



# International Society of Hair Restoration Surgery



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## ISHRS Press Release

### Low-Level Laser Therapy is Now a Do-It-Yourself Hair Loss Treatment

*NEW YORK (October 16, 2003)*- While lasers are best known as high-energy beams of coherent light that can cut through a variety of materials including human tissue, low-energy laser light has been found to be capable of modulating beneficial biologic effects in human, animal and plant cells. The biomodulating effects of low-level laser light on human cells has been adapted to medical uses such as enhanced wound healing and treatment of some types of pain, and to cosmetic uses associated with effects on human skin.

Low-level laser light has also been found to have biomodulating effects on human hair and hair follicles. The effectiveness of low-level laser light in hair restoration was described today by Martin Unger, MD, Toronto, Canada, in a presentation at the 11th Annual Meeting of the International Society of Hair Restoration Surgery (ISHRS). The ISHRS is meeting October 15-19, 2003, at the Marriott Marquis Hotel, New York City.

Clinical studies have shown that low-level laser light is effective both cosmetically and physiologically in hair restoration, Dr. Unger said. The cosmetic effects include improvements in hair sheen and strength, characteristics that enhance the perception of "fullness" in overall hair appearance. Physiologic effects on hair follicles observed in both men and women include (1) prevention of hair loss, and (2) stimulation of hair regrowth in areas of hair loss. Dr. Unger, a physician hair restoration specialist, is medical director of a firm that makes a hand-held low-level laser therapy device for home use in hair restoration (HairMAX LaserComb, Lexington International, Boca Raton, FL). The device is accepted as a Medical Device in Canada, and advertising is allowed to make therapeutic claims that it (1) increases strength of scalp hair in men and women, (2) prevents scalp hair loss in men and women, and (3) causes regrowth of scalp hair in men and women. In the United States it is accepted by the Food and Drug Administration (FDA) for use as a Cosmetic Laser Product. Approval by the FDA as a Medical Device is pending while appropriate clinical trials are completed. The device is also sold in other countries outside North America.

Low-level laser medical therapy is currently approved by the FDA for treatment of carpal tunnel syndrome and for relief of discomfort, Dr. Unger said.

The device described by Dr. Unger is a hand-held, wand-like instrument with laser-light ports arranged across its surface like the teeth of a comb. Laser light in the visible red light spectrum is generated in a laser diode. The energy level is far below that of laser beams that cut or burn tissue. Rather, the low-level red laser light has a very low absorption rate in human tissue. Low-level laser therapy for hair restoration is also delivered in a hood-like device that fits over a patient's head much like a hair dryer in a beauty salon.

The mechanism of action of low-level laser light on human cells is not completely understood. The interaction of laser light with cells has the basic feature of modulating cell behavior without causing significant temperature increase inside the cells; higher-energy lasers used to treat some types of cancer destroy cancer cells by heating them from the inside. A resulting photochemical reaction inside cells treated with low-level laser light may alter physical and chemical properties of molecules important to cellular activities.

Two of the most significant effects of low-level laser light in wound healing and in pain control, Dr. Unger said, are improved arterial and venous blood flow and decreased inflammation. The effects of low-level laser light

associated with its effects of hair and hair follicles are not known with precision.

In clinical trials, 97% of patients have had some benefit in improvement of hair characteristics, stabilization of hair loss, or hair regrowth, Dr. Unger said. Hair regrowth is defined by Dr. Unger and colleagues as an increase of hair count of 11% or more from baseline count.

In the most recently conducted FDA clinical trials of the device, patients studied were men and women with thinning hair in the scalp area. The patients received two low-level laser light treatments per week over a six-month period. Results have shown:

- 100% of men had stabilization of hair loss in frontal and vertex (top of the head) areas;
- 84.6% of men had hair regrowth (11% or more from baseline) in the frontal area;
- 82.8% of men had hair regrowth (11% or more from baseline) in the vertex area;
- 87.5% of women had stabilization of hair loss in the frontal area;
- 100% of women had stabilization of hair loss in the vertex area;
- 75% of women had hair regrowth (11% or more from baseline) in the frontal area; and,
- 96.4% of women had hair regrowth (11% or more from baseline) in the vertex area.

No side effects of low-level laser therapy have been observed, Dr. Unger said. There have been no reports of eye damage from exposure to low-level laser light.

Patients with medical conditions such as a history of skin cancer, persistent scalp infections, and photosensitivity to laser light were excluded from the study.

The ISHRS is the world's largest not-for-profit professional organization in the field of hair restoration surgery, with 512 physician members in 45 countries. The organization was founded in 1992 to promote the enhancement of the specialty of hair restoration surgery through education, information-sharing, and observance of ethical standards.