

## DIODE LASER FOR PERMANENT HAIR REDUCTION USING SHR VOLUMETRIC HEATING TECHNIQUE: 2,448 SUBJECTS

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### Summary

Photoepilation is one of the most used in aesthetic treatment in the world. Several laser devices such as Alexandrite, Ruby and Nd:YAG are used for this purpose. This study presents the results of a 3 years experience with diode laser, using volumetric heating with the SHR technology (Soprano<sup>XL</sup>, Alma Lasers Ltd., Israel) on 2,448 subjects. Subjects were submitted to 6 sessions with 4-6 weeks apart. Follow-up assessments were made with 3 and 6 months after the last session. No side effects were found with the use of this new technology, proving to be safe and with a high subject satisfaction.

### Background and Objectives

Diode laser was considered the gold standard for photoepilation but the use of high fluence sometimes are accompanied by complications such as erythema, swelling, pigmentary changes and burned skin (Figure 1 and 2). This study aims to present a 3 years experience with diode laser, using volumetric heating with SHR technology, using low fluence with high repetition rate.

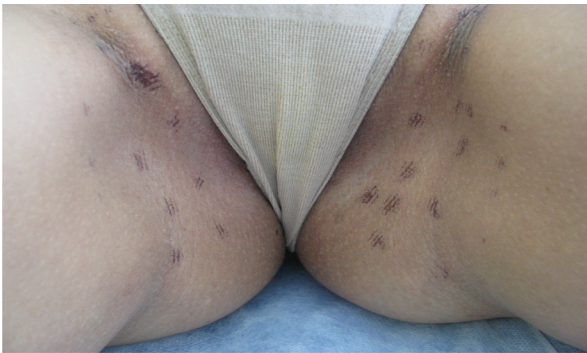


Figure 1: High Peak Energy Diode Laser –  
Burn and Pigmentary Change

**Light Sheer Duet - Lumenis**



Figure 2 : High Peak Energy Diode Laser –  
Pigmentary Change

**Light Sheer Duet - Lumenis**

### Study Design and Methods

2,448 subjects were treated in all skin types (I–VI), in different areas with a 810nm diode laser with 6-10 J/cm<sup>2</sup> fluence, 1.2cm<sup>2</sup> spot size (Figure 3), 10Hz repetition rate (Figure 4). The treatment technique employed multiple in-motion repetitive passes on a pre marked 10cm X 10cm grid, up to 12kJ cumulated (Figure 5). Clinical endpoints were considered as epidermal and perifollicular erythema and edema.

