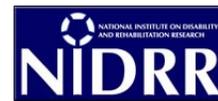
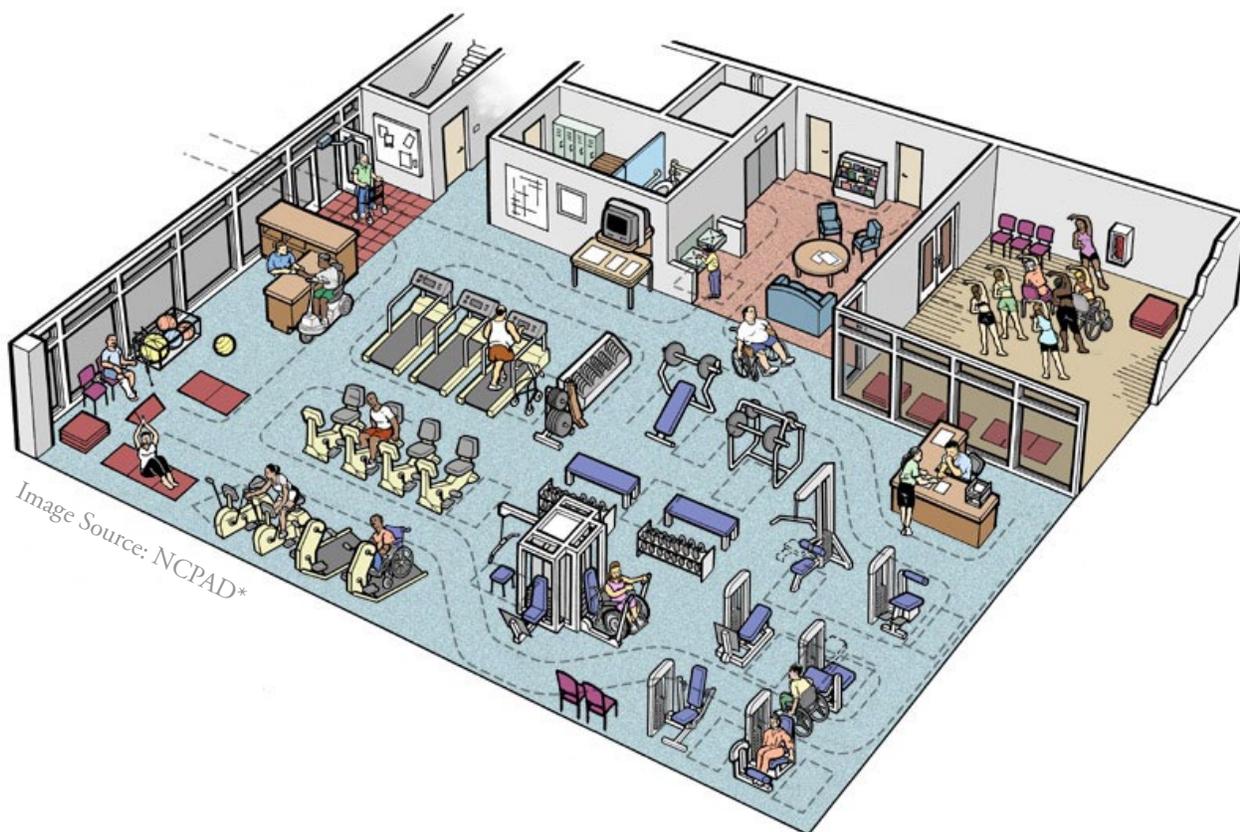


Information Package on

AIMFREE

Accessibility Instruments Measuring
Fitness and Recreation Environments



KT4TT Intervention Tools - Series B:3 (2011)

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AIMFREE AND FITNESS FOR ALL

Introduction

“Improve health...exercise...reduce stress...participate in regular physical activity...prevent cardiovascular and other disease...stay fit... avoid chronic disease ... exercise...”

As an exercise and fitness professional, you are well aware of the long term health benefits from regular physical activity. According to the US Department of Health and Human Services (HHS), “regular physical activity includes participation in moderate and vigorous physical activities and muscle-strengthening activities”¹. The need for regular physical activity to facilitate health and well being and to prevent disease is well documented and is recommended for persons of all age groups across the lifespan.

