



CONSORTIUM FOR CITIZENS WITH DISABILITIES

DEFINITION OF HABILITATION; FUNCTIONAL LIFE IMPLICATIONS

Habilitation has been an essential service to people with disability. The key to the deinstitutionalization movement in the 1970s was an individual habilitation program for each person with a disability to facilitate transition from institutions to lesser restrictive environments in their homes and the communities. Habilitation that prevents deterioration and enhances and maintains function for self help and independence in home, and community settings, with medical care if needed, is designed to maximize function and contribute to independent life. One outcome of habilitation for people with disabilities would be prevention of diminished health that could contribute to secondary disabling conditions. Although there is habilitation services that address psychosocial, sensory and cognitive aspects of habilitation, the purpose of this paper is provide information on the values of the physical aspects of habilitation that address functional limitations.

Habilitation through Physical Activity

There are significant values with experiences that are relevant to the development of functional skills through habilitation. The outcomes of successful habilitation through a maintained or improved physical state of well being allows people to perform daily activities with vigor, reduce their risks of secondary disabling conditions and establish a fitness base for participation in a variety of physical activities may assist improved physical functioning(1). Habilitation through physical activity may assist in promoting life long physical functions related to work, and domestic life that includes worthy recreational activity. In addition, the lack of physical development and low vitality is a major concern because it may be the precursor of a host of chronic health disorders that contribute to secondary disabling conditions.

Habilitation Remedies through Physical Activity to Improve Life Functions

People with disabilities may have debilitating chronic health conditions which may lead to poor physical vitality for which the remedy may be habilitation through physical activity. Examples of health problems associated with habilitation to which physical fitness may contribute include obesity, asthma, and other chronic respiratory problems, susceptibility to infectious diseases, common cold, poor nutrition, inadequate sleep, motor limitations, cardiopulmonary or metabolic limitations, heart disease under nutrition(2), and balance gait abnormalities (3). Persons with cardiorespiratory conditions such a chronic bronchitis and various heart defects show a tendency toward poor physical fitness that may be improved through habilitation through physical activity.

Individuals with severe disabilities who are ambulatory require functional activities that relate specifically to individual needs to meet daily demands of environments. Examples are walking in the home and neighborhood, developing sufficient balance to remedy a wide shuffling gait, and activities that lengthen tight heel cords so the entire foot will hit the ground while walking

Appropriate levels of physical fitness through habilitation

Developing and maintaining an appropriate level of physical fitness is critical for persons with disabilities because, frequently, the disabling condition itself interferes with the ability to move efficiently. The problem of movement efficiency is compounded when physical fitness levels are not adequate because requisite deficits for functional activity of muscular strength, joint flexibility (usually tight muscles and connective tissues), muscular endurance and cardiovascular endurance. These physical fitness factors are requisites for movement efficiency related to functional life. A sedentary lifestyle that results in inadequate levels of fitness can lead to chronic disorders that diminish health, limit mobility, ability to work and other life functions. In addition, the types of health problems that can result from limitations in physical activity include obesity, hypertension, low back pain, osteoporosis, coronary heart disease, diabetes, colon cancer, anxiety and depression and premature death (4). The primary values of physical activity for persons with disabilities are that it increases the number of years of quality living (5). However, there are additional values for persons with disabilities including 1) prevention of secondary conditions, 2) independent living potential, 3) improved physical fitness, 4) general health and quality of life. Once minimal levels of physical fitness are achieved, development and use of physical and motor fitness can contribute to additional physical fitness development. A list of benefits of physical activity through habilitation areas follow.

Physical Fitness

Physical and motor fitness serve as the prerequisites for functional activity associated with independent life. The value of physical and motor fitness levels as prerequisites to function that may result from habilitation follow:

- Allows maximal muscle power(6)
- Improves aerobic fitness(7,8)
- Prevents physical deconditioning(9)
- Increases and maintains muscular strength, endurance and contributes to mobility(4,5)
- Improves reaction time, tapping speed and coordination(10)
- Enables a person with severe disabilities to lift the head, roll over and maintain a sitting position(11)

Prevention of Secondary Disabling Conditions

Insufficient capabilities to perform tasks that involve physical activity may contribute to a host of chronic health conditions and secondary disabling conditions. A list of disabling conditions associated with insufficient physical activity that can be promoted through habilitation follow.

- Decreases the risk of diabetes(12)
- Decreases the risk of depression and anxiety(13,12)
- Prevents hypertension(14,13)
- Reduces the risk of colon cancer(14)
- Lessens backaches(15)
- Enhances insulin production in persons who have diabetes(15)
- Prevents delays in the onset of osteoporosis(15, 16)
- Improves efficiency in ventilatory capacity related to cardiovascular disease(17)
- Improves stroke volume related to cardiovascular disease(18)
- Diminishes fluid retention in varicose veins related to cardiovascular disease(19)

Independent Living

A central purpose of habilitation through physical activity is to improve functional skills for independent living. A list factors associated with independent life as a result of physical habilitation follow

- Improves functional independence(20,21)
- Increases pain-free weight bearing capacity(22)
- Reduces medical expenditures(23)
- Reduces potential falls of persons with balance and ambulatory problems(24)
- Contributes to mobility(25)\

General Health and Quality of Life

In general, the more severe the disability the poorer the health status (26).Chronically ill persons with debilitating conditions are prone to poor physical vitality. Overweight and obesity which are associated with sedentary life, can lead to chronic health conditions such cardiovascular problems. Overweight persons are at greater risk for being diagnosed for diabetes, high blood pressure, high cholesterol, asthma, arthritis and structural foot conditions (27) and premature cardiovascular disease. Other adverse conditions that may arise as a result of ineffective habilitation through physical exercise for improved functional living follow.

