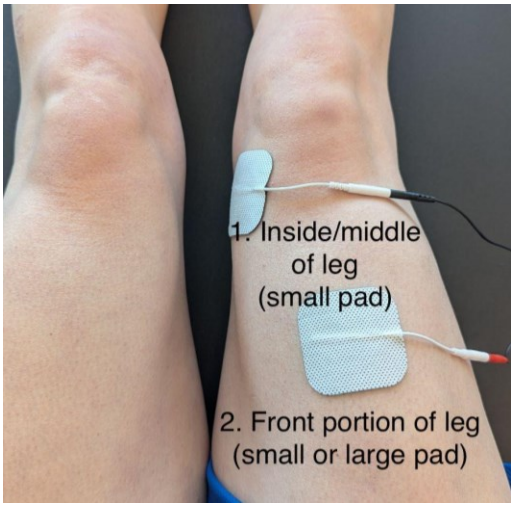
Banff Sport Medicine

Patellar Instability Rehabilitation Information: EMS

What is EMS?
EMS (electrical muscle stimulation) is a device to help stimulate muscle contraction. It is useful pre- and post-surgery to help get the right muscles working at the right time. The machine sends out an electrical signal which then helps a muscle contract via pads on the skin that sit on top of your muscles. Typically, the quadricep muscle has the EMS unit attached to it, and exercises are completed to coordinate the hip and core muscles being activated at the same time.

Why use EMS?
Using an EMS unit daily helps improve muscle bulk, strength and overall function of the muscles around the knee. Pre-surgery, having better muscle function will help you recover more quickly after surgery. Post-surgery, using the EMS unit will help you restore strength and stability to increase functional improvements and get you back to doing more in your day to day or returning to activity sooner.

Where should I purchase a unit? You can purchase the machine online or from BSM.



Where should I place the pads? Each pad placement will be specific to the individual so speak with your physiotherapist to have them help you find the best placements for activating your quadricep muscles.

How often should I use the machine?
You should be doing your exercises *daily* with the EMS unit for 15-20 minutes each day for 8-12 weeks or until you see your doctor again.

What setting should I use?
Common parameters, or settings, for the EMS unit include:

Frequency: 30-50 Hz Pulse duration: 300 µsec Ramp up: 5-10 seconds
On/Off time: 5-10/10-20 seconds Total time: 15-20 minutes

It is recommended that you bring your EMS unit to your physiotherapist so they are able to tailor the settings to work best for you.

What can I do if the signal reduces intensity or stops working?
First attempt changing the pads as they typically need replacement within 4-6 weeks. If that does not resolve the issue, try bringing it to your physiotherapist as they may have other troubleshooting suggestions.

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