However, this level of activity falls short for persons with disabilities. Statistics on adults who engage in aerobic physical activity of at least moderate intensity for at least 150 minutes/week, or 75 minutes/week of vigorous intensity, or an equivalent combination is 27.3% for those with disabilities as compared to 46.9% without disabilities². An earlier report (HHS Healthy People 2010³) also reflects disparity in leisure-time physical activities between persons with and without disabilities.

Did you know????

In the HHS Healthy People 2010 report, % of individuals having no leisure-time physical activity and disability

Disability reported: **56%**

No Disability reported: **36%**

There are currently 36 million persons in the United States with a disability. With a growing number of persons with limitations in mobility and vision, attention and effort must be directed to promote participation in physical activity.

Statistics Worth Noting⁴:

- One quarter of the 20 yr olds today will become disabled
- Over 36 million Americans are classified as disabled – that’s about 12% of the population
- More than 30 million Americans between 21 and 64 are disabled
- 25+ million are restricted by the effects of disability.

1) website: <http://healthypeople.gov/2020/topicsobjectives2020/overview.aspx?topicid=33>

2) website: http://www.healthindicators.gov/Indicators/Adultaerobic150minweekmoderateor75minutesweekvigorousphysicalactivity_1319/Profile/Data

3) website: <http://www.healthypeople.gov/2010/Document/pdf/Volume2/22Physical.pdf>

4) website: (www.disabilitycanhappen.org/chances_disability/disability_stats.asp)

What does this mean for exercise and fitness professionals???

The lack of regular physical activity and exercise by persons with disabilities is a major concern for exercise and fitness professionals who work to help persons with health and well being. Currently, persons with disabilities do not have access to the wide range of fitness opportunities offered at exercise programs, clubs, and other fitness facilities. As a result, they are deprived of the health benefits associated with regular physical activity and exercise, and they have an increased risk for other health conditions associated with inactivity and disabilities (i.e. high blood pressure, diabetes, heart disease, etc.).

Increasing regular physical activity for the large number of persons with limitations and disabilities and for those who will become disabled in the future must be addressed. Helping to increase the accessibility of the large number of gyms and fitness facilities offering programs and services can contribute to fitness for all customers.

With activity and exercise a high priority to facilitate health and to prevent disease and conditions that result from inactivity, there is a need for exercise and fitness professionals to be proactive to remove barriers to facilitate fitness for all.

Need: Increase Accessibility to promote Fitness For All

The inaccessibility of gyms, exercise equipment, fitness programs and activities, and areas such as sidewalks and parks within living communities are reported to be major factors in restricting participation in regular physical activities and exercise by persons with mobility and vision limitations. The Healthy People 2010 report suggests that these are not only architectural barriers, but also may include discrimination, attitudes, and policies and procedures of gyms and facilities where the activities are carried out.

Did you know????

% of adults who engage in aerobic physical activity of at least moderate intensity for at least 150 minutes /week, or 75 minutes /week of vigorous intensity, or an equivalent combination:

With disabilities **27.3%**

Without disabilities **46.9%**

AIMFREE: A tool for Fitness for All

Accessibility Instruments Measuring Fitness and Recreational Environments

To increase participation in exercise and physical activity at recreation and fitness facilities, Dr. James Rimmer conducted research to address accessibility. The AIMFREE tool was developed and then validated to test the accessibility of fitness and recreation facilities. It is intended to be used by exercise and fitness professionals (including facility staff and owners) as well as by persons with limitations in mobility and vision.

AIMFREE: Tool Description

AIMFREE is a survey with a series of measures to help determine and improve accessibility for persons with disabilities in multiple areas. It builds on the guidelines to improve accessibility that were previously approved by the US Access Board. In keeping with these guidelines, AIMFREE includes measures on the built environment that address potential barriers in the environment. Although fitness facilities may already follow some of these ADA guidelines, AIMFREE addresses additional factors that were found to be important to enable access and participation in physical activities. These include accessibility measures for equipment, information, swimming pools, professional behavior, and facility policies.

