

# Exercise Options For People with Intellectual Disabilities and Visual Impairment/Blindness

*A "how to approach" for designing and implementing an exercise program for people with disabilities*

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**! WARNING !**

The U.S. Surgeon  
General Has  
Determined that  
Physical Inactivity is  
Hazardous to Your  
Health!



**In 2003 the lack of leisure physical activity or sedentary behavior among adults with disabilities was 53% compared with 34% among people without disabilities.**

**"At -A-Glance: Disability and Health: Promoting Health and Well-being of People with Disabilities 2005"  
(June, 2005)**

## **Barriers to Physical Activity**

- ▶ Lack of funds/access to facilities
- ▶ Lack of equipment
- ▶ Staffing issues
- ▶ Transportation
- ▶ Untrained staff (specifically to providing exercise instruction to someone with ID/VI)
- ▶ Internal factors i.e., motivation, confidence, poor self-image, behavioral issues

## Why is Exercise as Important or More Important for People with ID/VI?

- ▶ People with ID/VI generally have less opportunity to move freely around their environment.
- ▶ When movement occurs it is with less efficiency and at a greater energy cost.
- ▶ If visually impaired, particularly since birth, there may be less confidence with movement.
- ▶ ADL's require more energy for the ID/VI

## Physical Benefits of Exercise

- ▶ Increase muscular strength
- ▶ Increase cardio-respiratory endurance
- ▶ Improve flexibility
- ▶ Improve body composition
- ▶ Increase bone density
- ▶ Specifically for the VI, assist with circadian-rhythm sleep disorders

## Emotional / Cognitive Benefits of Exercise

- ▶ Decrease Anxiety
- ▶ Decrease Depression
- ▶ Decrease Anger
- ▶ Decrease Frustration
- ▶ Improve Memory
- ▶ Improve Cognition
- ▶ Improve Self Image
- ▶ Increase Confidence

## Health/Medical Benefits of Exercise

- ▶ Decrease blood pressure
- ▶ Lower cholesterol
- ▶ **Decrease risk for developing cardiovascular disease**
- ▶ Decrease the risk for diabetes and other disorders related to being overweight
- ▶ Improve respiratory/lung function
- ▶ Decrease in falls (important for the aging population and for ID/VI)

## Risk Factors for Coronary Artery Disease

- ▶ High cholesterol
- ▶ High Blood Pressure
- ▶ Obesity
- ▶ Smoking
- ▶ Family history
- ▶ \*Sedentary Lifestyle (less than 30 minutes of planned, moderate physical activity on a daily basis)

ONE OF THE MOST COMMON FORMS OF  
CHRONIC DISEASE FOR PEOPLE WITH  
INTELLECTUAL DISABILITIES IS...

**CARDIOVASCULAR DISEASE**

**UNFORTUNATELY, THE  
BENEFITS DERIVED FROM  
EXERCISE CANNOT BE  
OBTAINED FROM A PILL!!**

If so, we would all be healthy!

## **Specific Exercise Guidelines for People with Visual Impairment**

There are actually no specific guidelines. The primary focus is on:

### **SAFETY**

The same exercise guidelines used with an otherwise healthy population apply, keeping in mind modifications which are required to increase safety.

## BEFORE STARTING EXERCISE

1. Physician's approval/medical clearance
2. Awareness of medical conditions that may affect or limit participation
3. Awareness of sensory or behavioral issues
4. Medications and possible impact on exercise

## The Exercise Space

- ▶ Allow time for exploration
- ▶ The exercise space should be uncluttered and consistently maintained
- ▶ Stations may be positioned in a circuit in the order that they are to be used
- ▶ The space should be free of raised mats and other tripping hazards
- ▶ Provide a tactile/visual perimeter around machines

## **Teaching Adults with ID/VI**

- 1. Use physical prompts/manual guidance to assist in teaching.**
- 2. Give clear verbal directions to describe a movement pattern.**
- 3. If the individual was previously sighted, describe the movement pattern i.e., move your arms like windshield wipers.**
- 4. Orient individuals with ID/VI to the exercise area & object placement.**

