

Technical Committee Submission

“Based on the forms of energy that chiropractors and podiatrists are permitted to use as defined in the Regulations of the RHPA, is radio frequency ablation a surgical method within our scope?”

Members:

Tony Merendino, Ruth Avelino, Adrian Dobrowsky, Megan Brittain, Jonathan Haslehurst, John Lanthier, Meera Narenthiran, and Tracy Oliver

“Based on the forms of energy that chiropractors and podiatrists are permitted to use as defined in the Regulations of the RHPA, is radio frequency ablation a surgical method within our scope?”

Purpose:

The College of Chiropractors of Ontario requested that the above question be researched by the members of the Technical committee, in order to respond to an inquiry submitted by an outside source.

Radio frequency ablation by definition is a medical procedure in which heat is generated using energy from high frequency alternating electrical current (in the range of 350–500 kHz) in order to cause tissue destruction. This tissue destruction can be further broken down and defined as electrocoagulation, and fulguration. Radio frequency ablation can be effectively used on almost all body tissues, from the most superficial skin lesions to cardiac and brain pathologies.⁽¹⁾ As such radio frequency ablation, in the context of this question, can be more adequately described as a surgical technique, or method, as opposed to a specific procedure. The answer then would have to focus on the general use of radio frequency ablation in the context of chiropractic and podiatry.

Electrosurgery is the use of electricity (AC-alternating current) to generate heat for the purpose of tissue destruction. Standard electrical current alternates at a frequency of 60 cycles/second (Hz). Electrosurgical systems can function at this frequency, but excessive neuromuscular stimulation and perhaps electrocution would result. Nerve and muscle stimulation cease at 100,000 cycles/second (100 kHz). Frequencies above 100 kHz are called radio frequencies, thus explaining the nomenclature for the devices and procedures used. Electrosurgery is performed at these safe “radio” frequencies above 100 kHz, usually in the range of 350 to 500 kHz. This energy is delivered to the desired tissue via an electrode. The electrode is used to concentrate high-frequency energy to generate molecular heat in tissue cells, in order to gain the desired result. When the

energy to the electrode is pulsed, and comes in direct contact with tissue, we get the resultant tissue destruction termed coagulation. Coagulate by definition is to change from a fluid into a thickened mass; curdle; congeal.(3) The term electrocoagulation is used to describe the above results as created by the electrosurgical unit. Fulguration is very similar to coagulation with the exception of electrode contact. The electrode in fulguration never touches the tissue directly. Thus the spark of energy created destroys the tissue superficially, and does not penetrate deeper into the tissue. Fulguration by definition is the act or process of flashing like lightning (3), thus the name given for the effect created by the electrode when it is kept a distance from the tissue. Ablation is defined as the removal or destruction of bodily tissue, so this term is utilized with radio frequency procedures because it encompasses, and more broadly describes both electrocoagulation and fulguration.

According to Ontario regulation 107/96, within the Regulated Health Professions Act, 1991, electrocoagulation and fulguration are forms of electrical energy that fall into the category of control acts. In the exemption portion of this regulation it states “. A member of the College of Chiropractors of Ontario is exempt from subsection 27 (1) of the Act for the purpose of applying electricity for electrocoagulation or fulguration. O. Reg. 107/96, s. 2.” Thus, Ontario regulation 107/96 allows the use of electrical energy by the members of the College of Chiropractors of Ontario for electrocoagulation and fulguration.

It should also be noted that the members of the College of Chiropractors of Ontario are governed by many other regulations and acts. These regulations would prohibit the use of any treatment modality outside the scope of the profession. As such the use of radio frequency ablation in the practice of podiatry and chiropractic is limited to the tissue and anatomy prescribed by the College of Chiropractors of Ontario, and the Regulated Health Professions Act. Any further clarification of this question toward a specific procedure would have to take into account those limitations on the scope of the participating members.

Conclusion:

According to Ontario regulation 107/96, within the Regulated Health Professions Act, radio frequency ablation is a surgical method within the scope of chiroprody and podiatry.

References

1. Sabiston textbook of surgery: the biological basis of modern surgical practice. (19th ed.). Philadelphia, PA: Elsevier Saunders. p. 236
2. Boughton RS, Spencer SK. Electrosurgical fundamentals. J Am Acad Dermatol 1987;16:862-7
3. Encyclopædia Britannica Concise. Merriam Webster Dictionary, Available from: <http://www.merriam-webster.com/medical/surgery>
4. Landsman A. Assessing The Role Of Radiofrequency Nerve Ablation For Plantar Fasciitis. Podiatry Today. 2011; 24 (11)
5. Landsman A. Radiofrequency nerve ablation for the treatment of heel pain. Tech Foot Ankle Surg. 2011; 10(2):76-81
6. Sachdeva S, Dogra A. Radiofrequency ablation in dermatology. Indian J Dermatol 2007;52:134-7
7. Cosman Radiofrequency Pain Management & Neurosurgery <http://www.cosmanmedical.com/>
8. Regulated Health Professions Act, 1991, S.O. 1991, c. 18 <http://www.ontario.ca/laws/statute/91r18>