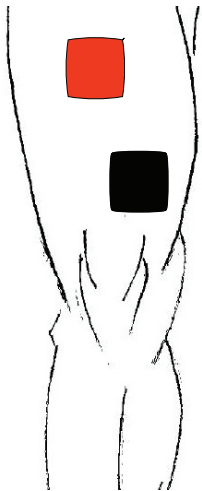
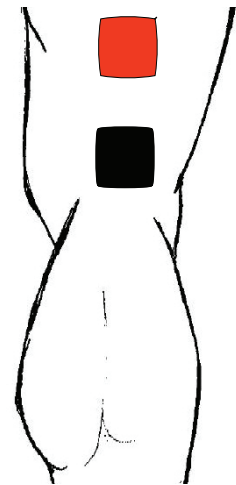
**ACL Reconstruction (Acute Phase)**

ACL Reconstructive surgery often leaves the knee swollen, in pain, functionally weak and ROM deficient. NMES is commonly used to supplement the active exercises and provide accelerated muscle strengthening during rehabilitation.

In order to provide good muscle stimulation without straining the newly reconstructed ACL ligament, this protocol utilizes a co-contraction of the quadriceps and hamstring muscles. This allows for strengthening of both muscle groups as well as a decreased load to the new ligament. When using this protocol, place the patient in an upright position with knee flexed (to tolerance) and hip flexed to increase the passive elastic component of the hamstring muscles. Use the "Synchronous" setting, not the "Asynchronous", to allow both channels to operate at the same time.

**Suggested Electrode Placements****4-pad placement**

Place electrode pads with 2 over quadriceps muscles and 2 pads over hamstring muscles.

**Suggested Settings**

Pulse rate: 50-65 Hz

Pulse width/duration: 250-300 µs

On/Off times: 1:3 ratio (start with 10 sec ON, 30 sec OFF)

Ramp time: 1 sec

Amplitude: Maximally tolerated contraction

Treatment Time: 20-30 minutes

Sessions per day: 3-5 sessions per day (or as needed)