The survey includes:

- a glossary of terms used to help with making observations and answering survey questions
- a demographics form – that notes the evaluator, type of facility, and other demographic information
- Survey Directions – to help with answering the survey
- Survey – the items to assess are divided into multiple sections
- a Notes page – included for the assessor to add any additional notes
- Scoring instructions and scales
- ADA Accessibility Guidelines – provides references to the ADA items addressed in AIMFREE
- Information Resources
- Equipment Resources

AIMFREE Research and Development

The research conducted by Dr. Rimmer to develop the AIMFREE questionnaire included **fitness professionals**, architects, facility designers, city planners and park district management, and persons with disabilities. It was related to persons with mobility impairments and items were included for persons with limitations in vision.

The first part of the research was to determine the types of facilities that would be assessed for accessibility. A national survey was completed with persons with mobility limitations to determine their preferences of facilities to use. The outcome included fitness centers and swimming pools.

The next part of the research was to develop the measures in the survey. Dr. Rimmer held Focus groups, which were discussion groups, across 10 regions in the United States. Four groups were held in each of the 10 regions.

The four groups included people with disabilities, fitness professionals, architects, and city planners. The participants represented various groups concerned with accessibility which helped to obtain more reliable measures. Each group was asked to focus on certain areas of accessibility. For example, the focus for fitness and recreational professionals was on participation, and access to and use of equipment. However, it also was on policies that affect persons with disabilities, and other things that affect access including a fitness professional's abilities, knowledge and attitudes.

For the third part of the research, AIMFREE was then used by fitness professionals at fitness centers across the country. This assisted with norms and scoring of the measures.

The following Table provides an example of items in AIMFREE. Included are factors related to accessibility and a satisfactory experience within a gym. These factors include accessibility of equipment, information, programs, policies, professional behavior, professional support and training.

Table: Fitness-center specific measures of accessibility	
Equipment	<ul style="list-style-type: none"> • Does the facility provide exercise equipment that does not require transfer from wheelchair to machine? Are buttons on equipment raised from the panel surface?
Fitness program	<ul style="list-style-type: none"> • Can individuals with disabilities participate in fitness /recreation programs at their own pace? Do exercise classes and programs (e.g., aerobics classes) include activities that can be performed from a seated position?
Hot tubs /saunas	<ul style="list-style-type: none"> • Is there a ramp leading into the whirlpool or hot tub? Is there a place to park a wheelchair outside the sauna so it doesn't get hot?
Locker rooms	<ul style="list-style-type: none"> • Is there a clear path leading from the locker room entrance to the lockers that is at least 36 inches wide? Can the highest lockers be opened from a seated position?
Policies	<ul style="list-style-type: none"> • Is the accessibility of the facility periodically reviewed? Can a consumer's personal assistant be allowed to enter the facility without incurring additional charges?
Professional behavior	<ul style="list-style-type: none"> • Did the staff member make eye contact when speaking to consumers? Did staff members ask consumers if they needed assistance before attempting to help them?
Professional knowledge /attitudes	<ul style="list-style-type: none"> • Did you feel that staff members were uneasy with regard to consumers' disability? Did you feel that staff members maintained a positive attitude when interacting with consumers?
Professional support and training	<ul style="list-style-type: none"> • Do staff members receive training on providing accommodations to persons with disabilities? Do staff members receive basic information on medications and their effect during exercise?
Swimming pool	<ul style="list-style-type: none"> • Are pool lift controls accessible from the deck level? Does the pool have a ledge to hold onto when entering the water?

Although AIMFREE was developed and validated in fitness centers in public facilities, it can be used to assess all fitness centers. Exercise and fitness professionals can use this tool and obtain actionable feedback from Dr. Rimmer's research team at the Rehabilitation Engineering Research Center on Recreational Technologies (RecTech) at University of Illinois-Chicago. For individuals that complete the AIMFREE survey and send their responses, the service includes reviewing the answers and making practical recommendations on how to improve accessibility.

ACCESSIBILITY AND EXERCISE AND FITNESS PROFESSIONALS

Many exercise and fitness professionals are aware of common accessibility features supported through the Americans with Disabilities Act often seen in fitness facilities and other public locations (i.e. curb cuts, accessible drinking fountains). The following are examples of other accessibility items included in AIMFREE in addition to others related to the ADA guidelines for the built environment:

- Lack of accessible exercise equipment

The lack of accessible equipment can prevent or limit participation in exercise and physical activities by persons with limitations in mobility. An exercise machine with a seat may not be usable by someone who is unable to transfer from a wheelchair.

