



Electropathic Cure-alls: Quack Medical Devices



By Randall Leefeldt, MD

My first encounter with an electrotherapeutic "quack" medical device was at a Reno flea market. It was a fantastic specimen of oddly shaped tubes, spark gap calibrators, dials and gauges in a leather box. I had absolutely no idea what it was and continued on my way, unaware that I would one day collect these strange contraptions — and had just passed on the best one I would ever see.

Electromagnetic and ultra violet ray devices, Oudin machines, induction coils, Tesla coils, magneto devices, nervo-meters, magnetic belts, and electropsycho-meters were for limited home use, with the deluxe models restricted for use by the experienced practitioner.

The first U.S. patent for an electropathic device was issued to Dr. Elisha Perkins in 1796 for his Metallic Tractors that were little more than metal prods attached to a galvanic cell. Several models were available from the Sears catalog and came with brochures containing outrageous claims of healing all that ills: baldness, lumbago, and venereal disease. They came with an expandable assortment of tubes and probes for every imaginable body part, orifice, and then some.

It is my belief, given the sheer variety and multitude of these devices, that not every practitioner who used one was necessarily looking to deprive patients of the contents of their wallets. Many devices had combinations of the conventional (cautery and endoscopic instruments) in addition to the less conventional therapeutic ray tubes. Practitioners of that time were no doubt seduced by the limitless claims and promises attributed to electricity, magnetism and the other more ethereal rays discovered by the great men of physics.

James Maxwell published his electromagnetic wave theory in 1873. It took another 20 years before Heinrich Hertz was able to create the first electromagnetic radiation in the laboratory. This quickly led to the French investigators, D'Arsonval and Oudin's experiments with modified Tesla (Oudin) coils that produced safer low voltage high frequency currents.

They were the first to claim healing effects with high frequency currents. D'Arsonval went on to develop the galvanometer and diathermy. Nikola Tesla, on the other hand, suggested utilizing the directional heating effects of radio waves on biological tissues, a procedure now known as radio frequency ablation.

The French investigators used both direct and alternating currents via capacitive and inductive coupling and experimented with high-frequency current up to the limit of their oscillators (about 10,000 cycles per second). Muscle contractions and metabolic effects were observed at the lowest frequencies with tetany occurring at around 20-30 stimulations per second. They observed that excitation peaked at about 5,000 cycles per second and decreased thereafter. The healing effects were believed to be occurring at the highest frequencies, which they theorized was due to increased electroporosity and the in-and-out exchange of the essential materials of metabolism.

Both the Oudin and Tesla based units incorporated the characteristic low-pressure glass tubes known as Oudin resonators. The high frequency output excited the resonators to a violet glow, causing them to give off static coronal discharges when in proximity to body surfaces. Such therapeutic discharge was termed "cold" fulguration. Treatment generated copious amounts of ozone with sensations ranging from soothing stimulation to shocking pain.

Electrotherapeutic devices were sold from the late 1800s until the early 1950s when manufacturers began losing a barrage of misbranding and libel cases. They were banned by the Food and Drug Administration soon thereafter. In one case, the FDA declared:

"Certain statements in the circulars are false and misleading. The statements represented and suggested that the device would produce pleasing, invigorating, and corrective effects; that it would be effective as a general treatment by stimulating the circulation; that it would be effective for beauty, health, and strength; that it would be efficacious in the treatment of rheumatic pain in the shoulder, nervous disorders, rheumatism, lumbago, and neuritis; that it would produce a sedative or quieting effect and establish a normal equilibrium of the nervous system; that it would be efficacious for treatment of the eyes and ears; that it would be efficacious in the treatment of cystitis, strictures, gonorrhoea, and prostate and vaginal troubles; that it would promote circulation; that it would aid beauty and health by gently stimulating the flow of blood; that it would be helpful in relieving pain and congestion and in restoring food health and vigor; that it would be helpful in removing facial blemishes and in promoting a clear healthful complexion; and that it would aid in the removal of dandruff and assist in stopping falling hair....The device was found to not be an effective treatment for the conditions stated and implied, and it was not capable of producing the effects claimed."

A collection of functional devices is on display at the Sierra Sacramento Valley Museum of Medical History located at the Sierra Sacramento Valley Medical Society, 5380 Elvas Avenue in Sacramento.

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Pictured below are three of about three dozen quackery devices donated by Dr. Leefeldt to the SSVMS Museum of Medical History.



The "Magneto Electric Machine" has a generator powered by turning the handle; it produces a mild electric current as a therapy for many disorders.



The "Elec-Treat Mechanical Heart" is a battery operated device that produces a mild electrical current for "relief of pain and muscular soreness." The smaller "Magneto Massage Juventude" is rolled over the skin to produce a massage and mild electric shock.

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