

# Did You Know?

## Functional Electrical Stimulation Cycles

### *A Focus on Medicaid Funding*

Individuals who are sedentary due to mobility-related impairments are at risk for secondary health complications stemming from their inability to move. Possible complications include pressure sores (open wounds that develop when prolonged pressure is applied to skin covering bony prominences), diabetes, decreased bone density with risk of fractures, recurrent urinary tract infections, spasticity (tight or stiff muscles or inability to control muscles), joint stiffness, and early cardiovascular disease. The challenge is to find therapy strategies that will help at-risk individuals forestall these unwanted health consequences.

One technology, functional electrical stimulation (FES), has been shown to be effective at preventing or reducing secondary complications of immobility. Numerous studies are available that show that FES devices, such as a leg cycle, help prevent a number of the serious health complications arising from immobility. For example, FES cycling has been shown to increase muscle mass in spinal cord injured individuals; improve blood flow to paralyzed legs; decrease spasticity; improve glucose tolerance and insulin sensitivity which then decreases the risk of developing type-2 diabetes; improve bone density; and improve cardiovascular health (increase oxygen intake, improve utilization of oxygen, improve heart rate, etc.).

According to the Christopher & Dana Reeve Foundation website, FES “applies small electrical pulses to paralyzed muscles to restore or improve their function.” [www.christopherreeve.org/site/c.mtKZKgMWKwG/b.4453425/k.27A5/Functional\\_Electrical\\_Stimulation.htm](http://www.christopherreeve.org/site/c.mtKZKgMWKwG/b.4453425/k.27A5/Functional_Electrical_Stimulation.htm). Users pedal the FES cycles using electrically stimulated muscles, thereby providing them with actual aerobic exercise. In many instances, FES cycles provide the only means an individual may have of participating in aerobic exercise.

FES cycling devices are not experimental. FES cycles have existed for more than 30 years, have been cleared for marketing by the Food and Drug Administration (FDA), and are used in clinics and facilities throughout the country. For example, the YMCA Healthy Living Center, a partnership between the YMCA of Greater Des Moines and Mercy Medical Center in Clive, Iowa, offers FES cycling as part of its outpatient physical and aquatic therapy rehabilitation and restorative patient care services.

Unfortunately, an FES cycle can cost thousands of dollars (one model sells for about \$15,000) and without funding options, few people could benefit from the technology. One potential funding source is Medicaid. FES cycles meet the definition of “durable medical equipment” in many, if not all, states. For those states that provide physical therapy (PT) as a covered Medicaid service, FES may be covered as “necessary supplies and equipment” provided as part of PT services. 42 CFR 440.110(a)(1).

In *Matter of Anonymous*, Docket # 108675 (Minn. 2009), the appellant was a 40 year-old man who was quadriplegic as a result of a spinal cord injury incurred during a car accident. His prior authorization for 16 FES cycle therapy sessions was denied by the Medicaid agency as not medically necessary and not the least cost effective alternative. The agency argued that the effectiveness of the FES cycle therapy had not been established by evidence-based practice or accepted as a community standard of PT practice, and had not been shown to improve muscle strength, reduce spasticity, or prevent bone loss. The agency also argued that the appellant was already receiving therapy services and had a baclofen pump to control his spasticity.

The fair hearing decision rejected these arguments, noting that FES cycling therapy is used in major spinal cord injury rehabilitation hospitals such as Gillette and the Mayo Clinic in Rochester, Minnesota and was approved by the FDA for use with spinal cord injuries. The decision credited the testimony of the appellant's PT and the appellant that FES cycling therapy sessions had reduced spasms in his arms, increased his flexibility, and improved his over-all well being.

Another Minnesota case from 2011 involved a funding request for an FES cycle through the Medicaid Community Alternatives for Disabled Individuals (CADI) waiver. *Matter of Anonymous*, Docket # 123572. The waiver program denied funding, claiming the cost of the device exceeded a coverage limit of \$3909. Additionally, the waiver program claimed FES cycles are not covered because they are considered experimental, and they duplicate services available to the appellant through PT. On appeal, the human service judge affirmed the denial and the appellant asked for reconsideration. The decision on reconsideration reversed. First, the decision on reconsideration found no legal authority for setting a service cost limit of \$3909. Further, citing ample evidence of the effectiveness of the FES cycle, FDA approval, and therapeutic use of FES cycles by recognized rehabilitation practitioners, the decision found that therapeutic use of the FES cycle is within "customary practice and usage."

Funding sources such as Medicaid may be reluctant to embrace FES devices because of their cost and it may be necessary to seek prior authorization and appeal a denial in order to get funding. Ultimately, FES cycles may be cost effective. They can last as long as 10 years and provide aerobic exercise to individuals who might not otherwise be able to get aerobic exercise, even from ongoing PT sessions. And if FES cycles prevent some or all of the complications of immobility, the cost savings in terms of obviating the need for other costly medical interventions could be significant.

Advocates and attorneys are encouraged to share their successes involving FES cycles and other devices by sending us copies of any hearing or court decisions. Those who are reading this post as a list serve posting are encouraged to use "reply all" to share comments or questions that they want to reach all participants on the list serve. Use "reply" to communicate only with the person who did the posting. Copies of the cited hearing decisions are available upon request.

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