

AMERICAN MUSCLE & FITNESS

GROUP FITNESS INSTRUCTOR or BOOT CAMP

CERTIFICATION PROGRAM

MANUAL



BY

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AMERICAN MUSCLE & FITNESS

GROUP FITNESS INSTRUCTOR

CERTIFICATION PROGRAM

TRAINER'S MANUAL

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INTRODUCTION

Welcome to the American Muscle and Fitness Group Fitness Instructor Certification Program. The material presented in this manual is not medical or chemical, except where it is crucial that you understand a system or process related to fitness concepts. It is a disservice to present you with information that will not advance your career or expertise, or which may cause you to fail the exam. **You will also be educated in Personal Fitness Training protocol, like sets, reps, exercises, training systems and nutrition, basic concepts that are a mandatory for any type of fitness trainer.**

What is a Group Fitness Instructor?

A Group Fitness Instructor is a *fitness technician* who designs exercise routines for groups of clients, while guiding them through their workouts. As a group fitness technician you will not be diagnosing injuries, illnesses or prescribing medicines. *Note that it is a crime in the USA to discuss steroids or any drug with your clients, or to tell them where to acquire steroids or other illegal drugs. You cannot under any circumstances inject clients with any substance using a syringe.* You, as a Group Fitness Instructor, will be providing competent advice and safe instruction by employing standard, well-known training principles to your customers' workouts.

General Adaptation to Stress

The cornerstone of progressive resistance weight training is: Muscles adapt to stress by growing stronger, larger and by gaining endurance. This is called a *stimulus response*. Randomized training (changing exercises frequently) based on Hans Selye's General Adaptation to Stress (GAS) theory, will be the overarching principle guiding your students' training protocol. A menu of different training techniques will be outlined for each of the three basic client types; the weight loss client, the toning client and the muscle building client (although you will be training mostly toning clients in your boot camp classes). Instilling a strong work ethic and positive mental attitude are the main factors that will lead to admirable results for your clients. Along with your help and the routines in this book, you will instruct and motivate your charges to improve physically by providing specific, specialized workout plans and advice. The material presented in this manual will introduce strategies and exercise routines based on the GAS principle. Further topics discussed are muscle function and anatomy.

Quality of Care

As a Group Fitness Instructor your customers' quality of care is of paramount importance. Do not talk about steroids - and never administer a shot or medication to a client. Those actions can get you into serious legal trouble, while endangering the client. You must make the customers' health and injury prevention your top priority, rather than results at any cost. Most individuals are well able to tolerate vigorous exercise after a brief break in period, and some of your clients may achieve or exceed their goals because of the guidance you provide. Pay attention and listen to feedback while your

clients are exercising. If there is a sudden unusual pain or popping sound, the trainee must cease all exercise immediately. Then you can determine if medical attention is warranted. If an injury seems likely, do not attempt to diagnose it. Recommend that a doctor examine the problem. On the other hand, delayed onset muscle soreness (DOMS) that occurs 24-48 hours after training is a common complaint, which can be alleviated by a warm bath and over the counter anti-inflammatory agents, like aspirin.

Business Model

Since you are pursuing a career as a Group Fitness Instructor, you will have to decide whether you are going into business for yourself, or if you will work for someone else at a commercial health club, or a combination of those two options. Either way, the pay can be as much as \$200 per hour, and the work is extremely rewarding.

Your clients will expect you to be certified. This certification course fulfills that requirement and will enhance your skills - a must for safety, insurance and liability reasons. What your customers care about most is what you can do to help them achieve their goals quickly, comfortably and safely. Most health clubs now require you to obtain certification and insurance before they allow you to train anyone on the premises. Group Fitness Instructor Certification tells club managers and owners that you have completed a course that teaches you how to train their members properly. They know that you will not injure one of their customers because of a lack of proper instruction. This manual will provide all you need to know to become a safe, successful and prosperous Group Fitness Instructor.

Group Fitness Instructor's Duties

A professional group fitness trainer wears many hats. Always a coach first, your clients will come to rely on you as a friend, confidant, psychologist, technician, problem solver, time manager, and businessperson. You are in business to make money. Once you are up and running, your current customers must become a constant source of referrals for new business. Your professionalism and your clients' excellent results will speak volumes about your expertise. When a client's friends start to notice his or her's improvements, the tendency is to boast about the great group trainer they have, and the wonderful job that you have been doing. Your business will grow quickly. They will likewise report any negative experiences. Your business can go down the drain in a hurry if word gets out that you're negative, overbearing or miss appointments. Always do the right thing, and be especially cautious of your language and actions, for legal and ethical reasons. Do not swear, curse or make statements or physical contact that can be perceived as sexual harassment. Always ask for permission, preferably in writing, before touching any client. Never make sexual advances or touch a client in an inappropriate way, especially in today's litigious world. You may be sued, or worse yet, be arrested for sexual assault.

What Age Groups Can I Train?

The group training routines in this manual are universal. They apply to children as young as eight years old, or seniors (training both groups at a lower intensity level and for brief

periods), and can be adapted to any individual's level. The only caveat is that kids who have not yet achieved puberty will not be able to add significant muscle mass, but they will improve strength levels. Overweight teens and clients of any age will be able to lose fat by applying the group training routines in this guide.

A significant factor to consider if you are catering to minors as your client base, is the unfortunate and very real chance that an allegation of sexual abuse or inappropriate touching may be made by the child. ***More than one adult or a parent must always be present when a minor is training. At no time should you be alone with a minor client.*** Any harassing, sexual or cursing language by other members in the exercise area must also be avoided when accompanying minors.

Professionalism

Clients that come to you may be very sensitive emotionally, especially about a weight problem, or other physical insecurity. Put new clients at ease. Never talk down to, or belittle anyone you train, especially in front of others. Dress professionally when meeting with clients or teaching classes. Wear a pressed, collared golf shirt and crisp, solid color sweat pants or shorts. Never show up at an appointment in sloppy or dirty attire. The clean, well-dressed image that you present displays your professionalism to your trainees. **Be sure to use deodorant and mouthwash before every appointment.**

Insurance & Liability

In order to determine a client's readiness for physical exercise, they must fill out a health questionnaire and waiver before you can train them (see following page). You may make copies of the one below, and have your clients fill it out. Just add both of your names to the form. The completed document should be kept in your files. Always protect yourself from a potential legal claim by purchasing a good insurance policy, in case something does go wrong. The cost is \$100 annually for a \$1,000,000 policy. You can go to amfpt.com for more information. Let your insurance agent know that each customer fills out a waiver form and health questionnaire. Read the waiver out loud to each client carefully, or it may not be considered valid in court, should you are summoned. Use common sense in every situation. If you feel that someone is going to cause a problem in the long run, decline to take that person as a customer. There are plenty of others who will want to be trained by you, and you won't have to try to explain the negative rumor a potential customer heard. That would start your relationship off on the wrong foot. Remember that your customers will quickly become lifelong friends.

First Aid & CPR

Another aspect of a group trainer's responsibility is to take a CPR course and know basic first aid. If someone does have a cardiovascular accident, you may be able to help him or her (*always* call 911 in case of a medical emergency!). It is recommend that you take a CPR class for your client's benefit, although you will probably never have to use it. If a client develops a minor muscle strain, or excessive soreness, the recovery formula is

RICE - rest, ice, elevation and compression for the affected area. After completing this certification course, you will be able to train anyone with confidence and safety.