## **Teaching Adults Continued**

- 5. Adapt/modify an activity as needed**
- 6. Label/mark dial settings on specific equipment (use large print, hi-mark, or braille on each piece of equipment)**
- 7. Provide performance feedback and assist with charting progress**
- 8. Workout with a sighted partner**

## BUILDING BLOCKS OF FITNESS

- ▶ Cardiorespiratory Endurance
- ▶ Strength (functional vs absolute)
- ▶ Flexibility
- ▶ Body Composition

## Exercise Prescription (FITT)

- ▶ Frequency (how often)
- ▶ Intensity (light, moderate, high)
- ▶ Time (duration)
- ▶ Type (mode of exercise)

**Important: Start slowly and gradually increase Frequency, Intensity, and Time.**

## Activity Adaptations

- ▶ Start with simple movement patterns
- ▶ Utilize a circuit of stationary machines
- ▶ Use a rope or tape as a tactile guide between pieces of equipment
- ▶ Use a chair or other object as a “home base”
- ▶ Use an auditory cue to move to a new station/machine or to encourage movement

## EXPLORATION

When introducing an individual to a machine, allow time for exploration.

Place the individual's hand on the railing of the treadmill and prompt them to step up carefully.

Explain what is going to happen next



## EXPLANATION



Place the individual's hand on the front or side railings

Announce that the belt is about to start moving. Begin slowly and gradually increase speed. Also announce when the belt is about to stop



Provide physical assistance when the individual dismounts the treadmill.

## PHYSICAL ASSISTANCE

Place the individual's hands on seat and front pad of the machine.

Assist with correct position on the machine.

Explain the desired movement.

Provide hand over hand assistance in early learning stages



## EXECUTION



Provide assistance with pulling or pushing the handles to complete the exercise.



Provide physical assistance to step safely up and away from the weight machine.

## Ensuring Success

- ▶ When is a good time to work out?
  - Choose a time that is convenient
  - Work out in a quiet setting.
  - Pick a time when nothing else is likely to interfere.
- ▶ Exercise with a sighted partner.
- ▶ Obtain instruction/supervision from a trainer
- ▶ Document progress
- ▶ Identify healthy motivators

## Activity Suggestions

- ▶ **Aerobic exercise:** walking; jogging; swimming; cycling; rowing; stair climbing
- ▶ **Strength training:** free weights; machines; stretch tubes; body weight exercises
- ▶ **Stretching** (tai chi; yoga; static stretching)
- ▶ **Balance training** (single leg stance; bosu ball; walking on a soft surface/mat)
- ▶ **Chair exercise programs**

## WALKING PROGRAM SUGGESTIONS

- ▶ Start gradually with level terrain and short distances
- ▶ Walk in an obstacle free area
- ▶ Walk indoors in a large room, mall, or indoor track
- ▶ Walk outdoors in a park, cemetery, or track
- ▶ Add stair climbing or hills to increase intensity

# Exercise Machines

Machines remove many of the variables that interfere with exercise completion for people with ID and VI:

- 1) Treadmill
- 2) Stationary Bike
- 3) Elliptical machine
- 4) Rower
- 5) Stair climber

# SWERVES

Functional Fun  
and Fitness  
For Everyone



**SWERVES**  
A CIRCUIT EXERCISE PROGRAM

SWERVES is a circuit exercise program designed with an emphasis on functional fitness. This exercise circuit is made up of exercise stations that can be adapted to meet the needs of all who live at WDC. By improving or maintaining functional fitness, the exercise participant is able to remain independent in their home and move safely through habitat environments.

The circuit is designed to provide a quick, yet effective workout. It can be completed in 15 to 30 minutes depending on the individual who is exercising. The intensity of the workout is influenced by the number of stations completed and the number of repetitions performed at each station.

