



## PREVENTING BURNS FROM ELECTROPHYSICAL AGENTS

Over the past two years, the College has received an increased number of burn-related complaints from clients. This is a reminder that registrants have a responsibility to adhere to all Standards of Practice and particularly, with respect to maintaining, inspecting, and calibrating electrophysical agent devices, Standard of Practice: Risk Management and Safety.

Electrodes should be tested yearly at a minimum, or whenever the carbon rubber electrode no longer appears shiny, to ensure that the conductivity is adequate to permit effective and safe application of electrical current with TENS, NMES, or other electrophysical agents.

### How to Test Electrode Conductivity

**Equipment required:** An Ohm meter or a multimeter, analogue or digital; digital is illustrated below

**1. Set up:** Ohm meter/multimeter probes plugged into correct place

Ensure that the leads of the meter are correctly connected to the meter – one at the “+/red/ $\Omega$ ” and the other at the “-/com/black” terminal.



## 2. Integrity of the meter leads: Ohm check

- Turn the meter dial to the setting marked with the ohm symbol ( $\Omega$ ). An analogue meter will have different scales available. You'll have to multiply the meter reading by the factor on the scale you choose. A digital meter (such as shown) will adjust the scale automatically.
- The meter will display "OL" for open line. Touch the two meter probes together. The display should show close to zero. The actual number showing on the ohm meter is the resistance of the meter leads and the meter itself. On some



analogue devices you may need to adjust the meter to “zero” by using the  $\Omega$ -adjustment knob. If you use a digital multimeter the meter will be zeroed automatically.





### 3. Test the electrode:

- Test the resistance of an electrode by placing the end of one probe at one point on the electrode and the end of the other probe on another point of the electrode approximately 1 cm away. You should test at least 3 different places on the electrode. If the resistance reads greater than 500 ohms between any two points, the electrode resistance is too high and the electrode should be discarded.



*Published: March 12, 2020*

*Revised: September 26, 2024*