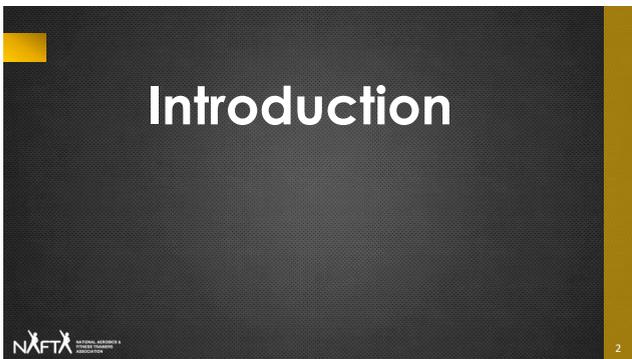




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Introduction to NAFTA

- Established 1996
- Group Exercise and Personal Trainer
- 2016-GEI working towards NCCA Accreditation
- 2000s Expanded Trainings



4

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Requirements

-  Pass Successfully at 70%
-  CPR/AED Current Certification
-  15 CEUS
Current CPR/AED
1 NAFTA Homestudy
-  2 Years



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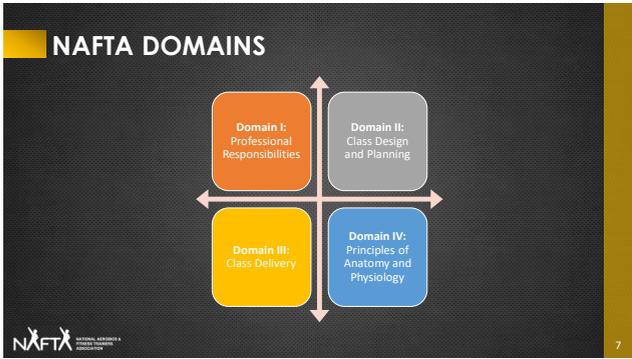
Recertification

- Certification Requirements
 - 2 Years
 - 15 CEUS
 - 1 Home study
 - CPR/AED



6

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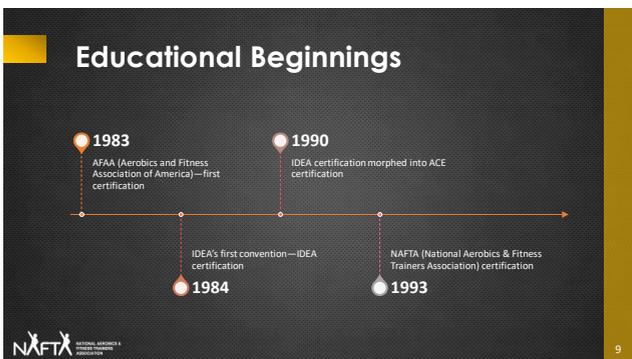
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Group Fitness Revolution

- 1969 – Jacki Sorensen – Aerobic Dance
- 1969 Judi Sheppard Missett – Jazzercise
- 1980's – Jane Fonda, Certifying organizations formed
- 1980's & 90's – variety
- 2000's – yoga, Pilates, Les Mills
- 2010's – Crossfit, boot camp, Zumba
- 2020 – Virtual Teaching

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Trends in Fitness have mirrored the Baby Boomer Generation

1970's Boomers were in their 20s: high impact aerobics, running, 5K races	1980's Boomers were in their 30s: Low impact aerobics, walking, 5 K races	1990's Boomers were in their 40s: Step, slide, water exercise, indoor cycling, yoga	2000's Boomers in their 50s: Functional fitness, merging of medicine and fitness, emphasis on health and focus on aesthetics	2010's Boomers in their 60s: Core strength, neuromotor emphasis, fall prevention	2020 Boomers in their 70s: Still working out and moving the bar further
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ACSM 2020 Trends

FITNESS TRENDS FOR 2020

1. Wellness Technology
2. High-Intensity Interval Training (HIIT)
3. Group Training
4. Personalized Fitness
5. High-Intensity Interval Training (HIIT)
6. High
7. Low-Intensity Interval Training (LIIT)
8. Low-Intensity Interval Training (LIIT)
9. Low-Intensity Interval Training (LIIT)
10. Low-Intensity Interval Training (LIIT)
11. Low-Intensity Interval Training (LIIT)
12. Low-Intensity Interval Training (LIIT)

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Branded Programs: Advantages? Disadvantages?

- Les Mills
- Zumba
- Jazzercise

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Extreme Conditioning Programs Study

- **Positives:** variety, use of body weight, motivating, exciting, arguably "functional" and real-world moves
- **Negatives:** does not adhere to recognized industry guidelines for safety and effectiveness, insufficient recovery time, can promote overtraining, very competitive, increased injury risk, may not address all aspects of fitness



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Extreme Conditioning Programs Recommendations:

Screen	Properly screen participants (ECPs appropriate for intermediate/advanced exercisers with no known health risks)
Modify	Modify high-risk exercises whenever possible
Introduce	Introduce ECPs gradually, with proper progression for intensity, duration, and advanced exercises, insuring adequate rest periods between sets
Provide	Provide planned days of reduced or supplemental conditioning to optimize recovery and reduce excessive fatigues
Be	Be alert for symptoms of overtraining

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Extreme Conditioning Programs Study

- ACSM consortium paper (Bergeron et al, 2011)—authors included exercise researchers as well as Navy and other military (DOD) representatives
- Analyzed pros and cons of ECPs
- Found a disproportionate risk of musculoskeletal injuries

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Role of GFI: Enhance Quality of Life

 Need for educated & experienced fitness professionals

 "A fitness instructor's ability to communicate, teach and motivate is an important predictor of participant exercise attendance" (Bray et al, 2001)

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DOMAIN I: Professional Responsibilities

 A. Scope of Practice

 B. Legal Liability

 C. Conduct

 D. Business Principles

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Domain I: A. Scope of Practice

 1. Adhere to professional standards, guidelines, or evidence-based research in order to provide safe and effective instruction.

 2. Recommend consultation with healthcare professional for concerns that fall outside of the scope of practice.

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Special Populations Include:

- **Cardiovascular** – Myocardial infarction, angina, peripheral vascular disease, congestive heart failure, revascularization, heart valve disorders, and/or conduction disorders.
- **Pulmonary** – Chronic obstructive pulmonary disorder, chronic restrictive pulmonary disorder, pulmonary hypertension, and/or asthma.
- **Metabolic** – Diabetes (Type I and II), overweight/obesity, pre-diabetes, metabolic syndrome, thyroid disorders, and/or end-stage renal disease.
- **Immunological** – AIDS/HIV, fibromyalgia, chronic fatigue syndrome, anemia, autoimmune disorders (e.g., lupus, rheumatoid arthritis), and/or blood clotting disorders.
- **Musculoskeletal** – Osteoporosis, limb amputations, osteoarthritis, lower back conditions, frailty, joint disorders, joint replacements, sarcopenia, posture disorders, and cystic fibrosis.
- **Neuromuscular** – Stroke, brain injury, spinal cord disorders, multiple sclerosis, cerebral palsy, Down's syndrome, Parkinson's disease, epilepsy, balance disorders, and muscular dystrophy.
- **Cancer** – Multiple body systems affected.
- **Psychological/behavioral** – Disordered eating, body image disorders, depression, and chemical dependency. Special populations also include those groups of people with unique traits that are not necessarily afflicted by a chronic or temporary health condition.
- **Females that are pregnant, postpartum and menopausal.**
- **Elder adults.**
- **Children and adolescents.**
- **Eating Disorders**

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Women and Pregnancy....