Your clients must fill out all the forms below when you enroll them. READ THE PHYSICAL ACTIVITY QUESTIONNAIRE AND WAIVER FORM OUT LOUD TO THE CLIENT AS HE OR SHE FILLS IT OUT.

PHYSICAL ACTIVITY 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 doctor 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 doctor 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 okay 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 ARE STRENUOUS ACTIVITIES. YOU, THE GUEST/CLIENT/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: _____

TRAINING AGREEMENT

THIS AGREEMENT is made and entered into this ____ day of _____, 20__ by and between

(Client's name and address) and _____
(Trainer's name and address)

WHEREAS _____ and _____ wish to enter into this agreement in order to define their respective rights, duties and obligations.

NOW THEREFORE in consideration of the terms, covenants, conditions and mutual promises contained herein, and other good and valuable consideration, it is hereby stipulated and agreed as follows:

1. _____ will provide personal training to _____.
2. For this service rendered by _____, _____ will pay \$_____, or \$_____ for each of ____ training sessions at the rate of ____ training sessions per week.
3. The training period will begin on ____ / ____ / 20__ and end on ____ / ____ / 20__.
4. _____ provides _____ with a 24 hours notice of cancellation or client will pay for the training session in full.

Sessions may be rescheduled with 24 or more hours notice.

By signing below, the undersigned stipulate and agree that they have completely read this agreement, that the terms are fully understood and voluntarily accepted by both parties and that this agreement is not signed under duress.

\$_____ is payment amount received by _____ from _____.

Payment represents full / partial payment with payment schedule as follows: \$_____ due on ____ / ____ / 20__ and balance, \$_____ due on ____ / ____ / 20__.

By signing below, the parties hereto have executed this agreement as of the day and year first written above.

_____ (Client's name)	X _____ (Client's signature)
_____ (Trainer's name)	X _____ (Trainer's signature)

SETTING UP YOUR BUSINESS

If you decide to go into business for yourself, you will 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 Boot Camp Training," or, "Ed's Fitness Camp," so that when people read your business card they know exactly what you do.

You will be assigned a tax identification number (which is 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 good income, because the government doesn't allow you to keep their money longer than you are entitled to. Start keeping track of your expenses and keep all of your receipts. Maintain a record of all of all training fees received. If you know any accountants, talk to one about setting up your business. Perfect record keeping is good business.

As soon as you get certified, have some business cards made with your contact information and drop them off everywhere you go. Pass them out to all your friends and family, stick them on bulletin boards and make sure to tell everyone you meet about your new business. Ask your contacts if they know anyone who might be interested in joining a boot camp class. That's probably how you'll find your first customer!

Basic Rate

Set your rates up as a *per class* fee, for example: \$20 per group session. The rule of thumb for one-on-one personal training fees is a minimum of \$1 per minute, so a thirty-minute session would be priced at \$30. Make up some fliers to distribute to potential clients. Make sure that your clients understand your policies. If they have to be there for each session or lose it, make sure that they know that when they sign up. Don't be afraid to raise your fees as you get busier. You are running a business and are entitled to make a profit from your efforts even though you may have developed friendships with your trainees. Since now they have become your friends, they will understand your need to raise class prices from time to time.

MARKETING YOUR BUSINESS

Supplying your services to potential customers requires a marketing strategy and advertising. You may want to publicize in local penny savers, newspapers, the Internet (craigslist.com is free), and fitness magazines to develop your client base. They are inexpensive ways to get customers. When you finally secure your first customer ask for referrals and get a testimonial letter you can add to your brochure. 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 start with a client who works in any of those fields, your business will really take off.

Your best income - and long term financial security - will come from having each client sign and pay for a three month boot camp contract - twelve weeks is the industry norm. Have them pay all the fees up front and let them know that your cancellation policy is at least twelve hours notice, or that they must pay for any missed, pre-scheduled class. If they skip and you haven't been paid yet for that session, chances are you won't be. If you have already received the money for the canceled slot, you simply deduct the charge as if the individual had trained. Create pre-paid packages that will be more economical for the customer than your regular daily rate. If you charge \$20 per session, a good package would be \$800 for 43 boot camp sessions. That's only five weeks of training at the rate of five appointments per week. Some clients may quit before they use all their paid training up. You may opt to retain their payment in case they resume working out. Decide how to handle refunds and let the customers know about your refund policy when they sign up.

It is in your best interest to provide clients a written copy of all your rules so you both know what your obligations are at your initial consultation. 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 Fitness." You can use this sheet and print copies to hand out to clients to review. Both of you will be referring back to it from time to time. *Always let the customer know your rules up front.*

You must strive to make it to all your scheduled appointments or classes on time. Most personal trainers (unless they work at a particular health club) will spend the bulk of their time driving to and from appointments. Invest in a day planner and a cellular phone so that you can double check with clients to make sure they remember their class appointment. There will always be cancellations. Expect at least one cancellation per workday. Cancellations are okay if you are being paid for them anyway.

Credit Card Processing

It is important to charge for each month in advance, so that you can plan your daily appointments. Clients are used to paying health club fees one month in advance. The ability to process credit cards will greatly enhance your income. Ask your bank about acquiring a credit card machine when you open your business account, especially if you are opening a gym, or training studio. If you don't have a location, all you'll need is a ***virtual terminal*** to handle charge card orders. That is an online banking system that

allows you to process credit cards. Smart phones are making it easy for trainers to process credit cards. You'll want to get a business web site, too. You can post tips for your clients on the site and add interesting information about client successes. Testimonials should also be listed there.

Virtual Terminal

To find a free web site and set up a virtual credit card processing terminal, do a web search on *free website*. You can add **PayPal** to your site for accepting client payments by credit card. You'll be able to have clients log on to your web page and pay by credit card, or **PayPal** over the Internet. The cost per transaction is minimal. You can write the client's credit card information on a form and enter it onto the virtual terminal yourself when you get to your computer or smart phone. The money will automatically be deposited into your business bank account.

Ask your current crop of clients for referrals. Call those leads and let them know that their friend recommended that you call them. Make sure you drop their friend's name. Tell them that you have some openings available. Ask for a no cost, no obligation appointment where you can present them the benefits of joining your group fitness class. This method will provide them with social proof that you will do what you say you'll do for them. You're likely to garner continual interviews. **Bring your questionnaires, contracts, waivers and the Ten Commandments form so that you can turn prospects into new class members.**

Developing Assistants

When you get too busy, you should develop an assistant to pick up your overload. Find a fit young guy or gal and introduce them to your current clients as your new assistant by saying, "They will be leading the group today, but I will be still be designing the programs." The helper should assist you for several sessions before you hand off leadership duties. Pay your new helper half of the regular fee you charge. You will leverage your time, earning money even while you're on another appointment. Eventually groom two or three helpers so that you don't have to teach any classes, and give yourself a promotion to management. Try to market your training service to a local health club, especially to new clubs opening up. They may welcome your help with their new enterprise.

Training Format

There is no single format to employ when structuring your group training service. While some clients may prefer one-on-one basic training sessions, it can be expensive, and may eliminate a large part of the fitness population who cannot afford \$150 per week in training fees. That is where boot camp style programs can help. Group training sessions are a perfect way to leverage your time so that you can earn more money per training hour, while charging clients much less than they would pay for individual appointments.

You can utilize group training outside at a park, school or in a commercial gym. Most trainers host boot camps without any equipment at all, by developing fun calisthenic and running routines. The group size can vary from two to twenty clients. If the weather turns inclement and you're stuck inside, set up several work stations and have your clients rotate around the gym until they have completed three circuits. This is a much lower cost PT solution for the average trainee, and you will earn more money per hour by charging six people \$20 than one person \$50 for the same time period.

