

Why We Study Medical Physics

ITS IMPORTANCE IN MEDICAL EDUCATION

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As one of our Knights, Dr. Tennant states so aptly, the body is voltage. Many medical doctors today are so sheltered in their pharmacodynamic theories, that they generally fail to understand all biochemical reactions are ultimately electronic in nature and that the body operates accordingly. Of course they understand voltage causes a heartbeat, yet so many doctors cannot even read an ECG; and they vaguely understand brain waves, but continue to dope patients who have epilepsy, neuroses, and depression.

So let's look at history, once again, and see our origins and evolution. At the end of the 19th century, there was no generally accepted model of the atom, believe it or not. Most physicists believed that the atom was indivisible, not separable into smaller parts, although the discovery of radioactivity had cast doubt on that in the minds of many. At the same time it was generally believed that electric charge, like mass, was infinitely divisible.

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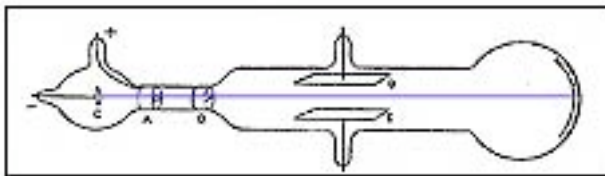
To explain the connection between electricity and matter, some scientists in the late 19th century argued there had to be a fundamental unit of electricity. In Faraday's research, following Davy's use of electrolysis to generate new materials, he found that a certain amount of electricity always liberates a gram-equivalent of substance from the electrolyte, whether it is the metal ion released at the cathode, or the non-metal ion released at the anode. Faraday recognized that there was an indivisible unit of electricity. When applied to solutions, it behaved like mass and was predictable.

Science lecturers who traveled from town to town in the mid nineteenth century delighted audiences by showing them the ancestor of the neon sign and the television tube. They took a glass tube with wires embedded in opposite ends... pumped out most of the air...put a high voltage across the opposite ends... and the interior of the tube would glow in lively patterns of light. In 1859 a German physicist vacuumed out still more air with an improved pump and saw that

where this light from the cathode reached the glass it produced a fluorescent glow. Evidently some kind of ray was emitted by the cathode and lighting up the glass. This would be the forerunner of the fluorescent bulb.

Many believed that these rays were waves traveling in an invisible fluid called the "ether." At that time, many physicists thought that this ether was needed to carry light waves through apparently empty space. Were cathode rays similar to light waves or were that cathode rays were some kind of material particle? Many physicists, including J.J. Thomson, thought that all material particles themselves might be some kind of structures built out of ether, so these views were not so far apart.

Experiments were needed to resolve the uncertainties. When physicists moved a magnet near the glass, they found they could push the rays to and fro. But when the German physicist Heinrich Hertz passed the rays through an electric field created by metal plates inside a cathode ray tube, the rays were not deflected in the way that would be expected of electrically charged particles. Hertz and his student Philipp Lenard also placed a thin metal foil in the path of the rays and saw that the glass still glowed, as though the rays slipped or punctured their way through the foil.



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Other experiments cast doubt on the idea that these were ordinary particles of matter, like gas molecules as some suggested. In France, Jean Perrin had found that cathode rays carried a negative charge. In Germany, in January 1897 Emil Wiechert made a puzzling measurement indicating that the ratio of their mass to their charge was over a thousand times smaller than the ratio for the smallest charged atom. When Lenard passed cathode rays through a metal foil and measured how far they traveled through various gases, he concluded that if these were particles, they had to be very, very small which proved to be true, on the order of 1,836 times smaller. J.J. Thomson also suggested that they do. He advanced the idea that cathode rays are really streams of very small pieces of atoms. Piecemeal and now puzzling?

Thomson observed that a charged particle will normally curve as it moves through an electric field, but not if it is surrounded by a conductor, like a sheath of copper, for example. Thomson suspected that the traces of gas remaining in the tube were being turned into an electrical conductor by the cathode rays themselves. To test this idea, he took great pains to extract nearly all of the gas from a tube, and found that now the cathode rays did bend in an electric field after all.

