

## 35. THE VIOLET RAY

“The properties of the high-frequency current are: it does not kill, it does not tetanize or even contract muscles; unless concentrated at a point, it does not burn; it does not cause pain, and the body seems to offer but little resistance to its passage, as seen in the X-ray photographs. No matter where it enters the body it penetrates every organ and tissue, and, when a Geissler tube is held by another person near to the person saturated with electricity, the escaping vibrations will light the tube, even when held, for instance, close to the shoe of the person taking the electricity. In its passage through the body it seems to contract or modify the vibrations of individual cells everywhere, changing or stimulating abnormally vibrating cells, bringing them back to their normal vibrations, and thus restoring their health and function, as well as stimulating healthy cells to increased action.”

Howard van Rensselaer 1912

The “violet ray” is first mentioned by that name in a dental journal in 1913. In 1916, the Roger’s Electric Company publicized a small hand-held device under the name of violet ray. The name quickly caught on and soon the public was using this term. Before 1916, most medical literature calls it “high-frequency” treatment. By the 1920s, both the French device and the American Tesla model were called “violet ray.” It was known by several names, before it became the violet ray. By the time the device had become the “violet ray,” the earlier names had been forgotten.

The idea began in 1891, when Nikola Tesla gave a widely publicized lecture on electrical therapeutic devices. He was not interested in marketing or building medical devices; they were just a byproduct of his research. He found that he could pass intense currents through his body that would have killed him, if they had been of a lower frequency. The currents relieved pain and produced deep sleep. He felt that this would become the medicine of the future, but he had greater plans and didn’t pursue the medical applications.

In 1892, Tesla made a widely publicized lecture tour of Europe and met with Jacques-Arsène d’Arsonval and Paul Oudin. The three men quickly became good friends. d’Arsonval is said to have tried using the Tesla circuit device on a patient, but it nearly killed him with a powerful shock. This ended his work with the device.

Paul Oudin devised a spiral solenoid of copper wire in 1892. He was using a circuit first made by Oliver Lodge in which one end of a d’Arsonval spiral was grounded, and the other end went into a knob that gave a brush discharge. He believed that the skin would act as a dielectric, and the body would vibrate from the electric oscillations spreading through its mass. The body was a container of water vibrating like it was struck by a stone. He called the apparatus a “résonateur.” It was often called the “Résonateur de Oudin” or the “Montage en Oudin.” In 1908, a portable French apparatus known as the “anemos” was marketed; the “effluvogene” came on the market in 1911. In 1913, the French Electrotherapeutic Congress voted to call the treatments “d’Arsonvalization.”

Paul Oudin used two spiral windings end to end to create the high-frequency current. The Oudin Résonateur proved to be useful in therapy and highly useful in dermatology. In 1896, Oudin made the first French X-ray, and he also was the first to publicize the dangers of X-rays. He was one of the first to work with radium and diathermy, which represented the cutting edge of medicine at the time.

The violet ray device consisted of three major parts. The first was an oscillator generally producing a frequency of half a million to a million oscillations per second. Some models used a lower frequency. The frequency of the device depended on the size of the capacitor. The voltage of these circuits varied from 20,000 to 50,000 volts.

The second part of the circuit was an interrupter. There is no constant oscillating current; it is regularly interrupted in short pulses of a few milliseconds. The first interrupters were mechanical or mercury. A simple doorbell buzzer interrupter was used in many models. The initial purpose may have been to keep the heat from building up with a steady current. The interrupted current may work the same way we do when we have a stuck car. We don’t give it a steady push; we give it short alternating pushes to get it out of the snow or mud. Mercury interrupters were first tried, then centrifugal interrupters and ring-type mechanical interrupters.

In 1905, Reinhold Wappler devised an efficient mechanical interrupter: a metal strip acting as a spring with a piece of soft iron with two platinum points as contacts. The magnetic iron core draws the soft piece of iron and interrupts the current.

The third part of the device was the applicator. Paul Oudin used Tesla applicators with his circuit. Frederic de Kraft invented the blue pencil electrode, which was a rubber tube filled with asbestos and capped with a brass ring at one end. When you turned on the device, a purple effluve was visible, extending from the end of the electrode put to the skin. The blue pencil was mainly used for static generators. The blue effluve was applied to the skin. When it was pulled away, the discharge was a purple feathery character.

When the blue pencil was put over a black eye, it would remove the marks quickly. It would treat the spasms of bronchial asthma, herpes, and wounds. If the polarity of the static generator was wrong, the discharge irritated the area, but the blue discharge had a sedative and pain-relieving effect.

The people with static generators knew that the violet tint showed them the negative pole, while the whitish light was the positive pole. The basis of all static treatments was a good general electrification. The first mention of bluish light is found in Martin's essay on electricity, quoted in the 1871 edition of John Welsey's *The Desideratum; or, Electricity made plain and useful*. "When it is a little condensed, it appears *bluish*; when a little denser, it appears *purple*; when denser still, it appears *yellow*; when highly condensed, it is clear and white, like the light of the sun."

Blue and violet are colors which were seen in other healing modes of this time. The blue "od" light is seen over the north pole of an electromagnet in the dark. As Edgar Cayce became more aware of his gift, he found that he was filled with purple silvery light while traveling to the hall of records. When the conducting wire of a d'Arsonval-Dopuin apparatus was seen in the dark, bluish rays strike it at right angles along its entire length.

Frederick Strong reinvented the violet ray in 1897 in the United States. He had met briefly with Nikola Tesla while he was testing an electric motor. He didn't know about Paul Oudin's work, and he set out to produce a useful electrical medical treatment.

Strong was influenced by Tesla's article on the therapeutic possibilities of electricity and was determined to find a suitable applicator. Metal electrodes produced a painful spark. He tried putting a sheet of glass on his patients and passing the output of the Tesla circuit

through the glass. The flat glass didn't cover the areas he wanted to reach. He took an ordinary test tube and turned it into a vacuum electrode. This proved to be very useful, so he worked to perfect it.

In 1834, Sir W. Snow Harris showed that the spark-length of an electrical machine increased in inverse ratio to the pressure of the gas through which it passes. He was able to exhaust his tubes down to 1/500<sup>th</sup> atmosphere, and the discharge became violet-pink. In 1838, Johann Geissler experimented with improved vacuum pumps and was able to get the air pressure down to 1/1,000,000<sup>th</sup> of an atmosphere. The discharge changed from violet to pure white.

A New York company sold glass electrodes to electrotherapists. They didn't pay much attention to the vacuum in the glass applicators. As the air was removed from the glass tubes, the color changed from rose pink, violet, blue, blue-white, and finally to a yellowish-white, and in a high vacuum, there was no color at all. A perfect vacuum didn't conduct electricity well. Strong believed that a moderate red vacuum was the best therapeutic applicator. The standard eventually became a "violet vacuum" of about 1/500<sup>th</sup> atmosphere.

Paul Oudin's circuit consisted of a series of disks of light of equal thickness. They were much like the pulses often seen in fluorescent lights. The Tesla circuit produced long threads of purple light.

Frederick Strong used an interrupter on the high-frequency currents to give pulses. He found that this produced greater vitality and stimulated the circulation. He tried imposing sound waves on the high-frequency currents to produce a musical or speaking arc. He believed that imposing a voice wave over the high-frequency current could enable a totally deaf person to hear when put over the ears. Strong opened a "High-Frequency Clinic" in Boston.

There isn't a great deal of difference between an X-ray and a violet ray. The X-ray has a high vacuum tube with a slanted metal electrode at the end. Its voltage is higher, and the electrons travel through the vacuum at high velocities slamming into the metal releasing X-rays. The higher the vacuum, the shorter and more energetic the X-rays. A special X-ray applicator for the violet ray devices was available from some manufacturers.

The third therapy resulting from these experiments was the generation of ozone by high-frequency discharges. The violet ray generates small amounts of ozone, but this is not generally considered part of the electrical treatment. Ozone is a powerful disinfectant, and modifications to the device used tubes with many small metal points to produce ozone. Special glass applicators made to generate ozone were made for the violet ray.

Strong's first devices were the size of small refrigerators. The units had to be wheeled around a doctor's office. Tesla's experimental units used giant coils soaked in oil, for no insulation would contain the high-voltage electricity. The first Tesla units were dangerous to operate. The key to making practical units was efficient insulation for the wires. Vacuum tubes eliminated the noisy spark gap circuit.

Strong continued to refine his design and produced a smaller simplified coil known as the "Ajax." Then he devised a combination unit to generate high-frequency currents, X-rays and ultraviolet rays.

In 1904, Frederick Strong patented the first true violet ray, which he called the "Midge." All of the parts were arranged concentrically around a paper tube. It was only five inches long and could easily be held in the hand. The voltage could be adjusted, and glass tubes adapted to various needs could easily be replaced.

In 1908, the General Electric Company offered "electromedical apparatus" in its catalogue. Buyers could select either the Oudin or the Tesla device. The buyers were told: "Strong violet rays are produced on the surface of the skin by means of a special electrode." Niels Finsen won the Nobel Prize in 1903 for his work in using ultraviolet light for treating tuberculosis. People worried about TB, and they wanted ultraviolet light. The violet ray did not produce ultraviolet light, and light wasn't the key to its healing abilities. The advertising statement by General Electric grew into the name "violet ray."

Some models were made with the larger low-frequency coil separate from the high-frequency coil. An electric cord connected the large low-frequency unit to the small high-frequency hand-held coil. This produced a lightweight, hand-held model.

In 1915, the Bleadon-Dunn Company put out a compact hand-held high-frequency generator that it called the "Violetta." This proved so successful that the next year the company issued a "Baby Violetta" selling for \$15. In 1916, the Victor Electric Company put out a small portable high-frequency apparatus. They advertised it as a "violet ray" containing a "Tesla circuit." Four more manufacturers would produce the device in North America and continue until the Depression destroyed sales.

The glass applicator of the device was rubbed over the area for up to 10 minutes. The coils heated up and then had to be cooled for about 20 minutes. Talcum powder or starch was often dusted on the skin to make the glass tip glide over the skin. If used at a short distance from the skin, it sparked, which produced some stimulation.

Some companies sold a special glass electrode cap fitted with a cotton tampon saturated with a solution of silver nitrate or iodine. The pulses of high-frequency drove the substance into the skin. For lupus, a pad was saturated with an aqueous solution of a bismuth salt.

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## 36. THE VIOLET RAY IN HEALING

“Sometimes a majority group of these body cells, or a large minority in some section of the anatomy of man ‘lay down on him’ because they have not been treated kindly, or are worn out and exhausted by the excessive strain thrown upon them. Then man gets peevish and cross and goes to the doctor. This always is a wise thing to do under the circumstances, but very often the circumstances could be prevented were the cells treated properly.

To aid in the proper treatment of the cells, science has invaded the home with a new and domesticated apparatus for the application of the violet ray. The duty of the violet ray, hitherto confined to the elaborate and expensive apparatus of the laboratory or the special practitioner, is to massage gently the tired-out cells and make them feel good.

The violet ray is a first cousin of the X-ray, but unlike its relative, it is utterly amiable and docile, producing no irritating effect. For this reason, and because cellular massage is much more penetrating and gentle than the common or muscular variety, the violet ray apparatus bids fair to become as important as an adjunct to the home as is the Victrola, which massages dull care away from the mind.”

From a 1920s advertising bulletin for the Violetta

Joseph Rivière was a close follower of developments in medical electrical research. He made a duplicate of d’Arsonval’s electrical device and treated a musician for neurasthenic symptoms. After a few treatments with autoconduction, the man’s insomnia was gone. During treatment he accidentally received a stimulating but harmless spark. He had an ulcer on the back of one hand that had been treated without result. He decided to try applying sparks and current, and it soon healed.

This aroused interest in using the violet ray to cure ulcerations and injuries that healed slowly. A 41-year-old person was injured on the face and arms, with healing was so slow that it was expected to take five weeks. After the first treatment, healing could be seen on the second day. Six treatments were given; healing took two weeks.

A contused wound with ragged edges didn’t heal in the first 23 days. After the first violet ray treatment, less fluid was seeping from the wound. After the second treatment, the wound began to heal

over. Paul Oudin used three treatments a week, and the healing was complete in ten treatments.

A 69-year-old man had a large purple ulcer on his right leg. There were many small ulcerations nearby, and the leg didn’t heal over a three-year period. He was given two violet ray treatments a week, and the healing was complete in three months.

A 45-year-old patient had an ulcer the size of a shilling, which refused to heal for two years. It was carefully dressed and covered with an elastic bandage. The ulcer was given eight treatments in three weeks, and all of the pain and tenderness disappeared. It was completely healed after 18 treatments. The skin broke down again, and with another series of violet ray treatments, it was completely cured.

A 50-year-old lawyer had a severe bruise on his left foot, after a large swinging door struck it with considerable force. The pain was unusually severe, and there was a good deal of inflammation. The injury turned purple a week later, and there was severe pain. Gangrenous spots appeared on his foot. The injury was treated with five-minute violet ray treatments that were extended to ten minutes. After 12 treatments the pain lessened, and the injury began to heal.

A man banged his head against a faucet resulting in severe pain and swelling. It was massaged for two weeks, and the swelling was reduced, but the pain remained. The first violet ray treatment eliminated most of the pain, and seven more treatments healed the injury.

A woman used her violet ray to treat a painful sprain, which quickly gave her relief. Her husband remarked: “I wonder if that would do my face any good?” He had lupus for 15 years, with redness and ulceration of the face. After seven violet ray treatments, the entire surface healed over.

Professor Emmanuel Doumer used the violet ray to treat several cases of fistulas, which are hollow abscesses. An 18-year-old man had a fistula of the left leg for six years, which didn’t yield to medical care. After three months of violet ray treatment, it healed completely. A 25-year-old woman had a dozen fistulas of the foot oozing pus, which lasted for 13 years. With violet ray treatments, they completely healed in 18 months.

Septic areas or local areas of infection readily yielded to treatment with Tesla currents. Frederick Cook made a fine wire effluve electrode that dispersed the current so that it didn't shock. Soon after this, a Paris manufacturer put Bisserie's Brush Electrode on the market. It was applied over the infected area or ulcer.

A woman working in Paris had a fistula of the right knee for three years. She was given two treatments a day, three days a week. The fistula was completely closed after the seventh week of treatment.

A grocer scratched his hand on a nail. His entire arm from the shoulder downward was red and swollen. The whole arm was treated with high-frequency current and bandaged. After three treatments over three days, the arm was cured.

A man cut his finger at work but didn't treat it. A week later it was swollen to twice its normal size. The doctors didn't think that violet ray treatments could do any good, but it looked bad, so they tried treating it twice a day for the next three days. The swelling disappeared, and there was complete restoration of function.

The electrical pulse directed to the spine and solar plexus aborted many varieties of acute infectious disease, if it was used to treat them early. Often colds, flu and sore throat were made to disappear or become so mild that they were hardly noticeable after persistent treatment. A friend of mine ran the violet ray over his sore throat and nose daily. This reduced the discomfort to such a low level that he was hardly bothered by the cold.

A manager of the Dominion Rubber Company of Ontario, Canada, bought a number of violet rays and put them in the first aid kits. When the electrical dealer asked him how they were doing, he wrote: "The violet ray machines which we purchased from you last year, have been very satisfactory. The reports we have from our different branch factories are to the effect that these machines are very useful in our hospitals. We feel quite sure they have saved us many dollars in keeping our employees at work. In cases of headache, they are treated in a few minutes, whereas they were formerly off duty for the entire day."

These observations and stories have all been forgotten as medical science moved on. The electrotherapy journals are quite rare, and only a few doctors have seen them or had an interest in their contents.

Now we are trying all sorts of expensive high-tech skin grafting procedures in ulcers and wounds that won't heal.

Modern work suggests that wounds and injuries have "currents of injury." These send a signal to the central nervous system to begin the healing. In normal conditions, the outer layer of the skin is negative, and the inner layer is positive. In injuries, the polarity breaks down. Healing work with direct current has been somewhat contradictory. The anode often has a stronger healing influence, but faster healing may take place by switching polarities every few days.

The optimum wound healing current has been found to be 600 microamps, which increases ATP synthesis. Calcium is important to the healing of cells, and electrical stimulation causes an increase in cellular use of this.

An experiment that confirmed the early violet ray tests was published in 1961. Twenty dogs were put under anesthesia and given a standard wound. Ten were returned to their cages and allowed to heal on their own. The remaining dogs were treated with pulsed high-frequency radio waves. This resulted in signs of marked stimulation. Strands of fat migrated towards the edges, and large numbers of white blood cells were seen in the wounds. Most of the indexes of wound healing took about half the time under the influence of high-frequency radio waves.

Another experiment that confirms the acceleration of wound healing with electricity was done in 1988. A group of patients was studied with high-voltage pulsed direct current. The patients who didn't receive treatment had ulcers 29% larger over a seven-week period. The ulcers in the treatment group were 100% healed in a period of 7.3 weeks. None of the modern researchers used the violet ray.

The violet ray may have other applications in general healing. An alcoholic had blood in the urine and signs of Bright's disease. The lower back was treated with high-frequency treatments three times a week. By the 16th treatment, the amount of albumin in the urine began to fall. After 18 treatments, it had dropped from 1.5 grams to 0.2 grams per liter of urine.

Multiple chemical sensitivity is difficult to treat and maddeningly difficult to deal with. Often it lasts for years and nobody can seemingly help the disorder. Hardy Heinke wrote an account of his experiences. He had done a great deal of work with the chemical solvent carbon tetrachloride. Now he had chronic fatigue syndrome and a poor memory. He found that magnesium supplements helped a good deal. He also felt that general violet ray treatments had restored his health.

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## 37. THE VIOLET RAY IN SKIN DISORDERS

"High-frequency currents, more especially those of the Tesla type, possess therapeutic powers which are not exhibited by any of the remedial agents known to the profession. In passing through the body of the person whose vitality has been almost exhausted through the encroachments of disease, these currents appear to promote circulation, increase metabolism, and more or less completely restore the general harmony between the different functions of the body, seemingly without the slightest expenditure of the scanty residue of vital energy stored up in the cells and tissues. In other words, we have in these currents a means of increasing vitality without the necessity of digesting, assimilating and storing the nutritive material which ordinarily carries the potential energy which forms the single source of supply for organisms belonging to the animal kingdom."

