for trainees. Each step student should have a minimum of 25 square feet of exercise space with the step centered.

Step height should be linked to the trainee's height, fitness level and familiarity with step aerobics. Even athletes should limit the step height to the lowest possible height until their form becomes automatic. The step height should never be high enough to require a 90-degree or greater bend in the knee joint. A 60-degree bend is standard for most step classes.

Start the class by inquiring if anyone is new to step classes. Observe new people to make sure they're doing the steps correctly. They may not be aware of their fitness level. At the beginning of each movement, instruct students in the right technique, whether or not new students are attending.

As an instructor you should be aware that the class will try to keep up with your intensity level, which may be much higher than most pupil's. Therefore, if you use an additional step, the students will do the same, even if they are not ready. Considering all the classes that you will be teaching weekly, it is unnecessary to

use more than one step. Shin splints, knee and ankle injuries resulting in a high drop out rate may result.

Begin with a progressive, limbering warm-up and stretch period followed by stepping with a tap up then basic step up moves. Add arm and leg changes. Every minute or so, or on every 20 count. Observe the class's response to your changes. This should give you an idea of the general class experience level. Adjust your pace accordingly.

Face the class providing a mirror image of the moves. During such maneuvers as a turn step or over the top (not across the top), it may be less confusing to the class and easier for them to follow if you face front. Remain flexible in your teaching style and monitor the student's response to your changes and pace.

Training large muscle groups like the quads, glutes and hamstrings with basic step movements can enhance exercise goals. More elaborate dance movements can be utilized for finishing the session after the training goals have been completed. They make good cool down exercises because the heart rate slows while the student learns the new steps. Thus, beginner, intermediate and advanced level classes can contain advanced choreography or basic dance steps, or a combination of each, depending on the overall goal of the class.

Leg and arm exercises add to the overall training effect. Active rest can be achieved by placing hands on the hips while the student continues to step, or by reducing the height of the step, or by lowering the tempo of the music. A step height of 4 inches will equal brisk walking. A 12-inch step class is similar to jogging at about 5 mph.

STEP AEROBICS GUIDELINES

All Students Must:

Bring the foot up even with and centered on the step.

Never hang the heels off the step.

Step with toes to the floor first then heel when stepping off step to absorb shock.

Keep within one foot of step when coming to floor (except during lunges).

Keep the heel off the floor when lunging, while keeping weight on the ball of the foot.

Never jump off the step.

Lean with the legs, not the hips.

Keep abs tight during steps.

Never hold the breath.

Never lock out the knees.

Keep hands on hips when learning moves until comfortable with pattern.

STEP AEROBICS ROUTINE

Progression and cadence count for *Basic Left Step*

1. Left foot - step up
2. Right foot - step up
3. Left foot - step down
4. Right foot - step down

Progression and cadence count for *V-Step*

1. Step up with lead foot wide
2. Step up on bench with the opposite foot wide
3. Step down back to the floor with lead foot
4. Step down back to the floor with opposite foot

Keep feet close together while on the floor, but apart when on the step

Progression and cadence count for *A-Step*

1. Step up with lead foot at the center of the bench
2. Step up with the opposite foot next to the start foot
3. Step down with start foot
4. Step down and back with opposite foot

Progression and cadence count for *Turn Step*

1. Step up with left foot.
2. Step up on the bench with right foot while twisting left.
3. Step down with left foot and turn slightly left.
4. Drop the right foot down next to the left.
5. Step up with the right foot.
6. Step up with the left foot while twisting right.
7. Step off the bench with the right foot and turn slightly right.
8. Drop the left foot down next to the right.

Progression and cadence count for Z-Step

1. Step onto left side of bench with left foot
2. Step up with right foot next to the left.
3. Step to the right side of the bench with right foot
4. Step to the right side of bench with left foot.
5. Step back diagonally to the ground with left foot.
6. Step back diagonally to the ground with the right foot.
7. Step on the floor to the right with right foot.
8. Step on the floor to the right with left foot.

Progression and cadence count for X-Step

1. Step up to center of step with right foot.
2. Step up to center of step with left foot.
3. Step down and forward with right foot to the floor on the right side of the step.
4. Step down and forward with left foot to the floor on the left side of the bench
5. Step up and back to the center of the step with right foot
6. Step up and back to the center of the bench with left foot.
7. Step down and back with right foot to the floor on the right side of the step.
8. Step down and back with left foot to the floor on the left side of the step.

STABILITY BALL TRAINING

Stability ball training is excellent for student's lower back, abs and balance. The ball class trains the major muscle groups while activating all the trunk stabilizers. The abdominals, obliques and spinal erectors are utilized on every ball exercise. They are also fun to do. Exercise balls help keep students motivated by adding variety to floor exercises. Ball training is OK for any fitness level, from beginner to advanced.