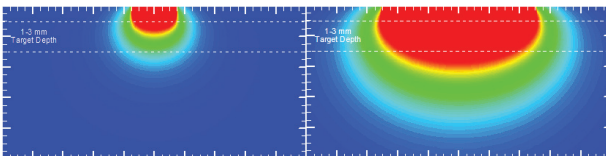


Figure 3: SHR Larger Spot Size – Deep Penetration

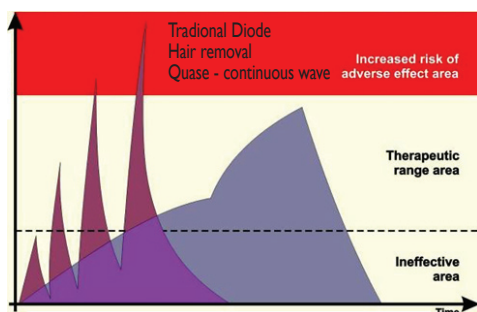


Figure 4: Wave and Risk of Side Effects

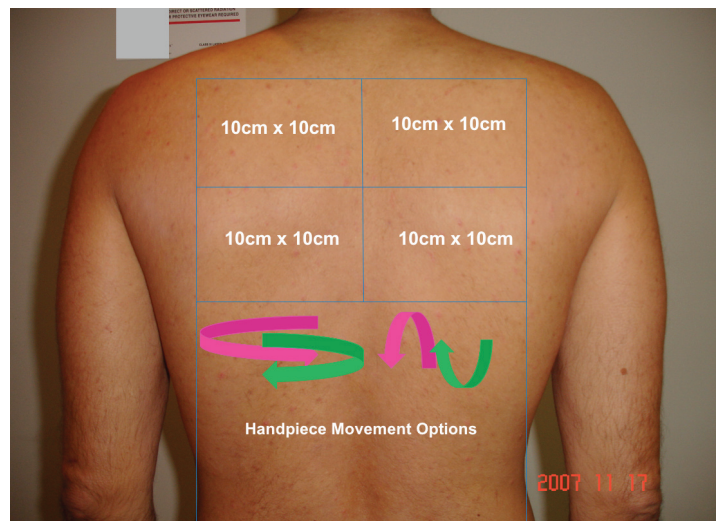


Figure 5: SHR Technique – Low Fluence with High Repetition Rate

## Results and Conclusion

The treatment did not present any major or permanent complications in any subjects (Skin Types I – VI) (Figures 6 and 7). Another major point of the treatment was the fact that subjects only referred a slight temperature increase in the treated area (virtually no pain). Subjects satisfaction within 3 and 6 months follow-ups reached a 90% excellent evaluation (Figure 8). Volumetric heating technique has proven to be an effective and safe technique with a great subject satisfaction evaluation for photoepilation.



Figure 6 : SHR Technique – Skin Types I - VI

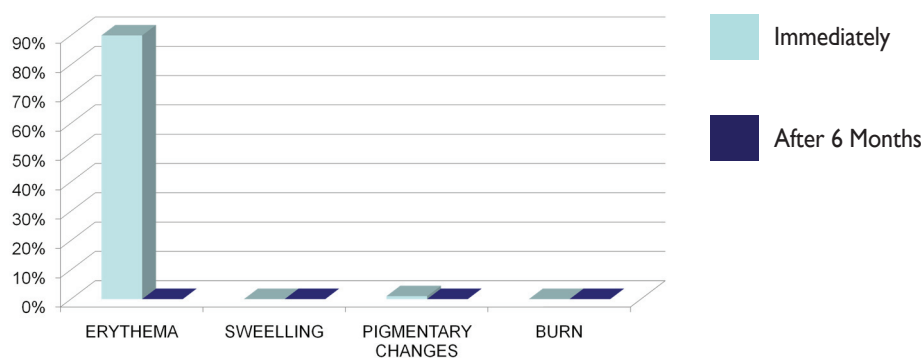


Figure 7 : SHR Technique – Side Effects Immediately and After 6 Months

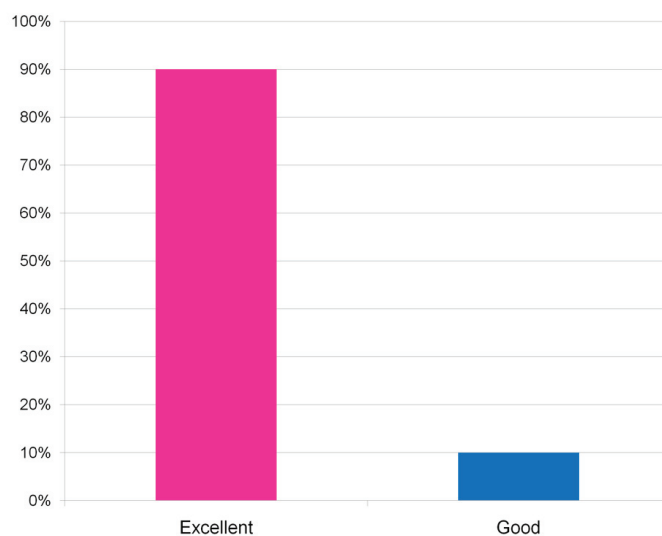


Figure 8 : Subject Satisfaction After 6 Months