

Glossary Related to Electrosurgery

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Amperage - The strength of a current of electricity expressed in amperes.

Ampere - The unit of intensity of an electric current, being the current produced by one volt acting through a resistance of one ohm.

Bipolar - Having two poles. Pertaining to both poles; noting electrotherapeutic treatments in which two poles are used.

Cautery - The application of a caustic substance, a hot iron, an electric current, or other means of killing tissue.

Desiccation - The act of drying up. Electric desiccation - the treatment of a tumor or other disease by drying up the part by the application of a monopolar electric current (short spark) of high frequency and high tension.

Diathermy - The generation of heat in the body tissues due to the resistance offered by the tissues to the passage of high frequency electric currents. In medical diathermy (thermopenetration) the tissues are warmed to a point short of tissue destruction; in surgical diathermy (electrocoagulation), the heat generated is sufficient to coagulate the tissue cells and destroy tissue.

Dosage Current - The amperage or amount of high frequency current used for an electrosurgical treatment.

Electrocoagulation - Coagulation by means of biterminal high frequency electric current; a form of surgical diathermy. The tissue is coagulated, broken down, and condensed into a necrotic mass.

Electrode - A medium used between an electric conductor and the object to which the current is to be applied. In electrotherapy, an electrode is an instrument with a point or surface from which to discharge current to the body of a patient. A depolarizing electrode is one which has a resistance greater than that of the portion of the body enclosed in the circuit.

Electrosurgery - The surgical employment of electricity to remove or alter soft (non-calcified) tissue; surgery performed by the electric knife; surgical diathermy.

Electrotomy - Diathermy excision with low current, high voltage, and high frequency; in it the tissues are not coagulated.

Epilation - The removal of hair by the roots. The destruction of the hair follicle by use of electrosurgery.

Fulguration - Destruction of animal tissue by electric sparks whose action is controlled by a movable electrode. An insulated fulguration electrode with a metal point is connected to the monoterminal of the high frequency apparatus and a spark of electricity is allowed to impinge on the area to be treated.

Ground - An object that makes an electrical connection with the earth; a large conducting body used as a common return for an electric circuit and as an arbitrary zero of potential.

Indifferent Plate - Passive electrode-ground plate (sometimes referred to as the negative electrode). A large conductive plate used to improve the efficiency of electrotomy.

Megacycle - A unit of 1 million cycles per second applied to the frequency of electromagnetic waves.

Monopolar - Having a single pole or tip.

Monoterminal - The use of one terminal only in giving treatments, the ground acting as the second terminal.

Radiofrequency Surgery - The use of high frequency electromagnetic wave (range of 3-30 megacycles) to remove or alter soft tissue.

Rectified (current) - Refined; made straight.

Short Wave Diathermy - The therapeutic heating of the body tissues or parts by means of an oscillating electric current of high frequency. The frequency varies from 10 million to 100 million cycles per second and the wavelength from 30 to 3 meters.

Spark-gap Generator - An electrical apparatus that receives and stores electrical current to a peak capacity and discharges the energy through an air space to destroy or alter tissue. Employs a current of 10,000 cycles per second and creates an aperiodic wave.