

Energy Conservation

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The art of pacing to foster maximum functionality

By Reji Mathew

Energy conservation is a multi-layered skill that offers many direct benefits: preserving physical function, promoting wellness, maintaining a sense of personal efficacy and/or enhancing athletic performance.

To explore this topic, I gathered three different perspectives along the ability-disability spectrum: an athletic perspective from Julie Rosenberg, a physical therapist, exercise physiologist and former competitive tri-athlete; a rehabilitation perspective from Grace Young, a post-polio survivor and OT practitioner with over 25 years of experience; and a real-world disability perspective from Janice Ta, polio survivor and second-year law student at Yale University.

Defining the energy conservation framework along the ability-disability spectrum is important for two reasons. First, from the broadest vantage point, all individuals, ranging along the continuum from severe disability to high-functioning athletic ability, need to pay attention to both the possibilities and limits of their bodies.

From an athletic standpoint, Rosenberg defines energy conservation as "training your neuromuscular system to move toward a desired goal effortlessly," applied specifically to the contexts of one's achievement (e.g., swimming, cycling or running). Young defines energy conservation as "any technique, device or practical strategy that you can implement that will keep you from spending more energy on daily activities that take away the joy of life." Ta defines it practically by asking, "What does the person need to succeed" in whatever role or goal one might have?

Secondly, each person's mind-body system, regardless of ability or disability, has its own mobility and energy-expenditure range. Among any group of individuals, there is a wide range of what each can and cannot do.

From all points along the ability-disability spectrum, there are innumerable insights into how the mind-body system responds to the demands of daily life.

Teaching Energy Conservation

Although energy conservation techniques aim to preserve and foster maximal functioning, they can be challenging to implement. Teach your clients these techniques both practically and holistically. In sessions, it can help to be mindful of the following points when introducing this concept to patients:

Mind-body connection: Energy conservation can be most effective when it is taught in conjunction with fostering a mind-body connection.

"It is important to help patients get in touch with their bodies, (internal environment) and to help patients develop an internal sense of their limits," said Rosenberg. "Not just asking questions, but listening and feeling the body—breathing, heart rate, tension in the eyes, for example."

Energy conservation, she advises, comes when a person connects with his or her body and then plans the day with that awareness.

Young adds that it is important to encourage patients to get into the actual details of each situation, and to study the energy expenditures in their daily roles. Paying attention to these daily details offers the hope of reaching the formula of maximal functioning for each person.

Teaching patients the role of rest—resting actively and not only reactively—is also important. "Rest is the way that the body rebuilds itself," Rosenberg says. "The body needs time for the system to re-build itself, time for the system to get back to baseline, not to be taxed, to restore and recover."

The key is helping patients to "tune into" benefits of rest, via mind-body awareness. Helping patients to see rest is an activity, that pacing in itself is a powerful reward for the body and mind and that rest will enable people to pick up activity again.

Taking out losses and gains: It is critical to acknowledge that implementing energy conservation techniques also has an emotional cost.

"When I started implementing energy conservation in my own life, I thought to myself, 'Slow down? You've got to be kidding!'" Young recalls. "I had to be doing something all the time, two or three things at the same time. Now looking back, I remember riding a tricycle to and from work—I would think this is great exercise—but my legs were hurting. I did not realize the damage until too late. Once you push muscles too far, they don't come back."

For each patient, whatever the diagnosis, it can be very difficult to change the image of how he expects to be able to operate in the world, Rosenberg acknowledges. It takes time to accept not only the diagnosis, but the energy conservation techniques as well.

"Energy levels can suddenly change; you are in a body that is different than you are used to," she says. "It is important to acknowledge this and be supportive."

To guide patients in coping with the associated emotional loss, Rosenberg suggests helping patients "find the need that may be felt to be lost and meet the need in another way." A patient who can no longer take a daily walk outside can still find and plan other ways to enjoy the outdoors with less strain on the body.