The Swerves exercise circuit may be most appropriate for the individual who:

- Has a low level of fitness.
- Has limited time to exercise.
- Has a low tolerance for structured exercise.
- Has a need for daily exercise.
- Has a need to work on a variety of functional gross motor skills.

The Swerves exercise circuit is divided into two exercise zones.

The stations in **Zone One** are designed for people who are ambulatory. The stations in **Zone Two** is designed for people who are not ambulatory.

• Each station lists steps with pictures of the exercise and directions for self or the exercise participant to follow.

There are three levels of difficulty:

- Beginner
- Experienced
- Advanced

• We encourage each participant to start at the beginner level and progress to the experienced and/or advanced level, when appropriate.

• Medical Clearance should be obtained before beginning any exercise program.

• Staff should monitor the exercise participant's physical response to the exercise.

• Heart rate can be monitored but other changes should also be observed.

• Other physical changes may include:

- An increase in frequency and depth of breathing.- Redness in the face.- Fatigue.- Loss of balance or a change in walking gait.- Behavioral changes.

## BALANCE ON FLEXIBILITY BALL

- ▶ Objective: to improve balance & work on core muscles
  - rock front to back
  - rock side to side
  - sit to stands
- ▶ Adaptations: the safety ring may be removed if the individual is capable of balancing on the ball independently.



## PULLDOWN

- ▶ Objective: to strengthen the muscles of the back and increase the flexibility of the shoulder.
- ▶ Directions:
  - Sit in chair and grasp bar
  - Pull the bar down to touch upper chest
  - Return slowly & repeat



## SEATED ROW

- ▶ Objective: To strengthen the muscles of the back.
- ▶ Adaptations: positioning the chair further away from the wall increases intensity



## Upper Body Ergometer/Hand Cycle

- ▶ Objective: to exercise the muscles of the upper body & burn calories.
- ▶ Adaptations: this activity can be done standing or seated in a chair/ wheelchair.



## LEG STRETCH OVER THE FLEX ROLL

- ▶ Objective: to stretch the muscles of the legs and lower back.
- ▶ Adaptations: sitting in a chair with legs extended may be enough stretch for some people.



## MIRROR STRETCH

- ▶ Objective: stretch the muscles of the shoulder and upper back.
- ▶ Adaptations: this stretch can be done standing. Arms can be stretched one at a time. A verbal cue that can be used: "Reach for the sky".



## STEP UP AND DOWN

- ▶ Objective: to strengthen leg muscles, improve balance, and burn calories
- ▶ Adaptations: initially the step may be placed directly on the floor. The height of the step can be increased as muscle strength improves



## THE SUPINE MAT STRETCH

- ▶ Objective: To stretch all of the muscles of the body.
- ▶ Adaptations: a pillow may be placed under the head or knees for someone who has postural problems or tight musculature.