Most aerobics studios stock 55 cm and 65 cm balls. The 55-cm balls fit students between 5' and 5'7". 65-cm balls are the right size for most people between 5'8" and 6'2". The best way to figure out the right ball size is to sit on it. The hips and knees should both be at a 90-degree angle.

The bigger the ball, the easier it is to work. A large ball has a greater surface space between the floor and the ball. The correct size of the ball is essential to student's comfort. Beginners should not use the biggest exercise ball because using a ball that is too big might be easier on some exercises, but others will be more difficult because the floor will be hard to reach.

You will have to guide your students into ball training. Softer balls are easier to work with than fully inflated balls. Leaning the ball on a wall or having a partner

hold it steady helps students adjust. The more stationary the ball, the less stabilizing the muscles have to do, which negates some benefits of using the exercise ball. A spotter may be necessary the first time that the student uses the ball. After that, they should be able to work it on their own.

The stability ball can be an addition to your standard aerobics program or you can offer a stand-alone class. Below is a workout based on the stability ball.

STABILITY BALL EXERCISES

Three sets of each circuit should take 45 minutes.

WARM UP

Each exercise should last about a half-minute to a minute or 10-20 reps.

These movements are performed lying or sitting on the ball.

Neutral Position

Students lie back on the ball conforming to its contour with feet on floor. Legs should form a 90 angle.

Abdominal Crunch

Lowering hips, students rock up and down performing an ab crunch.

Table Top

Roll back up and make the body level to the floor. Hold for 30 seconds.

Obliques Crunch

Have students perform a side crunch while lying on the side on the ball.

Abdominal Stretch

Lay back over the top of the ball and stretch with arms extended overhead.

Reverse Crunch

Roll the hips down and up while lying back on the ball.

Windmill

Have students slowly twist from side to side with arms outstretched while seated on the ball with legs on floor.

Inner Thigh Squeeze

Have students lie on their back on the floor and squeeze the ball between the knees. 10-20 reps or an isometric for 30 seconds is excellent.

Cat Stretch

Put the arms on the floor in front of the ball lying face down.

Push Ups

Students will roll out the thighs about 4 inches on the ball and push up off the floor, while and keep the abs tight.

Shoulder Press

Lean over the ball with head down toward floor and push off floor with hands.

Take a 30-60 second break before starting the next sequence.

These exercises are performed while standing and holding the ball.

Front Hold

Hold ball in front for 30 seconds.

Side Stretch

Twist to the side and hold for 30 seconds.

Hamstring Stretch

Place the ball on the floor and lean on it with legs straight while holding for 30 seconds.

Shoulder Press

Press the ball overhead for 10-20 reps.

Superman

Hold the ball overhead for 30 seconds.

Squat

While holding the ball, bending the knees and hold for 30 seconds, or do 10-20 reps.

Abdominal Crunch

Lying on the floor and holding the ball out in front perform 10-20 crunches.

End of Session

Balls are made to toss, so finish the session with a fun, friendly game of catch. Don't let it degenerate into dodge ball, though.

WOBBLE BOARD TRAINING

The Wobble Board is a great fun way to build coordination and leg strength. It can be a great addition to your classes and doesn't take much to learn. It is a little like skateboarding or a side to side ski machine. The initial investment in equipment should pay off quickly as word gets out about your latest novelty.

Wobble Board Movement

Have students position their feet equally on the wobble board. When they are on the board, have them keep their backs straight and glutes tucked in. Have the class practice balancing initially, then graduate them to a side to side motion in controlled manner. If necessary, have them lean against the wall for support as they learn the board.

When they seem comfortable, have them begin shifting more weight from one foot to another putting more focus into the workout than the action. It should become an automatic movement for students. If any are having particular problems adapting, have them march in place while the rest of the class uses the board. It's a great warm up or cool down activity.

SENIOR AEROBIC CLASSES

One of the greatest markets for exercise classes is the expanding senior citizen segment of the population. Classes are often presented at local churches, retirement homes and recreation centers. They can be taken either standing or seated. The intensity, duration and cadence of senior exercise classes naturally are much lower than normal aerobics classes. Fifteen to thirty minutes of the activity, three to five days weekly is approximately the correct amount for a senior

exercise class. For greatest benefit, at least three sessions weekly should be encouraged.

Seated classes will incorporate mainly upper body movements, and some repositioning and shifting of the legs. Many of your students may be confined to a wheelchair, but anyone can benefit from the stimulating effects of mild exercise. The pace should be relaxed, and musical selections should be more soothing than stimulating. The goal for senior classes is to simply stimulate circulation and activate atrophied muscle tissue in the mildest way possible. Many seniors have health problems, like degenerative arthritis, that may be exacerbated by movements that are too strenuous. Some conditions like osteoporosis, heart disease and diabetes may be improved by moderate exercise.