- Exercise Benefits During Pregnancy
- Recommendations for Exercise During Pregnancy

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Adhere to Professional Standards



EDUCATION/CPR-
AED/FIRST AID



STANDARD OF CARE

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Educating

GEs must educate groups of participants all at once (versus training individuals one-on-one). As a result, education typically caters to the general population while being mindful of participants' needs, goals, and limitations. GEs should stay abreast of a variety of exercise-science subjects that will enable them to educate participants in a meaningful way during each class. As such, a GE should have a strong foundation in the following education-related topics:

STRATEGIES FOR CLASS EDUCATION

- Triple F: Form, Function, and Fit
- Performance standards
- Health benefits



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Legal responsibilities



- Standard of care**
 - Appropriateness of an exercise professional's actions in light of current professional standards
 - Based on the age, condition, and knowledge of the participant
 - An instructor who fails to meet the standard of care could be found negligent by a court of law.
 - With the NAFTA Fitness Instructor certification, your conduct could be compared to the standards presented in the manual and your ethics could be equated to the NAFTA Code of Ethics.



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Adhere to Professional Guidelines

- Basic Class Guidelines**
 - Please check in for every class 15 minutes early, before class, introduce yourself and class host.
 - Participants are required to bring their own water to class to avoid any questions they may have.
 - Follow your National Certification guidelines for class structure.
- Missed/Late Classes**
 - Please arrive 15 minutes before the start of class to our music, change, etc. If class starts late for any reason and the class requests a class credit, you will not be paid. If you miss a class, you may be asked to reach a member of class or you may be deducted one class and the end of the month to pay the instructor that covered the class on your behalf. In case of an emergency:
 - Call the studio only for the missing notification. If you are going to be late or miss a class due to a non-emergency, please call your instructor immediately. We may have an instructor on site who may be able to fit in last minute. Please remember, if a class requests a class credit due to conditions, one will be given.
- Request for Subs / Time Off Procedures**
 - *IMPORTANT - If you do not receive a verification that your request was received, IT WAS NOT RECEIVED! Please record on call.



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Professional Guidelines cont'd

Subbing	Do not call the location about scheduling concerns. Please notify your director as soon as possible if you need a sub. If you have agreed to sub a class and become unavailable to teach that class, it is your responsibility to find another sub.
Going on Vacation?	Before you leave, please check your schedule online to verify you are not scheduled when you have requested off. Contact us immediately with any discrepancies. Check your monthly schedule online for accuracy and days off requests to view your monthly schedule.
Class Changes	You may not change class time, day, length, etc. for any reason without first contacting Aerobic Coordinator
Keys/Equipment	Keys, videos, or other equipment on loan must be returned or mailed back the day after you subbed or dropped the class, or after you terminate employment. Paychecks will be held until all items are returned.

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Domain I: B. Legal Liability

01

Obtain liability insurance in order to minimize personal risk.

02

Adhere to music copyright laws in order to minimize personal risk.

03

Obtain signed pre-participation waivers and consent forms in order to minimize personal risk.
Adhere to pending laws in order to mitigate personal risk.
Adhere to current cardiovascular resuscitation (CPR) and automated external defibrillator (AED) certifications in order to minimize risk.

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Employee Vs Independent Contractor

- Employee
- Independent Contractor

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Obtain liability insurance in order to minimize personal risk.



GENERAL LIABILITY



PROFESSIONAL



DISABILITY



MEDICAL

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Insurance policies for the fitness professional

General liability

Covers basic trip-and-fall injuries that occur in a non-business environment

Will not provide coverage for accidents that occur at work or while working

Professional liability

Includes coverage based on allegations claiming injury to participants

Covers acts of omission (things the fitness professional did not do)

Covers acts of commission (actual conduct)

Necessary for independent contractors (self-employed fitness professionals)

Disability

Provides income protection in the event of injury to the fitness professional

Medical

Provides hospitalization and major medical coverage

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Adhere to music copyright laws in order to minimize personal risk.

- Copyright Laws
- ASCAP (American Society of Composers, Authors and Publishers)

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Copyright law

- All forms of commercially produced creative expression are protected by copyright law.
- Music is the area most relevant to group fitness instructors.
- An instructor who uses copyright-protected music in a for-profit exercise class is in violation of copyright law.
- Performing rights societies (i.e., American Society of Composers, Authors and Publishers (ASCAP), Broadcast Music, Inc. (BMI)).
 - One must obtain a performance license from one of these organizations to play copyrighted music in an exercise class.
 - These organizations will not hesitate to sue fitness facilities who play copyrighted music without a license.
- Most clubs obtain a blanket license for their instructors.
- An alternative to playing most copyrighted music is to purchase music made specifically for fitness, for which the copyright holder expressly permits the use of the music in exercise classes.

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Music Responsibilities

- ✓ Must pay fees to ASCAP (American Society of Composers, Authors and Publishers) OR BMI (Broadcast Music Inc.) OR SESAC
- NAFTA recommends a facility pay a blanket license for all instructors. Fees determined by # of speakers in facility or whether the club has a single or multi-floor layout.
- It's best to use CDs and downloads that are specifically created and pre-licensed for Group Exercise—they're easy, fun, and LEGAL

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Domain I: C. Conduct

Dress in	Greet	Introduce	Arrive	Use
Dress in appropriate attire for class format in order to provide a safe and welcoming environment.	Greet participants in order to build rapport.	Introduce self and class format at the beginning of class in order to set participant expectations.	Arrive early in order to ensure preparation of environment and prompt start.	Use inclusive language in order to provide a non-discriminatory environment.

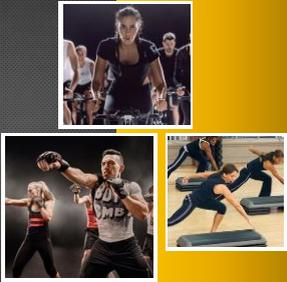
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Dress Appropriate

- Proper Shoes
- Non Baggy Clothes
- Gloves
- Etc...



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Creating a Positive Pre-class Environment

- An effective group exercise class starts with appropriate pre-class preparation.
- Arrive 15 minutes early, in order to prepare:
 - Equipment
 - Set up and equipment
 - Greet participants
- Have participants introduce themselves
- Wear attire that suits the population being taught
- Give positive cues, tell energetic and fun stories
- Discuss monitoring intensity (HR, RPE, talk test, etc)
- Have some mental preparation time
- Remember adherence and group cohesion?

"Fitness Instructor's abilities predict exercise attendance" - (Bray et al 2001)



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Domain I: D. Business Principles

Adhere	Acquire	Respond
Adhere to contract policies and procedures related to employment in order to maintain employment in good standing.	Acquire continuing education credits in order to stay current with industry trends or standards.	Respond to participant feedback in order to enhance participant satisfaction.

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Obtain signed pre-participation waivers and consent forms in order to minimize personal risk.