*High-Frequency Currents* Frederick Strong 1908

In 1893, Paul Oudin told the Société d'Électrothérapie about his work on the treatment of skin problems with high-frequency electricity. He believed that the electrical currents stirred up the body, increasing metabolism and nutrition. He began with a case of psoriasis, which had resisted all other treatments. After two electrical treatments, the plaques began to break up and heal. It took a month of treatments to completely break up all plaques.

The next year, a 25-year-old man with psoriasis came to him. Large plaques covered practically all of his legs, so Oudin gave him three treatments per week. By the second week of treatments, the plaques were nearly gone. The treatment was interrupted for three weeks. After three more treatments, the remaining plaques on his back and arms disappeared.

A woman came to him with horrible skin with furrows all over it. He treated her skin four times a week with the high-frequency currents. The improvement was slow, but in about a month, her skin began to clear up.

A mechanic suffered with arthritis and a red face. After he took three treatments, his face began to look normal. The face turned red again after a week, so he returned for two further treatments. This brought his face back to normal.

A 34-year-old woman suffered from arthritis for years. She developed patches of eczema on her cheeks and ears. Doctors were unable to help her appearance. Oudin treated her face, and after five treatments, her skin began to look normal.

The device, now known as the violet ray, proved to be useful in nearly all skin conditions, and many doctors began to experiment with it. One patient had intolerable itching of the legs. There was a patch of dry eczema on the arms but nothing on the legs. The doctor did a series of 10-minute treatments over the legs, and the itching went away and didn't return.

Static currents and the static spray had been used to treat itching, but the violet ray proved to be more effective. One man was so sensitive that he was forced to undress and retire to bed because his clothes became unendurable. A current of cold air caused an extreme reaction. Positive static spray reduced the itching to normal.

A 72-year-old man suffered from senile pruritus. He consulted several skin specialists, who were unable to help. He itched and scratched day and night. Three treatments a week for several months completely cured the condition.

A 27-year-old man suffered from severe vasomotor ataxia with intense itching in both legs. There was no external evidence of irritation. The first violet ray treatments took five minutes for each leg. This checked the itching and gave relief for six hours. In 10 treatments, his condition was completely cured.

In ten treatments, the violet ray cured a case of ringworm that extended almost around the body. A second case of ringworm with thick crusts of chronic eczema was cured in 28 treatments.

A case of palmar psoriasis resisted all treatment for two years. After 11 treatments lasting five minutes, the trouble cleared up. The palms remained free of the disorder for the next 18 months.

The violet ray was used to treat common acne. The first result of the treatment was an intense hyperemia, which left the treated area very red and speckled. The acne usually disappeared in eight to 12 treatments. Any patient could be completely cured in a month.

A testimonial that was sent to Renulife company reads: "I had been subjected to pimples for almost five years and had tried everything, vibrators and all, but without clear results. I used your generator one week, as I was out of the city when it came. Today my face is as clear as anyone could ever wish for."

A woman had acne rosea of the nose for 10 years. The nose was bright reddish and greatly enlarged. She was treated with a needle point violet ray discharge. Small crusts formed on the area and fell off. Her nose and face became nearly normal.

A man had acne rosea of the nose for seven years, with increasing enlargement. He looked so offensive that he was given a lesser position at work so he didn't have to deal with people. His nose was large and covered with red inflamed pustules. The needle point discharge was applied to limited areas with each treatment for ten weeks. His face looked much better, and he was given his old job back.

The violet ray appeared to help excessive perspiration. One woman had severe perspiration under her arms. She used powders without real results. After six treatments, her sweat glands became normal. Another lawyer had to change his socks three times a day; he corrected the sweating with a few violet ray treatments.

The violet ray readily treats both dry and scaly eczema, after all other methods of treatment fail. Dr. Gaston Bloch of Paris reported that cases of eczema lasting more than 10 years were cured with half a dozen treatments.

A woman suffered from eczema exudans for 20 years. The eruption covered her face and almost every part of her body. She used nearly every remedy without result, and she was so discouraged that she didn't want to try the violet ray. A few treatments resulted in her complete cure without a return a year later.

A 60-year-old woman suffered from irritable eczema for ten years. The eruption affected chiefly the neck and scalp. The violet ray removed the eczema, but it returned. She used more treatments and applied boric acid powder, and that completely cured the problem.

One person wrote a testimonial to the Renulife company: "I had weeping eczema on my face and had spent not hundreds, but thousands of dollars and still wasn't cured. Before trying your Renulife Generator I noted good results after the first few treatments. I am now entirely well, and my face is perfectly smooth."

In one case a baby had infantile eczema over the entire body. It looked awful with constant oozing and swollen eyelids. Improvement began after the first treatment, and soon the skin was clear.

This treatment proved to be useful for boils. The violet ray aborted the condition as quickly as the treatment started. If boils formed in the area in the past, they ceased to form.

One doctor wrote: "A man came to me with a big boil on his forearm and his arm was so lame he could not lift it. I gave him a treatment with my violet ray machine, and the next day the boil was gone and the soreness was all gone out of his arm. This shows you what the violet ray will do."

One man had a continuous succession of large boils around his nose, mouth and chin for more than a year. Vaccine treatment failed. He was given three violet ray treatments weekly. There was immediate improvement, and no new boils arose. After four weeks of treatment, his skin was perfectly normal and he had no boils thereafter.

Lupus erythematosus is a curious condition that results in a large butterfly-shaped rash over the face. This is believed to be a condition in which the enzyme that breaks down DNA is not working. Researchers shut down the enzyme that breaks down DNA in specially bred mice, and after 6-8 months most of the mice showed lupus symptoms. The enzyme takes care of cellular garbage. DNase is the enzyme that breaks down DNA. This enzyme has been used to treat cystic fibrosis.

In 1897, Emmanuel Doumer began to treat lupus with the violet ray. He gave one to three treatments a week; if there was an intense reaction, the period of time between treatments was longer. Some people could take three treatments a week; others only one treatment a week. He believed that stopping the treatment for a week or two was useful in some patients. It generally took about 20 treatments.

The area affected by lupus would become covered with a thin crust, which would fall off and leave a red surface after months of treatments. Dr. Frederic Bisserie reported that he was able to cure 33 out of 62 cases. Jules Jacquot was able to cure 39 out of 56 patients with the electrical treatments. Henri Bordier used a glass electrode with cotton soaked in a bismuth solution. This seemed to make the lupus disappear more quickly.

The high-frequency electrical currents were also used for herpes, impetigo, and chilblains. Chilblains were promptly cured by applications of the brush discharge. One patient had disfiguring scars on his face and hands as a result of a childhood accident with glass. After five treatments, the disfiguring scars were beginning to disappear.

Dr. Duncan Buckley reported on the use of the violet ray in birthmarks. A girl had a large port wine stain on her face. He used mild sparks and surface treatment, and the stain disappeared. A young woman with a huge birthmark was treated. After a week, it formed a crust. When it fell off, the tissue underneath was mildly pink, but it gradually whitened to a normal skin color.

By 1920, most of the high-class beauty parlors adopted the violet ray as an essential part of their equipment. It was used on all facial marks, warts, moles and wrinkles. Some schools gave their graduating beauticians a violet ray as part of their operating kit!

Patients in Europe were still treated with static generators and the violet ray until WWII. Then the therapy disappeared. There was an attempt in 1974 to find out if any doctors were still using electricity to treat skin conditions. No such doctors nor could any universities be found where any violet ray work was done.

A violet ray sat on a university shelf for nearly a half century. A man with a skin lesion for six years borrowed it. The lesion was a brown spot about the size of a quarter. It finally turned black and developed roughness, and parts would flake off. He borrowed the old violet ray and used it on the lesion. After about a month of treatment, the entire thing disappeared. Stories like this should have aroused interest, but the political climate against medical alternatives was so strong that it was impossible at this time.

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## 38. ELECTRICAL HAIR GROWING

"Study of the descent of man and of embryology shows that our ancestors were entirely covered with hair, as are the anthropoid apes. According to Darwin, the gradual disappearance of hair is due to repulsion felt by women toward hairy men; that is, to sexual selection."

*Monthly cyclopaedia of practical medicine and universal medical journal* 1898

"Mary Butler, aged 86, living in Eagle-street, Red-Lion square, having been afflicted with the sciatica for more than twenty years, was last month electrified ten or twelve times, and has been easy ever since. It seems the electric fire in cases of this and of many other kinds, dilates the minute vessels, and capillary passages, as well as separates the clogging particles of the stagnating fluids. By accelerating likewise the motion of the blood, it removes many obstructions."

*Desideratum* John Wesley 1871

Stephane Leduc used an electrical current to plant zinc ions in the skin of a rabbit. This induced a strong growth of hair. There is a theory that a lack of hair is a result of too much hormone or too little blood supply. Perhaps hair loss is a lack of scalp minerals, and the electrical current replaced them.

Lewis Jones treated a husband and wife who both suffered from patchy alopecia. This may have resulted from a microorganism one gave the other. The ionic implanting of zinc cured them both.

Dr. H. Marques treated a number of patients with zinc ions. He placed pads with a 2% solution of zinc chloride over the bald patches and used the negative pole. He administered three treatments a week, increasing the current to 15 ma. Hair began to appear in about eight days. One patient had no hair at all on his scalp. He began to sprout new hair 12 days after the ion treatment. About half of Marques' cases treated with zinc had hair regrowth.

In 1893, Paul Oudin treated a case of hair loss due to syphilis. There were separate tufts of hair over the head of the patient. Oudin used three violet ray treatments a week given over a period of four months, and most of the hair regenerated.

Henri Bordier was the next to treat hair loss with violet ray equipment. He used an Oudin device to irritate the scalp for four to five minutes. He then applied a shower of tiny painless sparks, which produced intense redness and then a slight crust. He would apply fine sparks for 20-30 seconds at one place. This would result in crusts, and when they flaked off, new pink skin gradually became brownish. This was followed by the appearance of white hair, which darkened and became normal in nine months.

Demetrios Vassilides reported that he had cured 14 cases of baldness with electricity. He cured a mild case in a month, but some cases required 16 months. He noted that the hair often changed to a darker color. It took longer to restore the color than to overcome the bald spots. Nine of the men began to grow hair within five months of treatment. One man didn't have a single hair on his head for the last ten years, but it began to grow with continued treatment.

A young physician applied violet ray currents to the bald patches on his head until they were bright red. He treated them three times a week for three weeks. The patches became smaller and fine hairs began to grow in at the edges. He continued with two treatments a week for two months, and his hair became completely normal.

A German woman who worked as a domestic servant had falling hair and extreme dryness. In order to save what little hair that remained, high-frequency currents were applied to her scalp. A few weeks later, there was definite growth on the right and left sides. The new hair was shiny when compared with the surrounding hair. The two patches expanded and merged into each other; eventually the entire scalp appeared normal.

In 1919, a 40-year-old woman came to Samuel Sloan for treatment. She didn't have a single hair on her head, and no eyebrows and eyelashes. She had gone to a number of prominent doctors and received no help. Dr. Sloan gave her 12 treatments with the violet ray until her skin became red and slightly tender. She was told to rub hazeline cream into the scalp and return after four weeks.

When she returned, she was still completely bald. Another 12 treatments were given. She returned three months after the treatments with several patches of dark hairs on her head. Her eyebrow and eye-

lashes of her left eye were beginning to grow. Another 12 treatments were given, her scalp covered with fine hair and her eyebrows and eyelashes started to return to normal. Soon she had a full head of hair.

George McKee used a version of the violet ray invented by Henry Piffard. He found its stimulation increased blood supply and resistance to germ invasion. It left hyperemia lasting for hours.

The hair of a 25-year-old woman began to fall out at an alarming rate. She was treated with capsicum, cantharides, castor oil and alcohol without results. After five weeks of violet ray treatment, new hair began to grow.

A 20-year-old woman suffered from seborrhea for several years. Her hair was falling out, and she was treated with the usual methods without result. Treatment continued irregularly until her hair was thick and steadily growing in length.

A 40-year-old man had very thin hair over the front of the head and a sparse growth at the top. He was given violet ray treatment for six months, but nothing happened. He decided to give up the treatment, but then a heavy growth of coarse white hair made its appearance. After ten months, he had a good growth of normal hair.

Nobel Eberhart treated a woman with vibration and the violet ray for hair falling out. She had numerous gray hairs, and wanted them pulled, but she didn't get it done. After weeks of treatment, Eberhart noticed that they were gone. The violet ray had turned them black.

Eberhart treated a case of lupus six days a week. He targeted a stubborn patch near the ear, which resulted in a patch of dark brown hair in the patient's gray hair. He believed that the gray was a result of disturbed nutrition.

The violet ray began to be used in beauty shops for treating hair. In the 1920s a version known as Roger's Vitalator began to appear in barbershops for treating dandruff and bald patches. The *American Hairdresser* noted: "Wonderful results have been obtained in the use of the Violetta, and many cases of gray hair restoration have been reported. The Violetta tends to revolutionize the whole profession. Dandruff was reported to disappear under the treatments."

The Marvel Violet Ray Company had this testimonial in its booklet. "I have had one of your violet ray outfits for about three months and have found it very satisfactory for every ailment that I have tried

it on. I have been using this instrument on a neighbor that has been bald for about 15 years and present indications show a good growth of hair.”

Almost no work has been done since 1930 on the use of electricity to grow hair. One trial was reported with a pulsed electrostatic field on the hair. Group A began with a hair count of 91 in a one-inch circular area of the head. Group B wasn't treated, and the hair content decreased from decreased from 111 to 91, although these measurements are uncertain. In the group with a pulsed electrostatic field, 83% showed an increase in hair count.

Electricity was also used to remove hair. In 1875, Dr. Charles Michel used electrolysis to remove hair. In 1882, George Fox introduced the use of a fine needle alongside of the hair follicle to remove hair. The operator uses slightly more voltage according to the thickness of the hair. There is a stinging pain when the current is passing, but most people can take this without problems. Fine pale hairs are more difficult to remove permanently. It is essential to have good light during the treatment to see the fine hairs. Steel electrodes cannot be used, for they leave black marks. A short piece of sharp platinum wire is attached to the positive pole. The electrical procedure leaves tiny scars with each hair.

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## 39. ELECTRICAL EYE TREATMENT

“Something might now be added about a certain very subtle spirit [electricity] that pervades all dense bodies and is concealed in them, by whose force and actions the particles of bodies attract each other when separated by being concealed in them. They attract each other when separated by very small intervals, or cohere when contiguous; and by which electric bodies act at greater distances, both repelling and attracting neighboring corpuscles; and by which light is emitted, reflected, refracted and inflected, and heats bodies; and by which all sensation is stimulated, and the limbs of animals are moved at will—for this is done by the vibrations of this spirit transmitted through the solid capillaments of the nerves from the external organs of sensation to the brain, and from the brain to the muscles. But these things cannot be explained in a few words, nor have we at hand a sufficient number of experiments by which to determine and demonstrate the laws of action of this spirit accurately, as ought to be done.”

*Principia* Isaac Newton 1713

In 1748, Joseph Bruni of Turin, Italy, wrote of treating a woman with a painful irritated eye. He electrified her and drew sparks from the eye. It appeared bloodshot, but that disappeared quickly. The next day the problem was better. He did the same thing twice more and her problem was cured.

In 1755, the parents of a blind son implored Dr. Charles LeRoy to try electricity. They heard of a seven-year-old boy cured of blindness by electric shock. Their 21-year-old son became blind after a high fever. The doctor gave him 12 shocks through a well-charged Leyden jar. The man saw electric flames from the discharges, but he remained blind.

John Wesley, founder of the Methodist church, was the first to treat the blind successfully with electricity. He put a Newcastle man, who had been blind for years, on an electric platform, and drew sparks from his eyes. After resting for a time, the patient could distinguish objects and walk home without a guide. After a second treatment, he was able to work normally.

Wesley treated a 17-year-old girl that became blind from smallpox 12 years earlier. He drew sparks from her eyes and gave shocks to her head and neck. After two 90-minute treatments a day for several weeks, she was able to see enough to function, although her vision was poor. These miracles certainly helped Wesley gain converts!

When Alessandro Volta began to experiment with his newly discovered battery, he found that a current applied to the eyes produced a sensation of light. Changing the direction of current produced different colors.

In 1801, Justus Christian Loder began to use electricity on the eyes of patients in his clinic. He claimed to have cured two patients with amaurosis, which is blindness caused by disease of the optic nerve. He also showed that direct current could help some problems caused by a diseased retina.

The physicist Hermann von Helmholtz found that when the cathode (negative) was applied to the eye, objects could be seen more clearly. The application of the anode made them appear darker and less distinct. He believed that the electric current increased or diminished irritability of the optic nerve. When the cathode was applied to the eye, it produced a blue center with a yellowish green color, as the current was interrupted.

William Neftel treated a patient with retinitis pigmentosa. The patient's vision was so poor that he couldn't read or cross the street without assistance. He was treated by placing the cathode on the eye, which greatly increased his vision. Soon he could walk without assistance and read for hours every day without problems.

Samuel Harris treated eye disorders with negative current applied to the eyes and the positive electrode attached to the neck. A woman came to him with atrophy of the optic nerve and vision of 10/200. After six months of treatment, this improved to 20/60. He began with daily treatments for ten days and then every other day for two to three months.

He was able to successfully treat iritis and glaucoma with negative current. Doctors told a patient who came to him that he would be blind at 30. The negative current gave him excellent eyesight.

The president of a big corporation had double vision, and objects became double images several feet apart. He had 12 operations without any permanent result. Both negative current and violet ray currents were applied to the eyes. After two weeks of treatment, he could focus on a candle and see only one image. He was extremely grateful for relief from his eye condition.

An oculist tried treating three cases of glaucoma with direct current. He applied the positive pole to the eye, but this resulted in pain. When the negative pole was put to the eye the pain was immediately relieved. The oculist had poor results from treating glaucoma by other means. He applied negative current through the eyelids, and attached the positive electrode to the neck. This produced immediate improvement, and 25 more treatments were given. Vision in the right eye went from 20/200 to 20/40. Vision in the left eye went from 20/160 to 20/30.

A second patient had no change in his left eye, but the right eye went from 20/160 to 20/40 after 14 months of occasional treatments. In a third case, iridectomy failed to help the disorder. After 11 treatments lasting three to 15 minutes, the eyes improved enough to enable the patient to count fingers at a distance of six feet.

