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ACSM's Certified News



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News You Need!

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Disability Awareness: An Overview and Introduction

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In this themed issue, subject matter experts provide intriguing recommendations to enhance the awareness and delivery of functional exercise programs for those persons with a disability to all health and fitness practitioners. Blythe Hiss and Valerie Lawson address disability awareness and customer service, Mitch Carr discusses the adaptation of exercise programs for people with a disability, while Amy Rauworth overviews the universal design of fitness facilities for all persons.

You will also notice this themed issue focuses upon enhancing the awareness of health and fitness practitioners, in regards to developing programs and designing facilities that are both practical and functional for persons with disabilities.

The rationale for presenting this themed issue is that disabilities are prevalent in our society. People with disabilities represent a large and growing sector of the population, which is estimated to be at least 54 million adults. In 2005, disability prevalence across all 50 states revealed an average estimate of 20 percent, or one in five adults [<http://www.cdc.gov/ncbddd/dh/disability-prevalence.htm>]. Thus, the purpose of this themed issue is to bring to the attention of all health and fitness professionals the many opportunities that exist to deliver physical activity and exercise programs for this group of prospective clients. Also, this themed issue brings to the forefront the need for health and fitness professionals to re-examine their ability to deliver exercise programs for people

with disabilities.

In today's society, there are many barriers that remain for people with disabilities to more easily participate in physical activity. In 2003, the lack of leisure physical activity or sedentary behavior among adults with disabilities was 53 percent compared with 34 percent among people without disabilities. Public health efforts are needed to encourage healthy behaviors by people with disabilities [<http://www.cdc.gov> — *At-A-Glance: Disability and Health: Promoting Health and Well-being of People with Disabilities 2005* (June, 2005)]. Moreover, it is important to recognize that public health recommendations for the nation are to address challenges facing people with disabilities, in order for health benefits to accrue in this population that are commonly linked with regular physical activity. Therefore, it is crucial that all health and fitness practitioners have a keen sense of awareness and be able to embrace the opportunity to facilitate participation of this prospective clientele in health and fitness facilities. Based upon the Americans with Disabilities Act, physical activity participation in health and fitness facilities should routinely take place. Although lower participation rates among people with disabilities may be related to environmental barriers, including architectural barriers, organizational policies and practices, discrimination, and social attitudes, it is essential that these barriers be recognized by practitioners and minimized (preferably, eliminated) in all health and fitness facilities.

Disability Awareness and Customer Service

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Introduction

There are many misconceptions, stigmas, and non-constructive attitudes toward people with disabilities (PWD). It is important that exercise professionals and staff acquire knowledge to dispel and redirect these misconceptions, and treat PWD with the proper respect and sensitivity that is necessary for them to provide a service. This knowledge includes understanding the prevalence of disability; understanding the need to address disability issues in the field of health, exercise, and fitness; knowing the Americans with Disabilities Act (ADA) and how it directly applies to the field; developing the skills necessary to address disability concerns; developing an awareness of how disability subgroups differ from one another and from the general public; and

becoming aware of useful assistive technologies and how to access them.

Prevalence

People with disabilities represent a large group in the United States, with over 50 million people (approximately 20 percent of the U.S. population) reporting some type of disability¹. Research has shown that PWD are potentially more affected by lack of appropriate health care and health prevention services, reporting higher levels of cholesterol, blood pressure, and obesity than people without disabilities⁵. Numerous studies have reported the benefits of increased physical activity and fitness in reducing these and other cardiac risk factors^{3,4,6,7}. With the obvious need for increased physical activity in these individuals, exercise and fitness professionals should be prepared for successful communication with PWD in order to optimize their level of care.

Research has shown that communication priorities for PWD include continuity of staff, communication skills, and trust⁸. Most importantly, these issues can be addressed by disability awareness training for fitness and exercise staff. When fitness and exercise staff members were asked what was important in communicating with PWD, relevant and timely training as well as simple resources were top priorities⁸. Therefore, frequent and brief workshops providing printed handouts can be effective in establishing good communication patterns in any type of exercise facility or practice. Similar educational interventions have reported improvements in knowledge, skills, and/or attitudes toward PWD in various professions, including police², medical^{10,11}, and disability professionals⁹.

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Disability Awareness... Continued from Page 2

The following resources offer publications and other information regarding interacting and communicating with PWD:

- Iowa Department of Public Health
www.idph.state.ia.us/bhpl/ianet.asp
- National Center on Physical Activity and Disability
www.ncpad.org
- North Carolina Office on Disability and Health (NCODH)
www.fpg/unc.edu/~ncodh
- United Cerebral Palsy
www.ucp.org

Given the prevalence of disability, the need for effective health care prevention methods (*i.e.*, exercise), the recognized attitudinal and communication barriers toward PWD, and the success of educational resources, disability awareness and customer service should be a fundamental part of the training of exercise and fitness professionals.

Definition of Disability

In early years, PWD were seen as “patients” who needed curing and were often institutionalized. This created an exclusion that began to arise when society started transitioning World War 2 veterans back into the workplace. The Civil Rights Movement of the 1960’s brought about larger changes, including the admittance of the first student with quadriplegia into college and the opening of the first center for independent living. These advancements led to the need for and the development of a definition of disability, which was created by the ADA in 1990¹³.

The ADA defines a person with a disability as one who “has a physical or mental impairment that substantially limits one or more major life activities, a person who has a history or record of such an impairment, or a person who is perceived by others as having such an impairment”¹². According to the World Health Organization, impairment can be considered any loss or abnormality of bodily function, including physiological, psychological, or anatomical¹⁴.

This landmark law prohibits discrimination on the basis of disability in employment, government, public accommodations, commercial facilities, transportation, and telecommunications. Title III of the ADA covers businesses and nonprofit service providers that are public accommodations, privately operated entities offering courses and examinations, privately operated transportation, and commercial facilities. Specifically, “public accommodations” include, but are not limited to, recreation facilities including sports stadiums and fitness clubs, and are private entities that may own, lease, lease to, or operate facilities such as these. These public accommodations must comply with basic requirements that prohibit discrimination in the form of

exclusion, segregation, and unequal treatment. They also must comply with specific requirements related to architecture; policies, practices, and procedures; effective communication with people who have hearing, vision, or speech disabilities; and other access requirements¹².