QUESTIONNAIRES

Here are the questionnaires that your clients must fill out and sign. The first one should be filled out during your initial conversations with the customer. Read each question to the client 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 aspect of their training because they like you, but you may lose them if the issues are not addressed. And you will be unaware there is a problem until they suddenly stop showing up for training 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. Keep a training log for each client including: the date, time, exercises, sets, reps and any additional items like illnesses, injuries or supplements. You will be able to show a steady progression to the client as you review the workouts. When you generate a glowing response, it's time to ask the client for referrals. Inform them that there is always room for one of their friends in your schedule. If someone is not satisfied with his or her training, be flexible and let him or her know that the workout is for their benefit, so you can make any changes they would like. Never be dogmatic or pig headed. What do you care if someone prefers lunges over squats? They're both good leg exercises. Allow the client some input. Training is customer service, and keeping your customers happy is your number one priority. Your livelihood depends on it.

THE TEN COMMANDMENTS OF FITNESS

1. Thou shalt always be ready to train 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 trainer.
5. Thou shalt not bounce any checks lest thou pay a \$25 fee for it.
6. Thou shalt tell all of thy friends about the wonderful things thy trainer 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 training sessions, and reflect lovingly upon them.
9. Thou shalt get good results and blessings if thou doest all thy trainer commands thee.
10. Thou shalt have curses (fat and weak) if thou failest to follow any of thy trainer's commands.

Thy mark_____This day_____

FITNESS 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 OVERWEIGHT

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

HOW MUCH TIME CAN YOU DEVOTE TO TRAINING 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 (INCLUDING EATING SUGGESTIONS), FOR 8-12 WEEKS IN ORDER TO ACHIEVE YOUR GOALS?

YES NO

DID YOU KNOW THAT NUTRITION IS AT LEAST 80% RESPONSIBLE FOR WEIGHT GAIN OR LOSS, EVEN WHEN EXERCISING (BED RIDDEN LIQUID DIET PATIENTS ROUTINELY LOSE 100 POUNDS WITHOUT EXERCISING)?

YES NO

WHAT ADDITIONAL SERVICE DO YOU EXPECT FROM A GROUP FITNESS INSTRUCTOR?

FITNESS REVIEW SHEET

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

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

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

WHAT DO YOU DISLIKE ABOUT YOUR TRAINING?

WHAT WOULD YOU LIKE TO CHANGE IN YOUR WORKOUT?

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 ADDITIONAL SERVICE WOULD YOU LIKE FROM YOUR GROUP
FITNESS INSTRUCTOR?**

SUGGESTIONS:

FITNESS DEFINITIONS

Fitness is 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 have to - many fit individuals may have minor underlying health issues).

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 before & after photos (most important for most of your clients).

Strength is defined as one's capacity to apply maximum muscular force within structural, anatomical, physiological, biochemical, psycho-neural, 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 weight 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 the 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: 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 machines like exercise bikes, rowers, and stair climbers; 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 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.

A pump in a muscle as 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. 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 as a precaution reduces or eliminates delayed onset muscle soreness.

THE AEROBIC vs. ANAEROBIC TRAINING EFFECT

Systole and Diastole are the upper and lower values on a blood pressure test, with normal values ranging from 60 to 80 Diastole to 90-139 Systole. It is a measure of the efficiency of the heart and circulatory system. 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. An ideal resting blood pressure reading is 125/70. Blood pressure rises during exertion and drops while resting. Some trainers use electronic blood pressure cuffs to take regular readings for their clients, which is something you may want to add to your service menu.

There are two basic types of energy systems utilized by the body, Aerobic and Anaerobic. Each energy system produces Adenosine Triphosphate (ATP) which is used by the muscles to contract.

The Aerobic System can utilize carbohydrates, proteins or fat to supply an unlimited amount of ATP as long as oxygen is present. The Aerobic system provides medium to very long duration energy production with low to moderate power (less than 85% of maximum output). The by-product of this system is heat, water and carbon dioxide.

The Anaerobic System can only utilize carbohydrates for ATP production. This system does not use oxygen in the metabolization of its fuel source. The Anaerobic System provides short duration (45 - 70 seconds) and high power. The by-product of the metabolization of glucose (glycolysis) in this system is heat and lactic acid, the cause of muscle soreness immediately after exercise. Muscle soreness 24 to 48 hours after

exercise is due to torn muscle fibers and connective tissue. Adequate warm-up and cool-down stretching exercises can reduce this type of soreness.

Aerobic capacity is the ability of the body to collect and transfer oxygen from the air through the lungs and blood to the working muscles. This is related to cardio-respiratory endurance and is referred to as Maximal Oxygen Consumption or VO₂ max. Aerobic Capacity reduces at about 10% per decade after 30 years of age.

The Anaerobic Threshold is defined as that point where the body can no longer meet the oxygen demand and its anaerobic metabolism is accelerated. This point varies on an individual basis and is dependent on fitness level. For healthy individuals, this occurs between 50% and 66% of their maximal working capacity. This would be equivalent to running faster than half speed.

The lungs are where oxygen and carbon dioxide are exchanged. In the blood stream, oxygen is traded for carbon dioxide. Aerobic activity enhances heart strength. The result is a greater volume of blood per stroke. This is referred to as Stroke Volume or the amount of blood ejected from each ventricle of the heart during one stroke. Cardiac Output is a measure of the amount of blood pumped through each ventricle in one minute. Vital Capacity is the volume of air that can forcibly ejected from the lungs in a single expiration. Aerobic activity has a positive effect on vital capacity, stroke volume and heart output. Note: arteries carry oxygen rich blood away from the heart and veins carry blood and carbon dioxide toward the heart.

ADAPTATION TO STRESS

There is a way to coax your clients into peak condition that is based on scientific research. You are going to apply the 1930s Endocrinologist *Hans Selye's* **General Adaptation Syndrome (GAS)** system to your clients' training program to produce superior results for them than conventional cookie-cutter training methods do. Selye's theory established how the body passes through three universal stages during the physiological and psychological stress of exercise:

1. **Alarm Reaction** - the body prepares itself for fight or flight by secreting adrenal hormones and dilating blood vessels. Muscle soreness, sunburn and blisters are alarm reactions.
2. **Adaptation Stage** - the body adapts to the stress by growing stronger. Suntan, calluses, added muscle size, endurance and strength result.
3. **Exhaustion Stage** - the individual becomes mentally and physically exhausted (over trained) and must rest before resuming the cycle all over again. Planned rest periods are generally unnecessary because clients will miss scheduled training sessions for many reasons, which builds automatic rest days into the system.

A random training system based on Selye's adaptation principle that applies unique demands on the muscular and nervous system will cause an adaptive stimulus response, and improvement in strength and stamina. By varying the training sequence, exercises, style, volume, intensity, sets and repetitions, while exercising routinely and continuously, breakthroughs and improvements can become regular occurrences for your clients.