**Note:** often a favorite!!



## Exercises in the pool

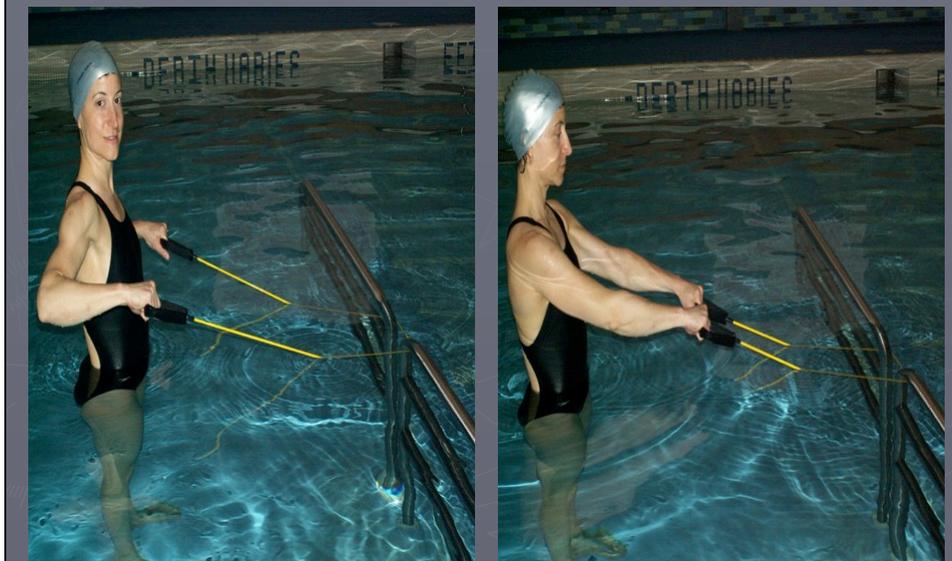
### SHOULDER EXERCISE IN THE POOL



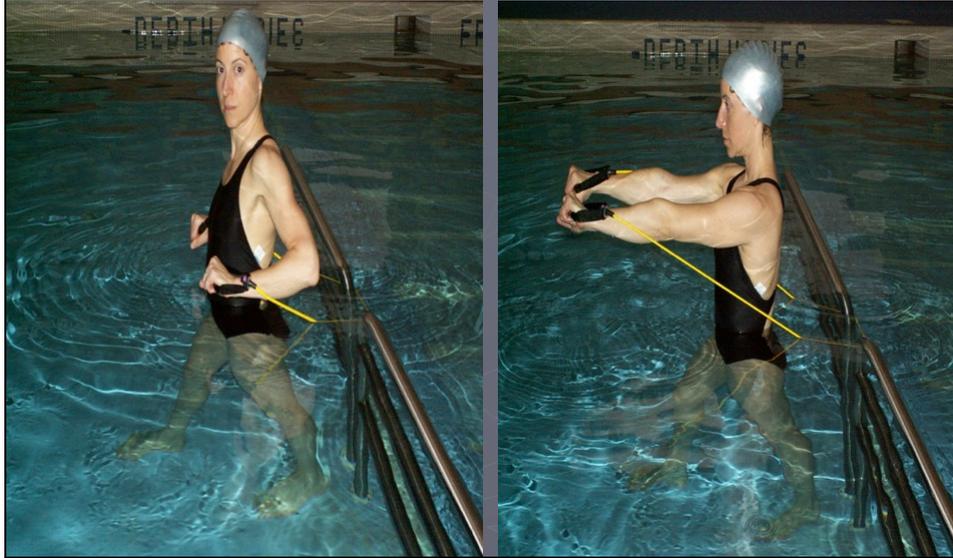
## UPPER BODY EXERCISE (PUSH/ PULL)



## THERA-BAND ROW EXERCISE



## THERA-BAND CHEST PRESS



## FLOATING/LEG KICKS



## **LIFESTYLE MANAGEMENT** **PROGRAM**

- ▶ Obtain medical clearance for exercise and start slowly
- ▶ Increase daily physical activity.
- ▶ Decrease caloric intake (cut down on the amount of food consumed). Keep a food diary to track the type and amount of food eaten.
- ▶ Keep an exercise log and gradually try to increase frequency, intensity, and time of exercise.
- ▶ Provide frequent feedback on progress and give social praise when gains are made.

No matter what your disability or ability, **FITNESS** is for **EVERYONE** !

**THANK YOU!**



# RESOURCE LIST

American Foundation for the Blind

[www.afb.org](http://www.afb.org)

Lighthouse International

[www.lighthouse.org](http://www.lighthouse.org)

National Braille Association

[www.nationalbraille.org](http://www.nationalbraille.org)

National Association of the Deaf (NAD)

[www.nad.org](http://www.nad.org)

Telecommunications for the Deaf, Inc.

[www.tdi-online.org](http://www.tdi-online.org)

Registry of Interpreters for the Deaf

[www.rid.org](http://www.rid.org)

National Center on Physical Activity and Disability

[www.ncpad.org](http://www.ncpad.org)

The ARC of the United States

[www.TheArc.org](http://www.TheArc.org)

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