Thomson concluded, "I can see no escape from the conclusion that [cathode rays] are charges of negative electricity carried by particles of matter." Thomson boldly announced the hypothesis that "we have in the cathode rays matter in a new state, a state in which the subdivision of matter is carried very much further than in the ordinary gaseous state: a state in which all matter... is of one and the same kind; this matter being the substance from which all the chemical elements are built up."



Thomson presented three hypotheses about cathode rays based on his 1897 experiments:

1. Cathode rays are charged particles (which he called "corpuscles").
2. These corpuscles are constituents of the atom.
3. These corpuscles are the only constituents of the atom.

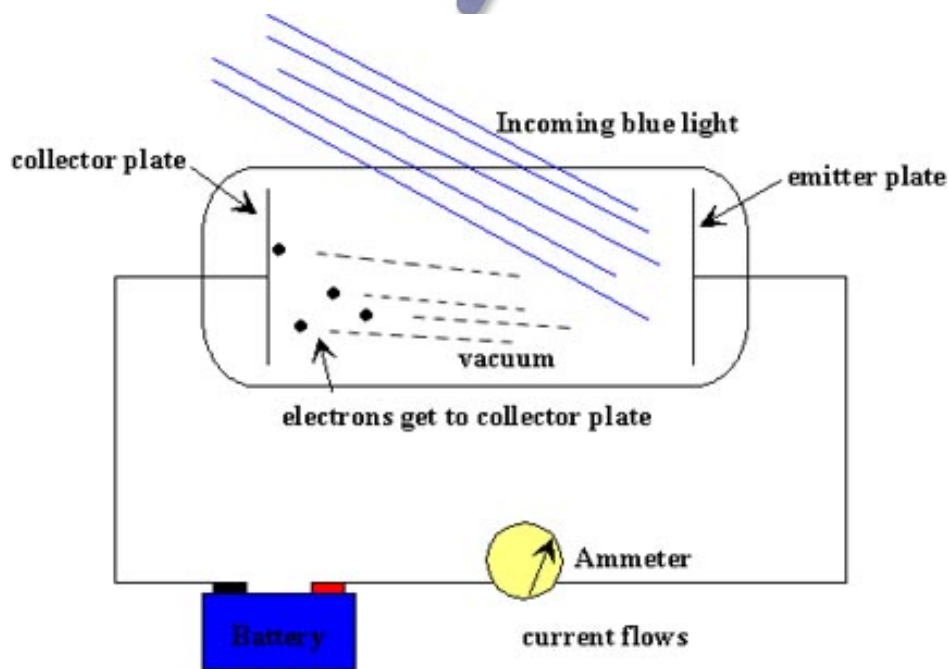
The word "electron," coined by G. Johnstone Stoney in 1891, had been used to denote the unit of charge found in experiments that passed electric current through chemicals.

According to the quantum theory developed by Albert Einstein and others, it is a mistake to think that electrons must be either particles or waves but not both. Under some conditions electrons act like particles; under other conditions they act like waves. Thus, moving electrons can generate a magnetic field, and a magnetic field can generate electrons. Physicists have also found that electrons are only the most common members of a whole "family" of related fundamental particles -- all of them infinitesimal points carrying charge, mass, and

"spin." Why the particles have these properties remains a mystery, a grand challenge for this century of research.

But that knowledge gained had made critical mass in order for modern technologies possible. If you are reading this on a 20th century computer monitor you are probably looking at a direct descendent of the cathode ray tube that Thomson used in his 1897 experiments. If it's a flat-screen monitor, this and other solid-state devices also descend almost as directly from the discoveries of Thomson and his colleagues. Indeed most of our civilization's computation, communications, entertainment and much else rely on technical calculations that would have been impossible without knowledge of the electron, the cathode ray tube, and its properties.