THE MUSCULAR SYSTEM

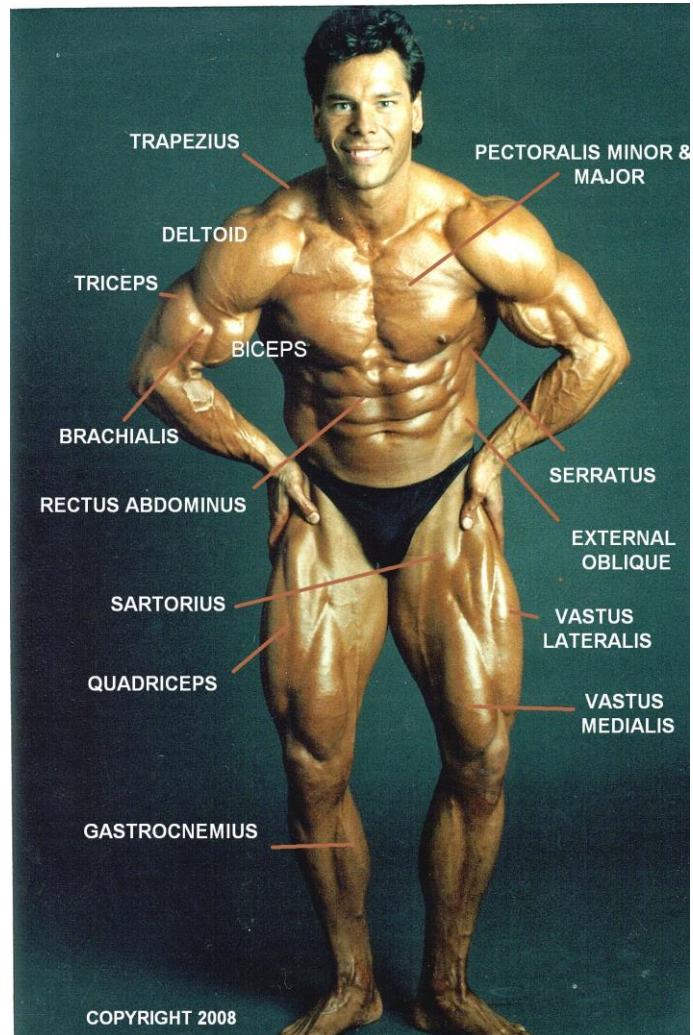
As a trainer, you will need to know the basic muscle groups of the body. Here is a synopsis of the major muscle groups and how they work. Let's start at the top and work our way down.

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), or chest. Their job is to help push objects forward and 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 upper arm are the biceps, which curl the arms up, and on the back of the upper arm are the triceps, which straighten or extend the arm. The forearm is made up of the brachialis on the top and the extensor carpi on the palm side of the forearm, which pulls the hands and fingers closed.

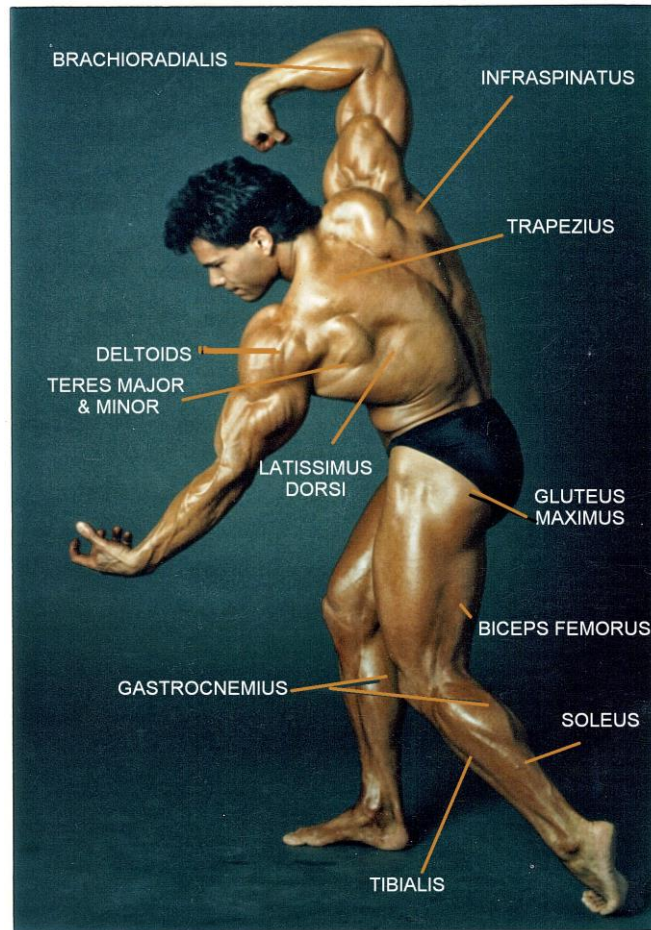
Below and behind the neck are the trapezius muscles or *traps*. These are responsible for the shrug motion. Down the back, below the traps, we find the Latissimus Dorsi that gives the back its V-shape. Other muscles included in the upper back are the rhomboids, Teres major and minor, sub-scapularis, super-scapularis and infra-scapularis. They are small muscles that hold the arm and shoulder joint together. They are utilized in pulling or rowing movements. They are generically referred to as the *rotator cuff*. Beneath those muscles are the spinal erectors or lumbar, located in the lower back. They keep us upright, contracting to return to the standing position after a toe touch. The gluteus maximus is the buttocks, used in extending the backward, or assisting in rising from a crouch. 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.

This condensed 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 which muscles a machine or exercise works - even if you have never used the machine or exercise before: ***muscles shorten, or contract, to cause movement.*** Individual 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. ***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.



The Author



TRAINING SYSTEMS

The customers that come to you will want a specific result, either weight loss, muscle building, or cardiovascular fitness. Some will want a combination of all three. Each type of training involves different techniques, exercises and often, pieces of equipment. All three systems will be covered in detail.

To understand training systems you need to know the most basic gym language and definitions. A *rep* or *repetition* is an exercise movement performed by lifting a weight from the start, or bottom of a movement, to the top, and back down again. A series of single repetitions done in quick succession and then terminated is called a *set*. Exercise 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. All these elements have a place in a well rounded training regimen.

Sets can become more elaborate, too. 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.

It is a good idea to briefly explain sets and reps to your customers because they may not be familiar with the concept, especially if they have never been in a weight room before. You are most likely intimately familiar with the fundamentals of exercise if you have been working out for a number of months or years. The group fitness trainer should be an inspiration and example to clients. It is hard (although not impossible) to acquire training clients if you are fifty-pounds overweight yourself. Being out of shape doesn't help sell your services or showcase your abilities, although there are some excellent trainers who looked as though they have never set foot in a gym.

Split Training

Although you probably will not use this technique with boot camp trainees, *Split Training* means splitting the body into segments of separate muscle groups, and working them on alternating days, so that muscle recovery is maximized and growth can occur. It is utilized mainly as a mass building technique. The adaptive growth response actually takes place during rest periods between workouts. For example, biceps and triceps could be trained on day one, chest and back on day two, and legs on day three. A rest day would follow each training day and then the cycle can start all over again.

Split training is primarily used for building muscle mass, and would not be applied to group fitness students, weight loss or toning clients, because group fitness and weight loss routines are light, high volume routines that do not require recovery periods. Toning routines are whole body sessions involving light, or medium weight, pumping sessions spread out over alternating days of the week.

INTENSITY vs. VOLUME

High Intensity Training (HIT) means performing a lot of work in a very short time, or using heavy weights for a few reps over brief training period. Sprinting and heavy weightlifting are examples of HIT.

Volume training is spreading out the same amount of work over a much longer time period, by using less weight and more reps. Long distance running is an example of high volume training.