Although conventional aerobics movements will still apply to senior sessions, you may have to improvise some exercises because you will be performing them in a seated position. Not everyone will be able to do all the selections, so instruct those who are having problems with a movement to try an easier version. Be especially aware of the condition of your elderly students. Sometimes the medications that seniors are on may effect their reaction to exercise adversely. You must ask anyone that appears to be having even minor trouble to cease exercising immediately.

AQUATIC AEROBIC CLASSES

Water aerobics are another excellent and popular approach to senior training. The only drawback is that you will require access to a large enough pool to accommodate a class size that makes it financially viable to teach the class. At least ten people per class, at \$5 each, is necessary to make a good profit, especially if you are running the classes yourself. In many areas, outdoor water classes are strictly seasonal.

The dance steps will be the same as your conventional aerobics dance classes (minus the mat work). Initiate classes with a warm up, move to the main exercise portion to put the heart into the correct training zone, and end with a cool down. Movements like leg kickbacks, knee raises, marching in place and side leg raises will be more effective when in the pool because the water supplies added resistance.

AQUATIC ROUTINE

Four Segments

- 10 Jogs with breaststroke - arms forward.
- 10 While jogging, scoop water forward, move backward.
- 20 Karate kicks - alternating legs.
- 10 Russian dance, arms crossed while kicking out front.

10 Water pushes legs wide.
20 Sprints - bringing knees high.
10 Straight arms and legs jog.

20 Kick leg back - alternate legs while moving back.
10 Kick leg in front, spinning completely around right.
10 Kick leg in front, spinning completely around left.
5 Pump arms in and out while jumping.
20 Mimic Olympic speed skaters moving forward.

10 Jog, heels up, elbows in to waist, push down.
10 Leg curls push down both hands.
10 High jumps to left then right.
20 Squat in place while punching across the body alternating arms.

10 Jumps - side-to-side right and left.
10 Jumps - forward then back.
10 Lift one knee to the side, push down with both hands and alternate.

Finish with lower and upper body toning movements like pec dec action, curls, upright rows and shoulder press, and stretching.

The same safety rules pertaining to aerobic dance apply aquatic classes, also. Beware of the state of each student and always offer easier alternatives to each exercise.

FATIGUE AND INJURIES

The most common problem you'll see as an aerobics instructor is over training. Some students may exceed their capacity for exercise and become over fatigued. If you see someone struggling, instruct him or her to take a break until they feel ready to resume. If the fatigue is not overwhelming, tell the student to continue the class with their hands on their hips to reduce the intensity.

If someone falls and is uninjured, you may have to instruct them to discontinue class immediately. They may have pushed themselves beyond their fitness level. If it is simply a stumble and are uninjured, allow them to continue. Have them report to the front desk (if available) or sit down at the side of the class if they have a minor injury (scrape, bruise or muscle pull).

If someone is unable to walk without difficulty or the situation involves cardiovascular or respiratory problems, stop the class, escort the student to the front desk and call 911. If they are not able to walk, discontinue the class, and have someone call EMS for help. Stay with the injured student and keep them immobilized. Sprains or minor muscle pulls are treated with Rest, Ice,

Compression and Elevation (RICE). Apply ice for 20 minutes once every 2 hours. Apply compression above, on and below the injury. Elevate the injured limb above the heart level.

You should fill out an insurance report as soon as possible after any unusual event occurs. This is a good idea for your own protection, in case a student files a claim against your insurance company. Always carry a good insurance policy. You can go to <http://loginid.com> to download the AMFPT Insurance form.

SUMMARY

You should now have a good knowledge of various aerobic training systems and their components. There are such a variety of steps available that you should never have to do the exact same routine twice in a row. Constantly mixing up the sequence, exercises, equipment and music will keep students enthused about your exercise classes. Start out with a smile for everyone and leave him or her with a smile at the end. Develop good rapport with your students, they will determine your long-term success.

A rule to remember as you establish yourself and build up your student base is: *always put the welfare and feelings of the customer ahead of your need to annihilate them during their workout, so that they are safe, trained correctly and do not drop out.* Intensity and volume are both excellent techniques to add muscle or lose fat, especially when coupled with diet. The formula is intensity combined with high resistance movements builds muscle, high repetition volume (amount) exercise and low resistance burns fat, with little mass increase. See which methods your students respond best to, and be flexible enough to recommend switching classes as their needs and goals change.