**Dr. Gustat Crusell** applied negative electrodes to the eyes, and a positive electrode to the patient's tongue for cataracts. Short treatments dissolved the cataract. **Dr. Friedrich Heidenreich** reported that he was able to cure two cataracts and improve one, with current interrupted every five minutes and applied for an hour.

In 1912, William Franklin Coleman published a study on this way of electrical treatment. Both eyes of a glaucoma patient became blind, and pilocarpine injections failed to help. Specialists said that the vision of the patient's right eye was probably lost, and the left eye could only distinguish light. A cathode was applied to the right eye and the current slowly increased for 10 minutes a day. After four days, the patient could see to count his fingers and function with reasonable vision.

The negative pole was useful in improving vision; the positive pole was useful in stopping hemorrhages. In one case, three months of treatment made no impression, but positive current showed imme-

diately improvement, and after four months the patient was discharged with vision of 20/30. Some cases had phenomenal improvement, but others weren't helped. About two-thirds of those receiving electrical treatment got help from electricity.

Paul Oudin was the first to try the violet ray on the eyes. Cotton was soaked in salt-water pads, then wrung out and placed over the eyelids. Oudin found that blepharitis [eyelid inflammation] could be cured by 10-minute treatments in two weeks. He was able to improve retinitis pigmentosa. He cured eight of 10 cases of retinal hemorrhages. He had no results in treating glaucoma with his equipment.

Trachoma is a viral disease of the eyes, which is spread by flies. In tropical countries such as Egypt, trachoma was a terrible problem. Most people gradually went blind. A few doctors treated it with zinc or copper salts. These were irritating, but slowly cured the disease.

Cotton was soaked in salt water and then wrung out and put over the closed eyes. A special branching eye electrode was used to treat the eyes. A 10-minute treatment was administered every day for a week. Then a treatment every other day was given for the next two weeks. This would usually cure the most stubborn cases. Albert Geysler treated 18 cases of trachoma with vacuum electrodes over the eyes. He used three treatments a week, and the treatment lasted from three weeks to three months.

Conjunctivitis is a catchall term for eye inflammations. Helping this disorder took from 10-45 treatments. Sensitivity to light disappears after a few treatments. The treatment is effective in curing chalazion, which is a small growth on the eyelid. Generally 5-6 treatments would cure it. Acne and eczema around the eyes were cured quickly.

Dacryocystitis is inflammation of the tear sac, which may result in inflammation of the lids and conjunctiva. A vacuum electrode was applied to the eyes. The inflammatory symptoms were relieved in four cases in 24 hours, and in five more cases the problems cleared up with more treatments.

Dr. Lawrence Webster Fox found only one failure in treating 100 cases of eye inflammation. There was relief in iritis but not a cure; however, the treatment's effect on pain was magical. He treated three cases of toxic amblyopia resulting from alcohol and tobacco use. The

degeneration may result in blindness. He found that about 20 treatments restored the patients' sight.

William Snow was noted for his use of electricity in therapy. He remarked: "The use of the vacuum eye electrodes with the static current is of great value in the treatment of epiphora, when the tear duct is closed but not stenosed. If a vacuum electrode is held against the canal and a short spark gap employed, it will remove the infiltration and open the canal."

Edgar Cayce mentions the use of the violet ray in eye conditions. He advised treating the third, fourth, and fifth cervicals and the first and second dorsals on the back first. He recommended treating the eyes no longer than one minute. He suggested the eye applicator to clear cataracts.

A Chinese peasant was buried in earth by a shell explosion and was unconscious when dug out. Emergency treatment restored him to life, but he lost his sight. Both eyes had no light perception, but light reflexes were present. He suffered from headaches and blindness for 18 years. After his first violet ray treatment, his headache was less severe. After the second treatment his headache disappeared, and his perception of light returned. By the fifth treatment, he was able to recognize people. After nine treatments, he was able to read numbers and words.

A woman was treated in a hospital for optical nerve atrophy. She completely lost her color vision and could only count fingers at six inches away. Doctors couldn't help her, so she used the violet ray. After four months of treatment, she was able to read and write.

Glaucoma is one of the most trying disorders to treat. People fear eye operations, and if they wait too long their sight may be gone. A study on the violet ray for glaucoma was done in 1911. A woman had no vision in the right eye and very little in the left. She said that she was able to read and thread a needle two weeks before. Before telling her that her condition was hopeless, Dr. Samuel Risley decided to try the violet ray. She was given 10-minute applications over her closed eyelids. She then had a steady improvement in vision in her left eye.

A man had cataracts removed from his eyes. The pressure rose to 90 in both eyes, with a diagnosis of glaucoma. An operation gave him

some relief for weeks, but he had pain and an inability to see. Eye drugs didn't help him. After nothing else worked, he was given violet ray treatments. The ocular tension dropped to 50 after a month's treatments. Most of his vision was destroyed, but he could see a little.

A 78-year-old woman complained of excruciating pain in her left eye. The tension was 90. She was given myotics and violet ray treatments. In three weeks, the tension dropped to 50, and she felt comfortable. Then the eye tension dropped to normal and stayed there.

A man had an eye injury and became blind in that eye. Two specialists condemned the eye, and a surgeon wanted to remove it, but the man refused. He put the vacuum electrodes over the eye and alternated the treatment with a negative current. Vision returned to the eye, and the pain disappeared.

When the violet ray is used to treat cataracts, there is a "mackerel sky" appearance after treatment because of disintegration of the cataract. The vision is poorer for a few days, and then it becomes much better. The edge of the lens is the first to clear, where the opacity is thinnest. As the eye recovers, the ability to see green returns, followed by blue, red and yellow colors.

A 70-year-old woman had been blind in her left eye because of a childhood injury. She had a cataract on her right eye. She started violet ray treatments, and in two days, she was able to count the number of fingers a foot away and see the green leaves of the shrub in the pot beside her bed. A week later she could tell onions by sight and see the difference between peas and beans on her plate. After two months of treatment, she was able to read fine print and function normally.

A 62-year-old woman had a cataract in her right eye for four years and a cataract in the left eye for 15 years. After a week of violet ray treatments, the woman wasn't bumping into objects so often. After six weeks of treatment, she could see bumps in the sidewalk, instead of having to feel for them. She could now distinguish faces. After three months of treatment, she was able to write and could see her sister's face. The treatments were taken occasionally, and improvement was slow. Soon she was able to read magazines. A year after her first treatment, she could see the eye of a sewing needle and thread it.

A 15-year-old English boy was born with a cataract in his right eye and suffered from severe myopia in the left. He got a small portable violet ray from Canada and began to use it. After a week his vision began to clear. In three weeks, he could distinguish between meat and vegetables on his plate. After using it for three months, he was able to count the number of books on a shelf. Earlier, he couldn't tell the weeds from the vegetables; now he could weed the garden.

A six-year-old child had an unusually severe attack of chickenpox, which damaged both corneas and left him with poor vision. Violet ray treatment was given every other day for six months, and vision returned to 20/30.

The companies that made violet rays had testimonials from their customers. One wrote: "I purchased one of your Marvel Violet Rays and with it I cured my eyes that three doctors, two of them noted specialists, gave up as a hopeless case. I got results in the first treatment and could read without glasses – something I could not do before, and now I am practically cured.

Another customer wrote: "I wish to say a word in regard to your Marvel Violet Ray outfit. I have been using it on my eye for a pronounced cataract; it has nearly cured it. I have been loaning my outfit to a friend for the same trouble. He is benefited and is ordering one."

No treatment is a panacea for eye conditions, but many more cases where electricity made a major change could be cited. The violet ray was able to relieve the sensitivity to light known as photophobia. It greatly helped Bell's palsy, which was disturbing the vision of a patient. Negative current and the violet ray in eye conditions often produced wonderful results.

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## 40. ELECTRICAL EAR TREATMENT

“Before we bring this part of the dissertation to a close, it must be observed that doctors seldom persevere in the use of electricity with sufficient diligence, for we ought not to forget that though electricity removes some diseases all at once, and as if by magic, still in others it must be used with long patience; and though the patient may have received no benefit from it after two or three months’ use, still success is by no means to be despaired of, for it has removed, even after six months, diseases which could not be cured otherwise. But [William] Shenstone says: “Patience is a panacea; but where is it to be found and who can swallow it?”

Robert Louis Stevenson 1777

John Wesley was the first person to attempt curing ear conditions with electricity. A young man from Stockholm came to his clinic with deafness and ringing in the ears. Wesley drew sparks from the ears, and the man could hear better in minutes. After a few treatments, he was able to cure a man who had been deaf for 32 years.

Alessandro Volta was the first person to try direct current in the ears. He made a battery of about 30 or 40 pairs of alternating metals connected with pads of salted water. He put the electrodes into his ears and closed the switch. He experienced a sensation like the boiling of fluid. It was quite unpleasant, and he didn’t repeat the experiment.

In 1802, Johann Ritter made a battery out of 100 pairs of metals. When he put the electrodes into his ears, he experienced a distinct musical tone at the making and breaking of the current. In 1801, Carl Grapengiesser described the acoustic reaction as a peculiar murmur or noise. When a positive electrode was put in the ear, it produced the sensation of pressure in the head pressing outward. The acoustic sensations resembled buzzing, hissing, whistling and ringing.

Grapengiesser found that the negative electrodes in the ear were more effective than the positive side. He treated a man with Meniere’s disease, and it suppressed the tinnitus for about four hours after each session, but then it would return. The current was painful and caused nausea, so the man quit using the treatment. The cathode would generally increase the ear noise, but the anode would reduce ear noise in about half the people who tried it.

An attempt was made to produce electrical hearing by putting cotton soaked in salt water into the ear, and applying a varying electrical current across the ears. But the distortion was too great to understand speech,

William Neftel tried using electric currents to treat noises in the head and loss of hearing. A 60-year-old patient had impaired hearing from childhood. He was completely deaf in his left ear, and he could only hear loud voices in the right ear. Putting a current into the ear resulted in an acoustic reaction and improved hearing. Neftel treated another man with total deafness in his right ear and limited hearing in the left. After the first electrical treatment, the man could hear loud noise in the right ear. It did improve but still remained poor.

Many attempts were made to treat hearing problems with static electricity. Dr. David Yates put patients on an insulated platform. A hard rubber handle was connected to a “spark ball,” which was moistened and held against the deaf ear and attached to the negative side of the static machine.

A 25-year-old woman was completely deaf in her right ear, and she could barely hear a watch placed next to the left ear. She complained of distressing noises in her ears. She had earache and suppuration from both ears. She couldn’t keep her balance when it was foggy, so she couldn’t go out. When she went swimming, her ears always got infected, resulting in earache.

After a month of static treatment, she could hear a watch ticking 18 inches away from the left ear, and she could barely hear a watch in the deaf right ear. With another month of treatment, hearing in both ears was completely restored.

A music teacher suffered from noises in the ears and earache. She was treated by an ear specialist without results. She could hear a watch at three feet from her right ear, and only an inch away from the left ear. Static wave currents were used in both ears. The noise disappeared, and after four treatments, she could hear equally well with both ears.

Doctor Yates treated Isaac Coleman, who was almost totally deaf in both ears. He could hear thunder or the whistle of a locomotive and the report of a gun. He was so deaf that he didn’t learn to talk

and was educated at a school for deaf mutes. He was treated in the ears with static electricity for 30 minutes twice a day. After a month, he could hear a watch ticking at six inches with one ear. During treatment, Dr. Yates held objects up and said their names. In a short time he was able to talk about as well as a child.

This resulted in visits from three other deaf mutes to his clinic. Two were unable to hear anything, and one had slight hearing after the treatments. A four-year-old girl did nothing but cry during treatment, and it seemed impossible to work with her. But she began to listen to sounds and learned to talk afterwards.

Yates began the treatments by washing out the ears with hydrogen peroxide. He felt that he could improve any person who could still hear a watch ticking. He once had an old Negro walk into his office and yell: "Doctor, I want you to do something for me; I lost my hearing, and I lost my voice too. I can't hear and I can't talk; I lost 'em both at once." Since he couldn't hear himself talk, he assumed his speech was gone. After 10 minutes of treatment, the hearing returned. Yates thought the acoustic nerve had paralyzed from heat prostration.

Several major problems connected with hearing can be treated electrically. Often the ears get infected, and a deep-seated infection is very resistant to treatment. In infections, the ears were cleaned well, then a 1% solution of zinc sulfate was mixed with 3% glycerin and put into the ears and attached to a positive electrode. The current was gradually turned up to 3 milliamps over a 10-minute period. One doctor was able to cure 258 ear infections out of 318 cases. Another doctor reported that he cured 144 out of 177 infected ears.

The semicircular canals of the ears help the body maintain its balance. We balance with our eyes, but we unconsciously balance ourselves with our ears. If the senses are blocked, we can't stand upright and close our eyes without falling. The balance signals come from the semicircular canals in the ears.

A 32-year-old woman worked for a large publishing company for 15 years. She had throbbing in her head and frequent crying spells. She was unable to walk without falling down. Static currents were put into her ears, but that didn't help much. The violet ray was applied over the first vertebra at the base of the skull, then over the spine and ears, and this corrected the problem.

A storekeeper had attacks of vertigo several times a day. After daily treatment to the back of the neck, spine and ears, the attacks lessened and then disappeared.

Direct current was often able to relieve tinnitis aurium or ear noise. The anode usually reduced the noise, while the cathode usually increased the noise. The anode was usually put into an ear, and the cathode was attached to the back of the neck. The treatments were done daily for the first week and then twice a week until the patient was cured or it was obvious that it wasn't working. Occasionally the cathode reduced the noise, and then the terminals were reduced.

In 1902, Dr. Denoyes in Paris, began to use violet ray treatments on ear noises. A 55-year-old woman heard noises like the rolling of a train through a tunnel which greatly troubled her sleep at night. After the 13th treatment, she experienced less noise. It took 45 treatments to nearly eliminate the noise.

A 60-year-old woman heard noises like a train or the falling of water. It was worse during the day than the night, but the noises often left her troubled and unable to sleep. After six treatments, the noises were intermittent. After 16 treatments, the sounds would be gone on the day of the treatment. When treatment was stopped, the noises began to return. With continuing treatment, the noises became no longer noticeable.

In order to avoid sparking, cotton soaked in salt water was wrung out and put into the ear canal. When the noises in the head were not too long standing or too intense, improvement was usually noticed after five to 10 treatments. A severe case of ear noise resisted treatment, but after months, the noise finally disappeared.

For treating hearing loss, the violet ray was used for two minutes in each ear and the strength of the current was observed, because it produces heat. Mrs. S. lost the hearing in her left ear in childhood, and the hearing in the right ear was getting worse. A hearing specialist treated her for six years, but she didn't get any help. She was then treated with the glass vacuum electrode in each ear. She could hear conversation in her right ear at three feet. After three weeks of treatment, she could hear conversation at 20 feet.

A clergyman's hearing was failing for 18 years, and he had constant drumming noises in the ears. He could hear a conversation at 12 feet in the right ear, and six inches in the left. After violet ray treatments for six months, he could hear a clock tick up to 30 feet away.

A 20-year-old woman was being treated for another condition when she remarked that her hearing was very bad from an infection. She couldn't hear a watch ticking more than two inches away in the right ear. She was given 10 days of violet ray treatments. Each day the hearing distance of the watch tick was a little further away.

A 57-year-old man was deaf in his right ear for seven years and had to carry a large ear trumpet with him. After three weeks of violet ray treatment, his hearing had improved to the point that he didn't need the ear trumpet.

The manufacturers of the violet ray devices occasionally received glowing testimonials on ear conditions. One testimonial read: "My hearing has improved wonderfully. In fact, my hearing in the left ear is almost normal now."

Another testimonial said: "My wife suffers from catarrhal deafness. At Christmas I brought home a Renulife violet ray generator, and my wife found that an accumulation of waste matter had been dislodged in her sufficient to have some part of it cling to the ear electrode. This was removed at the time that she took the electrode from her ear. At the same time, a part of the congestion dropped into her throat, and from that moment she realized what it meant to have the use of her ears, as do those that have no afflictions."

Maud Webb wrote: "I took two treatments with the Violetta and they helped me more than anything I ever tried. I have not heard a bird sing for years, but now I can hear a canary we have here in a cage about 15 feet away. A few days ago I could not hear it sing, if I put my ear right on the cage."

Dr. Charles Bridges wrote: "I am having wonderful success in the treatments of partial deafness. The patients seem to improve with every treatment. Dr. Richardson of Englewood [Colorado] is a case of long standing, and even in his case, we are getting wonderful results."

A French doctor treated 14 cases of deafness with the violet ray. He had such good results that he believed that all cases of deafness should be treated this way before doing anything else.

Dr. Hamm of Brunswick, Germany devised an 'ototherm' for treating partial deafness. He attached two disk electrodes to the ears and applied high-frequency currents. The sitting varied 5-10 minutes, and there was considerable variation between patients. He believed that it was the diathermic heat stimulation that restored the hearing.

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## 41. ELECTRICITY FOR THE HANDS AND FEET

“A young man of eighteen with hemiplegia of two years duration was unable to stand or walk and had lost his speech. His fingers were held in involuntary flexion, so that he was unable to put on his shoes by himself. His arm was motionless and his hand was cold. His mother urged me to administer electricity, because she had heard so much about its marvelous effects. I applied some shocks to his hand in the morning and again in the afternoon. After the first shocks, which were quite strong, I asked him to extend his fingers and he did. I repeated the experiment and advised him also to wear a fur glove to keep the hand warm. In addition, I prevented involuntary flexion of the fingers by bandaging them on little splints. After a few days he returned and was able to move the arm more freely and also to speak with greater ease. Electric shocks were given once or twice a week. Soon he recovered so much function that he no longer complained of inability to finger the violin as he had previously. By the frequent use of his hand and fingers, he regained as much agility as I had hoped for.”

*Observations on the Medical Powers of Electricity* Samuel Quellmalz 1753

The first person to use electricity for hand conditions was Christian G. Kratzenstein. He was invited to move to Denmark by the King and became professor of Physics at the University of Copenhagen. In 1744, he treated a woman with paralysis of her little finger, and cured it with electricity. He also enabled a piano player to play by treating his two paralyzed fingers with electricity.

There was a good bit of interest by other electricians, but few results. In 1748, Jean Louis Jallabert treated several cases of palsy, and many paralytics were electrified—without success. One woman had a useless hand and wrist. After quite a few treatments with strong shocks, she was able to use them again.