Now, the photoelectric effect became the next pivotal understanding. The photoelectric effect is the phenomenon in which electrons are emitted from matter [metal] after the absorption of energy from electromagnetic radiation such as x-rays, sunlight, or visible light. It is the basis of the solar cell and how it collects voltage, just as chlorophyll collects sunlight and makes sugars and fats. The emitted electrons can be referred to as photo-electrons in this context, or simply photons.



So, here's the central concept: We know the body is made of organs, tissues, and glands. These components are composed of amassed biomolecules, which in turn are composed of ordinary atoms, primarily carbon, hydrogen, oxygen, and nitrogen. The interchange of energy between these components is electrons, mainly by covalent bonding (sharing of electrons in tissues), and ionic forces (the donation and reception of electrons in body fluids). This whole function is carried on by light-photons:

1. in the form of stored sunlight in carbohydrates, fats, and proteins; and
2. by the reception of light from the organism (all cellular life on planet earth requires some form of sunlight exposure).

When the cell cracks open sugar for energy, light (photons) and heat is released while electrons are captured. We must understand the body as voltage. Our voltage is expended by muscles and nerves. It is stored in ATP, adenosine triphosphate. It is produced in mitochondria within the cell. The numbers of mitochondria in the cell is in a large part controlled by thyroxin, an iodine bound hormone. Life on planet earth began with plankton capturing sunlight with the assistance of iodine. Creatures on planet earth will only persist with sunlight and iodine. Adequate dietary iodine, adequate thyroxin to generate heat and energy. Inadequate dietary iodine, lack of energy, lassitude, obesity.

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So why is it important that all electrons are the same and all protons are the same? This is important because it indicates that a precise amount of energy is required to make the particles stable. Your body must have a precise amount of energy daily so you can do your chores. Electrons and protons are the only two, relatively stable particles that make up matter. Each proton has approximately 1836 times as much energy as each electron and there are no known stable particles with amounts of energy between that of the electron and proton. A neutron has slightly more energy than a proton but a neutron is stable only when it is incorporated into an atomic nucleus in close association with protons and other neutrons. In this context all neutrons are the same. The result is that all atoms and molecules of visible matter that have the same number of each of the three particles and behave basically alike. Thus, all molecules of calcium, iron or phosphorus behave basically the same in each of us. In bone we will find calcium and phosphate, basically the same content in those alive as well those buried, in the thyroid we hope to find basically the same amount of iodide, and in the blood the same

amount of sodium and chloride ions. If the blood volume of sodium radically changes, its called shock. If it is a lack of chloride ion in urine, it is called renal failure.

All states of matter, the environment, the ecosystems, our biological systems, are driven by electrons, which in turn are powered by photons. The elements of matter behave basically the same in their kindred reactions, thus we have elements of predictability. You need a certain amount of calories daily, which is a matter of voltage, in order to function. You need a certain amount of sunlight and heat as well.

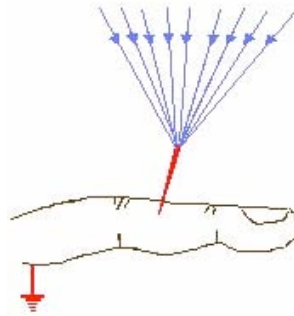
So, voltage it is: the rate at which energy is drawn from a source that produces a flow of electricity in a circuit; expressed in volts. A volt is a unit of potential difference and electromotive force, defined to be the difference of electric potential between two points of a conductor carrying a constant rate of current. A simple analogy likens voltage as the pressure of electrons as to the pressure of flowing water in a pipe. Current is likened to the amount of water (charge) flowing per unit time. The volt is thus the volume of electromotive force, how much "pressure" there is in an electric circuit. The higher the voltage, the more electrical current will flow in the circuit.

