

### What is FES?

Functional electrical stimulation (FES) is a technique by which electrical currents are applied to nerves supplying paralysed or weakened muscle through electrodes placed on the surface of the skin (transcutaneous).

This current delivers the necessary stimulation to elicit a muscle contraction with the purpose of providing functionally useful movements.

### Who can benefit from FES?

People who have lost voluntary control of their muscles because of:

- Stroke
- Spinal cord injury
- Multiple sclerosis
- Traumatic brain injury

### Physiological benefits

- Improves muscle quality (muscle bulk and strength, and blood circulation)
- Prevents bone density loss
- Improves cardiovascular function
- Decreases spasticity
- Improves nerve health

### Benefits of FES

FES can restore activities of everyday living such as grasping, standing and walking and make possible physical activities such as cycling and rowing.

FES enables people with movement disorders to exercise and thus avoid secondary health conditions such as cardiovascular disease and diabetes that can significantly impact quality of life and mortality.

### Psychological benefits

- Improves self-image and self-esteem
- Enhances self-efficacy
- Increases social networks

### What does FES feel like?

Individuals vary in their response to the stimulation. Most individuals with complete spinal cord injury report no sensation of the electrical stimulation. Individuals with incomplete spinal cord injury, MS, CP, stroke and most other neurological disorders talk of a tingling sensation which is usually well tolerated. Some individuals do not like the sensation and choose not to partake in FES.