Pre Participation Screening



Waiver of Liability

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Pre-Participation Screening

- Pre-participation screening forms are health-history documents that are typically collected at the initiation of enrollment to a fitness facility or a defined group fitness program, along with informed consent and a release of liability waiver. It is the responsibility of the facility/business operator to determine if medical evaluation by a physician is warranted prior to an individual participating in physical activity based on the health-related information provided on his or her pre-participation forms. Furthermore, GFIs must make participant privacy a priority.

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Waiver of Liability

- **Liability waiver.** A liability waiver is a legal document that a person who participates in an activity may sign to acknowledge the risks involved in his or her participation. By doing so, the company attempts to remove legal liability from the business or person responsible for the activity.
 - Can be added to a Sign In sheet where participants sign in prior to class participation

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Adhere to branding rules in order to mitigate personal risk.

- Les Mills
- Zumba
- Turbo Kick
- P90X



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Branded Programs: Advantages? Disadvantages?

- Les Mills
- Zumba
- Jazzercise



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Maintain current cardiopulmonary resuscitation (CPR) and automated external defibrillator (AED) certifications in order to minimize risk.

- What are the reputable companies to go with?
- American Red Cross
- American Heart



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Domain II: Class Design and Planning

- A. Environment
- B. Format

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Domain II: A. Environment

- Inspect equipment in order to identify potential hazards and minimize risk.
- Assess class environment, such as temperature and potential hazards, in order to minimize risk.
- Determine maximum number of participants in order to provide a safe and effective workout.
- Select appropriate equipment and movement patterns for participant abilities, class size, and format in order to provide a safe and effective workout.

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Inspect equipment in order to identify potential hazards and minimize risk.

- Identification of risk areas (e.g., injury risks during group fitness classes, maintenance of group exercise equipment, maintenance of group fitness room)
- Before Class
- During Class

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Equipment Guidelines



Equipment guidelines—Legal concerns focus on the selection,



Maintenance, and repair of the equipment.

- Equipment should meet all the safety and design standards within the industry.
- Assembly of equipment should follow the manufacturer's guidelines.
- A schedule of regular service and repair should be established and maintained.
- Caution should be exercised in relation to recommending or endorsing equipment.
- Homemade equipment should be avoided if possible.

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Assess class environment, such as temperature and potential hazards, in order to minimize risk.

IS the room temperature at the appropriate levels?

IS there water on the floor?

IS there equipment on the floor that creates a hazard?

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Determine maximum number of participants in order to provide a safe and effective workout.

- This is usually determined by the local Fire Marshal the maximum capacity for the room.
- Note this does not generally include the equipment for the room.
 - Cycle Class
 - Step Class
 - Hi/Lo Class

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Select appropriate equipment and movement patterns for participant abilities, class size, and format in order to provide a safe and effective workout.



An advanced strategy where movements in an established sequence are changed slightly depending on the skills and abilities of the class members.



A movement pattern –A+ is introduced in its simplest form.

For the next set of repetitions, movement A is changed slightly to more complex move, whereas movement B remains the same.

For the next set, movement A remains at its new complexity and movement B is changed slightly to a more complex move.

For the final set, both movements A and B are more complex than the original movements.



Well-suited for multi-level classes because each participant can progress to a level that is comfortable for him or her

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Domain II: B. Format

Select and sequence

- Select and sequence exercises in order to provide a safe and effective workout.

Prepare

- Prepare modifications (i.e., progression/regression movements) for a variety of fitness levels and backgrounds in order to provide safe and effective instruction.

Select

- Select appropriate movement intensity and duration for class format and participant demographics in order to provide a safe and effective workout.

Design

- Design appropriate warm-up and cool-down activities in order to provide safe preparation and recovery for participants.

Select

- Select appropriate music style, tempo, and volume for class format in order to provide a safe and motivational environment.

Incorporate

- Incorporate destabilization movements in order to enhance balance and stability.

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Integrating Components of Health into Class Design

Let's take a closer look at the basic segments of a workout in group exercise:

- Warm up
- Cardiorespiratory activity
- Post- Cardio Cool – Down
- Muscular conditioning, balance and neuromotor
- Flexibility

** The newest guidelines also recommend exercises for neuromotor fitness, which includes: Balance, Agility, and Proprioceptive training.**

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ACSM Guidelines-Cardiorespiratory

- **Cardiorespiratory Exercise**
 - Adults should get at least 150 minutes of moderate-intensity exercise per week.
 - Exercise recommendations can be met through 30-60 minutes of moderate-intensity exercise (five days per week) or 20-60 minutes of vigorous-intensity exercise (three days per week).
 - One continuous session and multiple shorter sessions (of at least 10 minutes) are both acceptable to accumulate desired amount of daily exercise.
 - Gradual progression of exercise time, frequency and intensity is recommended for best adherence and least injury risk.
 - People unable to meet these minimums can still benefit from some activity.

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ACSM Guidelines-Resistance

- **Resistance Exercise**
 - Adults should train each major muscle group two or three days each week using a variety of exercises and equipment.
 - Very light or light intensity is best for older persons or previously sedentary adults starting exercise.
 - Two to four sets of each exercise will help adults improve strength and power.
 - For each exercise, 8-12 repetitions improve strength and power, 10-15 repetitions improve strength in middle-age and older persons starting exercise, and 15-20 repetitions improve muscular endurance.
 - Adults should wait at least 48 hours between resistance training sessions.

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ACSM Guidelines-Flexibility

- **Flexibility Exercise**
 - Adults should do flexibility exercises at least two or three days each week to improve range of motion.
 - Each stretch should be held for 10-30 seconds to the point of tightness or slight discomfort.
 - Repeat each stretch two to four times, accumulating 60 seconds per stretch.
 - Static, dynamic, ballistic, and PNF stretches are all effective.
 - Flexibility exercise is most effective when the muscle is warm. Try light aerobic activity or a hot bath to warm the muscles before stretching.

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ACSM Guidelines-Neuromotor Exercise

- **Neuromotor Exercise**
 - Neuromotor exercise (sometimes called "functional fitness training") is recommended for two or three days per week.
 - Exercises should involve motor skills (balance, agility, coordination and gait), proprioceptive exercise training and multifaceted activities (tai ji and yoga) to improve physical function and prevent falls in older adults.
 - 20-30 minutes per day is appropriate for neuromotor exercise.

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FITT

- Frequency
- Intensity
- Time
- Type

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Borg Scale

*Rating of Perceived Exertion
Borg RPE Scale*

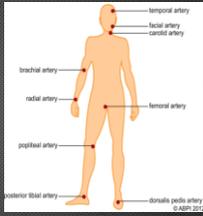
6	Very, very light	How you feel when lying in bed or sitting in a chair relaxed. Little or no effort.	
7			
8			
9	Very light	Target range: How you should feel with exercise or activity.	
10			
11	Fairly light		
12	Somewhat hard	How you felt with the hardest work you have ever done.	
13			
14			
15	Hard	Don't work this hard!	
16			
17	Very hard		
18	Very, very hard Maximum exertion		
19			
20			

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Measuring your Heart Rate

- There are many sites on the body to monitor heart rate. The potential sites that are the easiest for measuring HR, are the following:
- Carotid
- Radial
- Temporal
- Brachial



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Borg Scale

- Known as Perceived Exertion Rating
- Scales-1-20 or modified 1-10
- ACSM- Recommends that the perceived exertion rating scale for Special Populations to include: Pregnancy, Hypertension, Diabetes, Older Adults, and youth.