The 1980s saw an epidemic of hand injuries from the use of the computer. An attempt to treat it was by better arranging the keyboard. The typewriter had been a slow device, with most speeds below 50 words per minute. The new keyboards were easy to press, so speeds rose and usage increased. Newspapers had terrible problems with employees whose business was to rapidly type the news as it came in.

The problem had been known in the 19<sup>th</sup> century. At first it was just “writer’s cramp,” then it was “telegrapher’s cramp.” Farmers had “milkman’s hand,” and women sometimes got the condition from sewing. It was called graphospasm, mogigraphia, anapeiratic paralysis and professional dyskinesias. Doctors often passed it off as arthritis, but we know it is repetitive stress syndrome. Several types of electrical treatments were used, including exposing the hands to strong light and then the violet ray.

A German doctor advocated a special type of massage in 1877, but it didn’t help many people. Samuel Monell had increasing problems with writer’s cramp, and massage was tried without results. He attached a sponge electrode to his upper arm and connected it to the positive pole. A sponge connected to the negative pole was passed along the entire surface of the arm and hand. The electricity produced passive exercise of each group of muscles it acted on. The hand was not perfect, but was much better.

The right hand of a telegrapher was failing so badly that it became practically useless, and the left hand was nearly useless. Monell gave her static treatments with the Morton current for five minutes at a time. Her speed began to increase and other operators noticed how much quicker it was. Dr. Monell advised doing as little work as possible until her hands were better. Her manager kept giving her more work and remarked: “Oh, you seem to be doing well enough.” After 15 treatments, her speed was back to where it was two years before.

A typist worked at full speed for seven hours a day. After three days her right hand ached from the strain on the muscles. The positive static breeze was applied to the aching shoulder and the muscles of the forearm for about five minutes. There was great relief and the hands were fine.

In 1885, William Neftel claimed to treat writer’s cramp and pianist’s cramp with direct current. The problems often began with numbness of the first four fingers and then increasing pains. The median nerve above the wrist became thickened and tender under pressure. The hand grew tired easily and the nerve was more easily stimulated by electricity. Patients found considerable improvement after the second treatment.

After WWI, there was a large number of disabled soldiers who suffered from war injuries and malaria. The war had been fought from deep trenches, and thousands of men spent long days in cold wet conditions handling a pick or a shovel. Their fingers remained permanently flexed and couldn't be straightened out.

Doctor Charles Shelly had a small violet ray that he got from Canada. A man came to him with the first four fingers firmly clenched into the palm and the muscles of the fingers atrophied. The fingers had been in this condition for three years. After 20 minutes with the violet ray, the bent fingers were separated from the palm. The tendons began to soften and after another 10 minutes the fingers could be flexed. The next day, another treatment allowed the fingers to be extended. In three days, the patient was able to fully extend them with perfect ease. The Ministry of Pensions began sending Dr. Shelly other veterans who were disabled and couldn't work. Their hands responded just as rapidly, and soon they were normal.

A professional cellist had a sore middle finger, which greatly interfered with his playing. There was a small growth on the tip of the finger, which caused the soreness. It was treated by sparking with a violet ray. In a few days, the growth separated and came out, and his playing returned to normal.

A 38-year-old woman was physically run down and had slow improvement with massage, baths and rest. She had an abscess in her thumb the size of a large pea. The violet ray was applied to her hand for five minutes. Her pain was relieved before the sitting was finished. The pus ceased and only a watery discharge took place before healing.

Raynaud's disease is usually caused by vibration. The blood vessels contract and the fingers don't get enough blood supply. Charles Potts treated the disorder with the violet ray. **Ernest Bonnefoy** treated another five case of Raynaud's disease with the violet ray. It dilated the peripheral blood vessels and allowed the hands to heal.

An English woman came to Cannes, France, in 1902. Her hands and feet were the color of wine, and the cold February weather was blamed for Raynaud's disease. She was given 10-minute treatments with the violet ray. After the third treatment the fingers were less red and more flexible. By the 10th treatment, the hands were nearly normal.

A 24-year-old man had coldness, stiffness and constant pain in his hands. He was unable to sleep at night. The doctors diagnosed it as Raynaud's disease. He was treated with an Oudin resonator. The daily treatments gave him relief from pain. It took 65 treatments to restore his hands to normal. A patch of gangrene separated and left the function of the fingers unimpaired.

**Robert Remak** treated a young man with electricity in his clinic, who couldn't stand without assistance. He could only walk with the greatest difficulty. Remak applied one electrode to the cervical spine and the other to the lower back. After 12 minutes, the patient was able to lift his legs when standing. He was able to climb on a chair and could bend his knees in walking.

The static electrical doctors treated old varicose conditions by seating the patient upon a static platform. They grounded the negative pole and applied long sparks with the positive pole. The sparks reduced the size and increased the mobility of the leg.

A 55-year-old salesman had sciatica and varicose veins. He wore an elastic stocking over his legs for 15 years. The first treatment removed the sciatic pain and he never wore the rubber stocking again. He remarked that if he only had good feet he would be happy, because it hurt to walk. He had corns resulting in sensitive soles. After six treatments with the violet ray, he was able to walk perfectly without pain.

Phlebitis of the legs begins with redness, swelling and often severe pain. The disorder may follow typhoid fever, childbirth or surgical operations. Persistent swelling of the legs may leave the person permanently disabled. This often results in varicose veins and ulcers.

Dr. Charles McBurney treated a leg with varicose veins, which was about two inches larger in circumference than the other leg. It had brown spots the size of silver dollars over it. After violet ray treatments the leg cramps disappeared. The swelling went down in the morning after more treatments, but it still swelled in the evening. After a few months, the leg returned to its normal size and the spots were gone.

After a hernia operation, a man had an attack of phlebitis affecting the thigh and leg. The limb became two inches greater in circumference than the other leg. The condition lasted a year; then he was given three violet ray treatments a week lasting up to 20 minutes. Rice powder was put over the skin to enable the electrodes to glide smoothly over the surface. The leg returned to normal.

A lady suffered from phlebitis following typhoid fever. The right leg was an inch greater than the left leg. She was treated with the violet ray for 15 minutes a session three times a week. After a month of treatment, the leg began to shrink and soon became normal.

The Morton current was useful in varicose veins and ulcers. In one case the mother of eight children had varicose veins as a legacy of her pregnancies. Her right leg was swollen; nothing gave her relief. She was given two static-spark treatments. The edema entirely disappeared and the external appearance of the leg became normal.

A railway switchman had a swollen painful right leg. After six treatments with the Morton current, the pain ceased and the edema subsided. The ulcers healed and he was able to return to work.

The pulsed faradic current also was successful in treating varicose veins. A woman was unable to walk far, but a dozen treatments took care of the cramps, edema and cold feet.

The literature on violet ray treatments is small for varicose veins, but several doctors reported on it. Running the violet ray over light clothing produced sparking. The light spark stimulated the stagnant muscles of the veins. A lamplighter in 1902 had to walk many miles on his route. The veins in his legs were swollen and covered with moist eczema. A prolonged series of treatments removed the pain, but the veins still stood out.

A woman was unable to walk or stand without great discomfort. She could hardly sleep at night. After several treatments, she was able to walk with ease and climb stairs without complaint.

A French doctor treated many cases of varicose veins and phlebitis with the violet ray. She used 20 minutes of stroking the veins and 5 minutes of sparks with the glass electrodes. A typical case took 12 to 15 treatments and about a month to reduce the swelling and varicose veins.

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## 42. ELECTRICITY IN HEMORRHOIDS

“The disease of hemorrhoids is formed in this way: If bile or phlegm be determined to the veins in the rectum, it heats the blood in the veins; and these veins becoming heated, attract blood from the nearest veins, and being gorged, the inside of the gut swells outwardly, and the heads of the veins being raised up, and, at the same time, bruised by the feces passing out and upward by the blood collected in them, they squirt out blood most frequently along with feces, but sometimes without feces.”

Hippocrates -400

“In judging what cases are proper to be electrified, experience shows, that, in general, all kinds of obstructions, whether of motion, circulation, or secretion, are very often removed or alleviated by electricity.”

Tiberius Cavallo 1781

The word hemorrhoid is compounded from the Greek words “blood-flow.” Nobody knows why this protrusion takes place in the region of the anus. The cause is suspected to be nutritional, because primitive people on simple diets rarely have them, while western people on refined diets often have them. Perhaps nutrients that keep the blood vessels tight are lacking, and when the bulge begins, the vessels don’t return to their normal position easily.

They were once believed to be the punishment of God, and part of the 10 plagues of Egypt when Pharaoh was forced to let the Children of Israel go. Since important religious figures and common men suffered from them, the emphasis on God’s great plan was dropped. Herbs used to treat them were known as “pile wort.”

Hippocrates dedicated nine chapters in his medical book to hemorrhoids. They were cauterized with a hot iron and treated with a caustic solution to dry them up. Up until 1870, the main treatment for hemorrhoids in Germany was burning them with a hot iron. They are described as grapes with the berries turned upward.

Hippocrates believed that hemorrhoids were probably good, because they got rid of the bad blood from the spleen, and prevented

other diseases. If you had hemorrhoids, you wouldn’t get pimples, boils or even leprosy! If you got cured from hemorrhoids, you might get another disease quickly. Perhaps these statements made people feel better.

Roman Emperor Tiberius maintained that they were for purifying the body and getting rid of unsound blood. His treatment was a hip bath and a careful mode of life. Roman army doctors treated hemorrhoids with wormwood, alum and honey.

The first attempt to treat hemorrhoids electrically was done with electropuncture in 1867. The anode was put into the hemorrhoid. Several zinc needles thrust into the hemorrhoid connected to the positive pole. The process shuts off blood supply and shrivels them up. The current was increased over a two-minute period to a maximum of 16 milliamps. The average duration of the treatment was 11 minutes. More than one treatment was required in about a quarter of the cases. The patients could resume normal activities immediately after therapy.

A 75-year-old lady suffered from small prolapsing hemorrhoids with constant discharge and intense itching. Two treatments with an interval of 10 days caused her absolutely no pain. There was a complete cure of the hemorrhoids.

Samuel Monell treated three large external hemorrhoids, which were painful to touch. The woman had suffered from them for 17 years. Monell used local anesthesia, and then applied needles and dried them up. A month later, they were completely cured.

Emmanuel Doumer was the first to try the violet ray in hemorrhoids. It was found to shrink swellings, so it was natural to try it in hemorrhoids. The currents causes anesthesia so if there were any discomfort it would leave in a short time.

In 1897, Doumer used a vacuum electrode with a high voltage so a long spark could be drawn. Most treatments were about five minutes. Because the violet ray makes the area sweat from heat, talcum powder was used to dust the area. Generally, about 5-6 applications would give marked relief over a two-week period. In severe cases the treatment lasts 3-4 weeks.

The patient faces downwards while lying on a couch. A small lubricated glass electrode is inserted into the rectum if the hemorrhoids are internal. The electrodes should be introduced slowly and pass the sphincters if possible. There may be initial pain, but it quickly disappears. The treatment usually helps constipation. It is important to be careful, because glass breaks, even though heavy tempered glass is used.

The treatment used an Oudin condensing electrode consisting of a metallic stem enclosed over a glass tube. At first there is pleasant soothing warmth. If it is too hot, the current is shut off for a few seconds and restarted. If there is no result at all after 6-8 treatments, then surgery is probably needed as a solution. It usually requires 15-20 treatments to heal on open fissure. The treatment is given daily at first, and then several times a week.

The treatment was so successful that it became the subject of a large-scale study in 1904. It was highly useful in treating anal itching and most eczematous conditions of the area. About four out of five patients had major help.

Hemorrhoids may result from the strain of giving birth, and the changes in hormones at this time. In six cases of hemorrhoids resulting from birth, violet ray treatment cured four and greatly relieved two.

Recent cases of hemorrhoids are treated easily. In 25 cases where the hemorrhoids were new, it took from 4 to 11 treatments. This cured 14 and greatly relieved 9 people. A typical case was a 45-year-old man with a bleeding protruding mass around the anus, which existed for 10 years. Six treatments lasting for 15 minutes were given in two weeks. When last seen, the hemorrhoids were steadily shriveling away to nothing.

Twelve patients had thickened irritable folds of skin. Seven to 15 treatments were applied to the area. This greatly relieved six and improved six.

Violet ray treatment was used on simple fissures of the anus. Thirteen patients took 5 to 8 treatments, with a healing in every case.

Hemorrhoids may occur both on the inside and the outside of the anus. There were 31 people with both conditions. In internal

hemorrhoids, the glass electrode was lubricated with Vaseline and passed into the rectum. In nervous patients the electrode is allowed to rest until anesthesia is produced and the current is slowly increased. It took 9 to 18 treatments for internal hemorrhoids. This cured six, greatly relieved 20 and improved the combination hemorrhoids of five.

There is always a certain amount of danger when using a glass electrode. Metal electrodes don't work well. Special strong glass electrodes were made for this treatment; ordinary ones should not be used. Doumer advised that if after 5-7 treatments there were no results, the treatment should be suspended for 2-3 weeks. In most cases there were good results after waiting and treating the condition again.

One doctor found that 10 of 11 cases of hemorrhoids quickly responded to treatment. He found similar but less complete results in varicose veins. Curiously, both conditions run together, and the violet ray provided good help in both.

There is a strong association between constipation and hemorrhoids. If the constipation is treated, it may reduce the hemorrhoids. A young music professor was habitually constipated and had arthritis. He had large hard hemorrhoids. A treatment with the violet ray for five minutes reduced the pain. After seven treatments the healing was complete. His constipation was gone after the treatments.

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## 43. THE VIOLET RAY IN NEURALGIA

"We have seen congestive and nervous headaches which had lasted with great severity for many hours disappear for the time being in one or two minutes after the action of the current was begun. We have seen a severe frontal headache in a woman who was subject to frequent attacks remain free for three weeks after a single treatment. An intense pain over the right eye lasting all day in the case of a gentleman subject to occasional attacks, was relieved in one minute and did not return during the year that we kept track of this case."

*Electricity in Health and Disease* Samuel Monell 1907

John Wesley treated a woman with an almost constant pain in the back of her head for nine months. When she lay down to sleep, the pain would become so severe that she would start to shriek. Doctors were unable to help her, but Wesley electrified her and began drawing sparks from the area. After a few weeks of treatment, she was cured.

Benjamin Ward Richardson (1828–1896) had published an article refuting the anesthetic properties of electricity, but he was willing to try it. Julius Althaus applied a rapidly interrupted current to Richardson's ulnar nerve, and increased the intensity so that the fingers contracted. It was uncomfortable, but soon his arm was completely numb.

In the early 1900s, Dr. Louise Robinovitch recommended electric currents for anesthesia even for major operations. She used a Leduc current made with a revolving wheel interrupter. She found that the best levels for anesthesia were a pulse width of 10 milliseconds and 100 pulses per second at a peak of 40 volts. She performed several lower limb amputations at St. Francis Hospital at Hartford, Connecticut. Her work was very similar to the present day TENS equipment.

Neuralgia is a catchall term for conditions that neurologists really don't understand well. The facial nerves, the sciatic nerve in the thigh, and any nerve, can have severe pain for no apparent cause. Doctors used the term "idiopathic neuralgia" to describe painful conditions, which have no physical origin. High-Frequency electricity has cured

supraorbital neuralgia over the eyes, occipital neuralgia over the top of the neck, and brachial neuralgia of the arm.

The first electrical treatments for neuralgia were given with the positive spray of static machines. The electrode is held a short distance away and kept in gentle motion over the affected area. The length of each session of positive electrification is governed by observing the effects. When the patient is perspiring freely, it is a sign to stop.

A 58-year-old man had sciatica for seven years. He got so bad he was in the hospital for two months. He had five operations and was treated with all known drugs without improvement. He was brought to the office of an electric doctor in an ambulance with his left leg swollen to twice its natural size. Static sparks were applied for 10 minutes, which relieved the severe pain. After a month of treatment, he could walk a half-mile. He was given static treatment every other day for nearly a year before he was cured.

A watchmaker had pain from an old sword wound to the left of the third dorsal spine of the back. Motion and cold increased the pain. After four static treatments, there was complete relief from pain.

A woman fractured her left leg, and walked unsteadily with a cane. When she came to the static doctor she had severe facial neuralgia and was unable to eat solid food. She was seated on the static platform and connected to the negative pole. The positive pole was grounded to the gas fixture. A spray was applied to the facial nerve from the ear to the mouth. She received three static treatments a week. After the fifth treatment she could eat bread comfortably and her legs felt no more pain. After the seventh treatment she was entirely relieved from pain and had a real increase in muscular energy.

When static treatments were properly given, there was remarkable improvement in neuralgia. When the violet ray came along, the same phenomena regarding neuralgic pain was observed.

A 60-year-old man had pain in his legs, which came on after walking for about 50 yards. He would stop for a few minutes until the pain left, and then he would walk on until he had to stop again. After he was treated with the violet ray, he was able to walk for two miles without problems.

Pain in the heel is a troublesome condition and usually resistant to treatment. Relief is usually obtained after 3-4 applications. If there is no relief after ten sessions, it is useless to continue. It is not clear how high-frequency electricity acts in talalgia, but excellent results have been obtained in many cases.

The writer of this book had sharp shooting pains in his heel area. They would occur about once a day for 30 seconds. The shooting pains would often wake me from sleep. The violet ray was used on the spot for about one minute a night, for a week. Although there would occasionally be dull mild pain after this, there were no more sharp shooting pain.

The first application of the violet ray for arm neuralgia often results in abolition of pain. The inhibition passes off and the pain returns. It may be sharp for a few hours, but it usually diminishes by the next day. Four cases of brachial neuralgia were cured in one treatment; three cases after two treatments; and the remaining four cases were cured in six to ten treatments.

A 40-year-old man was injured three months earlier by the fall of a heavy beam on his right shoulder. The slightest motion was very painful. He was absolutely unable to earn a living. He was given 2-4 treatments a week, which resulted in less pain. After two weeks, he was able to lift his hand to the top of his head and the opposite shoulder. In a month he was able to do light work and in two months was able to do his regular work.

A doctor suffered from neuritis in the left shoulder and arm for some three months. Local applications of a hot water bag and internal medication seemed useless and he could only sleep with morphine. The arm was useless and the hand could not be raised to the head. The glass vacuum electrode was applied and relief was prompt. By the end of the week all pain was gone and didn't return.

