

ULTRACISION , HARMONIC SCALPEL

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The harmonic scalpel uses ultrasonic energy to provide dissection, cutting and hemostasis with minimal lateral thermal damage to the tissue. The system converts electrical energy into a mechanical motion in a hand piece. The motion is transferred to the blade attached to the hand piece, which vibrates longitudinally.

The vibrations, transferred to the tissue, provides cutting by stretching the tissues beyond their elastic limit. It also provides dissection separating tissue planes with the cavitation effect created by the blade. Hemostasis is achieved by denaturation of the proteins which allows formation of a coagulum, limiting the lateral thermal damage.

The harmonic scalpel has been used since 1995 in various surgical fields (thoracic, urologic, general surgery), mostly in laparoscopic surgery. Surprisingly however, it is not currently used in the field of plastic surgery.

Since 2001, a large number of operations (n=550) were performed with the Harmonic Scalpel by the speaker, including mammoplasties , abdominoplasties , musculocutaneous flaps, galeal fascial flaps , blepharoplasties and face lifts. The advantages of this new technology will be demonstrated.