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Karvonen Method

THE KARVONEN METHOD!!!

Minimum Training Heart Rate:
 $220 - 25 (\text{Age}) = 195$
 $195 - 65 (\text{Rest HR}) = 130$
 $130 \times .60 (\text{Min. Intensity}) + 65 (\text{Rest HR}) = 143$
 Beats/Minute

Maximum Training Heart Rate:
 $220 - 25 (\text{Age}) = 195$
 $195 - 65 (\text{Rest HR}) = 130$
 $130 \times .70 (\text{Max. Intensity}) + 65 (\text{Rest HR}) = 156$
 Beats/Minute

His training heart rate zone will therefore be 143-156 beats per minute.

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ACSM Training Guidelines

Table 6.1 Heart Rate Intensity Guidelines

Fitness classification	Description	Percentage of maximal heart rate	Activity factor*
Low	Those who are currently inactive with no activity/exercise and are thus very deconditioned	~60%	0.60
Low to fair	Those who participate in minimal physical activity but have no regular exercise plan and thus are deconditioned	~65%	0.65
Fair to average	Those who are sporadically active but do not have an optimal exercise plan and thus are moderately deconditioned	~75%	0.75
Average to good	Those who are regularly engaging in moderate to vigorous exercise	~85%	0.85
Good to excellent	Those who are engaging in regular high-intensity exercise	~90%	0.90

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Classification of Blood Pressure for Adults

Table 15.1 Classification of Blood Pressure for Adults*

Blood pressure classification	Systolic blood pressure (SBP) in mmHg	Diastolic blood pressure (DBP) in mmHg
Normal	Less than 120	and less than 80
Prehypertension	120–139	or 80–89
Hypertension	140 or higher	or 90 or higher

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Primary Risk Factors

1. Age
2. Family History
3. Smoking / Vaping
4. Sedentary Lifestyle
5. Body Mass Index Waist (BMI)
6. Hypertension/High Blood Pressure
7. High Cholesterol LDL
8. Blood Sugar
9. Elevated HDL

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Opposing Muscle Group

- Anterior, Medial deltoids ← → Latissimus Dorsi
- Pectoralis major ← → Posterior Deltoids, Middle Trapezius and rhomboids
- Biceps ← → Triceps
- Shoulder internal rotators ← → Shoulder external rotators
- Rectus abdominal obliques ← → Erector spinae
- Iliopsoas, rectus femoris ← → Glutes maximus, hamstrings
- Quadriceps ← → Hamstrings
- Hip Abductors ← → Hip Adductors
- Gastrocnemius, Soleus ← → Tibialis anterior

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Common Muscle Imbalances

Muscle	Problem	Typical cause	Correction
Pectoralis major	Tight	Poor Posture when sitting & standing	Stretch
Posterior deltoids, middle trapezius, rhomboids	Weak, overstretched	Poor posture when sitting and standing	Strengthen
Shoulder internal rotators	Tight	Poor posture, carrying and holding objects close to body	Stretch
Abdominals	Weak	Poor posture, obesity	Strength
Erector spinae	Tight & often weak	Poor posture, obesity	Stretch & Strength
Hip Flexor	Tight	Poor Posture, sedentary lifestyle	Stretch
Hamstrings	Tight	Sedentary lifestyle	Stretch
Calves	Tight	Wearing high heels	Stretch
Shin	Weak	Not enough use in daily activities	Strengthen
Shoulder external rotators	Weak	Poor posture	Strengthen

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Muscle Balance for Functional Training

Body Segment	Muscles that need strengthening	Stabilizers that need strengthening	Muscles that need stretching
Lower Body	Anterior tibialis	Abductors	Gastrocnemius & Soleus
Lower Body	Quadriceps & Hamstrings	Adductors	Quadriceps & iliopsoas
Lower Body	Gluteals		Hamstrings
Upper Body	Pectoralis minor & lower trapezius		Pectoralis major
Upper Body	Triceps		Upper Trapezius
Upper Body	Rhomboids and middle trapezius		
Upper Body	Posterior Deltoids		
Core		Erector Spinae Abdominals	Erector spinae

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Group Exercise Class Evaluation Form Essentials

Key Points for Pre-class Segment

1. Knows participants and orients new participants
2. Has equipment and music ready for use
3. Introduces self & states class format
4. Acknowledges class
5. Creates positive atmosphere
6. Wears appropriate attire & footwear

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Group Exercise Class Evaluation Form Essentials

Key Points for Warm-up

1. Includes appropriate amount of dynamic movement
2. Provides rehearsal moves
3. Provides dynamic or static stretches for at least two major muscle groups
4. Provides intensity guidelines for warm-up
5. Includes clear cues & verbal directions
6. Uses movements at an appropriate tempo and intensity

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Group Exercise Class Evaluation Form Essentials

Key Points for Cool-down, Stretch, and Relaxation Segment

1. Includes static stretching for major muscles worked and for commonly tight muscles (hip flexors, hamstrings, calves, erector spinae, pectorals, anterior deltoids, upper trapezius)
2. Demonstrates using proper alignment and technique
3. Observe participants' form and offers modifications, regressions, progressions, or alternatives
4. Provides alignment cues: includes many cues for all students
5. Provides alignment cues: includes many cues for all stretches
6. Appropriately emphasizes relaxation or visualization & last end class on a positive note & thanks the participants for attending

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General Warm Up Outline

- **Warm-Up:**
 - Dynamic movements/limbering
 - Rehearsal moves
 - Major muscle groups dynamically or statically stretched in a biomechanically-sound manner with appropriate instructions:
 - Hip Flexors
 - Hamstrings
 - Calves
 - Shoulder Joint Muscles
 - Low Back
 - Upper trapezius



Finish with more Dynamic Movements!

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Cool Down....

Flexibility/Cool Down

- Includes static stretching for major muscles worked and for commonly tight muscles (hip flexors, hamstrings, calves, erector spinae, pectorals, anterior deltoids, upper trapezius)
- Demonstrates using proper alignment and technique
- Observes participants' form and offers modifications, regressions, progressions, and/or alternatives
- Provides alignment cues
- Appropriately emphasizes relaxation and/or visualization
- Uses appropriate movement and/or music tempo
- Ends class on a positive note and/ or thanks class

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Post cardio cool down

- Bring intensity down, change the _____ of your voice
- Keep movements _____
- Remind participants that you are cooling down.
- Arms below the heart is recommended
- Static stretching may be performed
- A proper cool-down enables waste products to disperse and the body to return to resting levels without injury. The cool-down also prevents blood from pooling in the lower extremities and allows the cardiovascular system to make the transition to more gradual workloads.