A pianist suffered from a whitlow in her left fourth finger. The boil was opened, but it left such a painful scar that she couldn't play the piano and diathermy failed to give her relief. Vacuum electrode treatments were given for 10 minutes daily for a week over the painful area. After the second treatment, sensitiveness decreased, and after the fourth, she could play the piano again.

A young mechanic had intercostal neuralgia in the heart region, which caused him great concern. He applied the violet ray for 10 minutes daily for a week over the painful area. This completely cured him.

The violet ray was often able to cure myalgia. A woman had a stiff neck and was only able to turn her head with great pain. In 15 minutes, she could move it in all directions easily and there was a little stiffness, but no pain the next day.

A 65-year-old woman had a severe case of tic douloureux for six years. She couldn't enter a room unless it was previously heated. For weeks at a time she was unable to touch the affected place with water. If a hair touched her cheek it might start a spasm of pain. After the second violet ray treatment, the woman declared that she had the best night's sleep for years.

A German doctor treated 41 cases of trigeminal neuralgia. The treatment began with high-frequency currents applied so feebly that they could hardly be felt. This condition is one of the most difficult neuralgic conditions known. Often touching the area results in excruciating pain. In this case wet sponges were applied gently and the current was gradually increased through them. The treatment was repeated 2-3 times during the first day. This succeeded when cutting the nerves, and alcohol injections failed.

Cases of herpes zoster were said to be quickly relieved of pain with the violet ray. Herpes zoster of the thigh caused many sleepless nights, but it was cured in two violet ray treatments after radiant heat and light had failed.

Some cases of sciatic pain are due to cancer, pressure from a tumor or spinal cord disease. These cases may not be relieved, but most cases are said to be readily treated by the violet ray. A 38-year-old man had severe pain lasting for months. He couldn't sleep and even took his meals standing. The first treatment produced immediate benefit, and after 13 treatments the problem was gone.

A Glasgow farmer was troubled with sciatica of the right leg for six months. The pain was constant and he was unable to lie or turn in bed without pain. After eight treatments his pain was gone.

A man suffered pain in his leg and saw a doctor. He got some relief and returned to work. Six months later the pain got much worse and he couldn't work. The violet ray was used for 10 minutes to treat the course of the sciatic nerve. After five treatments the pain was much less and he was able to walk for a mile or more. After four more treatment all the pain was gone.

A man had pain in the left sciatic nerve for five months. He was in bed for two weeks because of the severity of pain. He was treated by the violet ray along the left sciatic nerve for 10 minutes. This was repeated four days later. After the third treatment, he was able to sleep for seven hours continuously for the first time in weeks. After the fourth treatment, he could sit and walk normally.

A 40-year-old man had to lie in bed with his left leg drawn up. There was great tenderness in the back and left lower leg along the whole course of the sciatic nerve. The trouble started as an aching pain across the back. He tried to work, but the pain was so bad that he had to give it up. Then he stayed in bed for six weeks. He began to feel better, but the leg just got more painful. After twelve 10-minute treatments he was able to walk without pain. In a short time he was able to work normally.

The Marvel Violet Ray Company publicized one testimonial in a letter: "I have had such wonderful results upon myself curing the most severe and terrible case of sciatica in a very short time comparatively after beginning to use the instrument regularly and considering that I have been suffering and absolutely unable to sit down for nearly three months, with the most excruciating pain that anyone could possibly have, it seems."

Lower back pain was treated with the violet ray using 2-3 treatment a week over a period of months. Most cases didn't receive help, but for some it was miraculous.

There has been little interest in trials with the violet ray in our time. There are many articles about TENS therapy. This is the use of two electrodes using pulses of high-frequency electric current. The pain relief claimed for the TENS units is generally well below that found in the violet ray accounts.

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## 44. ELECTRICITY FOR THE STOMACH AND DIGESTION

"The superiority of electricity over other remedies, in many cases, may appear from considering, that medicines in general cannot always to be confined to a particular part of the body, and to let them pass through other parts is often dangerous, for which reason they cannot be used; besides, after those medicines have exerted their required power, they are with great difficulty, if at all, separated from the body. But it is of no consequence whether the power of electricity passes through this or that other part of the body in order to come at the seat of the disease; and after having exerted its action, it is instantly dispersed: hence this explains why electricity has often cured such obstinate disorders as have not yielded to any other treatment."

*General Rules for Practice* Tiberius Cavallo 1781

John Wesley was the first to work with static electricity to cure digestive problems. He treated a woman who had pain in her stomach and back for six months. She was extremely weak and incapable to working. Many medicines were tried without result, but shocks to the stomach for five days removed the pain. Using electricity, Wesley was able to cure two other patients with severe stomach pain.

The first person to experiment with direct current in digestion was Giovanni Aldini, the nephew of Luigi Galvani. He put a zinc plate in the mouth of a freshly killed bull and a silver plate in the rectum. When he attached a wire, the current created by the metals caused the feces to discharge. In the 1700s, M. Achard of Berlin tried this on himself. He felt pain in the pelvis, then a bowel movement.

Doctor Edward Eckard used direct current to produce peristalsis. The anode was attached to a broad sponge on the abdomen and the cathode was inserted into the rectum. The current strength was about 20 milliamps for about 10 minutes. There is no immediate result, but a bowel movement takes place within hours.

A 50-year-old man had bowel impaction. Purges and injections of water and olive oil were used without results. After a 15-minute treatment with electricity, the fecal mass began to move to the rectum.

In 1888, Hugo von Ziemssen published: *The Physical Treatment of Chronic Diseases of the Stomach and Intestines*. He recommended the “Watterville current,” which was a mixture of galvanic and faradic currents. He applied a large anode electrode to the stomach. He applied a smaller cathode to the back, and treated the stomach disorder twice a day in the morning and evening at first. Often there was a rapid reduction of the stomach and better digestion.

Samuel Sloan treated 67 patients with electric currents for digestive complaints. He used large clay electrodes measuring about nine inches by six inches. The positive pole was placed over the shoulder blades and the negative pole was placed over the abdomen. Sloan was able to cure 3 of 6 cases of atonic dyspepsia. He cured 12 of 19 cases of visceral neurosis and 15 of 17 cases of neuromuscular asthenia.

After her mother’s death, a woman began to crave alcohol. She developed severe heartburn and gastric irritation. She began to heal after an electric current was applied, and had less craving for brandy.

A 30-year-old woman had severe neuromuscular asthenia after an attack of the flu. She decided to stop all medical treatment and try abdominal electricity. A current of 3 milliamps resulted in severe fatigue, so it was reduced to 2 ma. After three weeks, her depression was less severe and her digestion was nearly okay.

In 1891, Max Einhorn published a paper: “A New Method for Direct Electrification of the Stomach.” He lowered a “deglutible electrode” attached to a wire into the stomach. He used negative faradic pulses of current to stimulate the stomach. He found that more hydrochloric acid was produced after stimulation. The anode was usually a sponge placed on the lower abdomen.

In 1897, Dr. Mederic T. Lajoie published a report of 60 observations of dyspepsia treated by electricity. A typical case was a man who was unable to sleep more than a few minutes at a time, for his heart thumped so hard. He could hardly eat anything and belched frequently. After 12 weeks of static electricity applied to the stomach, the man could eat anything and his heart caused no further trouble.

A young man came to Lajoie with soreness over the abdomen. He had heaviness in the head for the past two years. The soreness caused uneasy sleep, but eating didn’t cause him any trouble. A positive pole

was connected to the stool and the negative was used to draw the sparks to the ground terminal. Static sparks were applied to the solar plexus and the spinal cord. After 14 weeks of treatment he was perfectly well.

A 45-year-old man was given up as hopeless unless he underwent an operation. He was so feeble and emaciated he could scarcely walk 100 yards. He became a living skeleton and he was unable to digest food. A metal plate was placed over his back and the negative pole attached. The positive pole was applied over his stomach. After a week of treatment he was able to eat and retain some food. After two weeks he had put on several pounds. A month later he gained 15 pounds and was back to work. Three months later he felt completely cured.

Russian doctors treated 45 cases of deficient gastric secretion with galvanism. A large cathode of 8 × 9 inches was put on the back, and an anode of 6 × 7 inches was put over the stomach. The stomach anode would increase secretion, but a stomach cathode would reduce it. The doctors claimed that pyloric spasm, pain, discomfort and flatulence disappeared. They used a current of 80 to 100 milliamperes for 30 minutes during treatment.

A Boston doctor wrote in 1902: “One of the most striking effects of the high-frequency current is its action on the sympathetic nervous system. Applications of the vacuum electrode over the solar plexus will almost immediately relieve and later permanently cure, cases of long standing nervous dyspepsia, hepatic torpor, constipation, renal insufficiency and finally, all conditions due to lack of vasomotor stimulation.”

Dr. Louis H. Leight furnished a testimonial in the treatment of dyspepsia with the Violetta: “I am having wonderful success in the treatment of all stomach disorders. I could not be without this wonderful health instrument. No doctor’s office is complete without a Violetta. I have given over 2,000 treatments with my Violetta and she still keeps her pep.”

Another means of treating bowel inflammation is using metallic salt ions. The rectum and colon are filled with a metallic salt solution and connected to the positive pole. The metallic part of the salt heads towards the negative pole and heals inflammation of the surfaces.

In this treatment, a laxative washes out the bowel and enemas are used to wash out the lower colon. Layers of cloth soaked in baking soda or salty water are put over the abdomen and used as the negative electrode. The positive rectal electrode is a wire spiral in a 2% solution of zinc sulfate. The current is slowly turned on until it reaches 15 milliamps for about 20 minutes.

Dr. John Webb treated 14 cases of colitis with this method. He had good results in six, and fair results in five patients, using about nine treatments. If successful, the mucus ceased and the diarrhea gradually left. The condition didn't return after the treatment ended.

A 34-year-old woman suffered from bowel disturbances for years. She bled internally and passed large quantities of mucus. In a period of four months, she took 15 treatments and became entirely normal.

A 54-year-old woman suffered from hemorrhoids and mucus in her stools for years. She didn't have much pain, but she suffered from diarrhea with copious mucus. The treatment reduced the size of the hemorrhoids, but some colitis remained.

S. Damoglou treated a 35-year-old mechanic. His stomach didn't function well and he had constipation. He lost the power of speaking and lost his sense of orientation. He had become a vegetable. A high intensity abdominal current was applied daily. After 10 treatments he began to regain his senses. His memory began to return by the 15th treatment and he was able to eat regularly. After two months of treatment he was nearly normal.

Stuart L. Mucklow and J. Curtis Webb used surged sinusoidal current to treat stasis of the bowels with a tendency to flatulence. They placed electrodes over the abdomen and back and produce slowly surging contractions about 1 or 2 per second. The patients usually began to improve quickly.

Alexander Crombie did a study of the violet ray to treat atonic dilation of the stomach in 17 cases. This is a bloated sagging stomach, which is a result of weak stomach muscles. The stomach will obviously sag if there is too much behind it, but the idea was that the violet ray treatments would tone up the muscles and shrink the tissues.

Crombie marked the limits of the stomach before beginning treatment. He found that the surface of the stomach receded by a half inch in all directions after treatment. The person feels nothing of this, except for the slight irritation of the treatment. After a few treatments there is a feeling that the stomach is being tucked up, and the digestion improves. After 10 to 20 applications, the stomach assumes a normal size, and the intestinal tract returns to its normal position. There were good results in 15 of the 17 people who were treated.

Doctor Crombie believed that the effect of the violet ray treatment was to tone up the muscular walls of the stomach. Toning them up diminished the size of the intestines. He normally used from 10 to 20 treatments for about 10 minutes each. This resulted in a major improvement in digestion.

The first patient to try the treatment was a middle-aged golfer. His stomach was considerably enlarged and he had obstinate dyspepsia with severe pain. He took three treatments a week. In four weeks his stomach had contracted by 1½ inches in all directions. A month later, the size of his stomach was normal.

The second patient was a nervous woman. Her abdominal walls were fat and flabby, and the stomach greatly dilated. After five weeks of treatment, her stomach returned to a normal size. Her digestive condition wasn't completely cured, but there was marked improvement.

An elderly man had a feeble heartbeat, only 45 to 50 beats a minute. His stomach was dilated, his abdominal tissues flabby, and he had fainting attacks after meals. After 12 violet ray treatments, his condition was greatly improved and his meals were no longer followed by discomfort or pain.

A businessman had flatulent dyspepsia for years. He vomited almost daily and was afraid to eat on account of the discomfort. After a week of treatment, the vomiting ceased. His stomach receded an inch in the vertical direction and there was less gaseous distention. His stomach became normal in size and his digestion appeared to be normal.

A 58-year-old man returned home from India. He suffered for 15 years from dyspepsia, which increased in severity. The acidity and heartburn was so severe that he couldn't sleep and only obtained relief after vomiting. His stomach was greatly distended and he was drowsy especially after dinner. After 13 electrical treatments of his stomach, it assumed its normal size and position. Nearly all of his indigestion problems were gone.

A 42-year-old man returned from India. He suffered for seven years from malaria and his stomach, liver and spleen were greatly enlarged. He suffered from acid dyspepsia, and splashing could be heard in the stomach. Violet ray treatments were given to the liver, spleen and the stomach. The stomach shrank, and he felt so much better that he was allowed to return to duty.

A man had good health until he contracted Malta fever. Then he began to suffer from dyspepsia. Often the only way of relieving the discomfort was to vomit. After 18 days of treatment, his stomach became normal in size, but there was no improvement in the dyspepsia. When he took supplements of hydrochloric acid before meals, he was able to digest food relatively normally.

Another patient suffered from enteric fever 14 years before. He had been dyspeptic and flatulent for 18 months, and wasn't able to drink tea. He went to South Africa in 1900, but became so sick that he was invalid. He didn't have heartburn, but there was discomfort and a bad taste in his mouth. There was no improvement with a special diet. After the violet ray was used for three weeks, his stomach began to shrink and there was much improvement in his general condition. With more treatments he rarely felt any gastric discomfort.

A young woman clerked at a store, but she suffered almost daily headaches. She suffered from menstrual pain and had to go to bed for a day or two each month. After two weeks treatment of her abdominal region, her health completely reversed. She had improved appetite, strength and very few headaches.

A 40-year-old woman complained of pain and flatulence an hour after eating. She had been treated for a year with many drugs. She was given eight treatments to the abdomen. All of her symptoms disappeared.

A New York doctor treated a case of prostatic through the rectum with a glass vacuum electrode. The prostate improved, but the constipation also got much better. He tested the violet ray on a severe case of atonic constipation lasting 30 years. The patient was placed on the operating table face downward and a vacuum electrode was inserted into the rectum. After 10 treatments, normal bowel movements returned.

Benjamin Ward Richardson (1828–1896) published an article refuting the anesthetic properties of electricity, but he was willing to *try* it. Julius Althaus applied a rapidly interrupted current to Richardson's ulnar nerve, and increased the intensity so that the fingers contracted. It was uncomfortable, but soon his arm was completely numb.

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## 45. ELECTRICITY IN CIRCULATION

“The success attending the application of electricity, as well as in galvanism, must materially depend upon the mode to which it is employed. According to the strength and direction of the electrical current, it may be made to produce different, or even opposite effects. Every contraction of the heart, excited by too powerful an impulse, and at an improper time, lessens the small remains of vital power. Therefore, moderate shocks, cautiously and gradually increased, and passed through the chest in different directions, are attended with the best effects. These cannot fail, when galvanism is combined in such a manner with the aid of artificial respiration, that the action of the one keeps in perfect unison with the action of the other, and in no respect interferes with it.”

Giovanni Aldini

John Wesley may have been the first to treat a heart condition with electricity. In his journal for 1774, he tells of a patient suffering from angina pectoris. He advised the man to quit taking medicines and be electrified through the breast. After shocks were administered, the pain ceased, and the man fell into a deep sleep.

Guillaume Duchenne may have read about Wesley's treatment, because he had a tanner come to him in 1852 with a deep burning sensation in the upper and middle parts of the chest. The pain radiated into the upper left arm and painful attacks kept occurring after the slightest exercise. He could bring on an attack by bending down to pick up something.

Duchenne put electrodes on the nipples and the patient screamed when the shocks were applied. The angina pain disappeared and after a few treatments it didn't return. Duchenne cured angina in two more patients by sending shocks through the left breast. One patient could bring on angina pains by violently swinging his arms and bending his body. He did this in office visits; then after seven series of shocks, he couldn't bring on angina pains, and needed no further treatments.

Angina pectoris was apparently cured by using a violet ray electrode over the entire surface of the chest and applying vibratory massage. No statistics were given, and no further studies have been done.

A terrifying experience is having the heart pound rapidly. Tachycardia is associated with shortness of breath, profuse sweating and fear. It has been treated in recent time with a single shock of 250 volts with a duration of 0.15 seconds. The heart stands still for a few beats, and then resumes the normal rhythm within 10 seconds.

Samuel Monell claimed to greatly help people with heart disease. A patient suffered from heart failure, shortness of breath and palpitation. He was treated with the static breeze up and down the spine. After his first treatment, the shortness of breath subsided and heart palpitation became less frequent.

Low blood pressure is an indication that the energy of the heart is lacking. The person might be pale, lacking in energy, and dizzy when standing up. Chronic fatigue is sometimes a result of low blood pressure. Paul Oudin found that he could raise the arterial blood pressure as much as 90 to 140 mm. by using sparking along the spinal cord. Oudin also found that local violet ray treatments over the surface of the skin and veins lowered blood pressure. A. Moutier used sparks and the effluve on the spinal column to elevate the blood pressure from 40 to 80 mm. of mercury.

Moutier found that regular treatment with high-frequency current causes an increase in red blood cells at about a million per month. In 1902, he used violet ray treatments to lower blood pressure. The heart enlarges in anemia and weakens. Nobody else did work on this, but if confirmed, this would be a major finding. Moutier published a booklet on treating arteriosclerosis with d'Arsonvalisation.

Elevated blood pressure is associated with heart disease, shortness of breath and strokes. The person having high blood pressure may appear to be entirely healthy, but statistics show that it is dangerous to the health.

Blood pressure depends on the energy of the heart, the resistance of the arteries and the volume of the blood. High blood pressure is associated with arteriosclerosis and an elevated death rate. The constant taking of drugs brings it into normal, but little effort has been made to bring the pressure into normal with physical methods.