The Nautilus Company and a Mr. Universe, Mike Mentzer, came up with a high intensity, one set per-body-part training system. They touted the system as the only way to train for muscle mass increases, or anything else, for that matter. While Mike lobbied for hard, short and infrequent training sessions, which is correct up to a point, many trainees were thriving and growing on longer duration, higher volume, low intensity routines. Nautilus centers would limit a person's training session to twenty minutes, so that each gym could accommodate a greater number of members. The shorter session is still the best method for making progress and scheduling more appointments, but a variety of high and low intensity regimens must be applied to clients with different goals.

Thirty minutes of quality exercise with a trainer is the correct amount of training time regardless of the client's goals. Blood cortisol levels begin to rise markedly after thirty minutes of intense training. Cortisol is an anti-muscle building hormone, which can negate all the hard work that your client puts in. Cortisol breaks down muscle tissue instead of building it. IFBB Pro and AMFPT Trainer, Danny Padilla, will only train a client for sixteen minutes in order to avoid cortisol damage.

Cardiologists now believe that it is the amount of *calories* expended during activity that determines the effectiveness of training on heart soundness more than any other factor. About five hundred calories burned from exercise daily is the optimum target for heart health and thirty minutes of fast resistance training reaches that level nicely. You can schedule twice as many appointments following the thirty-minute guideline than traditional hour-long training sessions. More than thirty minutes will probably mean that the client is probably shooting the breeze instead of training. You will have to manage your clients as they converse with you, directing them as quickly as possible through the workout (without *rushing* them), so that they feel well trained, if you want to be keep them. Remind them of their next appointment with a smile as they leave. End every session on a positive note by telling them how well they did. Recap their workout and emphasize the high points and any breakthroughs they experienced.

Your clients will not be training with forced reps, heavy weights or high intensity techniques, but they still require a break in period of a week or so. 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 require several training sessions 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 accelerates rapidly, once training commences. It is also why muscular adults are leaner than those with no muscle tone are. Mitochondria convert chemical energy into muscular movement. There is always a slight amount of muscular tension in the muscles in order to maintain the body's 98-degree temperature.

MUSCLE FIBER TYPES

There are three major muscle fiber types. Fast twitch provides explosive strength and has the greatest capacity for hypertrophy (i.e.: muscle growth). 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. Heavy, explosive sets in the 1 - 12-repetition range builds muscle sarcomere 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. Woman 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. Following is a profile for how to train for different 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 if you are training a strength or endurance athlete for a specific goal. A football player should always train explosively for short duration. A marathon runner should only train slowly for long periods. A bodybuilder would lift heavy weights for explosive, medium interval training. A fat reducing routine for someone who doesn't want added muscle mass requires extremely light, high repetition, longer duration training.

WEIGHT LOSS

Weight loss is the biggest market segment and customer group. You can do more for your business by helping one obese person trim down quickly, than almost anything else. People notice dramatic improvements. Noticeable weight loss is a great conversation starter, which means referrals for you.

SPOT REDUCING

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, “Scientists 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. Training an area like the abdominals made them more defined. He was right.

Studies have shown 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 particularly well for the thighs, hips, and abdominals. A good way to get quick results for clients is start them off by training the body part they wish to reduce, and finish the workout with it, too.

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.*** 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 (that is, if you have any ab muscles).

The only part of the midsection that you can isolate beside the abs is the obliques, or love handles on the sides. Lying side leg raises and side crunches for 3-5 sets of 20 to 40 reps are the best remedy (in addition to diet), for them. ***Note: Never allow your clients do side bends because they can compress the disks in the lower back.***

STRETCHING

A basic stretch for the lower back should be performed after a few minutes of warm up exercises or treadmill before the hard part of their routine. They can also be performed at the end of the session. Have the client lie on his or her back and draw their knees into the rib cage. They can also hold one leg at a time if that is easier for them. Have them hold the stretch for 1-2 minutes. They should take a deep breath as they start and exhale as they pull in, gradually relaxing the muscles and pulling in the slack as they exhale. Very basic, not too fancy, but effective. The reason to have clients do it after a warm up is because the muscles, tendons and ligaments will become more flexible after the body is warm.



You can use any other kind of stretch that you think will be effective for them, while keeping in mind that untrained individuals can't do the same things you and I can. The European strength athletes actually use sleeping bags or saunas as a warm up to save energy for training. While this may not be practical for you to use with clients, a few minutes on the bike or treadmill will work nicely.

Overweight people sometimes have lower back problems that stretching and ab exercise improves quickly. If they don't have any, a stretch routine done for two or three minutes before hitting the weights will keep clients from developing a backache.

BMR

Basal metabolic rate, or BMR, is the number of calories that are required to maintain a person's current body weight based on average body composition. This assumes that the activity level remains constant. To calculate basal metabolic rate, use the formula below.

BMR is 10 x weight, multiplied by the number equal to the client's activity level shown here.

Sedentary	Light	Medium	Heavy
BMR * 1.45	BMR * 1.60	BMR * 1.70	BMR * 1.88

The energy value in a calorie (kcal or cal.) is defined by science as *kilo-calories*, or the heat energy required to heat one liter of water one degree Celsius. Both protein and carbohydrates contain 4 calories per gram. Fat energy is 9 calories per gram. A diet goal for a daily consumption of 2000 calories would be:

60% of food intake from Carbohydrates (1200 calories, or 300 grams).
30% of food intake from Protein (600 calories, or 150 grams).
10% of food intake from Fat is (200 calories, or 22 grams).

Exercise automatically increases calorie requirements. The table below shows the approximate amount of calories required for a 150 pound person performing an activity for an hour.

Consuming more calories increases weight and fewer calories causes weight loss.

Activity	Calories used	Activity	Calories used
Aerobics	640	Stationary Bike	650
Running	520	Ski Machine	570
Walking	250	Swimming	490
Stair Climber	370	Football	370

WEIGHT LOSS TRAINING

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 a woman is 30%. ***Diet is most effective when combined with exercise for fat loss.***

Weight loss training involves high volume, high repetition or duration exercises, sometimes incorporating as many as 100 repetitions per set with very light weight. Circuit training with a moderate resistance also works well for some individuals when weight loss is the goal. The primary 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 an ultra light, short, low intensity work load in order to fully gauge their degree of cardiovascular fitness, or lack of it. The first session duration should be no more than ten minutes of actual exercise. Overweight people may have underlying health problems such as cardiovascular disease or other unknown conditions that may be exacerbated by exercise. Always have them sign off on the health questionnaire and waiver form and explain to them that you are going to start off very easy and gradually increase the training volume over the first few weeks.

The group fitness camp routines are designed to meet any trainee's needs. A high volume exercise program for women whose exercise goal is to lose weight from the lower body is would be encompassed by the boot camp class, since it is a high repetition system designed to develop definition by training primarily slow twitch muscle fibers, which

have little capacity for growth or hypertrophy. Therefore your female clients don't have to worry about gaining too much muscle bulk. 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. You can educate your clients about the role of increased mitochondria for weight loss and endurance. High rep exercise can be combined with endurance training like jogging, fast walking, or cardiovascular equipment such as the stationary bicycle or treadmill. Thirty minutes to one hour each day will produce great weight loss results and excellent cardiovascular fitness for anyone.

For your female clients who wish to lose weight work up to 100 reps at a quick cadence. Start them out at 10-20 reps the first day, then 20-30 the next until you get in the range of 50 to 100 reps with *extremely* light weights. Make them lift the weights with a one count up and a one count down rhythm for best weight loss results. They may need to stop and rest for several seconds at during the set, which is perfectly acceptable, but try to keep breaks brief – only the time necessary for them to continue on and complete the rep goal.