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Domain III: Class Delivery

A. Instruction/Coaching

B. Motivation

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Domain III: A. Instruction/Coaching

Provide	Provide nonverbal/visual cues in order to provide effective leadership.
Provide	Provide verbal cues in order to provide effective leadership.
Demonstrate	Demonstrate proper exercise form and alignment in order to provide safe and effective instruction.
Observe	Observe participant form and provide feedback in order to ensure proper technique and injury prevention.
Monitor	Monitor participant performance for signs of distress in order to minimize risk.
Present	Present alternative movements (modifications) in order to provide a safe and effective workout for all participant ability levels.
Instruct	Instruct participants to monitor level of exertion in order to minimize risk and enhance workout.

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Nonverbal/Visual Cues

- Anticipatory Cueing
- Movement Cues
- Motivational Cues
- Educational Cues
- Alignment & Safety Cues
- Visual Cues
- Movement Previews
- Constructive Corrections

85

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Verbal Cues

- ✓ Footwork cueing: indicates which foot to move (i.e., right, left)
- 📍 Directional cueing: indicates which direction to move (e.g., forward, back)
- 🕒 Rhythmic cueing: indicates the correct rhythm of the sequence (e.g., fast, slow)
- ✍️ Numerical cueing: refers to counting the rhythm (i.e., one, two, three, four)
- 🔍 Step cueing: indicates the name of the step (e.g., step-touch, grapevine)
- 👥 Combining several types of verbal cues while leading a group fitness class is recommended.

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Tell/Show.....

- Tell the participants how you want them to perform the movement (i.e., verbal cues).
 - Start with postural and stabilizer musculature cues (e.g., eyes look forward, chest up, abdominals engaged).
 - Follow with specific muscle group instruction (e.g., contract the shoulder to bring the arm out to the side).
- Show the participants the correct performance of the movement.
 - It is imperative that the instructor demonstrates the movement with proper form.
 - Showing the movement may be done at the same time as the verbal cueing (i.e., telling) of the exercise.

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Demonstrate Proper Exercise

- Have the participants —do the movement.
 - Initially, participants new to exercise should perform muscular strength and endurance exercises with little or no resistance.
 - While the class is performing the exercise, the instructor gives and receives feedback.
- This approach allows the instructor to provide participants with an auditory, visual, and kinesthetic learning experience.

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Stability Ball Squats



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Romanian Deadlift



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Plie Squat to a Front Kick



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Observe participant...

- Reciprocal Style Teaching
 - Uses an observer or partner to provide feedback to each participant
 - Best suited for fitness assessments where tests can be quickly administered by partners
 - Encourages social interaction
 - Limitations
 - Less instructor control over the participants
 - Observer or partner may not provide appropriate feedback

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Observe participants....

- Participants provide their own feedback after performing a specific task, recording the results and comparing the results to a given criteria or past performance.
- May be helpful in increasing exercise motivation and adherence due to
- Self-monitoring
- Suitable for the recording of target heart rate, recovery heart rate, and floor-exercise repetitions
- Limitations
 - Ideally, instructors provide a record card for each participant.
 - Many group fitness classes are not structured in this manner.

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Monitoring participants...

- Analyzing Performance
 - Ultimately, teaching techniques—including corrective teaching skills—help empower participants to improve in each class so that, over time, their movement integrity enhances independently. GFIs should have knowledge and skill in the following movement-instruction concepts:
 - Making positive corrections
 - Analyzing intensity and monitoring progress
 - Providing effective feedback for:
 - Observational assessments
 - Posture and movement
 - Form and technique

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Monitoring Intensity Chart

CLASS FORMAT	INTENSITY-MONITORING METHOD
Kickboxing	RPE or talk test
Aquatic fitness	RPE or talk test
Group indoor cycling	HR or talk test
Equipment-based classes	HR, RPE, or talk test

Note: HR = Heart rate; RPE = Ratings of perceived exertion



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Application of Intensity monitoring during a group exercise class

- If using music and checking HR, turn music OFF.
- Radial pulse is encouraged
- Check intensity in the MIDDLE of the workout and apply it – WHY?
- Keep participants MOVING while checking intensity – WHY?
- Use a 10 second pulse check
- Give modifications based on feedback




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Alternative Movement...

- Give modifications to movement
- Demonstrate exercise progressions, regressions, modifications and alternatives
- Explain recommendations and guidelines
- Always show modification, regressions, progressions and/or alternative movement




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Modification Skills are Key!

- **Modification:** the exercise is modified to fit a particular issue (back pain, knee pain, shoulder pain, etc.)
- **Regression:** the exercise is made easier
- **Progression:** the exercise is made harder
- **Alternative:** a different exercise is given that accomplishes the same purpose

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Domain III: B. Motivation

01

1. Provide positive reinforcement in order to enhance participant experience.

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2. Coach participants in order to encourage them to put forth their best efforts.

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Two Major Classifications of Group Exercise

Traditional Group Ex

- staying on the beat is emphasized
- music is key
- typically highly choreographed
- often dance oriented
- instructor performs all or most moves with the class
- anticipatory cueing is essential
- participants expected to move precisely together
- instructor is unable to give much individual attention
- modalities include step, high/low, kickboxing, Zumba, & hip-hop

Coaching-based Group Ex

- staying on the beat is not necessary
- music may or may not be used
- no choreography
- no dance moves
- instructor demos only occasionally
- no anticipatory cueing is needed
- participants may move individually or together; precision not expected
- instructor is able to work more one-on-one with participants
- modalities include boot camp, water exercise, indoor cycling, trekking, body leverage classes, & sports conditioning

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Coaching in Group Exercise

- Different from coaching a sports team
- Focus is not on winning or competition
- Athletes make up a small % of the population—are generally already highly motivated
- What is the primary goal for the average group exercise participant?



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What Does a Coach Do?

- Positive persuasion
- Leads and motivates
- Brings out the best in people
- Has a vision of what can be and is able to communicate that to others; challenges self-limiting beliefs
- Develops an "I can" attitude in others
- Sells class on the benefits of fitness, wellness, and self-improvement
- Keeps things fun and exciting



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Tips

- Greet people as they enter
- Develop an "I can" attitude, for yourself and in others
- Create enthusiasm
- Keep it fun and exciting
- Help participants have positive experiences
- Smile!
- Be empathetic
- Mingle with your class
- Reach out to everyone: give high-5's, fist bumps, hand shakes, etc.
- Give each participant specific feedback
- Challenge participants to progress beyond their comfort zone (not too much for beginners, though); set challenging but realistic goals
- Encourage effort, not results
- Be genuinely interested in all your participants
- Make each participant feel important: recognize those who seldom get attention
- Avoid words, actions, or attitudes that could bring negative consequences



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Creating Dynamic Team Environments

- Create a group culture where all members feel successful and able to contribute
- Most people need to feel a sense of connection and belonging
- Encourage members to give positive feedback to each other
 - Ask for participant input (what are their favorite moves or drills? Music?)



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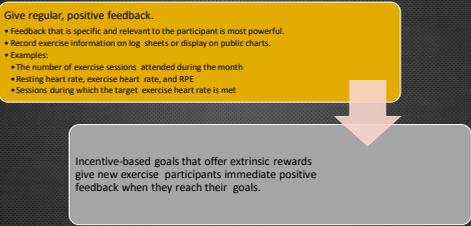
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Promoting exercise adherence

Give regular, positive feedback.