The first attempt to treat high blood pressure was made by the field device treatments of Jacques-Arsène d'Arsonval. It took 10-15 treatments to bring about a more-or-less lasting result. With very strong fields in the autocondensation cage, it was sometimes possible to bring the blood pressure to near normal in 6 to 8 treatments. This therapy often had poor results and most physicians who tried it dropped it. It simply took too many long treatments and too many patients didn't respond. They often needed to take the treatments again in less than a year in order to have normal blood pressure.

D'Arsonval had two field devices, the autocondensation couch and the wire cage. In the first device, the patient acted like a plate of a capacitor. In the second device, the magnetic field lines passed through the patient. The couch had poor results, but the spiral wire cage was more active in reducing blood pressure.

Emmanuel Doumer believed that better clinical results could be obtained with higher field strength. He used 3-15 treatments lasting 10 minutes to reduce blood pressure. In one patient, the blood pressure fell from 270 to 135 mm. The treatment produced good results in arteriosclerosis.

A study of autocondensation was done at Loma Linda University in California. They found that the average drop in blood pressure per 25-minute treatment for all cases was 10 mm. systolic and 2 mm. diastolic. There was an increase in urea in the urine indicating internal stimulation. In many cases the pressure returned to where it was at the beginning. The small amount of gain did not justify the expense and effort involved.

People could either lie down with the wire cage placed around them, or stand up. The strong field produced a slow reduction of blood pressure at first, but after prolonged treatments, blood pressure returned to normal.

A 43-year-old teacher suffered from gout with high blood pressure and an enlarged heart. During gout attacks the heartbeat was sometimes rapid and violent, then it would be slow and weak. She got help with nitroglycerin, but had a great deal of trouble in the cold winters. She planned on going south for health, but she had a severe attack of gout and was unable to travel. A doctor treated her with the

violet ray and it worked wonders. By using one in her home regularly, her cardiac symptoms were mild.

A 48-year-old merchant had good health. But after an attack of flu he had persistent neuralgic pain in his right arm and shoulder. His doctor used violet ray treatment to reduce the pain. At the first treatment the blood pressure was 166 mm. and after eight minutes it fell to 154. The blood pressure would rise slowly after the treatment, but the next treatment would knock it down further. Three treatments a week reduced it to 125 in about a month.

A woman took the famous bath treatment at Nauheim, Germany, for her heart trouble. This reduced the size of her heart and blood pressure, but after a few months it was as bad as ever. She began taking high-frequency treatments with a blood pressure of 170. By the fourth treatment it fell to 150 mm. She felt so good that she was able to spend a cold winter without trouble.

A lawyer had an enlarged heart with a blood pressure of 210 mm. He was given nitroglycerin, strychnine and digitalis. This lowered his blood pressure to 195, but the symptoms remained. The first high-frequency treatment reduced this to 160 and the next treatment reduced this to 145. He felt so much better that he really overdid it, and had to stay in bed for a few days. The pressure rose to 175 mm., and with treatments it was gradually reduced. He no longer needed nitroglycerin.

Heart dilation and ultimate failure is associated with anemia. In many cases where the heart is failing there are not enough red blood cells to carry the oxygen. The heart not only pumps blood, it receives oxygen and nutrients from the blood. Violet ray treatments over the liver, spleen and long bones of the legs where red blood cells are generated are said to greatly increase the red blood cell count. No study has been done on this observation.

One anemic woman had a blood pressure of 175 mm. at the beginning of the treatment. After 13 applications of the violet ray for 20 minutes, her blood pressure fell to 145 mm. Her anemia left and she had more strength, appetite and an absence of the prickly sensation in her feet.

The condition of anemia is often helped by diathermy, which results in gently heating the bones. This is higher frequency treatment than the violet ray. The spleen and abdomen are also warmed by the diathermy.

Another application of electricity in heart and blood conditions is the use of current to treat aneurysms. These are bulges in the blood vessels carrying blood. When they rupture, the patient may die from internal bleeding. In 1847, a medical thesis showed that a positive needle electrode applied to aneurysms could produce coagulation and strengthen the cell walls. The negative electrode does nothing.

In 1849, Joseph Petrequin inserted four needles into a fist-sized aneurysm. After applying current for 16 minutes the tumor was hardened and the needles were removed. Three days later the aneurysm was shrinking. After two weeks, the patient regained relatively normal leg movement.

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## 46. ELECTRICITY IN BREATHING

"Before I conclude, I would beg one thing (if it be not too great a favor) from the gentlemen of the faculty, and indeed from all who desire health and freedom from pain, either for themselves or their neighbors. It is, that none of them would condemn they know not what: that they would hear the cause, before they pass sentence: that they would not preemptory pronounce against electricity, while they know little or nothing about it. Rather let every candid man take a little pains, to understand the question before he determines it. Let him for two or three weeks (at least) try it himself in the above-named disorders. And then his own senses will show him, whether it is a mere plaything or the noblest medicine yet known in the world."

*Desideratum* John Wesley 1871

The cells that line the nose are exquisitely sensitive to odors. Dogs are even more sensitive and a good bloodhound can follow a trail that is several days old. Unfortunately the great sensitivity of the nose leads to sensitivity to pollens and allergens.

When we get sick, we catch a cold. The violet ray produces warmth, and vigorous use of it breaks up the chill and aborts the cold. It is applied over the upper spine and over the solar plexus. When the vacuum bulb is inserted into the nostrils it promptly relieves congestion and in many cases completely aborts the cold. Ten-minute treatments are given at three-hour intervals until the cold is gone.

A man caught a cold and sore throat. He rubbed the violet ray over the throat and it neutralized the soreness so it didn't bother him. Using the device over his nose, he was able to hardly feel the cold. He did this several times a day for 10 days, until the cold vanished without being felt.

Rhinitis is a catchall term for inflammation of the nasal passages. It usually becomes worse after meals and at night. There is mucus, hacking, spitting and coughing to get rid of the discomfort. The closed nose often leads to snoring. Sometimes the cause is unknown, but often it is pollen and air pollutants.

A short flat electrode is placed in the nose and the current turned on. In position, the current is slightly increased. The treatment requires care, and patients are easily frightened of it.

Enlarged tonsils lead to poor breathing and indicate infections. A woman had severe tonsillitis. A specially constructed electrode was pressed into the mouth of the patient. When the violet ray was applied to the surfaces of the tonsils, they shrank to normal in a week. Her cough subsided and expectoration was minor.

Coughs are treated by pressing the tip of the glass electrode deeply into the sternal notch on the front of the neck. The current is increased and the patient is asked to do a series of swallowing movements. This is also used to treat loss of voice or hoarseness.

In 1817, Dr. Wilson Philip wrote a paper on electricity as a treatment for asthma. He applied one electrode to the back of the neck and the other was put over the stomach. When the patient said his breathing was easier, the treatment was over. This generally took 15-20 minutes. Treatment was given daily for 8-10 days.

Some early work was done with treating hay fever with direct current. A salty pad was put over the sacrum in the lower back and another salty pad was held over the seventh cervical vertebrae on the lower neck. The current was turned up until it was as much as could be comfortably stood. In about three minutes, breathing became free and easy. After nine treatments, the man was able to sleep and work normally.

Zinc ionization treatment was the outcome of the work of Stephane Leduc. The nostrils were cleaned before treatment and sometimes an anesthetic was used in the nose. Strips of gauze were soaked in a weak solution of zinc sulfate, and a zinc needle was wrapped in cotton and put into the nose. As the current was turned on there was a metallic taste and saliva flew freely. The mucus membrane turned grayish and remained so for several days. The nasal passage swelled and then shrank. A week after treatment, the passage was clear and completely open. Generally one nostril was treated at a sitting.

A 35-year-old printer had severe suppurative sinusitis for six years. He refused surgery and was unable to work. There were polyps in the nose. After zinc ionization treatment, he was able to return to his regular job.

An 11-year-old boy had a history of rhinitis for years and he wasn't allowed to go swimming or camping. Both nostrils were treated a week apart. After zinc ionization he was able to go to Boy Scout camp to swim and hike.

An 11-year-old girl had her tonsils and adenoids removed when she was five. She had a constant nasal discharge and frequent colds. After a single treatment she was free from colds all winter and had perfect school attendance.

Doctor Arthur M. Alden treated 19 cases of hay fever in 1933. He used the zinc ion treatment and every case had near perfect relief for the entire hay fever season. In many cases the nose would become completely blocked a few days after treatment. But in about four days the membrane loosened and was expelled. The nose would be red and sensitive for a few days, then returned to normal.

Alden studied his previous year's group of hay fever patients. Two showed hay fever symptoms, and they were given another treatment and then were normal throughout the hay fever season. Six showed mild hay fever symptoms at the beginning of the season, but the rest of the people were completely normal.

Alden treated 41 people the next year before the pollen season began. There were nine failures, but when they took a second treatment they were completely relieved. He found that the patient's age or the duration of symptoms had little to do with success or failure. More than half of the patients were completely free of hay fever during the next season. Microscopic study of the nasal tissue showed no evidence of damage following zinc ionization.

Manufacturers sold violet kits with an electrode for applying over the nose and another electrode for putting in the nose. After a five-minute treatment, the burning in the nose begins to abate and the patients breathe easier. Practically every patient with hay fever could be improved.

A woman suffered from hay fever for nine years. She would use 10 handkerchiefs in a morning. She would normally sleep badly, but after violet ray treatment she slept well. The violet ray also darkened her premature gray hair.

One curious way of treating hay fever was to run the violet ray over the vertebrae from the back of the nape of the neck to the bottom of the spine. The first 131 cases treated this way showed that nearly 85% received more than 50% help with the disorder. This worked just as well on asthma as it did on hay fever. In this series of cases, 25 people were more than 90% improved, and 33 were over 70% improved.

Violet ray treatment was occasionally combined with ultraviolet treatment in the nasal passages. A special quartz rod was inserted into the nose and ultraviolet light was given for about 20 seconds. This produced mild sunburn in the nose. One doctor treated 14 cases of hay fever in 1919. The result was the same in every case; the treatment completely cleared it up.

The combination treatment was useful in combination disorders. One man had severe asthmatic attacks with the hay fever. Medical treatments failed to help him. After violet ray treatment he had only mild trouble during the hay fever season.

A high school principal had hay fever for 18 years. Every year it got more severe and it degenerated into asthma. He was unable to sleep lying down for the past eight years. He had to avoid the slightest draft, and the hay fever season was pure torture. After the first treatment he was able to sleep soundly without waking. He took two treatments daily for two weeks. The next year he took five treatments and this gave him complete relief. The third year he didn't need to take any treatments.

Violet ray manufacturers saved their customer's testimonials. A Marvel Violet Ray one read: "My wife has asthma and we have been using your violet ray and she is getting so much better that we do not want to do without it." Granville Holden wrote a testimonial for the Violetta. "I used violet rays for asthma and I got such wonderful relief I wouldn't part with my Violetta for any money."

Many violet rays came with an ozone generation attachment. One testimonial read: "My son had chronic bronchial asthma. Every time we had rainy or foggy weather these attacks came on. He could scarcely breathe. Since taking Renulife Ozone treatments he has not been troubled with asthma and I find his breathing is so much better."

An ordinary violet ray generates small amounts of ozone. Henry Bordier showed that the amount is so small, that it is practically useless. Thus, the glass bulb was combined with a metallic rod with a number of radiating points, so considerable amounts of ozone were produced. Violet ray manufacturers sold these special attachments.

The ozone attachment proved to be useful in infected wounds and the sinus passages. If the breath is foul smelling, it may indicate infection by the wrong bacteria. A brief treatment with ozone will eliminate the infection and restore the breath to normal. The pain and odor of skin and breast cancer is quickly reduced with an atmosphere rich in ozone. Ozone was also used in ear infections.

Around 1920, a peculiar type of therapy for treating phobias and neurological problems was common in France and Spain. It was known as centrotherapy. In back of the nose there is a nerve plexus where the nerves join. When this junction is stimulated, often phobias and fears leave after a few treatments. In 1976, an article described electrical stimulation of it with a pulse voltage with a duration of up to 5 milliseconds. The use of violet ray treatments to this area is worth considering.

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## 47. THE VIOLET RAY IN TUBERCULOSIS

"The treatment by moderation effluvation exercised a favorable influence on the progress of tuberculosis. When the treatment was more intense the benefit was more marked. Autoconduction was, as a rule, less efficacious than the effluve in moderate doses. The association of autoconduction and effluvation did not increase the effect of each separately. The influence of high-frequency treatment was even manifested, although in a lesser degree, when the treatment was delayed until after the appearance of enlarged glands above the site of inoculation. The effluve in moderate doses seemed to attenuate the severity of the lesions. The treatment had no effect on the enlarged glands. Although the effluve in these experiments seemed to exercise a beneficial influence on the evolution of the disease, it did not prevent its generalization."

Albert Lagriffoul 1900

The great fear of the 19<sup>th</sup> century was tuberculosis. The germ produced internal bleeding and a great deal of coughing. The disorder was contagious and family members might catch it while they nursed the sick. Tuberculosis caused a slow difficult death.

There are some 30 different forms of the tuberculosis germs. There are three major types designated as **B**, which infects Europe and North America; **A** infects people in Africa and China; and **I** attacks people in India. The germ can infect any part of the body, but the most common location is in the lungs. People don't have symptoms until the advanced stages. Then they feel fatigue, weight loss and lethargy. During the 19<sup>th</sup> century in England, it caused 20% of deaths.

The disorder was called scrofula, phthisis or occasionally white death. In 1839, J.L. Schonlein, a professor of medicine at Zurich, suggested that "tuberculosis" be used as the generic name. Swellings or "tubercles" were the fundamental anatomical basis of the disease.

The poet John Keats provides a typical story of tuberculosis. In 1819, his brother Tom died of tuberculosis. In 1820, he took a short trip in cold snowy weather and then went to bed, when he suddenly tasted blood in his mouth. He remarked: "That blood is my death-

warrant. I must die.” He was 24, and he remembered his mother and brother dying of tuberculosis. In a desperate attempt to save his life, he moved to Naples, Italy. He spent time outdoors and rode on horseback. A high fever sapped his strength and he couldn’t do much. Three months later he died peacefully in his sleep. An autopsy showed that his lungs were completely destroyed.

It was believed that clean air and rest cured the disease, so sufferers were sent to sanitariums in hopes of being cured. The Danish doctor Niels Finsen worked with facial tuberculosis, and was able to heal it with concentrated light. Lying in the sunlight probably cured the people sent to sanitariums. Ultraviolet light stimulated the antibacterial activity of the blood.

William Morton attempted to cure tuberculosis with a special static machine. His Morton wave machine produced a pulsed static current. The patients did seem to get well, and 44 out of 80 people recovered.

Emmanuel Doumer injected tuberculosis germs in guinea pigs and then treated them with the violet ray. It was not a cure, but the guinea pigs didn’t rapidly get worse and die.

In 1895, Jacques-Arsène d’Arsonval and Albert Charrin found that high-frequency currents at 200,000 hertz diminished the strength of diphtheria toxin without an elevation of temperature. When the toxin was injected into guinea pigs there was less reaction. They also found that cobra venom lost its power when subjected to high-frequency currents.

Albert Lagriffoul and Joseph Denoyes of the Montpellier faculty of medicine did an exhaustive series of experiments on the action of high-frequency currents using guinea pigs with tuberculosis. Denoyes used a brush effluve, which retarded the disease but didn’t stop it. The poor results may have been due to the weak equipment used.

Doctor Gustav Reus discovered that high-voltage electrical currents were capable of driving medicinal agents into living tissue. He treated a number of tuberculosis patients by painting their skin with sodium cinnemate and cresol. He used violet ray equipment and observed a steady diminution of fever and night sweats in most of his patients.

John Burch made a series of experiments of agents that would kill the tuberculosis bacteria. He found that cinnamon oil mixed with oil of turpentine would destroy most organisms. He painted the mixture over the area and applied the vacuum electrode over the area for 5 to 10 minutes.

In 1899, Nikola Tesla passed a high-frequency current through tuberculosis germs in a test tube and found it killed them. Several newspapers reported that Tesla had cured pulmonary tuberculosis with electricity. He did not test his apparatus in humans.

In the same year Paul Oudin and Emmanuel Doumer reported on people who had a remarkable help from tuberculosis by the violet ray. The disease apparently disappeared in a number of people. Doumer didn’t have a very powerful apparatus, and felt that this was why the treatments weren’t more successful.

Doumer’s first case in 1896 was a maid who suffered from a mass on the wrist and clear signs of tuberculosis. He used the violet ray to remove the growth on the wrist, so he decided to try the violet ray over the chest. The patient was coughing a great deal in the evening and had night sweats. After a month, the night sweats began to leave and the cough was less. In three months, the woman could eat nearly everything, but crackling noises could be heard in her breathing. She continued to be treated and by the end of the year she was apparently cured.

The next person to come to Doumer was a 28-year-old teacher with advanced pulmonary tuberculosis. She had been coughing for seven months and was very thin. He gave her three treatments a week for about 10 minutes each. After two weeks there was considerable improvement. Her fever was lower, the coughing less frequent and the appetite returned. She stopped treatment after three months, and then returned six months later. This time she had bronchitis after a severe bout of the flu. The violet ray cleared up the lung condition.

Other doctors began to try the violet ray on cases of tuberculosis. An 18-year-old boy was pale and anemic with swollen neck glands. After 12 treatments over his body, the healing was rapid and healing continued after violet ray treatments stopped.

A seven-year-old boy had large swellings of the glands on his neck and a severe cough. Violet ray therapy was started in May over the swellings and the chest. In three weeks there was great improvement and in two months the cough was nearly over. He ate and slept well with only slightly swollen glands. He went on vacation in May, and when he returned, violet ray treatments were given irregularly. By October, there was almost no sign that he had tuberculosis.

A young woman had tuberculosis of the lungs and larynx. She had no voice and was unable to swallow anything but liquids. She was treated with X-rays once a week, and ultraviolet light and violet ray treatments were used over her chest and neck.

After three weeks her voice returned and she was able to talk over the telephone. In three months the ulcer in her throat healed and she was able to eat everything. She stopped the treatments, and then began to grow worse.

A young man was sent to a famous resort for curing tuberculosis. The disease steadily got worse, and it looked as if he would certainly die in a few months. There was great expectoration and profuse night sweats. Violet ray treatments were begun and the patient didn't feel as weak. He continued to improve, and soon he was able to lead a normal life.