Congress has stated that a goal of this country is to fully include PWD. Therefore, health professionals have an important role in properly integrating PWD into society. Current barriers are often simply a result of a lack of awareness and therefore lack of sensitivity to disability. This involves an understanding of the rights of PWD, as well as a respect for varying cultures, lifestyles, values, and age groups⁹.

Furthermore, given the current prevalence of disability and its increasing growth rate, recreation, fitness, and exercise facilities must begin to appeal to this large segment of the population — the elderly, the deconditioned, and those with disabilities, which statistics show will include many of us at some point in our lives.

Skill Development

Important skills in developing successful relationships with PWD include communication, etiquette, and behavior that reflect a sensitive approach to a situation, as well as finding and addressing issues and limitations (effects on ADLs, special accommodations, time involvement for task completion, etc.). Being aware of communication techniques and aids that may assist in conveying or receiving messages, and knowing how to appropriately gather information will further assist in providing optimal care for the client or participant. Specific tips for appropriate interactions include:

- Always treat the client with same respect as others.
- Let the person make his or her own decisions about what he or she can and cannot do.
- Be protective, but not overprotective.
- Relax; be yourself.
- Speak directly to the individual, not the attendant or interpreter.
- Offer assistance, but wait for acceptance before actually assisting.
- Follow the person’s cues.
- Allow extra time if necessary to perform a task or exercise.
- Establish open communication about abilities and limitations.
- Do not be afraid to ask questions, respectfully.
- Do not be afraid to shake hands if the person appears to have little grasping ability.
- Do not mistake a person’s disability for a serious disease or illness.
- Use the same established policies for health forms, membership, and waivers.

Table 1. Disability Appropriate Language

WORDS TO AVOID	WORDS TO SAY
Brain damaged	Person with brain injury
Deaf person	Person who is deaf or person with a hearing impairment
Crippled Wheelchair-bound Wheelchair-confined	Uses a wheelchair
Disabled Handicapped Physically challenged Defective Deformed	Person with a disability (or name the disability)
Able-bodied	Person without disability
Suffers from...	Person who has...
Mentally retarded	Person with an intellectual disability
Stroke victim	Stroke survivor
Suffers from...	
Stricken with...	Person with...
Epileptic/diabetic	Person with epilepsy/diabetes

- Consult with others when needing additional information on a specific condition. Information sharing is key!
- Do not assume additional disabilities due to the presence of one. For example, a person using a wheelchair does not necessarily have a cognitive impairment.

Person-First Language

Disability-friendly language involves placing the person first. It is important to maintain natural language when speaking to PWD and to refer to PWD in the same multidimensional fashion as you would anyone. Specify the disability instead of using words such as “abnormal” which implies failure. Table 1 lists examples of language to avoid and appropriate substitutions.

Information Gathering

When working with PWD, fitness and exercise professionals should educate themselves regarding a client’s disability, as well as any secondary conditions that may also affect the goals and activities of the individual. In obtaining information, interview technique and etiquette are important in making the individual feel comfortable. Appropriate language and interaction skills discussed in previous sections can assist with the interview or assessment. During an actual fitness assessment or evaluation, proper technique also involves speaking to the person throughout the assessment, explaining exactly what will happen before touching the person, as well as why that information is needed. For example, “I am going to use this piece of equipment called a caliper to measure skin-folds, which will give us an idea of your overall body fat percentage. You may feel a slight pinch on several different areas of your body, like this (pinch). Could I test this on your forearm?”

Disability Awareness... Continued from Page 3**Specific Disabilities**

Listed below are specific disabilities and tips for interactions. These play an important role in creating successful, trusting relationships between a participant and his or her exercise professional. It is important to realize, however, that disabilities and conditions affect people differently and often a combination of several diseases or conditions may produce even more variance. For example, one person with spinal cord injury may have very different abilities and limitations than another individual with spinal cord injury. Therefore, it is crucial to gather information specific to each client.

Visual Impairments

Determine level of impairment (it is not always obvious and can range from low/limited vision to total blindness);

- Always identify yourself and others in a group;
- Say the name of the person to whom you are speaking;
- Speak in a normal tone of voice;
- Indicate when you are moving from one location to another;
- Say when you are leaving;
- Never pet or distract a working service animal or canine companion;
- Give specific directions such as "left 10 feet" or "rotate clockwise."
- Be aware of alternative material formats and how to obtain them:
 - American Foundation for the Blind www.afb.org
 - Lighthouse International www.lighthouse.org
 - National Braille Association www.nationalbraille.org

Hearing Impairments

Determine level of impairment (can range from mild hearing loss to profound deafness);

- Find out if the individual reads lips, uses hearing aids, sign language, interpreters, writes, speaks, or gestures by following his or her cues. If possible, make assistive devices available;
- Speak in a normal tone of voice and directly to the person, not the interpreter;
- Tell the person if you are having difficulty understanding;
- Make sure you have his or her attention before beginning to speak;
- Do not speak while you are writing;
- Try to have important conversations in a one-on-one situation without background noise.
- Be aware of communication aids and how to obtain them:
 - National Association of the Deaf (NAD) www.nad.org
 - Telecommunications for the Deaf, Inc. (TDI)

www.tdi-online.org

- Registry of Interpreters for the Deaf www.rid.org

Physical/Mobility Impairments

Always ask permission to move a person's assistive device;

- When speaking with a person using a wheelchair, kneel or attempt to speak at the person's eye level;
- Make sure the person is in a stable and supported position before speaking to them as movement may require total concentration;
- Do not lean on any part of a wheelchair when speaking. The chair is considered part of the body space of the person.
- Be aware of assistive equipment and devices and how to obtain them:
 - National Center on Physical Activity and Disability www.ncpad.org

Intellectual/Developmental/Cognitive Disabilities

- Allow enough time to learn a new task;
- Use repetition with precise language and simple words;
- Give exact instructions and limit the number given at one time;
- Treat adults as adults;
- Do not pretend to understand if you do not.
- Potential resource:
 - The Arc of the United States www.TheArc.org

Speech Disabilities

- Speak as you would to anyone else, using normal tone of voice;
- Give the person your undivided attention;
- Tell the person if you do not understand;
- Ask short questions that require brief answers or head nods;
- Make pen and paper available if useful.