The idea of an **energy medicine** that views a common basis for all healing disciplines has arisen because of discoveries in biology, chemistry and physics that cast serious doubt on strictly mechanistic concepts of life that views medicine coming only in forms of drugs, and surgery in only forms of the scalpel and sutures. The presence of electrical and magnetic forces at the most basic levels within living organisms is just as fundamental to our knowledge base as is electrolysis to chemistry and electromotive force to physics. It is about time that medicine caught up with discoveries that have been in progress for more than a century. Pills that don't work, was an excellent read of its day, and is still true now (http://www.amazon.com/Pills-That-Dont-Sidney-Wolfe/dp/0446302880/ref=sr_1_4?ie=UTF8&s=books&qid=1234465393&sr=8-4).

Natural healing methods whether by physical manipulation, acupuncture, homeopathy, herbs, vitamins, minerals and trace elements are all effective because they affect the body's electric and electromagnetic energy systems. **Consider these fundamentals:**

● **Acupuncture:** There are volumes written about acupuncture practice relative to various ailments, and almost all of these considerations talk about meridians and acupuncture points. Yet, there is relatively little attempt to explain why the insertion of a needle in one of these points should have any kind of healing effect outside of metaphysics. The French Doctor Maruice Mussat in the 1970's conclusively showed that an inserted needle acts as a thermopile and conducts electricity. In addition, in the outdoor atmosphere there will always be an electric field. There is always free electricity in the air and in the clouds, which acts by induction upon the earth called lightning. The main concept is that the air above the surface of the earth is usually, during fine weather, positively electrified, or at least that it is positive with respect to the earth's surface, the earth's surface being relatively negative called ground state. Additionally, the presence of electrical action in the atmosphere, due to the accumulation of enormous static charges of current generated by lightning and thunderstorms. The electrostatic field and the difference of potential of the earth field according to investigations, is in summer about 60 to 100 volts and in winter 300 to 500 volts per meter of difference in height. There is also a continuous current of approximately 1,000 amperes flowing from the atmosphere to the ground during fair weather. Scientists believe is that this current is caused by the combined effect of all the thunderstorms around the world, some 2,000 at any given moment, moving negative charges to the ground and positive charges to the atmosphere... essentially working like giant, atmospheric batteries. So the needle then, is essentially a metallic antenna, inducing voltage into the body, ideally at points that are in need of it. This little dissertation has demonstrated that basic principles of physics showing that the subcutaneous insertion of needles in the skin increases the transport of charged particles to the point of insertion.

The needle will shunt and distort the field and concentrate the current to the needle and hence to the point where the needle is inserted.



● **Psycho-somatic medicine:** recognizes that there are psychological and emotional factors involved in both the onset and healing of common aches and pains, cancer and other diseases. Psychiatry has long recognized the connection between stress and onset of stomach ulcer (http://www.archive.org/details/ulcer_at_work). The brain produces enormous voltages and generates an electromagnetic field recordable as an EEG. These voltages work in harmony in a normal individual and produce characteristic patterns. In seizures, they go awry.

Over the past 20 years, medical doctor and cancer surgeon Ryke Geerd Hamer has examined 20,000 cancer patients with all types of cancer. Dr. Hamer wondered why cancer never seems to systematically spread directly from one organ to the surrounding tissue. For example, he never found cancer of the cervix and the uterus in the same woman. He also noticed that all his cancer patients seemed to have something in common: there had been some kind of psycho-emotional conflict prior to the onset of their disease, a conflict that had never been fully resolved. X-rays taken of the brain by Dr. Hamer showed in all cases a "dark shadow" somewhere in the brain. These dark spots would be in exactly the same place in the brain for the same types of cancer. There was also a 100% correlation between the dark spot in the brain, the location of the cancer and the specific type of unresolved conflict. The *Hamer focus*, is the specific area of the brain, which, under the influence of the psychic trauma, suffers a breakdown and thus induces an ill-proliferation of cells (cancer) in the organ dependent on this short circuited cerebral area. It is a blocked, voltage communication between the brain and the site organ tissue.