A chest press with multiple adjustments is an example of exercise equipment that can be used by all persons, including wheelchair users. It:

- has a swing-away seat that can be adjusted with one hand, freeing the other hand for positioning or other needs and eliminating the need to move out of the wheelchair
- allows for selection of weights from a seated position
- provides an upright seat back support that assists a wheelchair user with stability when lifting
- provides multiple handle positions enabling users to select a high or low position as needed.



Photo used with permission from
Cybex International, Inc.

- Insufficient information about exercise programs and club activities

Examples of information provided can include instructions or routines, brochures with hours and operation of the facility, and descriptions about exercise and fitness programs or equipment. Persons with limitations in mobility may have difficulty with reaching items at a high level, or may have difficulty holding or manipulating papers. Persons with limitations in vision may be unable to see the standard print. Handouts and other information can be provided in alternate formats that can then be read and managed electronically if needed. Use of email, text messages, blogs, and information provided on a CD are examples of ways to provide announcements and information.



dreamstime.com

1 Begin your workout with **cardio session #1**, an easy 3-minute warm-up. Get on the treadmill or the elliptical, or do jumping jacks in place.

2 Next, start **sculpting session #1**, doing a circuit of 3 exercises for 3 different body parts, performing 3 sets of 1 x 30 reps, and resting for 45 seconds to 1 minute between sets.

EXERCISE 1: LUNGES
Stand with your feet hip-width apart. Take a giant step back with your right foot and place it down in a diagonal lunge behind you, making sure to keep your leg and your back straight. Your hands can touch the ground, and your head should be up. Once your foot touches down, return to start position. Repeat this move 10 times with your right leg, and then 10 times with the left. Work your way up to 20 reps per side.

EXERCISE 2: LATERAL RAISES
Stand with your feet hip-width apart and hold a 5-pound dumbbell in each hand, your arms hanging at your sides. Raise your arms out to the sides while biting the tops of the dumbbells forward, rotating them laterally, as if you were pouring tea from a teapot. Stop when you reach about shoulder height, pause momentarily, then lower your arms back down, and return to start position.

EXERCISE 3: BICEPS CURLS
Holding a pair of 5-pound dumbbells, stand with feet hip-width apart and knees slightly bent. Let your arms hang at your sides, and keep your head back and slightly leaning up so that your neck is relaxed. Curl your arms up, squeeze your biceps when you reach your shoulders. After then even more slowly, uncurl your arms. Sticking to a slower tempo (or the time the muscle is under tension) will build your biceps more effectively. Repeat 15-20 times.

3 Next is **cardio session #2**, 10 minutes of cardio with 2 minutes of high intervals and then 2 minutes of lower intervals. Possible activities include jumping rope, running, doing jumping jacks or any high-impact exercise that gets your heart pumping.

4 Now it's time for **sculpting session #2**:

EXERCISE 1: DUMBBELL FLY
Sitting on a bench, hold 5-pound dumbbells in each hand, palms facing in, bring your arms straight above your head. As you exhale, lower both arms out to the sides to about shoulder height. Hold momentarily, then slowly raise to return to start position.

EXERCISE 2: STEP-UPS
Stand facing a bench or a set of stairs and step onto it with your right foot, then bring your left foot up to meet the right. Return your left foot to the floor, keeping your right foot on the bench. Repeat with your left foot up to 15 times, then switch sides and step with your left foot to begin.

EXERCISE 3: LYING TRICEPS EXTENSIONS
Lie face-up on a bench, holding a 2-pound dumbbell in each hand, extended toward the ceiling. Keeping your arms locked in position and elbows pointed forward, slowly bend your elbows and lower the dumbbells on either side of your face until they're in line with your ears, then immediately raise the dumbbells back to start position.

5 Now it's time for **cardio session #3**, which consists of a 10-minute interval. For this segment, pretend to jump rope for 2 minutes to get your heart rate up, then do 5 minutes of shadow kickboxing with punches and kicks.

