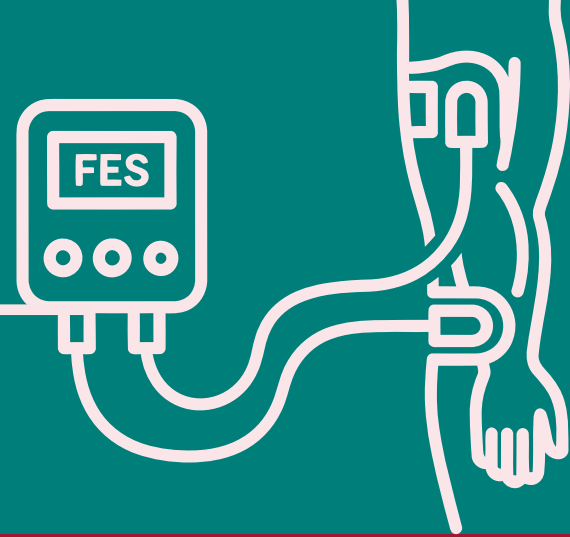


Functional Electrical Stimulation and Spinal Cord Injury

Functional electrical stimulation (FES) delivers small electrical pulses to paralyzed muscles to help them contract and move the body. Always use FES under the guidance of a trained health professional.



Types of FES Devices



FES Cycling or Rowing

Helps with exercising legs and upper body.



Upper Limb FES

Helps with moving the arms and hands by stimulating the muscles.



Lower Limb & Trunk FES

May help with balance, standing, and walking.



Portable and Wearable FES

Helps with daily movement.



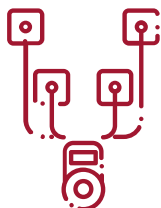
Implanted or Internal FES

Helps to restore function or control. Used in research settings.

How Often Should FES be Used?



Two to five sessions per week. Each session may last 30–60 minutes.



Proper placement of electrodes is important for FES to be helpful.

Response to FES varies; dosing recommendations should be based on clinical benefit.

Who Can Benefit from FES?



People with partial or complete muscle paralysis.



Those who want to improve strength, muscle size, blood flow, and movement.



Not recommended for people with certain heart conditions, recent blood clots, fractures, or autonomic dysreflexia, (severe blood pressure changes), or for people who are pregnant.



FOR MORE INFORMATION

Scan the QR code or visit msktc.org/sci



What are the Benefits of FES?

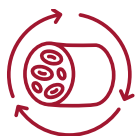
Direct Benefits



May improve muscle strength and size



May improve control of movement



May increase blood flow



May reduce spasticity

Indirect Benefits



May support bone and heart health



May lead to decreased body fat



May increase the benefits of exercise



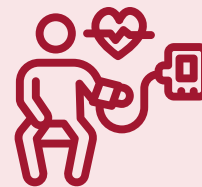
Potential Risks



Skin irritation from electrodes



Muscle fatigue or soreness



Autonomic dysreflexia



For more information about ways to care for your skin's health as you age with SCI, visit: <https://msktc.org/sci/factsheets/functional-electrical-stimulation-fes-sci>

Disclaimer: This information is not meant to replace the advice of a medical professional. You should consult your health care provider regarding specific medical concerns or treatment. The contents of the infographic were developed under a grant from the National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR grant number 90DPKT0009). NIDILRR is a Center within the Administration for Community Living (ACL), Department of Health and Human Services (HHS). The contents of this infographic do not necessarily represent the policy of NIDILRR, ACL, or HHS, and you should not assume endorsement by the federal government.

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