Conclusion

According to some research, even professionals in the disability field lose sight of the need for disability sensitivity in the workplace, especially in fields where PWD may be underrepresented in the work force⁹. In a field where professionals work so closely and often frequently with the client or participant, it is necessary to be aware of the uniqueness of each person's disability. It is important for the exercise professional to research individual abilities and needs pertaining to the disability, as each PWD will bring different support systems, experiences, fears, abilities, and personalities⁹. This type of awareness and sensitivity training for fitness and exercise professionals can help provide PWD with the respect they deserve and the level of service they need to maintain healthy and active lifestyles.

About the Author

Blythe Hiss, M.S. is an ACSM member and Exercise Physiologist who has worked as a researcher and project manager for the Rehabilitation Engineering Research Center on Recreational Technologies for People with Disabilities (RERC Rectech) www.rectech.org and the National Center on Physical Activity and Disability (NCPAD) www.ncpad.org for the past 3 1/2 years. Valerie A. Lawson, M.S. is an HFI Certified member of ACSM since 1996. Ms. Lawson is an Exercise Physiologist and also provides nutritional support for the National Center on Physical Activity and Disability (NCPAD) www.ncpad.org.

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**SELF-TEST ANSWER KEY FOR PAGE 11**

	QUESTION				
	1	2	3	4	5
TEST #1:	D	T	B	D	C
TEST #2:	T	B	F	C	T
TEST #3:	A	B	F	F	C

Designing a Fitness Facility for All

Amy Rauworth, MS, RCEP

Associate Director of Operations and Exercise Physiology Research at the Center on Health Promotion Research for Persons with Disabilities

State of Physical Activity and Health for People with Disabilities

It is no surprise to those of us in the fitness industry that Americans lead more sedentary lifestyles. Each year we must manipulate our marketing strategies and address the ever-rising attrition rates that are common in most fitness centers following the annual New Year's resolution rush. Generally, most marketing strategies and program designs are directed towards people without disabilities and chronic health conditions. However, fitness centers should begin to consider the Trans-generational market, which includes older adults and people with disabilities. By the year 2030, one of every five Americans will be 65 years of age or older⁷ and people with disabilities (PWD) will be more prevalent than today. As our population ages, the incidence of chronic disease and disability increases, creating an emerging priority that must be addressed by fitness and health care professionals^{8,9,11,20}.

While engaging in regular physical activity is critical for everyone in maintaining good health and preventing secondary conditions associated with sedentary lifestyles, persons with disabilities encounter major environmental barriers that often prevent them from fully participating in fitness and recreation activities. According to the Healthy People 2010 report from the U.S. Department of Health and Human Services, 56 percent of adults with disabilities do not engage in any leisure-time physical activity compared to 36 percent of adults without disabilities¹⁸. Research demonstrates that the estimated 52 million Americans with disabilities are not only at greater risk of developing serious health conditions associated with sedentary lifestyle such as diabetes, obesity, and heart disease, but they also face greater environmental barriers that impede access^{3, 5, 14, 15, 18}.

The Healthy People 2010 chapter, Disability and Secondary Conditions, suggests that the significantly lower rate of physical activity participation among people with disabilities may be related to environmental barriers, including architectural barriers, organizational policies and practices, discrimination, and social attitudes. The report recommends that public health agencies begin to

address these barriers¹⁸. The Surgeon General's Call to Action to Improve the Health and Wellness of People with Disabilities was released in July of 2005 and states "This Call to Action is a call to caring. Every life has value and every person has promise. The reality is that for too long we provided lesser care to people with disabilities. Today, we must redouble our efforts so that people with disabilities achieve full access to disease prevention and health promotion services"¹⁹. More recently, Senator Tom Harkin (D-IA) introduced legislation entitled The Promoting Wellness for Individuals with Disabilities Act of 2006¹⁷. This Act would create a national advisory committee on wellness for people with disabilities and help fund programs for smoking cessation, weight control, nutrition, and fitness, focusing on the unique challenges faced by people with disabilities; preventive health screening programs; and athletic or sports programs that provide people with disabilities an opportunity to become more physically active. Finally, the United Nations Ad Hoc Committee on a Comprehensive and Integral International Convention on the Protection and Promotion of the Rights and Dignity of Persons with Disabilities, Eighth Session convened August 14-25, 2006, and placed a high priority on access to and participation in physical activity and sport for people with disabilities⁴.

As indicated by these initiatives, the health and wellness of people with disabilities is an emerging global topic. Health and fitness facilities across the nation will have the opportunity to address and significantly impact this national and international priority by evaluating the accessibility of their facilities and creating friendly and welcoming environments for all people, including individuals with disabilities.

Barriers to Participation

The Americans with Disabilities Act (ADA), under Title III, ensures that both publicly and privately owned fitness and recreation facilities are required to be architecturally accessible to people with disabilities in areas such as parking, access routes, and restrooms¹⁶, although research has demonstrated that many facilities do not meet the ADA standards in these common areas^{2, 10, 12}. Additional areas often found in