A 22-year-old woman was very emaciated and unable to walk. She constantly coughed up great mass of yellowish putrid expectoration every day. She was unable to sleep and was rapidly losing weight. Her family expected her to die in a few weeks. She was treated with the violet ray all over the chest and back. There were daily treatments lasting 20 minutes. The cough lessened and the secretion was greatly reduced. Now she was able to sleep and began gaining weight. After a month of treatment, she gained 10 pounds and was able to do housework. Six months later, Dr. Hiram H. Seelye met and failed to recognize her, until she introduced herself.

A 17-year-old woman suffered from increasing weakness, with night sweats, coughing and bleeding. Her previous doctor was treating her for a supposed stomach ulcer. After a few days of violet ray treatment, there was remarkable improvement and she began to gain weight. The treatment cured her, she married and had a family.

Dr. Chisholm Williams wrote the first systematic treatise on electric treatment in 1901. Williams treated 43 cases of pulmonary tuberculosis of which 32 were apparently cured and had no problems over an 18-month period, 8 cases were still being treated, and 3 who died from pneumonia and kidney disease. People lost their cough and expectoration with the violet ray treatment. The tuberculosis germs disappeared, but in a few cases germs could be found after the treatment had stopped.

The treatment resulted in general stimulation of the appetite and digestion. There was less variation in temperature, but after the third day the evening rise of temperature was greater, and the morning temperature fall was less. After a few treatments the patients often complained of pain or an uncomfortable feeling. After about three weeks of treatment, the weight began to steadily gain.

Williams treated several case of lupus vulgaris, which is tuberculosis of the facial skin. The patches began to swell and the secretions stopped. An eight-year-old girl had a patch of lupus vulgaris for three years. After 28 ten-minute treatments. most of the scars and swollen areas were gone.

A 32-year-old woman had developed tuberculosis at the age of 21. She had been treated with lotions, caustics and the Finsen light. The violet ray was applied for 10 minutes twice a week for four months. She slowly improved, and the whitish scars began to disappear.

Tuberculosis was never conquered in the way that many infectious disease of the 20th century were vanquished. It was very resistant to antibiotic treatment lasting many months, and sometimes years. We basically conquered it by testing all the cattle and slaughtering the infected ones. The infectious reservoirs were reduced. When AIDS began to plague the cities in 1990, resistant varieties of tuberculosis began to return.

Doctors were perplexed with the drug-resistant tuberculosis germs. They didn't know what to do, and all they could think of were new antibiotics being developed by the drug companies. Nobody seemed to remember the past when ultraviolet light and the violet ray were shown to be safe and effective treatment.

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## 48. THE VIOLET RAY IN GYNECOLOGY

"High-frequency treatment will make you feel young, glowing with health, full of energy and enthusiasm. The effects are most invigorating and stimulating—and it's a job you can provide at very small cost. The everlasting usefulness is only one of the great advantages. The pages you have just read indicate how this high-frequency generator can be beneficial to you—pain, run-down condition and non-active unhealthful body cells just can't resist the searching rays of this helpful device."

*Electricity and Health* author unknown

"When daily treatments are given for fifteen minutes we generally observe the following modification in the condition of patients. Return of improved sleep. Increase of strength and vital energy. Increase of cheerfulness of power for work and ability to work. Improvement in appetite, digestion, etc. Increased oxygenation of the blood. Increase in arterial tension. Progressive improvements in the general function."

Fernand Berlioz 1900

Georges Apostoli had been the great leader of electricity in gynecology. He used a variety of techniques with direct current in treating uterine fibroids. These often reduced pain and discomfort, but the treatment rarely cured the problem. By the turn of the 20<sup>th</sup> century, almost all doctors had given up on a therapy which didn't work well. New therapies such as the violet ray were just coming into use.

August Tripiet was known as the father of French electrotherapy. In 1883, he published *Leçons cliniques sur les maladies des femmes; thérapeutique générale et applications de l'électricité à ces maladies* (The Application of Electricity to Women's Problems). He recommended general faradisation with baths and exercise.

A mature woman presents an interesting picture of changing bioelectrical currents. Harold Saxton Burr did studies of the changing bioelectrical currents in the menstrual cycle. Normally the right index finger is 70 millivolts positive with respect to the left. In a few women the voltage difference was reversed. Burr made finger to finger tests on 14 women over several months. During menstruation there was little

voltage difference between the two index fingers. A pregnant woman showed little change in the polarity of the index fingers for several months.

For centuries, doctors didn't know at exactly what point in the menstrual cycle ovulation and a resulting period of fertility occurs. The first good studies on this were done on this during WWI, when a soldier might have only a single day of leave to spend with his wife, and then it was back to the front. There is a big increase in positive polarity between the 14th and 17th days. Just before ovulation the voltage suddenly increases, and then it drops. Ovulation is always accompanied by a considerable voltage surge.

Burr's studies are of special interest in regard to the earlier work of Arthur Baines. He had found that the voltage differences between the hands were often an indication of depression and of low vitality. He used very odd methods of increasing the voltage difference, such as holding a magnet in the left hand and a hardened carbon rod in the right hand. The medical community ignored his work, even though it is clear that many women have problems with vitality and depression.

There are few good studies on woman's problems in the electrotherapeutic literature. There are many individual mentions without a real study. An example is a woman who suffered from severe itching of the vulva for weeks. The itching proved to be a result of diabetes and high sugar levels in the urine. After four weeks of autocondensation treatments and glass vacuum electrode treatments, the itching was eliminated.

Frederick Strong was the inventor of the glass vacuum electrode, which was the defining development of the violet ray. He tried treating cancer of the uterus with an internal vacuum electrode and several waveforms. Manufacturers made a special glass electrode to treat the uterus. They also made special medical violet rays with a return electrode, which could be placed over the fibroid. This enabled a greater current to be applied to the area.

Strong didn't mention individual cases of cancer, and it is unlikely that he was successful. He did believe that the violet ray was successful in sterility. It stimulated the uterine and ovarian function and served as a tonic for the reproductive system.

Paul Oudin also believed that glass vacuum electrode treatment would stimulate fertility. He treated a woman for three months who had 10 years of sterile marriage. She became pregnant within the year. He believed that the treatment cleared up infections and could be used in gonorrhoea. In 1897, he reported that he had treated gonorrhoea at the Infirmary of Saint Lazare.

A woman got gonorrhoea from her husband. She was confined to bed suffering severe pain and hemorrhage. She had to be carried into the office and took daily violet ray treatments. The pain subsided after the third treatment. This was done until there was complete relief of all pain and discomfort. A microscopic examination showed that she was free from the gonococcus bacteria.

A 35-year-old woman went to an eminent Canadian doctor for endometritis. The doctor used carbolic acid washes and direct current. This gave her some help, but the pain returned and was so severe that she was unable to walk or find enjoyment in life. After seven treatments with the violet ray, the pain disappeared. The treatment continued and soon she was sleeping normally and was able to walk up to two miles at a time.

A 26-year-old woman suffered from pain and nervousness during her menstrual period. She was treated with the Morton wave current in the vagina. She took a series of treatments, and by the next period, was astonished that she had no more pain.

A woman suffered for more than a year from painful irregular menstruation and a nervous condition. Both ovaries were cystic and swollen to five times normal size. The doctor wanted to operate, but she wanted to try the violet ray. After 8-10 treatments there was marked improvement. After two months her condition was much better.

Many women responded to violet ray treatments in painful menstruation, amenorrhoea and endometritis. After a treatment with the violet ray, a woman with amenorrhoea for three years had the menstrual cycle restored. Another woman suffered from extreme nervousness and a blocked menstrual cycle. By the third treatment it had returned. She took treatments a day before the expected menstrual cycle; they remained normal and regular.

A woman suffered for 30 years with endometritis and ovarian pains. After three treatments the pain disappeared when the violet ray was applied. Another woman suffered from sharp pains in the left side. After violet ray currents the pains stopped after the first treatment. It was cured after the third treatment.

In 1916, Dr. Nathan Rosewater reported that he was able to treat uterine fibroids with a glass vacuum electrodes. Large uterine fibroids subjected to a prolonged weekly treatment or even a monthly treatment were followed by decided reduction in size to restore to normal function.

A doctor told a woman that she had to have a hysterectomy for uterine fibroids. Her friend brought over a violet ray. The fibroids could be felt, and the violet ray was pressed into the area and operated until the area became warm. Then it was pulled away until it sparked. The fibroids diminished in size, and she didn't need the operation.

A woman suffered excruciating pain in the left ovary with an enlarged uterus. The cervix was turned upward and pressed against the bladder, which caused a constant desire to urinate. A glass electrode was inserted and the treatment was given daily for a half-hour at a low level. The relief of pain was apparent from the start, and a tampon saturated with a 10% solution of ichthyol mixed with glycerin was used. After three months of treatment, the uterus was in the proper position and everything was normal.

Leucorrhoea is an infectious condition of the vagina. The violet ray was used to treat this and cervical erosion. A vaginal vacuum electrode was used for the treatment. There were even electrodes made for inserting into the bladder to treat cystitis.

A woman had constant pain over the bladder and pain in the sciatic nerve. Physicians diagnosed her case as "catarrh of the bladder." The electrotherapist treated her with a Morton wave current over the sciatic nerve. This relieved the pain somewhat. Then violet ray treatment was used and after a few treatments there was great relief from irritation of the bladder.

A woman suffered from the tortures of cystitis for four months. She went to a doctor for hemorrhoid treatments. The violet ray treatment quickly cured her hemorrhoids. The doctor then inserted

a slender electrode into her bladder and applied current for 15 minutes. The next day the doctor had a phone call. The woman remarked that for the first time in months, she slept nearly all night and could urinate without pain. The pain did return somewhat, but after 20 treatments she was cured.

A 39-year-old woman lost her father to Bright's disease. She had several miscarriages, and during pregnancy there was albumin in the urine. She was given 10-minute treatments with a glass electrode over the spine, liver and kidney area. After eight treatments, there was only a trace of albumin in the urine.

A woman suffered from congestive headache with insomnia for nine years. She went to two nerve specialists without help. Then she used violet ray treatments which enabled her to sleep for several hours and then finally a whole night. A third treatment relieved her headaches and with continued treatment, the headaches didn't return.

A 32-year-old woman worked long hours in the publishing industry. She had a nervous breakdown and was subject to frequent crying spells. She couldn't close her hands and was unable to walk without falling down. She was given violet ray treatments over the spine and the top of the neck for three times a week over a three-month period. This greatly improved her health.

The violet ray was used to treat some breast conditions. It was moved from side to side and also from armpit to armpit under the musculature curve of the breast. It was claimed that this would stimulate a flabby breast and produce a healthy curve.

A woman had cancer of the breast and was advised to have another operation. She had so much pain that she felt helpless and unable to go on. Twelve violet ray treatments removed the pain and restored her general health completely.

A woman had both breasts removed with cystic disease. This resulted in more or less constant pain. She took violet ray treatments for ten weeks and the pain didn't return.

A 22-year-old woman had a swelling in the left breast as large as a duck's egg with neuralgia of the whole region. Two doctors advised an immediate operation, and the third doctor advised X-ray treatment. She decided to try relieving the pain with high-frequency sparks.

After the third treatment, the pain had largely disappeared. After 27 treatments, the volume of the breast lump was reduced from a large egg to the size of a pigeon's egg. The volume of the tumor slowly continued to diminish.

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## 49. ELECTRICITY IN DENTISTRY

"Electricity has been by no means fairly treated as a therapeutic agent, for it has either been exclusively referred to when all other remedies have failed – in fact, often exclusively, or nearly so, in hopeless cases – or its administration has been carelessly directed, and the mandate: 'Let the patient be electrified,' merely given, without reference to the manner, form or mode of the remedy being for an instant taken into consideration. Conscientiously convinced that the agent in question is an energetic and valuable remedy in the treatment of disease, I feel most anxious to press its employment upon the practical physician, and to urge him to have recourse to it as a rational but fallible remedy, and not to regard it as one capable of effecting impossibilities."

Golding Bird 1848

The first attempt to use electricity in dentistry came in 1858, when Jerome Francis announced that he discovered a way of producing local anesthesia. The patient held onto positively wired handles, while the dentist used a negatively charged forceps to pull teeth. After a few initial successes, it became obvious that it really didn't work.

Three different people claimed to have discovered ways of producing electrical anesthesia with direct current, and a legal battle began. A commission was appointed by the dental society and they studied 65 patients treated with electricity. The commission found no difference between the three methods, and no real help in relieving pain.

In doing root canals and other surgical work, there is always a danger of infection. Nouel published a method of root canal sterilization. A copper or silver wire was inserted and a current was passed for 10 minutes. The small amount of metal sterilized the area without affecting healing.

In 1891, Nikola Tesla did his spectacular demonstrations to the American Institute of Electrical Engineers, and authored a paper on therapeutic high-frequency oscillators. Foveau de Courmelles and Albert Charrin were the first to study the violet ray for dentistry. They noted that it reduced the toxicity of bacteria, and they wanted to control the germs of the mouth.

Paul Oudin produced the first practical violet ray, and in 1893 he and Ludger Cruet did a demonstration of the sensibility of teeth after the violet ray was applied with a suitable electrode. Dr. Cruet did quite a few extractions without anesthesia. He put a wad of cotton soaked in salty water over the area. Then a strong high-frequency current was applied to the tooth for about five minutes.

A study was done on dental anesthesia with the violet ray. In 15 cases of tooth extraction, there were 13 cases of complete anesthesia. In 29 cases of multiple tooth extraction, there were 12 cases of complete anesthesia and 11 cases of relative anesthesia. It didn't work in six cases. The dentists felt that a lack of anesthesia was due to bad contact with the teeth or jaw, or the current was too weak.

A woman had two teeth pulled; one with cocaine anesthesia and the other with the violet ray. She felt that the most disagreeable experience was the cocaine, because of the needle injection.

A dentist could do about five minutes of painless work on the front teeth and from 1 to 8 minutes on the other teeth using only electrical anesthesia. In 1897, Jacques-Arsène d'Arsonval spoke to the International Society of Electricians. He noted that high-frequency currents reduced the sensitivity of the surfaces that they touched. Minor operations or work lasting up to 15 minutes could be done.

In 1900, Frederick Cook read a paper to the Massachusetts Dental Society. He found that violet ray equipment could treat pain and congestion. The electrode was applied over the gums and a strong current was used to treat pyorrhea.

In 1901, Dr. Henry Didsbury and Louis Regnier reported on their work in Paris. They found that the high-frequency currents stimulated vitality and produced local numbness. They had good effects in treating pyorrhea and other gum diseases. They obtained enough anesthesia using the violet ray, that they could do most dental work without anesthetics. It was not so successful in deep extractions.

A woman had pain and partial ankylosis of the lower jaw, which extended over the right side of the face and neck. She was unable to separate her teeth more than a quarter of an inch. She was advised to have an operation, but she didn't want it. The electrotherapist applied a glass vacuum electrode to the entire right side of the face and neck for 10 minutes a day for seven consecutive days.

The doctor received a letter three weeks later: "Dear doctor: I am so pleased to tell you that I have improved so much since I came home. I can open my mouth to the full extent and can swallow without any trouble. There is some pain in the back of my neck and through the lower jawbone. I can chew and swallow meat and this is something I have not been able to do for six months. I have great faith in this treatment and intend to take some more as soon as I can see my way through. Yours with respect, Mrs. T."

Some dentists found that they could use violet ray therapy for temporary relief until they could do the dental work. A 30-year-old woman came into an office crying convulsively with a toothache in the upper molars. The pain radiated through the branches of the trifacial nerve. She was treated with the violet ray for about 15 minutes. When she was able to have the dental work done, there was no toothache and her nervousness was entirely gone.

The X-ray was a huge revolution in dentistry, and every dentist wanted one. In 1903, Dr. Charles Parker began treating pyorrhea with X-rays on 24 patients. This really didn't do much of anything. Then he tried following up the X-rays with violet ray treatments. He began by cleaning the mouth thoroughly and lancing the pus pockets if needed. Then he sprayed a mixture of myrrh, wintergreen, iodine and aconite on the gums. He used a curved glass vacuum electrode over the gums. After a few treatments there was a remarkable improvement in the appearance of the gums.

A woman had a full upper plate with 10 loose lower teeth. These were very sore, and there was hard calculus around the roots with pus oozing from each tooth. Seven days after the first treatment, the gums were hugging the teeth and there was no pus. After another week the gums turned a healthy pink and the teeth were firm.

For years, a 45-year-old mining engineer had a discouraging case of pyorrhea. Charles Parker used a combination treatments, and after three treatments the teeth began to improve. After seven treatments the gum turned a healthy pink and the teeth were solidly in place.

It wasn't apparent to dentists in the early years of the 20<sup>th</sup> century that X-rays damage the tissues. The first practical ultraviolet light generators had just been invented and dentists begin to use ultraviolet

light applied to cause mild sunburn to the gums. When this was combined with the violet ray treatment it often had remarkable results.

One patient had severe pyorrhea of the right lower jaw combined with trigeminal neuralgia. He wanted all of his teeth extracted. The dentist began with a treatment with ultraviolet light and followed it with the violet ray. The gums started to heal. A year later, the patient walked into the dentist's office and cracked a Brazil nut with his teeth in front of the dentist.

A woman suffered from severe pain in the teeth, which kept her awake all night. The dentist told her that she suffered from advanced pyorrhea. The first violet ray treatment removed the pain. The next day the gums were paler and lost their angry red look. She took 10 treatments in 17 days, and suffered no more pain for the next two weeks. During her next visit, the dentist wrote: "Looking healthy and a good color; teeth firmer than before the electrical treatment; think they will grow still firmer."

Tannic acid was used to harden and firm up the gums by some dentists. One dentist made a mixture of tannic acid, iodine and glycerin. This was painted on the gums and then the violet ray electrode was applied 14 minutes. He had remarkable results in turning diseased gums into healthy gums.

François Morel invented "alto-frequent effluvation," combining a medical solution with violet ray treatments. He mixed sodium fluorosilicate, ammonium chloride, bromine salicylate and potassium chloride. The teeth and gums were wiped with a cotton pad and then violet ray treatments were applied.

Two companies made equipment for dental treatment. The "Victor Gem" and "Invictus" units put out sufficient power to treat the gums. Dentists used the devices to perform painless extractions. After the violet ray was directed to a single area, about five minutes of painless dentistry could be done. Teeth that were too sensitive to touch could easily be operated on after the high-frequency currents were applied. They were often able to tone up the gums and save the patient from getting false teeth.