6 The last step is the **core segment**. For this you hold a plank position on your stomach, place your forearms and shins flat on the floor, and as you exhale, raise your torso. Hips and legs to balance on your toes. Control your whole body during this move, and make sure not to arch your back; try to remain in a long, straight line. Hold for at least 30 seconds, then work your way up to a minute, and don't forget to breathe. Repeat 2 more times.

You've purchased the 3-2-1 Training Method DVD on Amazon's Website, www.amazon.com/3-2-1-training. Plus you can find the 3-2-1 Nutrition Plan, which offers a healthy, sensible approach to weight loss and building lean muscle tissue. Good luck!

- Obstructions within exercise and locker areas /access to gym materials

It may be difficult for people with mobility limitations who use a wheelchair or other mobility device to move around a gym or fitness center, or to access items or specific areas in the gym. This may be because the exercise equipment is positioned too close together, not allowing a person to move a wheelchair or a walker to travel freely to reach all areas. A non-accessible and an accessible exercise and fitness room are shown on the following page.

The before picture shows a gym with multiple rooms and activity areas, and exercise equipment set-up in various locations before accessibility was considered. The after picture shows the same gym with several changes made, including changes made to the room setups, location of exercise equipment, and rearrangement of furniture and exercise equipment.

Some of the changes made to this gym include:

- Area R shows program adaptation to include individuals with varying levels of abilities including a person using a wheelchair.
- Area M shows a multi-station exercise machine with spacing that allows a person in a wheelchair or scooter to pull up underneath and use the equipment.
- Area B shows a new permanent floor surface to alleviate tripping hazards, particularly for those who have limitations in mobility or balance.



These types of changes can be supported with facility policies and procedures.

- Lack of training for staff

Customers may have special needs related to exercise, self care or personal issues that staff may need to consider when preparing for and providing fitness programs. For example, a customer may only be allowed to exercise while standing for a limited time period.



Training and preparation for staff related to individual abilities, and specific limitations and types of disabilities can help fitness and exercise professionals obtain the necessary information needed to choose appropriate equipment and program options, plan, and modify programs to fit the individual's abilities and needs.

Information in the examples above as well as the many changes seen in the before and after graphics show how accessibility of gyms and fitness centers can be improved. Use of the AIMFREE can help with this to increase the opportunity for fitness for all.