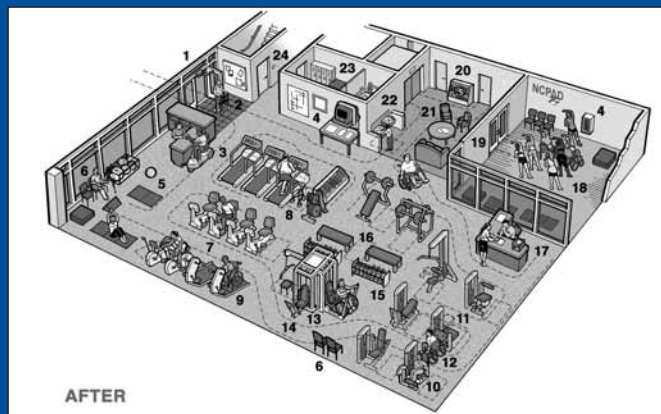
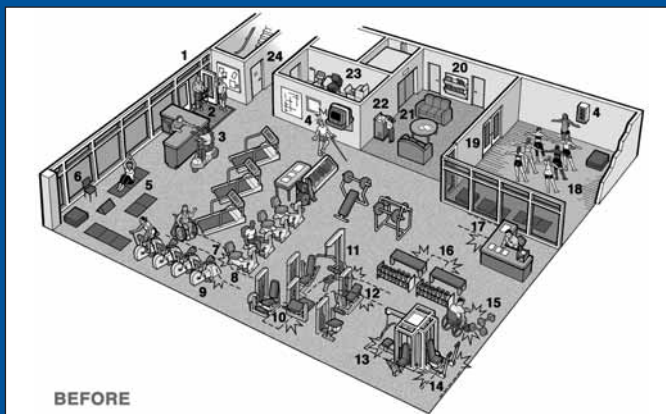
recreation facilities that are not covered by the ADA include locker rooms, exercise equipment, and swimming pools. To address these areas, the U.S. Architectural and Transportation Barriers Compliance Board created guidelines for recreation facilities in 2002¹. These guidelines are currently under review by the Department of Justice and once adopted will become standards that all facilities must follow. Health and fitness professionals should be proactive and evaluate their facilities to determine what changes need to be made and whenever possible incorporate the participation of people with disabilities in the process. Many alterations require little or no cost and can greatly improve the services provided to all members. According to Ron Mace, founder and former program director of The Center for Universal Design, "Universal design is the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design." In other words, good universal design should not even be noticed, but incorporated into the existing environment or structure. A good example of improving accessibility for all is the addition of a unisex changing room that provides a private area for a person with a disability using a personal assistant of the opposite sex or who may prefer not to change in a public area. The unisex changing room would also be an asset to parents with small children or parents with multiple children of the opposite sex.

Our behavior can be dramatically influenced by the physical environment. Characteristics of the manmade or "built" environment can make participation in moderate physical activity more or less likely to occur⁶. Many factors that affect the accessibility of a facility go beyond the built environment and include equipment, information, staff training, and policies and procedures¹². To view 24 key changes that can be made at little or no cost, see the Before and After Fitness Center Makeover in Table 1 (on the next page) provided by the National Center on Physical Activity and Disability [www.ncpad.org].

Conclusion

It is imperative that fitness and health professionals begin to address the needs of people with disabilities. *The Surgeon General's Call to Action* identifies the need for people with disabilities to become empowered with health promotion skills and knowledge to develop and maintain a healthy lifestyle. The fitness industry plays an important role in access to physical activity venues and information dissemination on health promotion for people with disabilities. Currently, people with disabilities are underrepresented in active living research and physical activity programming.

Table 1. Fitness Facility Overview



1. Heavy entry doors and/or closers are problematic for many people with balance and strength difficulties.
 2. Loose mat at entry can be a tripping hazard, particularly for individuals who use a mobility device or have difficulty maintaining balance.
 3. High check-in counter can be difficult for people who use wheelchairs or those of small stature to see over and address staff.
 4. Protruding objects from overhead and walls can be a hazard for people with vision impairments or individuals who are unobservant/distracted.
 5. Some exercise areas lack additional equipment/items that would facilitate use by a wider range of people with differing abilities.
 6. Many areas lack any or additional seating for people with stamina/balance issues who need periodic rest.
 7. Narrow spaces between equipment prevents convenient access to other exercise areas by people using mobility devices.
 8. There is a lack of clear floor space beside at least one of each type of cardio equipment to allow for transfers from mobility devices.
 9. The types of cardio equipment provided serve a limited range of users; there are no machines that can be used by the upper body only or from a seated position in a chair or mobility device.
 10. Weight machines with fixed integral seats lack clear floor space for transfers from mobility devices.
 11. Some weight machines lack movable seats and other adaptable/adjustable features critical for use that would allow users in wheelchairs and scooters to pull up underneath and operate.
 12. The placement of weight machines with little or no space in between each piece of equipment blocks access to other equipment for people using mobility devices.
 13. Similar to some weight equipment, the multi-station exercise machine also lacks removable/portable seats that would allow a person in a wheelchair or scooter to pull up and use.
 14. Placement of the multi-station exercise machine near the wall and other equipment obstructs an accessible route around it for people using mobility devices.
 15. Personal training items such as free weights left lying on the floor or on seating/equipment can obstruct access for others who use mobility devices or have trouble lifting or bending.
 16. Close placement of weight stands and benches limits maneuvering choices for people using mobility devices.
 17. Some employee areas lack accessible routes into these spaces.
 18. The design of exercise equipment and space layout are only a part of providing adequate access to a fitness facility. Lack of consideration of possible participants with disabilities can cause barriers too. In addition to physical access, consider how policies, procedures, and programs are offered and executed.
 19. Door has knob handles that are difficult for many people with various hand dexterity abilities to grab and turn.
 20. Some magazines and reference materials are in shelves above the reach of people who use wheelchairs or scooters and individuals of short stature.
 21. Furniture size and arrangement obstructs accessible route through lobby and to offices.
 22. Existing tall older model drinking fountain lacks knee space and only conveniently serves adult standing users.
 23. Consider converting the use of an underutilized space to help provide better accessibility. In this instance, a "junk" room used to house outdated equipment, extra furniture, and other storage might be better utilized to meet a need for more immediate access by creating a needed new space or adding additional space to an adjacent small room.
 24. Important space and room signage lacks raised type and Braille to inform people with vision disabilities.
1. Adjust closer pressure or add power openers at doors that require a lot of opening force to assist individuals with balance and strength difficulties.
 2. Secure loose mats or install a new permanent floor surface to alleviate tripping hazards, particularly for those who walk with mobility or balance disability.
 3. Lower a section of the check-in counter to a height to accommodate people who use wheelchairs or individuals of small stature.
 4. Place detectable objects under a protruding hazard, in this example a sign-in table, or lower a wall-mounted feature so that it is easier to discern with detection canes or by guide dogs for people with vision impairments.
 5. Diversify equipment/items that would facilitate use by a wider range of people with differing abilities; for example, this area has added a variety of exercise balls of different height for more stretching options.
 6. Additional seating has been added to provide opportunities for periodic rest for people with stamina/balance issues.
 7. Move/rearrange equipment so there is enough space between machines to permit convenient accessible routes to other exercise areas by people who use mobility devices.
 8. Move/rearrange equipment so there is enough floor space beside at least one of each type of machines to permit transfers from mobility devices or to place mobility devices while exercising.
 9. Include cardio equipment that can serve a wider range of users, machines that can be used by the upper body and allow individuals to remain seated in their mobility devices or a chair.
 10. Rearrange/move equipment to provide clear floor space beside each type of weight machine with fixed integral seats to facilitate transfers from mobility devices.
 11. Where needed, replace equipment with weight machines that have movable seats and other adaptable/adjustable features that allow users in wheelchairs and scooters to pull up underneath and operate. Seats that flip up or swing out of the way are good options.
 12. Rearrange weight equipment to provide enough space for accessible routes to each type of machine.
 13. Replace or modify the multi-station exercise machine so that seats can be removed or adapted to allow a person in a wheelchair or scooter to pull up underneath and use the equipment. Freestanding stools/chairs that are portable or seats that flip up or swing out of the way are good options.
 14. Move/relocate multi-station exercise machine to permit an accessible route around it that allows approach and use by people using a variety of mobility devices.
 15. Have staff monitor and store unattended personal training items such as free weights left on the floor or on seating/equipment that can obstruct access for others using mobility devices or who have trouble lifting or bending.
 16. Rearrange/relocate weight stands and benches to allow additional approaches and maneuvering choices for people using mobility devices such as wheelchairs, scooters, and walkers.
 17. Moving furniture and/or counters can improve access for employees with disabilities.
 18. The design of exercise equipment and space layout are only a part of providing adequate access to a fitness facility. In addition to physical access, how policies, procedures, and programs are offered and executed will affect access too. In this instance, program adaptation has been provided for individuals who have varying levels of abilities to form an inclusive environment.
 19. Replace door hardware with handles such as loops or levers that can be operated with a closed fist.
 20. Lower high shelves or replace with magazine rack within reach of seated users and individuals of short stature.
 21. Rearrange and/or replace furniture to permit an accessible route through lobby and to offices.
 22. Provide dual-height drinking fountain with knee space to serve the needs of both standing adults and those who are seated in mobility devices or of short stature, including children.
 23. Underutilized "junk" room space has been converted into an accessible unisex toilet/family changing room to meet needs that were lacking in the mens or womens locker areas, making the facility as a whole more accessible to all users.
 24. Important space and room signage has been replaced with signs that include raised type and Braille to inform people with vision disabilities.