- Feedback that is specific and relevant to the participant is most powerful.
- Record exercise information on log sheets or display on public charts.
- Examples:
 - The number of exercise sessions attended during the month
 - Reaching heart rate, exercise heart rate, and RPE
 - Sessions during which the target exercise heart rate is met

Incentive-based goals that offer extrinsic rewards give new exercise participants immediate positive feedback when they reach their goals.



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Promoting exercise adherence

- Make exercise sessions easy, interesting, and fun.
 - The exercise routine should be easy to follow.
 - Provide ample positive reinforcement and support while participants are learning a new routine and getting accustomed to your style.
 - Vary the routine regularly and provide different types of music based on participant preferences.
 - Always make an effort to be cheerful and friendly.

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Promoting exercise adherence

- Emphasize the positive aspects of exercise.
- Instruct new participants to focus on the positive feelings that exercise generates:
 - How refreshing it feels to move about freely
 - How encouraging other class members are
 - How accomplished the participants feel after the exercise class has ended
 - How satisfying it will be when they reach their performance or health goals
- A positive focus serves as a motivator when exercise intensity increases and becomes somewhat uncomfortable for the participant.




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Small Group Personal Training is an Upcoming Trend!

- Personal trainers are going to need group ex skills (for formatting and program design, motivational techniques, coaching skills, how to address multiple levels with one group, etc.)
- TRX
- RIP Trainers
- ViPRs
- Kettlebells






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Domain IV: Principle of Anatomy, Kinesiology and Exercise Physiology

Demonstrate and explain	Demonstrate and explain functional activities of daily living (ADL) in order to provide muscle balance.
Select and sequence	Select and sequence strength and conditioning exercises in order to provide a safe and effective workout.
Demonstrate and cue	Demonstrate and cue proper range of motion in order to prevent participant injury.
Demonstrate and cue	Demonstrate and cue proper joint action and lever length in order to prevent participant injury.
Use	Use anatomical terms to refer to muscle groups in order to educate participants and provide clear instruction. Review Energy Systems.



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Health-Related Fitness Components Defined

- **Cardiorespiratory Fitness:** The ability to perform repetitive, moderate-to-high-intensity, large muscle movements for a prolonged period
- **Flexibility:** The amount of movement that can be accomplished at a joint
- **Muscle Strength:** The maximum amount of force a muscle or muscle group can develop during a single contraction.. Single Contraction
- **Body Composition:** The percentages of fat, bone, and muscle in a human body

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Muscular Conditioning Terminology

- **Muscular Strength:** The maximum force a muscle or muscle group can produce at one time
- **Muscular Endurance:** The ability to perform repeated muscle actions, as in pushups or sit-ups, or to maintain a static muscle action for a prolonged duration.
- **Muscle Power:** The ability of a muscle or muscle group to muscle group to stabilize a joint and maintain a desired position. This is particularly important for postural muscles that stabilize the spine, pelvis, and shoulder girdle.
- **Overload:** Giving the body a challenge greater than it has had in the past. Overload may be accomplished by increasing the exercise frequency (number of days per week), duration (number of sets or repetitions), intensity (amount of weight lifted), or mode (type of exercise). The exercise mode can be modified by switching to a new exercise for the same muscle group, adding an unstable surface such as a BOSU balance trainer, or foam roller, or changing from dumbbell to elastic bands..
- **BOSU:** Both Sides Up

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Functional Status: ADL

<ul style="list-style-type: none"> • Basic ADLS • Bathing • Dressing • Transfer • Toileting • Grooming • Feeding self 	<ul style="list-style-type: none"> • Instrumental ADLS • Using the phone • Preparing Meals • Laundry • Housing Keeping • Shopping
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Exercise Order.....

1. Exercises for bigger muscles should come before exercises for smaller muscles.
Examples: Chest or back before shoulders, biceps or triceps. Shoulders before biceps or triceps. Quads or hamstrings before calves or abs.
2. Compound exercises should come before isolation exercises.
Examples: Bench press before dumbbell flies. Overhead press before lateral raises. Squats before leg extensions. Romanian deadlifts before leg curls.
3. Free weight/body weight exercises should come before machines.
Squats or deadlifts before leg presses. Barbell bench press before incline machine press. Pull-ups before chest supported machine rows.

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Topics

- Anatomical Terminology
 - Planes
 - Joint Actions
- Major muscle groups
 - Joint action
 - Exercises

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Anatomical Terminology

Superior	---	Inferior
Proximal	---	Distal
Anterior	---	Posterior
Medial	---	Lateral
Prone	---	Supine

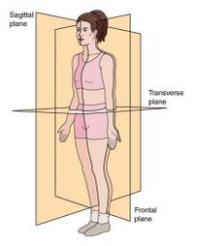
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Describing Movement

- Anatomical Position
- Planes
 - Sagittal
 - Frontal
 - Transverse (Horizontal)



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Basic Joint Actions

Abduction	Adduction
Rotation	Circumduction
Pronation	Supination

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Specific Movements by Joint

Neck / Spine	Flexion - Extension - Hyperextension Lateral flexion, Rotation, Circumduction
Hip / Shoulder	Flexion - Extension - Hyperextension Abduction - Adduction, Internal Rotation - External Rotation, Circumduction
Knee / Elbow	Flexion - Extension

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Specific Movements By Joint

Radioulnar (forearm)	Pronation - Supination
Wrist	Flexion - Extension - Hyperextension
Ankle	Dorsiflexion - Plantarflexion Inversion - Eversion
Shoulder Girdle	Protraction - Retraction Elevation - Depression Upward Rotation - Downward Rotation
Pelvis	Anterior / Posterior Tilt

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Neck / Spine

- Flexion ---- Extension ---- Hyperextension
- Lateral Flexion (Right & Left)
- Rotation
- Circumduction

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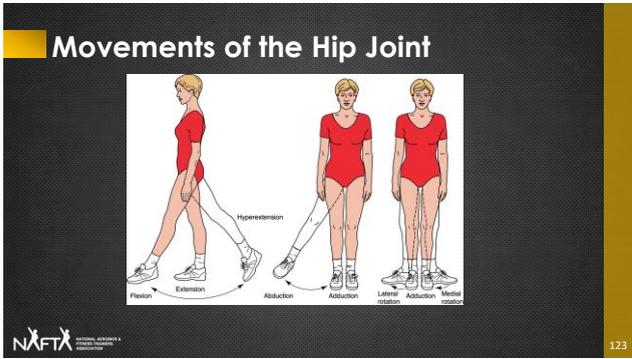
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Shoulder Joint / Hip Joint

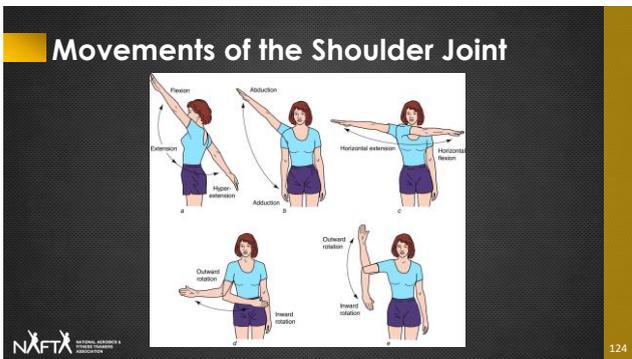
- Flexion --- Extension --- Hyperextension
- Abduction --- Adduction
- Transverse Abduction --- Transverse Adduction
- Rotation
 - Internal External
- Circumduction