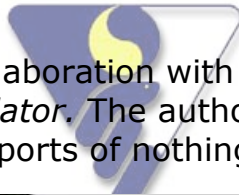
● **Lakhovsky's discovery:** He postulated that all living cells (plants, people, bacteria, parasites, etc.) possess attributes which normally are

associated with electronic systems. These cellular attributes include **resistance, capacitance, and inductance**. These 3 electrical properties, when properly configured, will cause the recurrent generation or *oscillation* of high frequency sine waves when sustained by a small, steady supply of outside energy of the right frequency. This effect is known as *resonance*. It is seen in the brain as an EEG pattern. In electronics, circuits which generate these recurrent sine waves can be called electromagnetic *resonators*, but more commonly they are referred to as *oscillators*. Lakhovsky predicted that not only do all living cells *produce* and *radiate* oscillations of very high frequencies, but they also *receive* and *respond* to oscillations imposed upon them from outside sources. This outside source of radiation or oscillations are due to **cosmic rays** which bombard the earth continuously, generating earth resonance frequencies. This realization, achieved during the golden years of radio, not only led to a new method of healing by the application of high frequency waves, but broadened appreciation for the newly emerging field of medical electricity.

When these outside sources of oscillations are in *sympathy*, that is they are *exactly* the same frequency as that produced by the cell, the strength and vigor of that cell will be reinforced and become stronger. If, on the other hand, these outside, atmospheric frequencies are of a slightly different frequency, rather than reinforce the cell's native oscillations, they will dampen or weaken them, resulting in a loss of vigor and vitality. The cells of disease causing organisms within an infected person operate similarly, producing malignant frequencies than that of normal, healthy cells, making one feel *dis-eased*. For people or plants suffering from disease conditions, Lakhovsky found that if he could increase the *amplitude* (but not the frequency) of the oscillations of healthy cells, this increase would overwhelm and dampen the oscillations *produced by the disease causing cells*, thus bringing about the demise of the disease causing cells trying to set up shop in the body. If he pumped up the amplitude of the disease causing cells, *their oscillations* would gain the upper hand and cause the person or plant to become weaker and more ill, even causing cancer. Lakhovsky viewed the progression of disease as essentially a battle between the resonant oscillations of host cells versus the oscillations emanating from pathogenic organisms in response to geopathic zones or toxic earth fields. Thus, there is more than just the *stench of cholera*, there are geopathic vibrations supporting its propagation.

Georges Lakhovsky initially proved his theory using plants. In December, 1924, he inoculated 10 germanium plants with a plant

cancer that produced tumors. After 30 days, tumors had developed in all of the plants. He took one of the 10 infected plants and simply fashioned a heavy **copper wire** in a one loop, open-ended *coil* about 30 cm (12") in diameter around the center of the plant and held it in place with an ebonite stake. The copper coil acted as an *antennae* or a *tuning coil*, collecting and *concentrating* oscillation energy from extremely high frequency cosmic rays. The diameter of the copper loop determined *which* range of frequencies would be captured. He found that the 30 cm loop captured frequencies that fell within *the resonant frequency* range of the plant's cells. This captured energy *reinforced* the resonant oscillations naturally produced by the nucleus of the germanium's cells. This allowed the plant to *overwhelm* the oscillations of the cancer cells and destroy the cancer. *The tumors fell off in less than 3 weeks and by 2 months, the plant was thriving.* All of the other cancer-inoculated plants-without the antennae coil- died within 30 days. In his book, Lakhovsky shows pictures of the recovered plant after 2 months, 6 months, and 1 year. Three years later, with the original coil left in place, the plant grew into a very robust specimen.



Lakhovsky then went in collaboration with Nicola Tesla to produce an artificial *multiple wave oscillator*. The author has used such a device for more than 20 years with reports of nothing short of the miraculous.



● **Spontaneous Remission in Cancer:** Perhaps no central point drives home the voltage concept. Spontaneous remissions in cancer occur, but are rare. There is only one agent that is tried and true: *lightning*. If the subject survives the bolt, he/she will be cured!

<http://www.papimi.gr/lancet.htm>

<http://books.google.com/books?q=%22cured+by+lightning%22&btnG=Search+Books>

So there you go, medicine from thin air.



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