Fitness Facility... Continued from Page 6

Yet, recent empirical data suggest that people with disabilities in the U.S. are more likely to be sedentary, have greater health problems, and experience substantially more barriers to participating in physical activity compared to the general population. It is time that fitness facilities truly become places for all individuals.

Additional resources to determine the accessibility of fitness facilities include:

- Architectural and Transportation Barriers Compliance Board (ATBCB). Americans with Disabilities Act accessibility guidelines checklist for buildings and facilities. Washington, DC: U.S. Government Printing Office, 1992. The Access Board Homepage, Publications, URL: <http://www.access-board.gov/adaag/checklist/a16.html>
- AIMFREE (Accessibility Instruments Measuring Fitness and Recreation Environments) a multi-dimensional validated instrument that can determine the accessibility of six categories including¹ built environment,² equipment,³ information,⁴ policies,⁵ swimming pools, and⁶ professional behaviors (attitudes and knowledge)¹³. Available at www.ncpad.org or by contacting rauworth@uic.edu.
- North Carolina Office on Disability and Health (2001). Removing Barriers to Health Clubs and Fitness Facilities. Chapel Hill, NC: Frank Porter Graham Child Development Center.

About the Author

Amy Rauworth, MS, RCEP, is the Associate Director of Operations and Exercise Physiology Research at the Center on Health Promotion Research for Persons with Disabilities (CHP). This Center includes the National Center on Physical Activity and Disability (www.ncpad.org), The Rehabilitation Engineering Research Center (RERC) on Recreational Technology and Exercise Physiology Benefiting Persons with Disabilities (www.rercrectech.org), Project AIMFREE (www.aimfree.org), and "A Physician Guided Approach to Increasing Awareness and Sustainability for Physical Activity for Overweight Adults with Mobility Limitations: Project PEP" The Center on Health Promotion is located at the University of Illinois at Chicago in the Department of Disability and Human Development. She is a Registered Clinical Exercise Physiologist with the American College of Sports Medicine. Ms. Rauworth has applied exercise physiology experience in the areas of orthopedic and cardiac rehabilitation, health promotion, and corporate wellness. Ms. Rauworth conducts Inclusive Fitness Initiative trainings nationally on behalf of NCPAD and specializes in accessible fitness center design. In addition, Ms. Rauworth has over 11 years of personal training experience, focusing on the delivery of physical activity programming to older adults and people with disabilities.

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Coaching News

Coaching
Happiness

This is the thirteenth edition of the Coaching News column, sponsored by Wellcoaches Corporation in alliance with ACSM, and it appears regularly in ACSM's *Certified News*.

When Martin Seligman became president of the American Psychological Association (APA) in 1998, he had a vision of a new psychology. Rather than focus on what ails the human mind (neurosis, anxiety, depression), Seligman proposed that psychology turn its attention to the conditions that enable people to flourish, to what makes people feel engaged, fulfilled and meaningfully happy. This movement has become known as positive psychology and has important applications for both wellness coaches and health and fitness professionals.

Positive psychology is increasingly suggesting a link between happiness and health. According to Dr. Derek Cox, Director of Public Health at Dumfries and Galloway NHS there is mounting evidence that happiness might be at least as powerful a predictor, if not a more powerful predictor than some of the other lifestyle factors that we talk about such as cigarette smoking, diet, physical activity, and those kinds of things for improving the health of the nation (*The Health Benefits*

of Happiness by Mark Easton, BBC News Home Editor).

Several studies have also shown that happier people have greater protection against things like heart disease and stroke. And recent research has even shown a connection between happiness and longevity. A study of nuns in Milwaukee analyzed their handwritten autobiographies written at age 20, and found decades later that sisters who expressed positive emotional content in their writing by using words like "joy" and "thankful" lived up to ten years longer than those who expressed negative emotions.