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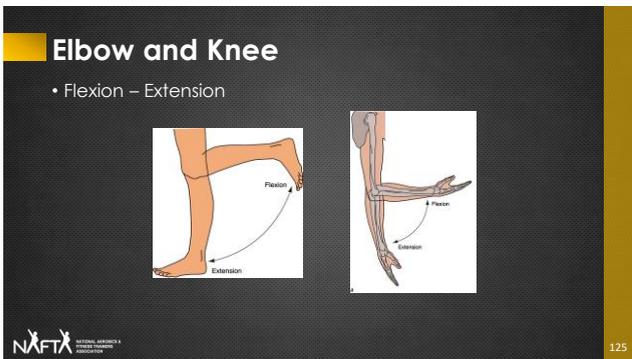
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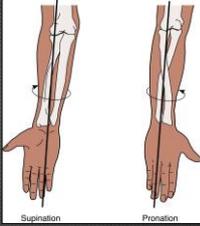
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Radioulnar: Forearm

- Forearm
 - Supination – Pronation



Supination Pronation

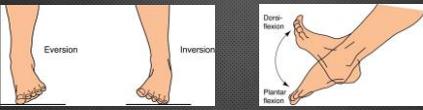
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Ankle

Plantar Flexion	---	Dorsiflexion
Inversion	---	Eversion
Pronation	---	Supination



Eversion Inversion

Dorsi-flexion

Plantar Flexion

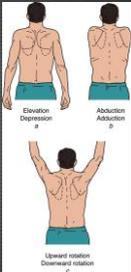
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Scapula

Elevation	---	Depression
Protraction	---	Retraction



Elevation Depression a

Abduction Adduction b

Upward rotation Downward rotation c

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Fundamental Movement From the Anatomical Position

Sagittal Plane

- Flexion/ Extension/ Hyperextension

Transverse Plane

- Transverse Ab/Adduction

Frontal Plane

- Abduction, Adduction

Multiplanar

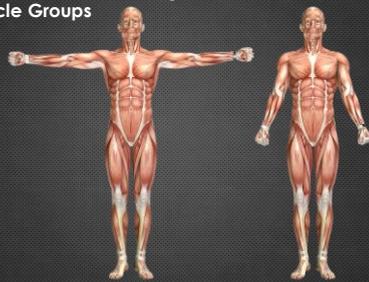
- Circumduction



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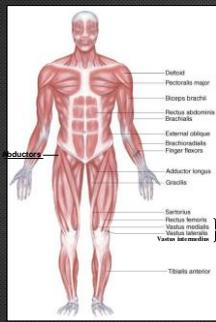
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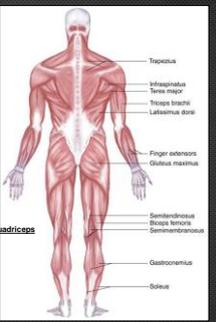
Functional Anatomy: Major Muscle Groups




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Muscle Balance: Opposing Muscles

JOINT	MUSCLE	MUSCLE
Hip	Ilio-psoas	Gluteus maximus
Hip	Abductors	Adductors
Knee	Quadriceps	Hamstrings
Ankle	Gastrocnemius	Anterior Tibialis
Shoulder/ Scapula	Pectorals	Rhomboids/Mid Trapezius, Posterior Deltoid
Shoulder	Deltoids	Latissimus dorsi
Elbow	Biceps	Triceps
Spine	Abdominals	Erector spinae

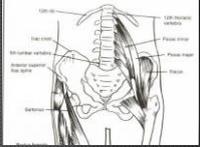
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Hip Flexors: Iliopsoas

- Joint Action
 - Hip Flexion
- Exercises
 - Full Sit ups
 - Walking, etc
 - Tend to be tight – need to stretch



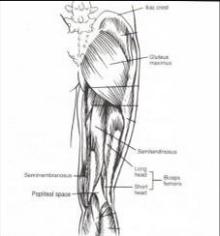
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Hip Extensor: Gluteus Maximus

- Joint Action
 - Hip extension
- Exercises
 - Leg press,
 - Squats and lunges
 - Hydrants



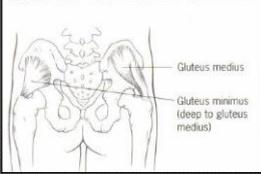
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Hip Abductors:

- Joint Action
 - Hip abduction
- Exercises
 - Abductor machine
 - Side leg lifts
 - Cable abduction
 - Lateral band walks



Gluteus medius
Gluteus minimus (deep to gluteus medius)

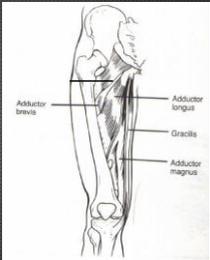
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Hip Adductors

- Joint Action
 - Hip adduction
- Exercises
 - Plie/Sumo squats
 - Side leg lifts
 - Cable adduction
 - Adductor machine



Adductor brevis
Adductor longus
Gracilis
Adductor magnus

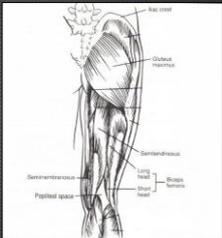
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Knee Flexor: Hamstrings

- Joint Action
 - Knee Flexion
- Exercises
 - Leg press,
 - Squats and lunges
 - Leg Curls (Hamstrings)



Semitendinosus
Semimembranosus
Biceps femoris (long head)
Biceps femoris (short head)
Popliteal space

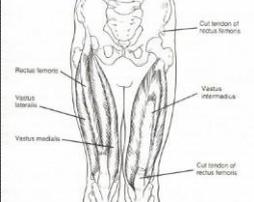
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Knee Extensor: Quadriceps

- 4 muscles
 - Vastus lateralis
 - Vastus medialis
 - Vastus intermedius
 - Rectus Femoris
- Joint Action
 - Knee Extension
- Exercises
 - Knee extension
 - Leg press
 - Squats



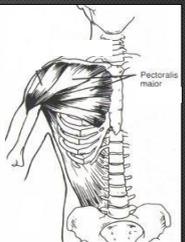
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Shoulder: Pectoralis Major

- Joint Action
 - Shoulder transverse adduction
 - Shoulder Flexion
- Exercises
 - Push ups - bench press
 - Supine flies
 - Pec. Dec,
 - Cross pulley



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Shoulder: Latissimus Dorsi

- Joint Action
 - Shoulder adduction
 - Shoulder extension
- Exercises
 - Lat pull downs
 - Pull ups
 - Bent over rows
 - Low cable rows



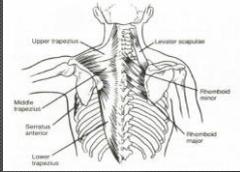
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Scapula: Rhomboids and Trapezius

- Trapezius
 - Scapula elevation
 - Scapula retraction
 - Scapula depression
- Rhomboids
 - Scapula retraction
- Exercises
 - Bent over flys
 - Seated row (high arm position)
 - Shoulder Shrugs