Routines can emphasize lower body training for women and upper body for men. An upper body weightlifting weight loss program for women should include compound movements like: bench presses or push ups; pull downs or rows; shoulder presses; curl and press. You would utilize light weight and ultra high reps. A large amount of upper body exercises is not recommended for weight loss, because upper body muscles are smaller than lower body muscles and will not burn as many calories.

Exercises like standing leg kickbacks, standing side leg raise, top end squats and top end lunges, all with no weight, are particularly effective for women and boot camp classes. If you have an inner and outer thigh machine at your gym, put them on it every time they train, but continually mix up the other exercises to alleviate boredom. Have weight loss clients work abs at the beginning and the end of the workout. The entire routine should take no more than thirty minutes.

For those clients attempting to add muscle mass, some of the mass training exercises are the same as the weight loss, but the execution is different. **Weight loss routines are high volume, light weight and low intensity, while muscle building routines are high intensity, low to medium volume systems that employ progressively heavier training loads.**

BOOT CAMP TRAINING SYSTEM

High volume, boot camp training works the slow twitch muscle fibers, which have little capacity for growth.

Boot camp 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. The weight loss aspect of boot camp can also be enhanced with endurance training like running, jumping jacks, or cycling. Stair climbing can add intensity to the mix. Thirty minutes, to one hour each day will produce great fitness and weight loss results for anyone, and excellent cardiovascular fitness benefits.

With your overweight students that want to lose fat, *gradually* 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 mostly 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.

GET THE PARTY STARTED

Start the class by inquiring if anyone is new to boot camp classes. Observe new people to make sure they are doing the movements correctly. They may not be aware of their fitness level. At the beginning of each exercise, 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 of them can handle. Therefore, if you use an additional push or sprint, the students will try to 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 a moderate pace. ***Shin splints, knee and ankle injuries resulting in a high drop out rate may result from a too high intensity level.***

Begin with a progressive, limbering warm-up and stretch period followed by jogging.

Shift gears to basic boot camp moves like pushups or knee bends that incorporate arm and leg exercises. Change up every two minutes or so, or on every 100 rep count. Observe the students' response to your changes. This should give you an idea of the general class experience level. Adjust your pace accordingly. Here is a sample routine that would take thirty minutes and can be done at a local park. **You do not require permission to use a public park for your classes. Take frequent water breaks especially in hot weather.**

BOOT CAMP OUTDOOR FAVORITES

Push-Ups - Two Minutes - Max Out

Cardio Running, Bicycle, Jumping Jacks - Two Minutes

Back-Pull Ups or Pull Downs - Two Minutes - Max Out

Cardio Running, Bicycle, Jumping Jacks - Two Minutes

Lunges or Squats - Two Minutes - Max Out

More Cardio Running, Bicycle, Jumping Jacks - Two Minutes

Sit ups, Crunches - Two Minutes - Max Out

Still More Cardio Running, Bicycle, Jumping Jacks - Two Minutes

ALTERNATE

Shoulder Press - Two Minutes - Max Out

Cardio Running, Bicycle, Jumping Jacks - Two Minutes

Biceps Curls - Two Minutes - Max Out

More Cardio Running, Bicycle, Jumping Jacks - Two Minutes

Triceps Dips - Two Minutes - Max Out

Even More Cardio Running, Bicycle, Jumping Jacks - Two Minutes

Sit ups, Crunches - Two Minutes - Max Out

Still More Cardio Running, Bicycle, Jumping Jacks - Two Minutes

Burn techniques: add partial (strongest range) reps after completing as many traditional full range reps as possible, then try a controlled holding and lowering set, without resting (where applicable), in between each series.

BOOT CAMP CIRCUIT TRAINING INDOORS

Toning is a generic term that means losing a few pounds of body fat while building enough muscle to develop a defined and trained look. These clients will not train to failure, but will only "pump" the muscles with an easy weight or pace. Train the entire body each session because the commercial gym toning client will tend to miss at least one training session per week.

Toning clients who enroll in the boot camp will be training at a higher level than the they may be used to and must be made aware that they can walk instead of run, or do fewer, or partial movements rather than full range exercises.

This client will see excellent results with a boot camp commercial gym environment after a brief break in period of a week. Here is a routine for anyone who wants to trim down and focus on the upper body and abdominals. Train the entire body on an alternating three-day a week schedule training as a circuit with little or no rest between exercises. Select one exercise per muscle group from the following list for each training day. Rotate them from session to session. That keeps the routine exciting, while each exercise builds strength for the next session. Rest thirty seconds between sets. **Select an easy weight. This trains the intermediate twitch muscle fibers.**

ABDOMINALS: Crunches or reverse crunches. Do 3 sets of 20.

QUADS: Leg extension, squats, leg press, hack squats. Choose one and do 3 sets of 8 reps.

HAMSTRINGS: Any leg curl. 3 sets of 8 reps.

CALF: Toe press, seated calf raise, standing calf raise, donkey calf raise. Choose one and do 3 sets of ten reps.

BACK: Pull downs, bar row, cable row, dumbbell row, chin-ups. Again, choose one and do 3 sets of 8 reps.

CHEST: Bench press, incline press, flies, pec deck, machine press. Choose 1 and do 3 sets of 8 reps.

SHOULDERS: Over head press, side dumbbell raise, upright row, shrugs. Choose one and do 3 sets of 8 reps.

TRICEPS: Close grip bench press, dips, push downs, triceps press, and dumbbell kickbacks. Choose one and do 3 sets of 8 reps.

BICEPS: Bar curls, dumbbell curls, or machine curls. Choose one and do 3 sets of 8 reps.

AEROBICS

A group fitness class is aerobic by nature because it is mostly steady state aerobics like jogging. Studies have shown that fat burning is increased for up to eight hours after high resistance training with weights. However, there is no residual fat loss effect with low intensity aerobics, like jogging. But the calories burned during the activity help weight loss over the long run.

The goal for your clients' heart fitness is to keep the heart rate at about 70% of their maximum heart rate for 20 minutes at least 3 times a week. The formula for figuring out their maximum heart rate is 220 minus age. If a client is 20 years old, the maximum heart rate is 200 beats per minute. 70% of 200 is 140, so 140 beats per minute is the proper training zone.

Adults should get a total of 30 minutes or more of physical activity every day. For fitness benefits adults should do 20 to 60 minutes of continuous aerobic activity, three to five days a week at 60 to 90 percent maximum heart rate using the major muscle groups.

To determine if the client is in the zone:

Have them walk normally for 5 minutes, walk briskly for 5 minutes, and resume the normal pace for another 5 minutes.

Stop and take the pulse in the wrist. **Never use the neck, a piece of fat may become loose and cause a stroke or the client may pass out.**

Count the beats for 10 seconds and multiply the number by 6.

Target heart rate chart:

20 years: 100-150 beats per minute

25 years: 98-146 beats per minute

30 years: 95-142 beats per minute

35 years: 93-138 beats per minute

40 years: 90-135 beats per minute

45 years: 88-131 beats per minute

50 years: 85-127 beats per minute

55 years: 83-123 beats per minute

60 years: 80-120 beats per minute

65 years: 78-116 beats per minute

70 years: 75-113 beats per minute

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 or the client may pass out.

FIRST DAY TRAINING NEW CLIENTS

Once you have had the client fill out the health questionnaire, waiver, training assessment form and Ten Commandments of Fitness handout, it's time to train the client. Where do you begin? **CAUTION: Some trainees may not be able to do much more than walk around the track or room. In that case, just encourage them and monitor their progress to make sure they are not overdoing it. If they can hold a conversation without becoming breathless, then they are generally training at the proper pace.**

There are beginner, intermediate and advanced levels of boot camp 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.