Given such evidence, we are convinced of the connection between happiness and health. Happiness can be broken down into three components: pleasure, engagement, and meaning. Pleasure is feeling good and enjoying life, engagement is the depth of involvement with one's family, work, romance and hobbies, and meaning is anything that makes one's life more meaningful; it often involves serving something larger than oneself.

Getting more pleasure out of life and increasing positive emotions does more than signal well-being; it produces well-being. People with positive emotions are more resilient and creative and perform better. By pointing out positive emotions noticed during the coaching conversation, coaches can help clients build awareness of these emotions.

The other two components of happiness (engagement and meaning) are related to an individual's character strengths. Strengths can be determined by having the client complete the VIA Signature Strengths Survey (www.authentic happiness.com) or just by the coach noticing what their clients do well naturally or what gives them energy or gets them excited. It is likely that engagement and meaning are more important than pleasure in leading a happy, satisfied life.

Once strengths are identified, coaches can help clients begin to shape their lives to utilize their highest strengths. Using strengths to serve something larger than oneself can also create a meaningful life. Helping others through volunteering, mentoring, or practicing acts of kindness gives one a greater sense of connection with others and a sense of purpose and meaning to life.

Some examples of activities that have been shown to increase life satisfaction and positive emotion are:

Gratitude Journal

Keep a daily or weekly journal of three to five things you are grateful for or things that just make you feel good. These can be simple things (beautiful sunset, new outfit) or more significant events (job offer, new relationship). A variety of entries works well.

Savoring Exercises

Be mindful of momentary pleasures and what you are feeling. Tune into your senses when you are having these moments. Share your feelings about the experience with others. Savor the wonderful things in life, from people to food, from nature to a smile.

Acts of Kindness

Intentionally perform acts of kindness, such as visiting a nursing home, taking a meal to a sick friend, mowing a neighbor's lawn, or smiling at a store clerk. Try to include at least five acts of kindness each week.

Signature Strengths

Identify your top five signature strengths by completing the VIA Survey (see above). Pick one strength and find a new way to use it. If one of your strengths is love of learning, for example, you might want to learn another language or sign up for a course that you have never considered before. Finding a new way to use your strength of humor might include bringing more humor and playfulness to your coaching sessions.

Research within the positive psychology movement has shown that one can raise one's own level of happiness. Before working with clients to raise their happiness levels, it is recommended that coaches focus on raising their own happiness levels. It is not yet clear how far reaching the implications of positive psychology work will be. We know that happiness increases wellness, and we are confident that working on one's own — or a client's — level of happiness will produce many positive results.

About the Author

Jessica Wolfson and Gloria Silverio are executive wellness coaches and work for Wellcoaches Corporation as faculty members, examiners, and mentor coaches. They have both completed a certification course in Authentic Happiness Coaching from Martin Seligman, former president of the APA and author of Authentic Happiness. This topic will be presented at the 2007 ACSM's Health & Fitness Summit & Exposition.

The Coaching News column is sponsored by Wellcoaches Corporation, the leader in health, fitness, and wellness coach training and delivery of wellness coaching services, in partnership with ACSM. To learn more about this topic or other topics on coaching health, fitness, and wellness, visit www.wellcoach.com.

Adapting Exercise Programs for Persons with Physical Disabilities

Mitch Carr MS.Ed.

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Exercise is a vital part of daily living. Recommendations from the Centers for Disease Control and Prevention³, the American College of Sports Medicine³, U. S. Surgeon General's Report⁸, and the American Heart Association⁶ state that individuals should engage in 30 minutes or more of moderate-intensity physical activity at least five days (preferably all) days of the week for improved health and reduced risk for onset of chronic disease. Such recommendations are especially important for those with physical disabilities who may be at higher risk for secondary health issues due to a more sedentary lifestyle. *The Surgeon General's Report on Physical Activity and Health* identifies persons with disabilities as among the most inactive subgroups in the United States¹. In fact, heart disease was a contributor to mortality in 20.6 percent of patients with spinal cord injuries from 1993 to 1998².

Most of us go into a fitness facility and take for granted that the equipment in the facility is easily used. Primarily, the most frustrating issue is whether or not our favorite machine is available. However, exercise programming is not that simple for persons with physical disabilities. From inaccessible equipment to uneducated staff, this population often is on the outside looking in at most health and fitness facilities.

This article will examine simple exercise program adaptations that can be made for persons with physical disabilities. Specifically, it will examine easy adaptations that health and fitness professionals and facilities can do to make the benefits of exercise available to everyone. It is important to note that this article only scratches the surface of exercise adaptations and exercise programming for individuals with disabilities. There are many resources that will be important reference guides for professionals, including ACSM's *Exercise Management for Persons with Chronic Diseases and Disabilities*, Second Edition and ACSM's *Resource Manual for Guidelines for Exercise Testing and Prescription*, Fifth Edition.

Prescription Precautions and Adaptations

Developing a program for an individual with a physical disability should not differ greatly from doing so for a person without a disability. However, understanding and recognizing the issues associated with each person on an individual basis will be the key to a successful program. Each individual assessment should be comprehensive and include a minimum of aerobic capacity and endurance testing, strength testing, neuromuscular testing, flexibility testing, and functional testing. Once assessed, realistic goals and objectives should be planned, taking into account individual limitations. Besides physical limitations, professionals should also be aware of the physiological effect of specific medications taken for certain conditions. Also, health and fitness professionals should consider the physiological responses due to the stress of exercise and how they differ for all disabilities. Listed below are considerations for certain disabilities and how to adapt a program accordingly.

Spinal Cord Injuries

Avoid programs or exercises that require sitting for long periods of time which can result in pressure sores. If possible, adapt the exercise program to include pressure relief. For example, include seated pushups to strengthen triceps and rear deltoids.

Periodically check blood pressure for signs of exercise hypotension or hypertension. Be aware of signs and symptoms of both, as well as autonomic dysreflexia [AD]. AD occurs when excessive autonomic reflexes results in extreme hypertension and is a life-threatening condition for those injured above the thoracic 6 nerve root².

Overuse injuries are common in people who use wheelchairs, especially injuries to the rotator cuff muscles and shoulder joint. Avoid these injuries by focusing an exercise on one group of muscles one day and its opposite group of muscles the next. Be sure to develop the rotator cuff muscles by including internal/external shoulder rotation and empty can shoulder raises.