- Improves psychosocial health(28)
- Reduces depression(29)
- Improves sleep patterns(7)
- Facilitates weight reduction(7)
- Enhances postural stability(7)
- Enables persons with moderate disabilities to engage in leisure-time activities in the community

REFERENCES

1. American Alliance of Health and Physical Education and Dance, National Association for Sport and Physical Education, [www. aahperd.org](http://www.aahperd.org)
- 2.Bar Or O, Importance of differences between children and adults for exercise testing and exercise prescription, In Skinner IS, editor *Exercise testing and exercise prescription for special cases*, Philadelphia, Lea Feigner, 1993
3. Maki BE Holiday PJ Topper AK: A perspective study of postural balance and risk of falling in an ambulatory independent elderly population, *J. of Gerontology* 49:M42, 1994
4. Kajula, UM Kaprio J Sarna S,Koskenbvu, and M: Baseline leisure physical activity and future mortality in twins, *J. of Sports Science* 16:508-509
5. Pommering TL et.al. Effects of an aerobic program on community based adults with mental retardation, *Mental Retardation* 32:218-226
6. Coelho CW Velloso, CL Brasil LO, Six week home-based resistance training improves muscle power in adult patients with GH-deficiency, *Medicine and Sports in Science and Exercise* 3:S268, 1998
7. McMurray RG Answorth BE Harrell JS Griggs T Is physical activity or aerobic power more influential on reducing cardiovascular risk factors, *Medicine and Sports in Science and Exercise*, 31:1521-1529, 1998
8. Woolf-May K Kearney EM Jones DW Davison RC Coleman S: The effects of two different 18 week walking programmes on aerobic fitness: selected blood lipids and factor XIIa *J. of Sport Science* 16:701-119, 1998
9. Raven PB Welch-O'Connor R Shi X: Cardiovascular function following reduced aerobic activity, *Medicine and Science in Sports and Exercise* 31 1041-1052, 1998

10. Kauranen KJ Sirira, PT, Vanharanta HV: A 10 week strength training program: Effects on the motor performance of an unrepaired upper extremity, *Achieves of Physical Medicine and Rehabilitation* 79:925-930, 1998
11. Modell SJ Cox TA: Fitness activities in children with severe profound disabilities, *Teaching Exceptional Children, January/February: 24-29, 1999*
12. Ransdell LB Wells C Physical activity in urban white, African-Americans and Mexican- American women, *Medicine and Science in Sports and Exercise* 31: 1608-1617 1998
13. Coyle CP Santiago MC, Anaerobic power exercise training and depressive symptom logy in adults with physical disability, *Arch Phys Med Rehabil* 76:647-652, 1995
14. Lee IM. Paffenbarger J Haieh E Physical activity and the risk of developing colorectal cancer among college alumni. *J. of the National Cancer Institute* 83:1324-1329, 1991
15. Trudeau F. Laurencell L Rajic M. Shepard RJ: Daily primary school physical education: Effects on physical activity during adult life, *Medicine and Sports d Exercise* 32 111-117 1999
16. Haff GG Explode with plyometrics, *Muscular Development*, 336:92-98, 1999
17. Meyers, J Goebbels U Dubach P: Influence of high intensity training on the ventilatory response to exercise in patients with reduced ventricular function, *Medicine and Science in Sports and Exercise*, 32:929-937, 1999
18. Raymond J. Davis GM Climstein M Sutton JR: Cardio respiratory responses to arm-cranking and electrical stimulation leg cycling in people with paraplegia, *Medicine and Science in Sport and Exercise* 32:822-828, 1999
19. Carlucci. et. Al. Exercise- Not just for the healthy, *Physician Sports medicine*, 19(7) 47 54, 1991
20. Hanny, Y Macera, CA Blair SN, Rill NB, Kohl H Kroenfelds, JJ: Physical fitness, physical activity and functional limitations in adults aged 40 and older, *Medicine and Science in Sport and Exercise* 31, 1430-1435, 1998
21. Sandstrom RM Mokler PJ Hopper KM: Discharge destination of motor function outcomes in severe stroke measured by the functional independence measure related group classification system, *Archives of Physical Medicine* 79: 762-765, 1998
22. Shepard RJ: Do work-site exercise health programs work: *Physician and Sportsmedicine* 27: 48-72, 1999
23. Shepard RJ Emter M Finne M Stalenheim GA : 3 year follow up of asthmatic patients participating in a 10 week rehabilitation program with emphasis on physical training, *Archives of Physical Medicine and Rehabilitation* 79: 539-544, 1998\
- 24 2*.American Association of cardiovascular and Pulmonary Rehabilitation, *Guidelines for Cardiovascular and Pulmonary rehabilitation programs, 2nd ed. Champaign, IL, Human Kinetics, 1995*
25. Handoff, PA et.al. Resistance training effects on the fitness of habitual activity patterns of elderly women, *Arch. Phys, Med. Rehab* 73:603-602, 1992
26. Horowitz, SM, Jerker, BD, Owens, PL. Zigler, E. *The health status and needs of individuals with mental retardation*, Unpublished paper, Washington, DC. Special Olympics Ingternational, 2001
27. U.S. Department of Health and Human Services: *New state data shows obesity and diabetes are still on the rise*, Atlanta GA, Center for Disease Control and Prevention, 2002
28. Nacher S Valenzuela J Nogues J Rodriguez FA: The effects of self administered swimming and walking programmes on health and fitness in previously inactive adults, *J. of Sport Science* 16 508-509, 1998

Examples extracted from Auxter DM et. al. *Principles and Methods of Adapted Physical Education*, 11th edition, McGraw-Hill, New York, NY, 2010