Fast running and sprinting are anaerobic and hard on the joints and lower back. Make sure that your trainees invest in proper running shoes before they begin the class. Walking at a fast pace, up an incline, or easy jogging is most effective when the goals are weight loss and training longevity.

TAKE IT EASY

Some trainer certification programs advocate fitness tests, but the physical activity questionnaire negates the need for a standardized fitness test, if answered honestly. **Since you only have to determine whether your client has the ability to execute the routine that you are providing, the fitness test should be his or her actual first workout as your client. You'll know exactly how much they can tolerate if you just pay close attention to their response to the initial training session or class.**

Start out with one brief series of each movement with an extremely light weight, or for a short duration of twenty seconds. This initial session should last no more than ten minutes if the client has never trained or has not recently worked out. Have your client perform only ten reps per set of each exercise with little or no resistance, even if they can do more, unless they are already an advanced exerciser. They have the rest of their lives to lift a thousand pounds if they desire, but let them know that both of you must understand their ability level today, so that you can establish a proper training schedule for them. If they are already advanced exercisers and have been training regularly, then you can jump right in at their intensity level. You can keep them motivated by barking out commands.

Observe your client's physiology during the initial session and continually ask for their feedback about how they feel. Ask if they are dizzy, short of breath, etc., especially if they are seniors or severely overweight. You don't want someone to pass out, which can easily happen to an unconditioned individual. If a client's skin color turns pale or grayish, stop the workout immediately and have them sit down and get a drink of water. Err on the side of caution.

SPOTTING

It is important to be concerned with correctly spotting clients. A ruling in a court case from the Superior Court of New Jersey mandated that spotters are liable for injuries sustained to weightlifters, even if the injury occurs because of equipment lying around on the floor. In this case, a spotter was sued for negligence after a person was injured by a weight *lying next to the bench*.

The defendant (spotter) volunteered to spot the plaintiff during weight training. When the plaintiff (weightlifter) put his dumbbells on the floor, his left index finger was smashed when the weight in his left hand came into contact with a weight on the floor. The plaintiff provided expert testimony to the court citing various standards of care, including those from the National Strength and Conditioning Association, that says: ***It is a spotter's obligation to examine the area around the weightlifter to ensure other objects, including other free weights, are not within the area of activity.***

The defendant filed a motion for a summary judgment saying that he should not be held liable to the injured lifter. The motion was denied. The court ruled in favor of the plaintiff and decided that, "a reasonable jury could conclude, "The defendant voluntarily assumed a duty by 'spotting' for the plaintiff. Incorporated in that duty of care is the obligation to ensure the area around the weight bench was clear of any hazards."

By ruling this way, the court mandated that spotters have an obligation to inspect around the area where weight-training activities occur to determine if there are weights or objects in the area that could cause injury. Even volunteer spotters may have liability under certain circumstances and that a person who assumes a duty to another needs to ensure that duty will be adequately performed. Those who provide spotting activities even as volunteers should become familiar with the obligations imposed upon spotters by written standards of care and guidelines pertaining to the activities. The best way to see how to spot correctly is to observe others training in the gym and to look at exercise photos in books and magazines. Exercise videos are also a good source of spotting pointers.

Usually the person training will tell you how they want you to spot them. Your job is to keep them from getting injured by the weight. The general rule for spotting on a specific exercise is that you provide just enough lift to keep the weight moving -- don't let it stall. If it gets stuck keep it going up smoothly. When spotting someone doing squats, you may have to put your arms under their arms and around the front to lightly stabilize them and help lift if they stall. **Never spot squatters from the hips or waist or they may bend at the waist and fall forward with the weight bar rolling dangerously over their neck and head.**

TECHNIQUE and FORM

Exercise technique is as varied as individuals. You have an obligation to teach clients correct exercise form that will not cause injury. Throwing weights around in a sloppy

manner will not *build* much muscle, but may *tear* a muscle. The key to continued progress is to vary the lifting count. A very slow count of up to ten seconds up and ten seconds down with a heavy weight for about 5-8 reps is excellent for building muscle mass. Bob Gruskin, NABBA-USA President and trainer of sixteen Mr. Americas and a dozen Mr. Universes including the great Jeff King, always had his champions use a strict, painfully slow up and down lifting technique. Their success speaks volumes for this system.

At the other end of the spectrum is the fast, explosive technique where the weight is lifted at a one count up and one count down cadence. Top pro bodybuilders like Arnold Schwarzenegger, Shawn Ray and Bob Cicherillo employ this system with excellent results. As long as your clients are controlling the weight instead of the weight controlling them, you can utilize any cadence. A variety of training speeds will produce better results than the same lifting speed employed all the time. If a weight is obviously too heavy, lighten it. Sometimes clients will try to lift more than they are capable of for their ego's sake. You must advise them that proper form with a lighter weight will yield greater muscle building benefits.

Certain exercises may cause injuries and damage to joints over a prolonged period of months and years. Particularly traumatic exercises are upright rows, behind the neck presses and pull downs, full range pullovers, full sit ups, Roman chair sit ups or leg raises, dead lifts and full range stiff legged dead lifts. Avoid these exercises for the sake of client longevity. Hyper extensions where the body is extended up past parallel to the floor are also injurious and should never be performed past parallel. Dumbbell flies with excessive weight may wrench the client's arms down too quickly and dislocate the shoulder or tear a muscle. **Always spot clients from their wrists when they do flies, not the elbow.**

PROPER TRAINING INTENSITY - TRAINERS BEWARE

Trainer beware - training your clients is customer service. You have a solemn duty to provide a minimum quality of care for them, which means you must not hurt them with improper training methods. It demonstrates incompetence at best and criminal malfeasance if taken to the extreme illustrated below. There is an exact system for training any client who comes to you and very seldom does it involve HIT training.

You have probably seen supposedly certified trainers pushing overweight clients through a torturous, high intensity (HIT) workout that would cause a well trained NFL linebacker to vomit.

The absurdity and inappropriateness of this kind of training system (for anyone except actual Marine military boot camp inductees or pro football players) is obvious to everyone in the room except the trainer. Although the client may voice misgivings about the intensity level, they fall on deaf ears. It is the trainer's way or the highway. An illustration of this scenario might play out like this:

A twenty-ish girl, fifty pounds overweight is placed under a squat bar, crouched beneath a too-heavy weight - which is a pure mass building movement that provides no value as a weight loss aid, whatsoever. The trainer may then proceed to the flat bench and force the girl to awkwardly step up onto it while holding a twenty five pound plate in each hand. At this point her face will look like a thermometer ready to pop. You may seriously wonder if you will be called to testify in court after her cardiovascular accident. If she doesn't have one she will never return to the gym again, if such methods are required for her to reach her weight loss goals. They are not, by the way.

You may be surprised that a club, which may be part of a well known chain, would allow its staff to injure their customers in such a way. That trainer could be charged with battery, and rightly so, because a certain level of care must be met when training clients. The trainer and club would be held civilly and criminally liable if the client were injured by the negligent trainer.

HIT is only for extreme athletes and bodybuilders, not keep fitters or the weight loss crowd. Group fitness students require light weights and longer duration sets - a high volume, low intensity system, which provides excellent results and injury prevention. When training your clients, do not think that working them like they are contestants on "The Biggest Loser" is correct just because it's on TV. That's all for show. **The real life training environment must be carefully controlled by you, the Group Fitness Trainer, and exercise must be precisely applied to achieve the fitness goals of your clients both safely and effectively.**

You could utilize role models as a guide to correct training system selection even if you had not already learned correct training techniques from this certification course. By modeling lean athletes and their methods we can determine that high volume, long duration competitors like marathon runners are lean and not bulky. Extrapolating that idea into a workable regimen to help your clients lose weight, you would therefore have them perform long, light sets for very high repetitions, mimicking distance runners.