"Encourage patients to meet that need with another source that stimulates the senses—sight, sound, taste, touch," Rosenberg continues. "For example, if you enjoy the smells of nature, bring a eucalyptus fragrance indoors to stimulate the feeling of being outdoors."

Challenging learning curve: Even after a patient commits to implementing energy conservation techniques, it is important to recognize that it is challenging learning curve that requires a lot of experimentation. Patients will need encouragement to stay curious through the learning process.

"People are creatures of habit," Young observes. "It is hard to change them... They don't think of doing things differently."

"It is difficult to implement energy conservation in my current life now as a student," shares Ta. "I know I overextend myself. I have to learn how to better manage my time. The way that I do stay on task is through my support system—my family and my partner—who check in with me."

When the learning curve causes frustration, remind patients that individuals at both ends of the ability-disability spectrum need to implement energy conservation strategies to maximize functioning. In the case of triathlon competitions, for example, many details affect energy conservation.

"I learned there are always ways to improve my performance and be energy efficient," says Rosenberg.

Conservation as a Way of Life

Identity and ability are linked. It takes time for patients to learn and accept the costs and benefits of overuse of the mind or body. The principle of "conserve to preserve" applies to any disability, Young says.

"If someone told you that you have only a million muscle contractures left for the rest of your life, would you use it all at one time or try to space it out? You can do more for a longer span of your life."

Patients must continue to implement energy conservation strategies long after recovery and rehabilitation have ended. Energy conservation for rehabilitation patients is not simply re-education about ADL; more importantly, it is the ability to think independently about new and emerging challenges to function over the course of life.

"Practitioners need to teach patients how to ask for help," Ta adds. "Help them to get over their sense of pride."

Young points out that many patients with invisible illnesses delay re-structuring their lives because they don't look sick. However, these individuals also need to implement energy conservation strategies in the same way a visibly disabled person would.

Constant Re-evaluation

Young, now 75, acknowledges she would have done some things differently in her life.

"I would have rested more [avoided] doing anything that caused pain or fatigue," she reflects. "If patients are finding it particularly emotionally difficult to adapt energy conservation as a method of self-care, a referral to counseling could be helpful."

The mind and body have limits and need constant rest and re-fueling. Often, modification of energy expenditure can help individuals achieve the maximum level of functionality at each phase of life. Patients who do successfully implement these ideas learn that conserving energy helps one to live life as fully as possible.

References available at www.advanceweb.com/OT or upon request.

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Energy Conservation Blog

Grace R. Young, MA, OTR, has over three decades of experience in OT with various populations including stroke, head trauma, SCI, orthopedics, neurological disorders, burns and hand therapy. She spent 17 years at Kaiser-Permanente, the largest HMO in California, where she developed an educational program for post-polio syndrome.

She has published and lectured extensively on disability issues. She now writes a blog on energy conservation called Disabled 2 Able, at <http://www.graceryoung.com>.

COMMENTS

I have PPS. My symptoms were in my left leg, my right leg is very stressed. As I age, I have difficulty with my moderate exercise. My body has muscle pain and muscle fatigue. I would like to exercise but the following day makes my body act as if I have flu like symptoms.

Dr.s still do not understand and just look at me with a lack of interest and want me to leave so they can be off to the next patient.

My feet are always sore. I had surgery on the right foot bunion. The only relief is to continually change shoes. Tennis shoes expensive or low priced do not work. Have had Knee surgery and have bone on bone now on my good leg. I still want to lead an active life and think I can do it but maybe not.

My symptoms are not as bad as others. I do have complete mobility with less strength.

Can anyone suggest what I need to know do to limits with exercise.

Curious,
Karen

Karen Medley, Visual Art Instructor, SM Jr./Sr. High
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Oracle, AZ

I haven't taken naps since I was two. But I find that I now need to rest my hips and knees in the afternoon. I just got a lift chair and it is very comfortable. I have a laptop and can rest my knees and hips while still being active.

Donna, Ph.D., University
KY