Many dentists made favorable comments. In 1915, Sinclair Tousey remarked: "The results are very prompt relief of pain and improvement in the ulceration [of the gums], so that in three weeks the dentist almost always reports that the teeth are better than for six months previously. The teeth gradually tighten up and the tenderness disappears."

Luigi Arnone wrote articles about the treatment in Italy. He remarked: "In every case it produced marked beneficial effects. The gums toned up and look healthy and hard in a short time. The pus ceased more rapidly than before and the teeth firmed up quickly."

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## 50. ELECTRICITY IN ARTHRITIS

October 23, 1804 “[My wife] is surprisingly recovered. Electricity is the wonderful cause.”

December 18, 1804 “My wife continues well, thanks to Mr. Birch’s Electrical Magic, which she has discontinued these three months.”

William Blake, writing of his wife, suffering arthritis and swollen legs

“Now Albion’s sleeping Humanity began to turn upon his Couch,  
Feeling the electric flame of Milton’s awful precipitate descent.”

*Milton* William Blake

John Wesley was the first known person to treat arthritis with electricity. In 1756, he wrote in his diary: “Having procured an apparatus on purpose, I ordered several persons to be electrified, who were ill of various disorders: some of whom found an immediate, some a gradual cure. From this time I appointed, first, some hours in every week, and afterwards an hour in every day, wherein any that desired it, might try the virtue of this surprising medicine.” He treated thousands of people with his static machines in two clinics for poor people in England. Many claimed relief from gout and arthritic conditions.

Wesley describes a case of arthritis in his 1871 *Desideratum*: “William Tyler, was seized with rheumatic pains, chiefly on his right side, so violently, that he was helpless as an infant, and was frequently constrained to shriek out, like a woman in labor. I came before nine. After the second shock he felt some change, after the third he was able to raise himself a little. After two more, he rose and walked about the room, and before noon he was quite easy and well.”

A U.S. Navy lieutenant suffered from severe lower back pain. He got a copy of Carlo Matteucci’s *Traité des phénomènes électro-physiologiques des animaux* published in 1844. He used a battery and put the positive pole over the lower back and the negative over the crural nerve of the leg. After a half-hour of direct current therapy, he was able to rise and dress himself. A second application reduced the pain so much that he was able to take a walk.

Samuel Monell seated patients on an insulating platform and connected his static machine to the negative pole with the positive pole grounded. He began with a mild spark and increased it until good results were secured. Often the patient could step from the platform without pain.

He once treated a 27-year-old woman with arthritis in her ankle, knee and shoulder. She was nearly an invalid for the past five years. She had the best medical treatment but nothing worked. She stepped onto the static platform and he applied a hot negative spray to the spine, the neck and upper chest. She began to straighten up and soon she could take a deep breath. After two minutes, she was able to walk normally with a sense of warmth and comfort. After three treatments, she was almost normal.

Static currents were used to treat an army soldier thrown from his horse. It felt like his hip was broken and he suffered greatly and couldn’t sleep at night. He was treated with a static wave current and sparks from a static machine. This gave him relief from the severe pain. When he leaned over, the pain returned. The next time the electrotherapist treated him with a powerful beam of light, and this relieved all of his pain.

A leather manufacturer heard a loud click when he got off a streetcar. A week later he sprained the joint and there was severe pain. He couldn’t walk. After two treatments of static wave current, he was able to straighten up the limb and move about without pain. After six treatments, his knee was so improved that he could flex his legs and live normally.

In 1901, a young man fell on his hand in a gymnasium. The swelling and pain were so great that he couldn’t close or use the hand. X-rays showed that there was no fracture. The static brush current was applied to the back of the hand and the problem healed up.

Stephane Leduc was able to treat some painful movement conditions with electrical ions. A woman fractured the neck of the femur two years earlier and she was unable to raise her foot from the ground. He treated the area with six applications of sodium salicyclate ions at a current of 60-80 milliamps for half an hour. After treatment she was able to raise her foot and sit on her heels.

A young soldier had complete ankylosis of the finger after an infection. A military hospital treated it for six months without help. After using an electrical solution of sodium chloride for 30 minutes he recovered normal finger movement.

Charles Eddy suffered from arthritis when he was in his teens. He moved to Texas and began to work at the first electric power station in Galveston. His arthritis went away. He moved to a ranch in west Texas and his arthritis returned. He went back to working at power generating stations and his arthritis left. He found that it was a general belief among the workmen that the pulsing fields from the electrical dynamos cured their arthritis.

One doctor used a combination of the violet ray and ionization to treat arthritis. He had remarkable results in conditions like tennis elbow. He noted that after high-frequency treatments the patients often felt tired.

A woman fell from a bicycle and broke the tibia. The leg wasn't set properly and several operations had to be done to correct the damage. When it finally healed, the woman couldn't walk on the leg. After being treated with the violet ray, she was able to walk on it.

A policeman had rheumatoid arthritis in one knee, which steadily got worse, so he had to walk with a crutch. He was treated with ionization using iodine and lithium ions and the violet ray. After two months of treatment he went on a trial walk of 30 miles. Then he entered a race and came in second.

Albert Laquerriere and Georges Apostoli used high-frequency treatments in a number of cases of rheumatism. A woman was unable to stand or move her knee joints, which were bent at nearly right angles. Her illness began 28 years before, when she suffered from pain in the toes of the right foot. Two years later, the right wrist became swollen and stiff. When she was brought in for treatment, she was unable to walk or stand. With three weeks of treatment, there was little pain and the joints were more pliable. A month later, her doctor wrote: "Patient much improved. She can now raise herself from the bed. She can move her knee-joints with a fair amount of comfort, and she can grasp with her hands much better than on admission. Altogether there is great improvement."

Harold Gamlen treated a number of cases of rheumatoid arthritis. One woman was so crippled that it sounded like her mouth was full as she talked. After 60 treatments, the problem was gone and she was able to walk miles. Gamlen noted that all of his patients had been treated with many drugs without effect.

Dr. Gamlen treated a 41-year-old hat maker with rheumatoid arthritis and a lack of energy. She took the bath cure at Harrogate and Matlock, but her doctors finally said that she should prepare to be a "hopeless cripple." They treated her for four months without result. Then she took X-ray treatments, which resulted in a slight improvement. In May of 1902, she was hobbling around with two canes. She was unable to undress or get out of bed without help.

She was given 10- to 15-minute violet ray treatments three times a week with sparking of the limbs. At the end of five months, she was practically cured. X-rays showed that most of the beginning bone distortions were gone. Dr. Gamlen took her to his medical society as an example of a miracle.

A New York doctor suffered from rheumatoid arthritis for 20 years. He was unable to work, and his hands were twice the normal size. His hands were treated with the violet ray and with long sparks. The hands rapidly decreased in size and he was able to button his clothing.

A woman suffered from pain and tenderness with swellings in the joints of the hands and wrist. Her knuckles were enlarged and tender. She was treated three times a week. In five weeks the pain and tenderness had entirely disappeared and the swelling was hardly noticeable.

A young girl had acute arthritis of the left ankle joint with a large swelling circling her ankle and intense pain. After six violet ray treatments the pain and swelling disappeared.

A woman had an acute inflammatory condition of the right thumb. It was hot, swollen and painful. The violet ray produced good anesthesia. A healthy pink color followed each application. In two weeks there was complete relief of the local pain and swelling.

A 53-year-old woman suffered from rheumatic arthritis since the age of 15. All fingers of both hands were painful and swollen. She took 15 minute treatments on the first two days, which began to

relieve her. After 12 treatments, her arthritic hands were completely healed.

A 58-year-old man had painful joints on his hands. After the second treatment the pain disappeared. By the third treatment he could bend his joints. It took months for the hands to return to normal but the violet ray did miracles for him.

In 1983, Chinese doctors published a study of the treatment of 42 people with spasmodic torticollis. The neck movements are painful or there are spasms in movement. They used a locally made violet ray and applied the electrode to the acupuncture points GB 20, GB21 and LI 18. After about 10 minutes of treatment the patient was instructed to perform voluntary head movements. The treatments continued until the problem was gone. This cured 40 out of 42 cases and improved 2.

The manufacturers of the violet ray devices often printed glowing testimonials. "I was down in bed with lumbago, unable to move unless I got help from someone. After one treatment of the Renulife Violet Ray, I was able to get up the next morning. I have a machine at my home and would not be without it. I take great pleasure in recommending violet ray treatments to anyone who is afflicted with rheumatism or lumbago."

Another testimonial read: "I want to tell you what Renulife Violet Ray has done for me. It has put me on my feet after being a cripple for 14 years. At times I could not walk at all. I had rheumatism from my hips down to my feet. Everyone is surprised how good I can walk now – thanks to the Renulife Generator."

Handy Crump wrote: "I saw your machine in a catalogue. The Violetta has done wonders for me. Many traveling men who stop at my hotel, knowing my condition for two years and more, have asked me what brought me out and I take them upstairs to our rooms and show them the Violetta."

Claude Tiffit wrote: "I feel so thoroughly pleased with the results of the first day's use of the Violetta that I am herewith informing you that in one application of 15 minutes I was relieved of a rheumatic pain of two years' standing. I have not been entirely free from this pain until yesterday after using the Violetta."

Dr. C.M. Franson wrote: "I had a call to see an old lady 72 years old, who hadn't walked for one year. I gave her 20 treatments with the Violetta and now she gets up and walks about as well as ever. She was a victim of rheumatism. All the swelling left."

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## 51. THE VIOLET RAY ON GLANDS

“The key . . . to the understanding of the effects of the currents of high frequency is to remember that they can be made to exercise a manifold action: to increase metabolism, allay sensibility, stir up the sympathetic system of nerves, and increase or diminish the functions of glands, tone up unstripped muscular fiber, and incidentally act as a general tonic.”

*The Use of Currents of High Frequency in Diseases of the Digestive Organs*  
George Herschell 1904

“They [high-frequency currents] promote heart action and digestion, induce healthful sleep, rid the skin of destructive exudations and cure colds and fever by the warmth they create. They vivify atrophied or paralyzed parts of the body, allay all kinds of suffering and save annually thousands of lives.”

Nikola Tesla

The glands pour their secretions into the blood and influence the whole body. Most of the glands lie deep within the body and we cannot influence them readily. A few are close to the surface and these are easily treated.

We notice the thyroid because the throat enlarges when it doesn't have enough iodine. If we are always tired and overweight, it may be due to a lack of activity of the thyroid gland. If it is too active, we may be lean and restless. Most goiters came from a lack of iodine, but some goiters came from polluted water.

The violet ray often worked well for treating simple goiter. One user wrote to say that he used it twice daily on his goiter. After one week, his goiter began to decrease in size. After three weeks, it was not noticeable and he felt better.

One violet ray testimonial reads: “I have used the Renulife Violet Ray generator in the treatment of my goiter with remarkable results. I used it twice daily. At the end of the first week my goiter began to decrease in size. At the end of three weeks it was entirely unnoticeable and I immediately began to feel better generally.”

The goiter enlarges in autoimmune conditions, and produces the added effect of bulging eyes, which we readily notice in Graves' disease. In 1864, France appointed a commission to study goiter. It found that half a million inhabitants suffered from some form of goiter. The simple goiter often is an indication of impaired health, but Graves' disease is a serious health condition.

The first attempt to treat the condition electrically was with the Morton wave treatments. A woman had prominent bulging eyes, with a pulse of 160 per minute. The electrotherapist used ten-minute applications of an electrode over the throat. After the second week, the pulse dropped below 90 and the difficult breathing disappeared. The eyes gradually shrank to normal over a period of a year.

A second woman showed extreme enlargement of the thyroid gland, with bulging eyes, rapid heartbeat and nervous symptoms. The static wave currents were used for four months. The symptoms were almost gone and her gland was much reduced in size.

Graves' disease was also treated with ionization with salt solution. One victim, a 48-year-old man, was compelled to give up his business. He got steadily worse and had marked nervous symptoms. The negative pole was placed over a cloth soaked in salt solution, and a current of 10 milliamps was passed for 15 minutes. The treatment was given daily for the first week, then three times a week. His pulse rapidly lowered. After a month, he was normal and able to return to work.

Basal metabolism is a result of thyroid activity. Jacques-Arsène d'Arsonval exposed normal people, and people with low basal metabolism, to his autocondensation couch. Normal people didn't change, but people with low thyroid activity improved.

A 30-year-old teacher had an enlarged thyroid and bulging eyes. She had heart palpitation and great fatigue with no relief. She was treated every fifth day with the static wave current for 30 minutes, sometimes to the thyroid alone, and sometimes to the thyroid and solar plexus. She began to improve, her heart palpitation stopped, and her hair began to grow again. Her bulging throat diminished and the exophthalmos visibly improved.

A 58-year-old carpenter had to give up work because of growing feebleness, shortness of breath, constant diarrhea and general nervousness. There was pronounced goiter and a feeble irregular heart action. The currents were applied to the goiter and above the solar plexus. The improvement was rapid, and in three weeks he was able to resume work. He could eat heartily and his heartbeat was slow, strong and regular. When he felt run-down, he would resume treatments for a few days.

Violet ray treatments in Graves' disease were generally given over the thyroid for two minutes, and applied to the eyes for one minute. Then half-inch sparks were applied up and down the spine for 10 minutes. The patients were treated three times a week for about four weeks.

A woman always had a lump in her throat, and noticed that the lump was getting larger. She became very nervous, and had heart palpitations and difficulty breathing. She had difficulty swallowing and had to force food down. Her pulse rose to 170. She was given violet ray treatments and her pulse fell back to 82. Her nervousness disappeared, she gained weight, and went back to work.

A 46-year-old woman became sleepless, nervous with fears and showed marked protrusion of the eyeballs. Her pulse rose to 115 and her thyroid was moderately enlarged. After the fourth treatment, it began to shrink, and in four weeks it wasn't noticeable. She gained weight, slept normally and worked normally.

A woman had a history of nervous and physical collapse. Her eyes were markedly protuberant and her pulse was 200. She was treated three times a week for four weeks, and then twice a week for the next six weeks. After the first treatment, she fell asleep going home and slept soundly for 12 hours. Her pulse dropped by 50 beats after the first treatment. Her thyroid decreased an inch in circumference after the first treatment. Her eyes improved constantly, and her mental state was much improved. Two years later, she was in excellent health.

A young schoolteacher came to Dr. Frederic de Kraft suffering from Graves' disease. Her face was yellow, her tongue coated, and she was weak and nervous. Her heartbeat was 130, and her eyes were bulging out. Dr. de Kraft gave her three diathermy treatments a week,

and applied the glass electrode to her thyroid. After eight treatments, menstruation reappeared, her pulse rate subsided, her skin lost its yellow color, and she felt well.

High-frequency currents could also influence the pancreas. D'Arsonval and his co-workers treated many cases of diabetes with their autocondensation equipment. They gave 10-minute treatments for up to 20 days in a row. This didn't often change the amount of sugar in the urine, but it did markedly improve the general health.

In 1906, Albert Laquerriere and Georges Apostoli treated 34 diabetes cases at their Paris clinic with three treatments per week. They observed an almost constant improvement in the general condition, and an increase in strength with a decrease in diabetic symptoms.

There were great variations in results among the early electrotherapists—which may be due to the poor equipment used. Some had poor results, while others claimed good results. They didn't usually cure diabetes, but they did improve the condition of the patient when there was no insulin.

A 33-year-old man passed an average of 16 pints of urine in 24 hours with an average of 32 grains of sugar per ounce. After the first week of high-frequency treatment, the urine fell to 11 pints. After the second week of treatment, it was 7 pints and the sugar fell to 14 grains per ounce. After a month of treatment, there were 3 grains of sugar in an ounce of urine. His weight increased by six pounds, and he felt better, but wasn't completely cured.

A short-wave current of 18 meters has a marked effect in increasing the action of the pituitary. This wavelength penetrates deeply into the head. If the pituitary isn't operating correctly, the secondary sexual characteristics don't develop. Stimulation caused normal development of sexual characters and menstruation in women; and the descent of the testicles in men, and the development of normal secondary sexual characteristics.

The prostate gland is located at the base of the bladder in men. It is common for the gland to swell when men are in their mid-fifties. This may be a product of aging, or the shifting hormone balance.

In 1861, August Tripiet devised a urethral prostate electrode, which he termed exciters. At first he used painful direct current, then he switched to faradic current with rapid interruption. In 1895, M. Porosz devised another stimulation type of current. He found that stimulation of the muscle fibers of the prostate shrank the gland.

Most of the early electrotherapists used the Morton wave current. This was similar to the effects of the violet ray. A 63-year-old man was depressed, for he had to get up several times during the night to urinate. He was treated with the Morton currents, and in weeks the prostate returned to normal size.

William Snow reported that he was able to cure about 80% of those who came to him with prostate enlargement. He treated 210 cases with the Morton static wave current, and nearly everyone had relief in five to eight sessions. Sometimes it was near normal in only three treatments.

A 53-year-old man had frequent urination and trouble urinating. The wave current was administered with a rectal electrode held against the prostate with the patient lying on his side. The gland softened after the first treatment and reduced in size. After the fifth treatment, the gland was reduced to less than half the size at the onset. In five weeks, he was back to normal.

Emmanuel Doumer reported favorable results in 122 cases of prostate enlargement by 1906. The best method was using a glass electrode with a treatment for 8-12 minutes. An enema was used first, and the glass electrode was introduced 5-6 centimeters into the rectum, and treatment applied 5-10 minutes. By the third or fourth treatment, the swelling reduced, and after 15 to 18 treatments, it was normal. Often it was near normal with half that many treatments.

He also used high-frequency currents to treat impotency. The glass vacuum electrode was applied to the scrotum and penis and the lower region of the spine. After 6-8 treatments, there were often vigorous erections during treatment.

The violet ray treatment of the prostate was simple and had no problems or operations. A 79-year-old businessman had to get up to urinate 4 to 6 times per night. After twelve treatments, he had natural urination with little residual urine.

A brick mason had an enlarged prostate, and had to get up several times a night to urinate. He was treated 10 minutes a time every second day. The surgeon who diagnosed him didn't want him to try the violet ray treatments, but when he examined him after the treatments, he remarked: "The prostate is gone."

William G. Lewi treated 12 cases of prostatitis and got nine cures. These were enlargements marked with cystitis. One patient had been treated for five years and all treatments failed. It took three months to cure him. An 80-year-old man had to be catheterized in order to urinate. After three treatments, he was able to urinate normally.

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