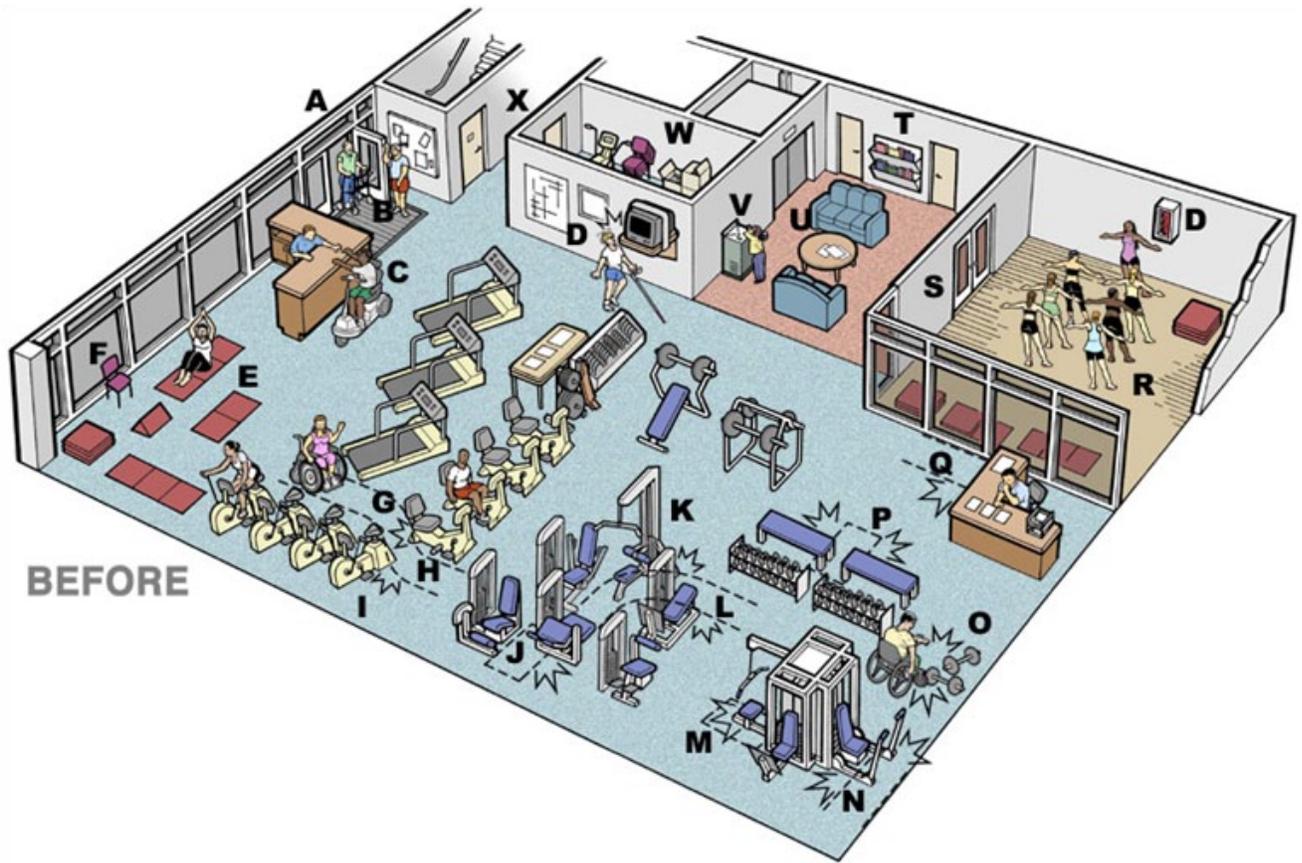
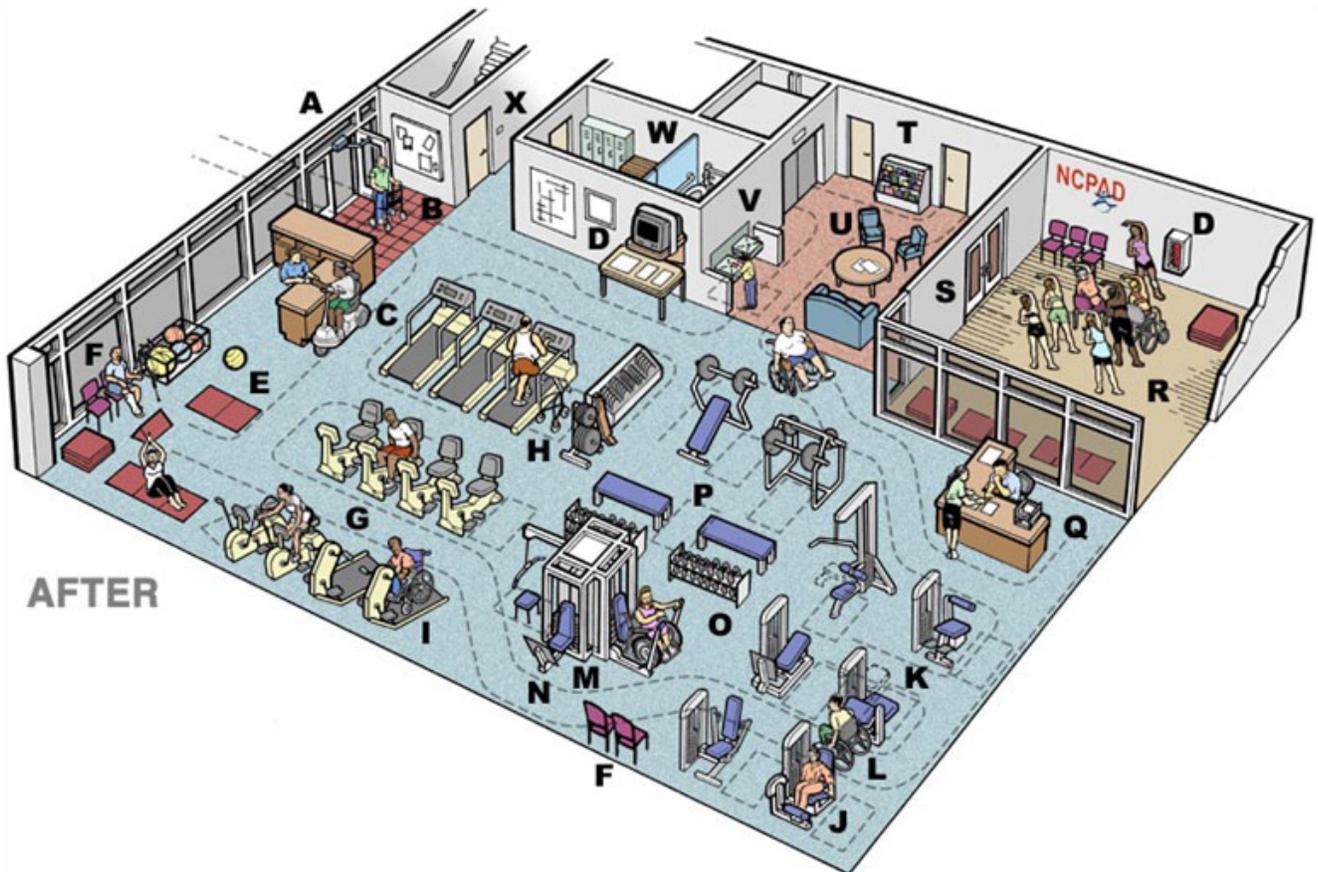