You are going to be able to make positive, life changing improvements in your student's lives. There is nothing so rewarding as seeing someone lose eighty pounds because of the help you have provided. Just use common sense. Don't put yourself into a compromising situation by promising more than you can deliver. Make the student realize that he or she is the person responsible for the results, and you are only there to coach and help them.

Good luck with your aerobics business. E-mail your finished exam. It tests your mastery of Aerobics principles. I can't wait to hear from you about how your new Aerobics business is doing!

God bless,

Gregory Ladd, President

AMFPT AEROBICS INSTRUCTOR FINAL EXAM

E-mail your answers, name and mailing address to amfpt@aol.com when you finish the exam and it will be corrected quickly. You'll be notified by e-mail how you did. **Please do not copy sections from the manual and submit them as your exam essay answers** because it is automatic failure.

In addition to having thorough and correct length essay answers, you must get all multiple choice answers correct to receive an "A." Each wrong multiple choice answer drops your score one full letter grade. Four answers wrong equals automatic failure. The essay answers are there to provide you with three practical scripts that can help you in your training business. They are not tricky or created with the goal of failing anyone.

Your essays must be in your own words. Short quotes are usually used only to back up statements or conclusions that you make in your essay. You may quote from *any* source as long as you use footnotes, or clearly cite the source, and as long as your essays are not made up entirely of quotes, graphs and routines taken from other sources. You can make reference to the different handouts that your clients would receive from the manuals by name. Each essay answer must be at least one page in length. An "A" or higher score will be noted on your letter of recommendation.

Good luck!

Place an "x" next to the correct multiple choice answer.

1. What *should* you have each client do before enrolling in your class?

1. Tell a friend
2. Get a drink of water
3. Buy a life insurance policy
4. Fill out a health questionnaire and waiver form

2. To set up your business, you need to get what at the county clerk's office:

1. BBA
2. DAD
3. DBA
4. FDA

3. The V-shaped muscles of the back are:

1. Pectorals major and minor
2. Quadriceps
3. Latissimus Dorsi
4. Biceps

4. The chest muscles are the:

1. Triceps
2. Teres major and minor
3. Rhomboids
4. Pectorals major and minor

5. The deltoids:

1. Raise the arm
2. Pull the arm down to the side
3. Curl the forearm up
4. Draw the rib cage to the hips

6. To stand on tiptoe, one employs the_____.

1. quadriceps
2. hamstring
3. gastrocnemius
4. glutes

7. Muscles always _____ to cause motion.

1. Push on levers
2. Pull on levers
3. Bend
4. Straighten

8. What are the three basic muscle fiber types?

1. Fast, medium, slow
2. Super, supercilious, noncilious
3. Cornea, patella fumorate
4. Sharp, medium, dull

9. An aerobic dance routine can be be_____.

1. High intensity
2. Low intensity
3. Both of the above
4. None of the above

10. High repetition training increases the number and size of_____.

1. ATP
2. Mitochondria
3. Glucose
4. Insulin

11. Aerobic dance or step session warm up and cool down segments should be_____.

1. High intensity
2. Low intensity
3. Automatic
4. Manual

12. Students want to be _____ during a training session.

1. abused
2. annihilated
3. helped
4. cursed at

13. An aerobics instructor should find out the client's _____ history before teaching him or her.

1. health
2. driving
3. address
4. work

14. Slow twitch muscles are trained with _____ weight.

1. light
2. heavy
3. Both of the above
4. None of the above

15. Volume, when applied to training, means_____.

1. amount
2. size
3. sound
4. loudness

16. For losing fat, which is the best method?

1. Aerobics
2. Aerobics and light weight training
3. Heavy weight lifting
4. Resting

17. The most stimulating aerobic program will _____.

1. Use the same movements all the time
2. Use a different mix every session
3. Use only stability balls
4. Use only wobble boards

18. When checking for target training pulse rate, students should never use the_____.

1. wrist
2. neck
3. chest
4. stethoscope

19. Aerobic classes cause a rise in the heart's_____.

1. bm
2. bomb
3. pmb
4. bpm

20. To avoid building too much muscle, students should use _____weights.

1. light
2. heavy
3. bulky
4. solid

ESSAY QUESTIONS

For each question write at least a 300 word answer based on the manual reading material. Check your grammar and spelling. E-mail your answers to amfpt@aol.com. **Your essays must be in your own words. Please do not copy sections from the manual and submit them as your exam essay answers.**

1.Compare the different types of aerobic dance and equipment routines described in the Aerobics Manual. Outline the benefits and point out the differences of each system.

2.Create an aerobic dance and step routine with high and low impact components for average, healthy students. Mention music and equipment choice (if any).

3.Create an aquatic aerobic routine and a senior citizen aerobic routine. Mention music and equipment choice for each group (if any).

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