

THE BENEFITS OF ROCK CLIMBING FOR CHILDREN WITH SPECIAL NEEDS

Rock climbing is a physically demanding activity that requires concentration, motor planning and sequential thought, among other skills. Full inclusion to accommodate children who have physical limitations or cognitive and sensory processing deficits can be challenging. However, children with special needs can reap many benefits offered by indoor rock climbing. Whether a physical, cognitive or sensory disability, there is a degree of participation that can be achieved. The Adaptive Climbing Wall and Activity Guide provide modifications to include children who fall within the categories of disabilities. Some of the benefits of rock climbing as they relate to certain disabilities are detailed here.

SENSORY DISABILITIES

- As children climb, they are gaining exposure to movement and sensory input that can help in motor processing.
- Strength and muscle tone are positively affected by climbing. Children who are affected by sensory processing difficulties may not move enough for healthy bodies and minds.
- Climbing gives children's bodies proprioceptive input (being aware of body and movement in relation to its joints). The pressure they feel in their muscles and joints can help internal regulation.
- Climbing helps develop the vestibular system.
- Receptive language can be targeted as children listen and process verbal direction by a caregiver, teacher or another child. Direction can include where a hand hold to reach for is located. Using a clock reference may help, such as "The hold to reach for is at the 10 o'clock position." Receptive language is further developed as children talk to each other while climbing so they know where they are in relation to others. This is especially important for children who have visual impairments.
- The dry-erase surface allows communication in the form of written words and diagrams. This may help for children who are hearing impaired.
- Rock climbing is a very tactile activity.
- Climbing from one end of the Adaptive Climbing Wall to the other requires constant visual attention and scanning the area to find the next appropriate hand and foot placement. This keeps children's bodies and minds on the same path and helps maintain focus.
- Visual attention and scanning is further helped by the introduction of magnets on the wall.
- The magnet-accepting surface provides an additional way to introduce three-dimensional and tactile play by way of magnetic stuffed animals, magnetic blocks, etc.
- As children climb from one end of the Adaptive Climbing Wall to the other they gain experience and understanding; their confidence level is heightened by their accomplishment.

PHYSICAL DISABILITIES

- Core strength and muscle tone are positively affected by climbing.
- Strength in hands, arms and legs can increase by climbing on the Adaptive Climbing Wall.
- Children who have physical limitations often participate in sedentary activities. Climbing on the Adaptive Climbing Wall, at whatever physical level they are capable, provides body movement that can increase circulation and assist in digestion.
- Range of motion activities can increase flexion and extension which in turn helps prevent muscle atrophy.
- Climbing on the Adaptive Climbing Wall helps children gain experience and confidence in bilateral movement and coordination.
- Eye-hand and eye-foot coordination is practiced.
- Climbing on the Adaptive Climbing Wall directly combats childhood obesity and increases physical fitness.
- The magnet-accepting surface gives an opportunity to explore visually and tactilely interesting magnetic objects on the wall without requiring the physical abilities to hold the objects.

COGNITIVE DISABILITIES

- Children are better able to focus and attend to cognitive tasks after they have been able to use their whole body in activity.
- Climbing can help reduce stress because as people exercise, they are helping their bodies release endorphins, which boosts mood and counterbalances the stresses in life. When people feel better, stress has a lesser effect on body and mind.
- Facing the rock wall and constantly scanning the wall for the next hold to reach for can help take away auxiliary distractions and increase attention. This also helps children think sequentially.
- Action concepts such as on/off, up/down, right/left, go/stop can all be incorporated into climbing on the Adaptive Climbing Wall. This helps children learn and understand these words because they are experiencing them verbally as well as kinesthetically.
- The magnet-accepting and dry-erase surface of the Adaptive Climbing Wall can provide opportunities to teach and solidify fundamental learning skills such as letters, words, math, etc. The level of mastery can match up with a child's cognitive abilities, regardless of age.
- The Adaptive Climbing Wall is visually inviting and may serve as a motivator for children to get up and climb, encouraging increased movement.
- Children can repeat play over and over, exploring, learning, remembering and strengthening as they climb.



BENEFITS

- Climbing from one end of the Adaptive Climbing Wall to the other requires constant visual attention and scanning the area to find the next appropriate hand and foot placement. This keeps children's bodies and minds on the same path and helps maintain focus.
- Problem solving is naturally incorporated into climbing as children determine hand and foot placement throughout the climb. Depending on hand hold placement, children may find they need to go back a step to use a different hold in order to advance.
- Along with problem solving is decision-making. Children will be faced with choosing a particular path and following through with their decisions.
- Climbing can help reduce stress because as people exercise, they are helping their bodies release endorphins, which boosts mood and counterbalances the stresses in life. When people feel better, stress has a lesser effect on body and mind.

COMMUNICATIVE DISABILITIES

- When children are climbing on the Adaptive Climbing Wall, they are facing away from the distractions in the room which can help them focus and concentrate on climbing.
- The Adaptive Climbing Wall allows for independent movement. Children who have Autism may not like physical contact and this is an activity that caters to that characteristic.
- As children climb, they are gaining exposure to movement and sensory input that can help in motor processing.
- Receptive language can be targeted as children listen and process verbal direction by a caregiver, teacher or another child. Directions include what color hand hold to reach for, a location on the board to target (e.g. a picture or word written on the surface of the wall). Receptive language is further developed as children talk to each other while climbing.
- Communication through expressive language is encouraged as children maintain an appropriate distance between each other on the wall.
- Strength and muscle tone are positively affected by climbing. Children who have communicative disabilities often also are affected by sensory processing difficulties and may not move enough for healthy bodies and minds.
- The dry-erase surface allows communication in the form of written words and diagrams.
- The magnet-accepting surface enhances communication opportunities. Activities like spelling words with magnetic letters, playing games using magnetic objects to collect with other children and taking turns adding to a magnetic design all focus on interaction with others.

BENEFITS



CLIMBING ASSISTS DEVELOPMENTAL PROCESSES

PHYSICAL ABILITY

- Balance
- Weight shifting
- Core strength
- Arm and hand strength
- Hand grasp
- Awareness of body in space
- Eye-hand coordination
- Eye-foot coordination
- Muscle flexion and extension
- Bilateral coordination
- Motor planning

SENSORY SYSTEMS

- Sense of touch
- Visual attention
- Vestibular system

COGNITIVE FUNCTION

- Problem solving
- Concentration
- Following directions/rules

SOCIAL/COMMUNICATIVE SKILLS

- Turn taking
- Awareness of others
- Patience
- Verbal communication
- Stress management
- Positive risk taking
- Confidence