Stroke

Approximately 500,000 documented cerebrovascular accidents occur in the United States each year⁴. The primary objective for a stroke survivor should be prevention of subsequent strokes. Programming should focus on the reduction of risk factors, including hypertension, type 2 diabetes, hyperlipidemia, and depression⁵. A priority for most stroke survivors, especially those recently discharged from rehabilitation, will be to focus on regaining functional independence.

Programming with a functional focus can be very successful for many stroke survivors, but a detailed assessment and consultation with their physicians is advisable to determine realistic goals. Studies have shown that regular exercise programming with and without strength training has had positive results in improving stroke survivors' shoulder, bicep, and leg strength. It is important to note that stroke survivors usually display contracted or flaccid limbs and that building complete pain-free range of motion should be a focus of beginning any functional strength training program. Some adaptive devices will be discussed later in the article, but for most stroke survivors, focusing on increasing strength and coordination using simple exercises is recommended. Devices such as a Power Web to stretch and strengthen the hand and fingers and the Therabar to strengthen the wrist are good early additions to a program (Figure 1).

Figure 1. Power Web



Multiple Sclerosis

Individuals with multiple sclerosis (MS) present with a wide range of impairments. Some of these impairments, such as spasticity, impaired balance, loss of coordination, and fatigue, are increased during exercise sessions. Program adaptations for individuals with MS who are beginning an exercise program should be simple, and adaptation should be implemented with caution.

For persons with moderate to severe MS, exercises in a weight-bearing position should focus on gait training with an assistive device such as a cane or walker. This will help maintain coordination and balance. Fatigue will be a major issue for individuals with MS, so the

Adapting Exercise... Continued from Page 9

program — particularly the aerobic program — should include short bursts of exercise. For strength-training programs, lower repetitions and exercises focusing on coordination are highly recommended. These exercises would include light ball-tossing and those building core strength such as abdominal rotations with a medicine ball.

Equipment Adaptations

A variety of adaptations can be made at a fitness facility and at home. Some of these adaptations may be necessary to perform certain exercises and most are very inexpensive. We will discuss the most frequently needed adaptations for those with physical limitations, which address grip and core stability.

ADAPTATIONS FOR HAND GRIP

Hand grip is often the biggest limitation to one's ability to perform exercises. Grip problems affect many persons with disabilities, including stroke survivors and persons with tetraplegia, Parkinson's, MS, and amputation. There are two devices that can have a huge impact on the exercise program. They will allow a user with compromised grip the ability to attach to a machine (aerobic or strength) or a free-weighted device. Note that since some individuals will have a decrease in sensation, care should be taken on how tightly these adaptations are attached. Also, make frequent skin checks to ensure that the area covered by the adaptation is receiving proper circulation.

- **Action Gloves** - These gloves come in several styles, all with pros and cons. The most important consideration when looking for a glove is safety. Gloves that slip over the entire hand should be properly fitted. The area where the glove attaches around the wrist should receive a heavy application of Velcro. This will allow for comfortable adjustments while being securely fastened. The latch used to secure the glove to the equipment should be metal or double-stitched leather (Figure 2). Once the individual is properly fitted, secure him or her to the equipment and ask them to test the glove by doing the exercise lightly. If the muscles being exercised are fully intact, the user will have fewer limits performing this exercise with this grip adaptation.

Figure 2. Example of an action glove

Photo courtesy of Access to Recreation (www.acsrstr.com)

- **Straps** - For those individuals with more severe grip limitations or with amputations, straps are a more effective option. Straps, which can be made of Velcro or leather, come in a wide range of width and thickness. For people using straps around the wrist, the width and thickness can be smaller. For those who will need the straps to be placed closer to or around the upper arm, a thicker and wider strap will be necessary. Simply attach this device around the user where most appropriate. For example, if an individual with tetraplegia wanted to perform a bicep curl, the device would be attached around the wrist securely and then the cuff would be attached to a standard pulley by using a carabineer (Figure 3). Note: The larger straps can also be used for lower-extremity exercise.

Figure 3. Using an action glove

Photo courtesy of The Rehabilitation Institute of Chicago

ADAPTATIONS FOR CORE STABILITY

Proper form and posture are vital for any individual performing an exercise. This helps prevent injuries and ensures that the proper muscles get exercised safely. Therefore it is critical that individuals who have sustained complete injuries above the T6 nerve root are properly secured in their chairs before performing the exercise. This can be done easily by using thick straps made of Velcro and firm elastic. The Velcro must be plentiful to fasten the individual securely and the elastic must allow for enough give for individuals to go through the proper range of motion as naturally as possible.

Summary

In summary, there is a need to identify those key factors associated with each person's disability or condition that can affect his or her participation in an exercise program. Both personal and environmental factors can affect healthy activities (such as exercise or fitness programs) for people with disabilities. Moreover, exercise professionals should be prepared to assess and address these factors which are easily within their control.

About the Author

Mitch Carr MS.Ed. - Mitch is the Director of Fitness at the Rehabilitation Institute of Chicago (RIC). Mitch has worked in the field of exercise physiology for the past 9 years, seven of those at RIC where he directs a fully accessible fitness facility and conducts research on the impact of exercise for individuals with physical disabilities.

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October-December Continuing Education Self-Tests

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SELF-TEST #1 (2 CECs): The following questions were taken from "Disability Awareness and Customer Service" published in this issue of *ACSM's Certified News*, pages 2-4.

- Which of the following numbers best describes the current population within the United States who report having a disability?
 - 4 million
 - < than 6 million
 - 5 billion
 - > 50 million
- Title III of the Americans with Disabilities Act prohibits discrimination based on disability in public accommodations that include exercise, fitness, recreation and sports facilities.
 - True
 - False
- Which of the following reflects a sensitive approach to a situation when first introducing someone with a hearing impairment to a facility such as a health or fitness club?
 - Regardless of the person's apparent gripping ability, one should not attempt to shake his or her hand.
 - Regardless of the level of hearing loss, one should continue to speak directly to the individual with the impairment, not the interpreter or attendant.
 - One should not ask specific questions about the individual's abilities and limitations so the person does not become offended.
 - A facility should use a separate process including different policies and forms that are specific to people with disabilities.
- All of the following statements EXCEPT one reflect proper communication or interaction when working with a person who uses a wheelchair:
 - When speaking with a client, one should not rest a hand or lean on the armrest of the wheelchair.
 - If needed, one should move the wheelchair to a different location, but only after asking permission.
 - One should always attempt to speak at the person's eye level.
 - While a person is transferring from a wheelchair to an exercise machine, one should provide instructions for performing the exercise to accommodate for time lost during the transfer.
- You are a personal trainer and taking over someone else's client. Listed in his chart is "Cerebral Palsy".