Image Source: NCPAD*



*Funding for the National Center on Physical Activity and Disability is supported by Grant/Cooperative Agreement Number U59DD000437 from the Centers for Disease Control and Prevention's National Center on Birth Defects and Developmental Disabilities (NCBDDD).

Exercise and Fitness Professionals can help!!!

Fitness professionals can help make a difference in increasing accessibility and fitness for all.

Use AIMFREE to:

Increase your understanding of the fitness and access needs of customers with disabilities

- As awareness and understanding of accessibility increase, you will have greater success in addressing fitness needs of all of your customers.
- Include exercise options for all customers when programming, including those with disabilities.
- Create a resource for information that you and other staff can refer to when working with persons with limitations in mobility or vision, or who have other needs.

Expand expertise in training and fitness programs for persons with specific needs

- Expertise and competency matters. Learn about accessibility and specific disability issues by evaluating your programs and fitness facility.

Contribute to the development of norms

- Establishing accessibility norms will assist with continuity of fitness accessibility across the country. By using the AIMFREE tool and adding data to Dr. Rimmer's database, you can further this endeavor of establishing norms.

Provide enhanced programs and boost the reputation of your employer /fitness club

- Increased skill in communicating with all of your customers and your employer regarding fitness and accessibility will attract new customers.
- Job options can be expanded with increased expertise.

Keep up with the latest

- New knowledge contributes to better programs for your customers
- Share your skills and knowledge on accessibility and AIMFREE with others in your community to help increase participation in physical activities.
- Learn from other exercise and fitness professionals and collaborate to advocate for accessibility and fitness for all.

INTELLECTUAL PROPERTY STATUS

The AIMFREE Tool is copyrighted by Dr. James Rimmer and unauthorized use or distribution of the AIMFREE Tool is prohibited. However, a free copy of the professional version of the AIMFREE Tool in an electronic format on CD is included with this information package. We ask that this copy be used for research purposes only and that you do not duplicate it (on another CD or in print) or share it with others.

TECHNICAL ASSISTANCE

Where can I find out more information about AIMFREE?
Need Assistance on using the AIMFREE Tool or on Scoring?

The person to contact with any questions pertaining to AIMFREE is: Sue Arnold

E-mail: smarnold@buffalo.edu

Phone: 1-716-204-8606 ext. 200

Address: KT4TT
University at Buffalo
100 Sylvan Parkway
Suite 400
Amherst, NY 14228

APPENDICES

Appendix 1: AIMFREE TOOL

AIMFREE Professional Tool Professional Version (CD)

Appendix 2: Journal Publication on AIMFREE

Article 1: Development and Validation of AIMFREE: Accessible Instruments Measuring Fitness and Recreation Environments

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