Wrestlers and NFL players are massive and train explosively, choosing short sprints and heavy weights as tools of choice, similar to the girl mentioned above. Therefore we can know that heavy weights and brief, high intensity training sessions are the rule for muscle mass, not weight loss.

This is not the only instance of wrong methods exhibited by trainers that you may have noticed. Take note of another example. A PFT is urging an elderly client to: jump with a weight on his shoulders, twist awkwardly with heavy weights held at arms length, heave a too ponderous weighted ball, jump sideways over benches, etc., in a routine that can only be described as confusing.

This fitness technician may be surrounded by millions of dollars worth of state of the art exercise equipment, but has determined that a senior who wants to shape up will receive much greater benefit from the vast wisdom and superior know how of his glorious trainer,

rather than that all that poor state of the art machinery lying around.

When you have the pleasure of bringing a client into the midst of a wonderfully equipped club and then neglect to utilize any of the technology around you, you have done a disservice to that client. When you have decided to train your weight loss or toning clients as if they were elite athletes, you have not provided the quality of care level required, either.

One day a client at one of these clubs is going to drop dead from heart failure because an uneducated trainer pushed him or her too hard. Don't be that trainer!

GET YOUR FIRST CLIENT TODAY!

By taking action and writing down the names and numbers of twenty people you know you could have your first client signed up today. The key is to call each person on your list and inform them that you are a certified Group Fitness Instructor now, and that you are accepting new clients. Some of these people may even be looking for a trainer, but do not know how to find one.

CONTACT LIST

1. NAME _____
PHONE _____

2. NAME _____
PHONE _____

3. NAME _____
PHONE _____

4. NAME _____
PHONE _____

5. NAME _____
PHONE _____

6. NAME _____
PHONE _____

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14. NAME _____
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15. NAME _____
PHONE _____

16. NAME _____
PHONE _____

17. NAME _____
PHONE _____

18. NAME _____
PHONE _____

19. NAME _____
PHONE _____

20. NAME _____
PHONE _____

CLIENT ENROLLMENT FORM

Your Company Name
Your Company Street
Town, State and Zip
Your Phone Number
Your e-mail address

Personal Training Enrollment Form

Today's Date: ____/____/____ Start Date: ____/____/____ Time

Training
Location _____

Amount \$ USD Payment Method: Check____ Money Order____ Credit Card____

Credit Card Information (if Payment Method is Credit Card)

Accepted Cards: Visa MasterCard Amex Discover

Number _____ Exp.
Date _____

Customer Billing Information (as it appears on credit card)

First name _____

Last name _____

City _____

State/Province _____

Zip Code _____

Country _____

Phone _____

E-mail _____

Client name and full mailing address (if different)

First name _____

Last name _____

Address _____

Note: There is a 24-hour cancellation policy. If the client cancels 24 hour or more before the training session, the client will not be billed for the missed session. If the client cancels less than 24 hours before the training session, the full fee will be charged.

ENROLLED CLIENT CONTACT LIST

CLIENT NAME	PAYMENT AMOUNT & DATE	ADDRESS, PHONE, E-MAIL
-------------	-----------------------	------------------------

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

11. _____

12. _____

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14. _____

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16. _____

17. _____

18. _____

19. _____

20. _____

21. _____

22. _____

23. _____

24. _____

25. _____

SUMMARY

A rule to remember as you establish yourself in the fitness industry and build a steady client base is **put the welfare and feelings of your clients above your natural inclination to push them hard during their workouts or they may quit training or become injured.** The vast majority of your clients will not require high intensity training and will achieve fabulous results without ever training to failure. Intensity is an excellent technique for mass building and athletic training. Low intensity, long duration, high volume workouts are best for toning up and losing fat in a boot camp setting.

Remember that high intensity training is for the athlete, high volume (amount) training and light weights are the group trainer's mainstay. Understand the correct method to apply to your students' objectives, and be flexible enough to change as their needs and goals change.

To recap, for those wishing to tone up, the exercises employed are light weight, high volume, low intensity. Toning routines are always low intensity pumping affairs.

You are going to be able to make positive, life changing improvements in your clients' 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 place yourself into a compromising situation by promising more than you can deliver. Make the client realize that he or she is the person responsible for the results, and you are only there to coach and help them, and if you work together as a team, the benefits of training will accrue.

I can't wait to hear from you about how your new business is doing!

God bless.

Gregory Ladd, President
American Muscle & Fitness

AMEFT PT FINAL EXAM

Hand your exam in to the instructor, or mail your answers, name and mailing address to: American Muscle & Fitness, 1436 State Road, Webster, NY 14580, USA. You can also email your answers to amfpt@aol.com. You will be notified by e-mail, phone or mail with your score. **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 designed so that you can demonstrate your understanding of the material presented in this course.

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 300 words** in length. An "A" or higher score will be noted on your letter of recommendation. **Duplicate or copied exams are reason for automatic failure. By submitting your exam you attest that you are submitting your own work under penalty of perjury.**

NAME:

ADDRESS:

CITY:

STATE:

ZIP CODE:

EMAIL:

Indicate the correct multiple choice answer.

1. What *should* you have each client do before starting training?

1. Fill out a health questionnaire and waiver
2. Fill out a training questionnaire
3. Sign the Ten Commandments of Personal Training
4. All of the above

2. To set up your business what do you need to get 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 the muscles used are 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. A group fitness routine should be_____.

1. High intensity
2. Low volume
3. High volume

4. None of the above

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

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

11. For client longevity, jogging is a better choice than running or sprinting because it is_____.

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

12. Clients want to be _____during a training session.

1. abused
2. badmouthed
3. expertly trained
4. cursed at

13. A trainer should find out the client's _____history before training him or her.

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

14. Fast twitch muscles are trained with _____weight.

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

15. Volume, when applied to exercise, means_____.

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

16. The best response to training comes from_____.

1. using the same exercises all the time
2. using different exercises every workout
3. using only machines
4. using only free weights

17. When taking someone's pulse you should never use the_____.

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

18. Before touching a client, a fitness trainer must get _____.

1. A lawyer
2. their phone number
3. permission
4. help

19. A Group Fitness Instructor must never _____.

1. help a client
2. ask for referrals
3. discuss steroids with clients
4. schedule appointments

20. A Group Fitness Instructor is a _____.

1. fitness technician
2. emergency medical technician
3. nurse
4. medical doctor

PART 2 - ESSAY QUESTIONS

READ THESE INSTRUCTIONS & QUESTIONS CAREFULLY

WRITE AT LEAST A 300 WORD ESSAY BASED ON THE MANUAL READING MATERIAL.

Your essay must be in your own words. Do not copy sections from the manual and submit them as your exam essay answer. Essays may be longer than 300 words.

1. Design a routine for a beginning outdoor group fitness class. Explain why you would use this routine.

2. Design a routine for a beginning commercial gym indoor group fitness class. Explain why you would use this routine.

**Exam answers can be e-mailed to:
amfpt@aol.com**

You can also mail your exam to the USA headquarters:

**AMERICAN MUSCLE & FITNESS
1436 STATE ROAD**

WEBSTER, NY 14580
USA