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Shoulder: Deltoids

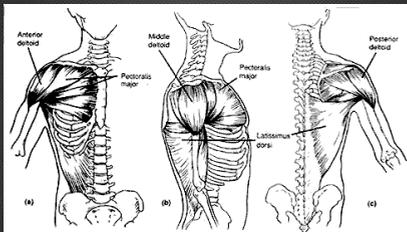
- Joint Action
 - Middle Deltoid
 - Shoulder abduction
 - Anterior (Front) Deltoid
 - Shoulder flexion
 - Posterior (Rear) Deltoid
 - Shoulder extension
 - Transverse abduction
- Exercises
 - Overhead press
 - Front & Lateral
 - Raises
 - Upright rows
 - Seated row (high arm position)



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Shoulder: Deltoids

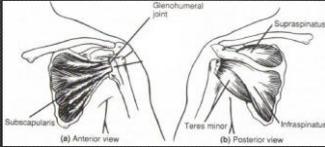


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Shoulder: Rotator Cuff Muscles

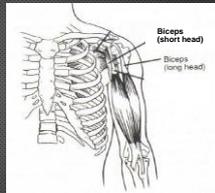
- Supraspinatus: Shoulder Abduction
- Infraspinatus: Shoulder External Rotation
- Teres minor: Shoulder External Rotation
- Subscapularis: Shoulder Internal Rotation



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Elbow: Biceps

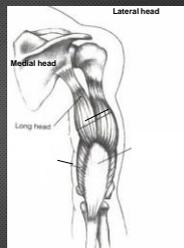
- Biarticular
 - Elbow Flexion
 - Shoulder Flexion (long head)
 - Forearm Supination
- Exercises
 - Curls
 - Chin-ups
 - Lat pull-down



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Elbow: Triceps

- Biarticular
 - Elbow Extension
 - Shoulder Extension (long head)
 - Forearm Pronation
- Exercises
 - Push-ups, bench press
 - Dips
 - Kickbacks



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Ankle: Gastrocnemius & Soleus

- Gastrocnemius
 - Biarticular
 - Plantar flexion
 - Knee flexion
- Soleus
 - Plantar flexion
- Exercises
 - Heel raises
 - Running
 - Jumping rope and hopping



Tight – Need to stretch!

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Ankle: Anterior Tibialis

- Joint Action
 - Dorsi flexion
- Exercises
 - Toe raises
 - Toe pull back (band)
 - Walking, running (particularly uphill)



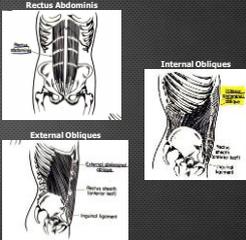
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Abdominals: Rectus Abdominis, Internal & External Obliques

- Joint action
 - Spinal Flexion
 - Spinal Rotation
 - Posterior Pelvic tilt
- Exercises
 - Crunches
 - Crunch with rotation
 - Reverse curls



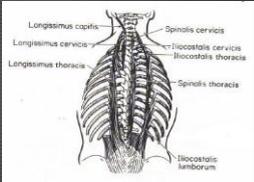
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Erector Spinae: Spinal Extensors

- Joint Action
 - Spinal Extension
- Exercises
 - Back extensions
 - Stability exercises



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Prime Movers: Lower Body

Joint Action	Prime Movers
Hip Flexion	Hip flexors (Ilio-psoas)
Hip Extension	Gluteus Maximus & Hamstrings
Hip Abduction	Gluteus Medius & Minimus & Tensor Fascia Latae
Hip Adduction	Adductors (longus, brevis, magnus)
Knee Flexion	Hamstrings
Knee Extension	Quadriceps
Ankle Plantar Flexion	Gastrocnemius & Soleus
Ankle Dorsi Flexion	Anterior Tibialis

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Prime Movers: Upper Body

Joint Action	Prime Movers
Shoulder Flexion	Anterior Deltoid, Pectorals (Clavicular)
Shoulder Extension	Lattisimus Dorsi, Posterior Deltoid
Shoulder Abduction	Middle Deltoid
Shoulder Adduction	Lattisimus Dorsi, Pectoral
Shoulder Transverse Adduction	Pectorals (Sternal)
Shoulder Transverse Abduction	Posterior Deltoid
Elbow Flexion	Biceps
Elbow Extension	Triceps
Forearm Supination	Biceps
Forearm Pronation	Pronator teres, Triceps

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Prime Movers: Scapula

Joint Action	Prime Movers
Scapula Elevation	Upper Trapezius & Levator Scapula
Scapula Depression	Lower Trapezius
Scapula Retraction	Middle Trapezius, Rhomboids
Scapula Protraction	Pectorals Minor, Serratus Anterior

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Prime Movers: CORE

Joint Action	Prime Movers
Spinal Flexion	Rectus Abdominus
Spinal Flexion & Rotation	Internal & External Obliques
Spinal Extension	Spinal Erectors
Spinal Lateral Flexors	Quadratus Lumborum, Obliques

Joint Action	Prime Movers
Pelvis Anterior Tilt	Hip Flexors, Spinal Extensors
Pelvis Posterior Tilt	Abdominals, Hamstrings & Glutes

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Basic Lift	Joint Action	Prime mover
Leg Press	Hip and Knee Extension	Gluteus Maximus/ Quadriceps
Leg Extension	Knee Extension	Quadriceps
Leg Curl	Knee Flexion	Hamstrings
Bench Press	Shoulder Transverse Add/ Elbow Extension	Pectorals, Ant. Deltoid / Triceps
Flys	Shoulder Adduction	Pectorals, Ant. Deltoid
Lat Pull	Shoulder Add / Elbow Flex.	Latisimus Dorsi / Biceps
Seated High Row	Shoulder Transverse Ab. / Elbow Flexion	Rhomboids, Mid Traps, Post Delt / Biceps

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Basic Lift	Joint Action	Prime mover
Shoulder OH Press	Shoulder Ab. / Elbow Ext.	Deltoids, Triceps
Lateral Raise	Shoulder Abduction	Deltoids
Tricep Press	Elbow Extension	Ticeps
Bicep Curl	Elbow Flexion	Biceps
Calf Raise	Plantar Flexion	Gastrocnemius, Soleus
Toe Pulls	Dorsi Flexion	Anterior Tibialis
Back Extension	Spinal Extension	Spinal Erector
Crunch	Spinal Flexion	Abdominals

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Exercise Physiology Skeletal Muscle Fibers

Type I	Type II-A	Type II-B
Found predominantly in good endurance athletes (triathletes, marathon, 40,000 meter)	Found predominantly in good middle-distance athletes (mile, 3000 meter)	Found predominantly in goo strength /power/speed athletes (100 meters, discus)
Dark Red	Medium Red	White
Highest myoglobin	High myoglobin	Low myoglobin
Largest mitochondria	Large mitochondria	Small mitochondria
Most capillaries	Many capillaries	Few capillaries
Most fatigue resistant	Fatigue resistant	Fatigue very quickly
Highest oxidative capacity	High oxidative and glycolytic capacity	High glycolytic capacity
Aerobic 2 minutes or Longer	Anerobic 60 -90 seconds	Anerobic 10 seconds

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