Which term below appropriately refers to this client?

- Person with an intellectual disability
- Crippled
- Person with cerebral palsy
- Suffers from cerebral palsy

SELF-TEST #2 (1 CEC): The following questions were taken from "Designing A Fitness Facility for All" published in this issue of *ACSM's Certified News*, pages 5-7.

- By the year 2030, one of every five Americans will be 65 years of age or older.
 - True
 - False
- Which of the following accurately reflects The Surgeon General's Call to Action's primary initiative?
 - To encourage people with disabilities to exercise 30 minutes a day, most days of the week.
 - To improve the health and wellness of people with disabilities by providing full access to disease prevention and health promotion services.
 - To ensure that fitness facilities provide access to all common areas under Title III.
 - To create a national advisory committee on wellness for people with disabilities and help fund programs for smoking cessation, weight control, nutrition, and fitness, focusing on the unique challenges faced by people with disabilities; preventive health screening programs; and athletic or sports programs that provide people with disabilities an opportunity to become more physically active.
- Universal design is a costly analysis that is required by the ADA and focuses on the development of specialized equipment for people with disabilities.
 - True
 - False?
- Of the following statements which one captures all of the common barriers to participation in physical activity that people with disabilities experience:
 - Polices and procedures that require medical clearance only for people with disabilities prior to joining a fitness center.
 - Architectural barriers such as stairs that lead to the second floor of the facility with no elevator access or lack of curb cuts from the parking lot to the front door access route.
 - The lack of compliance of ADA code in the built environment, lack of accessible equipment, information that is not provides in alternative formats,

the absence of staff training in working with people with disabilities, and policies and procedures that hinder participation of the individual with a disability.
 D. Swimming pools that are more than 300 linear feet and lack two accessible means of entrance at each of the ends.

- A facility that has a high front desk or check in counter should lower a section of the check-in counter to a height that will accommodate people who use wheelchairs or individuals of small stature or minimally require staff to greet customers in front of the desk.
 - True
 - False

SELF-TEST #3 (1 CEC): The following questions were taken from "Adapting Exercise Programs for Persons with Physical Disabilities" published in this issue of *ACSM's Certified News*, pages 9-10.

- What life threatening condition should professionals be aware of during exercise programs for individuals with injuries above the T6 spinal cord level?
 - Autonomic dysreflexia
 - Automatic hyporeflexia
 - Phantom pain
 - Both A and B
- Which muscle group is particularly susceptible to overuse injuries in wheelchair users
 - Latismus Dorsi
 - Rotator Cuff
 - Rhomboids
 - Oblique
- Muscular Fatigue plays a major role in determining an exercise prescription for an individual with Multiple Sclerosis.
 - True
 - False
- Once the individual is strapped into a device with an adaptive glove go ahead and have them perform the exercise with resistance
 - True
 - False
- Approximately how many Strokes occur each year in the United States?
 - 20,000
 - 150,000
 - 500,000
 - 1.2 million



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October-December 2006 Issue EXPIRATION DATE: 12/31/07
 SELF-TESTS SUBMITTED AFTER THE EXPIRATION DATE WILL NOT BE ACCEPTED.
 Federal Tax ID number 23-6390952

Tip: Frequent self-test participants can find their ACSM ID number located on any credit verification letter.



ACSM Regional Chapters Get Connected!

ACSM's Regional Chapters

Enjoy top-notch educational presentations and unmatched opportunities to network with fellow professionals at ACSM's Regional Chapter meetings. In addition, earn valuable continuing education credits to keep your certification current. Below is a listing of upcoming meetings near you:

- **December 2, 2006, Greater New York Chapter, New York, NY**

Contact: Felicia Stoler, fstoler@att.net

- **February 8-10, 2007, Southeast Chapter, Charlotte, NC**

Contact: Lynn Berry, Ph.D., berryc@wssu.edu, www.seacsm.org

- **February 16-17, 2007, Northwest Chapter, Seattle, WA**

Contact: Wendy Repovich, Ph.D., FACSM, wrepovich@ewu.edu, www.northonline.northseattle.edu/nwacsm

- **March 1-2, 2007, Texas Chapter, Fort Worth, TX**

Contact: Joel Mitchell, Ph.D., FACSM, j.mitchell@tcu.edu, www.tacsm.org

- **March 2-3, 2007, Rocky Mountain Chapter, Colorado Springs, CO**

Contact: Tod Sweeney, M.D., alyntod97@yahoo.com, www.rmacsm.org

News You Need... Continued from Page 1

ence, *Exercise and Sport Sciences Reviews (ESSR)*

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Please Note

If you are working on Self -Test #1 from the October-December 2005 issue due to expire on 12/31/2006, please visit www.acsm.org/certifiednews for the tables that are needed to answer questions 2 and 3.

Earn 7 ACSM CECs! 1-Day Course: Weight Management for the Fitness Professional

In addition to the many other opportunities for Continuing Education Credit (CEC) the American College of Sports Medicine is offering a one day CEC Course — Weight Management for the Fitness Professional.

The cost is \$125. Choose from these dates and locations:

- **November 5, 2006** – Westfield State College, Westfield, MA
- **December 10, 2006** – Lifetime Fitness, Columbia, MD
- **December 16, 2006** – Metropolitan State College, Denver, CO

Also, please be sure to take advantage of CEC opportunities at these ACSM Conferences...

- **March 21-24, 2007** – ACSM's Health & Fitness Summit & Exposition, Dallas, TX
- **May 30-June 2, 2007** – 2007 ACSM Annual Meeting, New Orleans, LA

For more information, call 317-637-9200 Ext. 115 or e-mail certification@acsm.org.



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