Low-Level Laser-Assisted Liposuction: the Neira 4 L Technique

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- Mechanisms of action of low-level lasers
  Effects of low-level lasers on the adipose cell membrane and mitochondria
  Effect of laser light on the body
  Biophysical effects of laser light on adipose cells
- Low-level laser-assisted liposuction
  The procedure
  Treatment of complications

Discussion
Summary
Acknowledgments
References

Fig. 1. Scanning electron microscope (SEM) image of normal adipose membrane of adipocytes. Some connective tissue is evident surrounding the adipose cells.

Fig. 2. Adipocytes after 4 minutes laser exposure. Some are deformed and have a crenate shape.

Fig. 3. (A) Adipose tissue after 6 minutes of laser exposure. Fat is outside the cell, and only membranes are seen. (B) The adipocytes have lost their fat and look deflated.
**Fig. 4.** Transmission electron microscopy (TEM x60000) of the membrane after 6 minutes laser exposure. (Channel formation)

**Fig. 5.** Upper half of the image depicts “deflated” adipocytes. Lower half of the image demonstrates normal adipocytes.

**Fig. 6.** Normal adipose membrane. (A) Transmission electron microscope (TEM) image without irradiation, original magnification x400,000. (B) TEM image without irradiation, original magnification x50,000. (C) Fat tissue from the back has more conjunctive and reticular tissue, explaining why it is harder to remove.

**Fig. 7.** 6 minutes laser exposure demonstrating interruption of the adipose cell membrane.

**Fig. 8.** (A) Transmission electron microscopy (TEM) showing adipocyte cell with well defined borders, no laser exposure. (B) TEM adipocyte after 6 minutes laser exposure, flexed membrane.