Clinician’s Corner

Climbing Rocks: A Physical Therapist’s Perspective

By Cheryl Fishman, MSPT, C/NDT

From my NDT training in the summer of 2013 in Houston, Texas, I gained a new perspective on learning new activities, not just for our patients but for anyone. NDT is life. That particular summer I learned to wakeboard, and I found myself thinking of the principles I learned in NDT: alignment, base of support, moving the center of mass over a new base of support, and vision guides the movement. As I learned to wakeboard, I focused on my posture – back upright, shoulders back, knees slightly bent. I thought about my base of support and center of mass, staying low and adjusting by weight shifting as needed to change my direction. Small changes through weight shifting made big changes in the direction I was going and whether or not I stayed standing! My vision was also extremely important; I had to look where I wanted to go. The same principles can be applied to one of my favorite activities, rock climbing.

From a physical therapist’s perspective, there are many benefits from indoor (and outdoor) climbing for children. From the very beginning of the route, alignment is important as you start with both feet and hands off the floor and on the “rock.” When the child reaches for the next artificial rock, or hold, he/she has to shift weight, adjusting posture to maneuver from one hold to the next. During this weight shift, the child is learning to balance and is building overall strength for body and mind. Placement of some of the holds may require the individual to stretch a limb, improving flexibility while improving balance, confidence, and eye-hand coordination.

Some rock problems may be simple, and can be climbed similar to ascending a ladder; however, other routes involve problem-solving when deciding which rock to step on and which way to rotate one’s body. Rotating the trunk to be able to grab onto holds promotes strengthening of the oblique abdominal muscles.

Locating the hand- and footholds and reaching them provides sensory input and proprioceptive feedback. Using one’s vision, looking exactly where the climber wants to place his or her foot, and then doing so as delicately and softly as possible is optimal. Visual motor skills will be enhanced as the climber has to look where he/she will place a foot with precision. At this time, the climber uses the gluteal muscles and proximal hip musculature to move over the new base in order to be in a position to reach the next hold. Eye-hand coordination is strengthened as the climber learns to shape his or her hand to mold into the rock and get the best grip.

In climbing, using bilateral extremities and having bilateral movement of the trunk is crucial to success, and it is important to train both bilateral coordination skills as well as being able to dissociate the extremities. Sometimes the holds may be difficult to locate visually if they are around a corner or below a climber. The belayer (the climber’s teammate, or person who secures the rope) may use auditory feedback to explain to the climber, “Move your left foot up a little bit.” or “There’s a good hold just around the corner to your right at knee level.”
While many people may think of climbing as moving up, traversing or moving laterally offers many of the same benefits. Climbing downwards builds eccentric control of the quadriceps and other lower extremity musculature. Bouldering is also an option to climb without ropes at lower heights.

There are different types of climbing, and one kind called stemming – reaching between one wall/rock and another with both arms or arms and legs outstretched pushing outwards – targets the serratus anterior and proximal musculature of the shoulder girdle.

Climbers may differ in their opinions on whether to start indoors or outdoors. During indoor climbing, the environment is controlled – from the elements as well as having trained staff available to the equipment and padding of the floor. Routes are mapped out in many gyms.

When climbing outdoors, there is the added bonus of spectacular scenery and fresh air. It is a different perspective. The view from above may provide more motivation. The route has been intended to climb a certain way; however, according to your body shape, size, and ability, there may be different ways to reach the top. A boost in the mental game of the climber, expertise in safety, and knowledge of one’s own ability is necessary. With capable staff, your child can enjoy the growing sport of climbing, participating in exercise that one may even call therapy.

Indoor or outdoor; boulder, traverse, or straight up; climbing is a great activity for overall strengthening: core, upper and lower extremities, and the brain. Rock climbing is a wonderful activity for one’s overall well-being; it builds trust and responsibility while providing a fun, unique, and unforgettable workout.

Just as in therapy using NDT principles, in life, and when learning new activities, we are challenged to adjust our alignment and posture, find a good base of support, and then learn how to transition our bodies over a new base as the route progresses. Throughout, remembering that one’s vision guides the movement is paramount to success. Sometimes the vision may be more about the mental vision than actually about being able to see. Why not take your child rock climbing today? Thank you to all who made this experience possible in Houston.

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