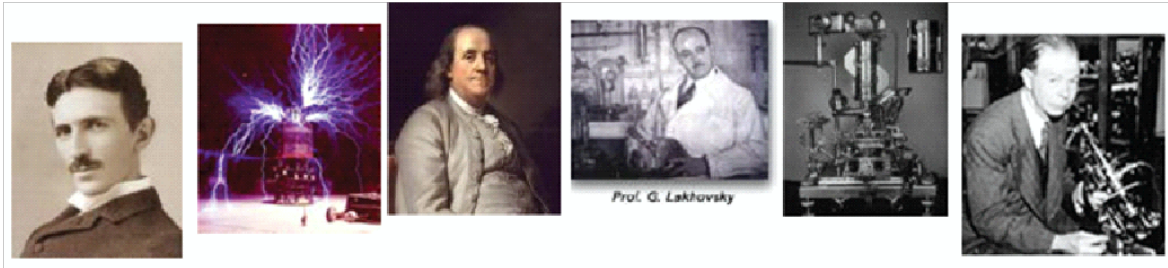


# Electrotherapy Chronology



**46 AD (Ancient Rome)** - Scribonius LARGUS describes the use of torpedo fish (aquatic animals capable of electrical discharge) for medical applications. "The live black torpedo when applied to the painful area relieves and permanently cures some chronic and intolerable protracted headaches... carries off pain of arthritis... and eases other chronic pains of the body."

**1600 (England)** - William Gilbert, physician to Queen Elizabeth, published *De Magnete*, in which he describes the use of electricity in medicine. Gilbert re-discovers that when certain materials are rubbed, they will attract light objects - originally known to be true of Amber by the ancient Greeks. He coins the name 'electricity' from the Greek 'electron' for amber.

**1743 (Germany)** - Krueger, a Professor of Medicine, suggests in lectures that electricity might be used in the treatment of paralysis.

**1745 (Germany)** - Kratzenstein publishes a book on electrotherapy. He details a method of treatment which consists of seating the patient on a wooden stool, electrifying him by means of a large revolving frictional glass globe and then drawing sparks from him through the affected body parts.

**1780 (Italy)** - Galvani, Professor of Anatomy at the University of Bologna, first observes the twitching of muscles under the influence of electricity (prepared from the leg of a frog). Galvani then proves that atmospheric electricity, as manifested in lightning, will produce the same effects on muscular movement.

**1800 (Italy)** - Carlo Matteucci shows the injured tissue generates electric current.

**1840 (England)** - England's first electrical therapy department is established at Guy's Hospital, under Dr. Golding Bird. The electrical discovery of Galvani leads to the use of mechanically pulsed Galvanic current.

**1860 (England)** - The Start of Faradic Stimulation. Bristow develops the Bristow Coil, using Faraday's principle of electro-magnetically controlling the voltage of electricity.

**1891 (USA)** - Nikola Tesla presents a paper in 'Electrical Engineer', about the medical application of high frequency currents. He notes that when the body is transversed by alternating currents above a certain frequency, heat is perceived.

**1891 (France)** - D'Arsonval, in a communication to the Societe de Biologie, shows that a high frequency current (Greater than 10,000 Hz) can be passed through the body without producing any sensation other than heat. D'Arsonval demonstrates the ability of high frequency currents to modify physiological processes, including: respiratory exchange,

dilatation of peripheral blood vessels, arterial blood pressure.

**1900 (Worldwide)** - The electrical discoveries of Galvano, Faraday and Tesla were therapeutically adopted by activating the electrical phenomena of the human body with the use of Galvanic, Sinusoidal, and Faradic currents. These become the standard methods of applying Electrical Body Stimulation. There becomes a preference to use the more comfortable and less hazardous Faraday method.

**1908 (Germany)** - Von Berndt, Von Priess and Von Zeyneck publish a paper on the treatment of joint disease by high frequency currents.

**1929 (Russia)** - Lakhovsky publishes his book "The Secret of Life". Conducts studies and concludes that cells possess resistance, capacitance, and inductance and function like tuned resonant circuits, capable of resonating to a resonant frequency when exposed to a range of frequencies.

**1930's (Germany)** - Interferential currents are developed. Two alternating, medium frequency sinewave current paths are crossed to give pulsed low frequency modes of electrical stimulation. Interferential currents are much more comfortable than anything else available at the time.

**1938 (USA)** - Clinics are opened in San Diego, Los Angeles, and Pasadena, California. Phenomenal results are reported. A special Medical Research Committee is organized at the University of Southern California in Los Angeles to oversee and manage Rife's "energy medicine" research and clinical success with a variety of disease conditions including cancer. The San Diego Evening Tribune reports that Rife's "energy medicine"

**1950's - 1990's (Russia)** - 'Russian Stimulation' is developed - 4,000Hz tone bursts, 50% ON, 50% OFF, alternating currents with 50 tone bursts per second. This is used by athletes for building muscle and increasing power.

**1970's (USA)** - Transcutaneous Electrical Nerve Stimulation (TENS) is acknowledged as a viable method of pain management by America's Food and Drug Administration (FDA). Many American companies begin production of TENS devices. The heart pacemaker is developed.

**1970's (England & Canada)** - Melzak and Wall propose the 'Pain Control Gate' theory, by which strong afferent nerve stimulation by chemical, mechanical or electrical means overrides painful sensations at hypothetical pain control 'gates' in the spinal cord.

**1970's & 80's (Sweden)** - Clinical researchers Ericsson and Sjolund publish a series of articles in various scientific and medical journals. They compare constant, high frequency TENS to bursts of high frequency TENS (termed acupuncture-like TENS), finding that the latter offers better pain relief and does in fact instigate a release of endorphins into the bloodstream.

**1981 (USA)** - Becker publishes "The Body Electric". Challenges the established mechanistic understanding of the body. Finds clues to the healing process in the theory that electricity is vital to life.

**1991 (Germany)** - Nobel Prize recipients Erwin Neher and Bert Sakmann developed a technique that detects electrical currents of a trillionth of an Ampere in the membranes of the cell, establishing the existence of ion channels.

**2000 - (USA)** - John McDonald of Washington University uses intensive applications of Electrical Muscle Stimulation (EMS) to exercise the muscles of a quadriplegic of 8 years. The patient defies medical science by regaining limited sensation and movement in his body. The regimen includes 2 hours of EMS and hydrotherapy weekly.

**2007 July - (USA)** - After 4 years of development Electromedical Technologies receives FDA approval for the **Wellness Pro 2010**. This NEW generation Bio-electrotherapy device combines decades of research from the ORIGINAL work of past Electromedical pioneers with new breakthrough technologies in this field. It is also the only unit of its kind on the market to go through the rigorous laboratory tests for safety accuracy and precision, receiving ISO, CE, ETL, UL and IEC marks. The NEW Wellness Pro Breakthrough "Deep Pulse" Technology, the largest frequency range and therapeutic features of this device show astonishing results with patient's health issues putting this device light years ahead of any other frequency unit on the market. The Future of Bio Electra medicine begins.

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