

Practice and Educational Gaps in Light, Laser, and Energy Treatments



Murad Alam, MD, MSCI, MBA^{a,b,c,*}, Abigail Waldman, MD^a,
Keyvan Nouri, MD^d, M. Laurin Council, MD^e, Todd V. Cartee, MD^f

KEYWORDS

• Laser dermatology • Cosmetic dermatology • Practice gaps

KEY POINTS

- This article discusses current practice in laser dermatology, the gaps in practice, and recommendations for improvement.
- As is the case with other areas of cosmetic dermatology, there is a rapid development of new laser and light devices with limited epidemiologic data available to inform best practice.
- The high fixed cost associated with new laser devices, limited space available in some practices, and inconsistent training may limit the adoption of needed therapies. Improving research in this area; training opportunities for physicians, residents, and staff; and cost-effective laser/light device rentals programs could improve quality of current practice.

The first use of lasers in medicine was for the treatment of dermatologic disease by Leon Goldman in 1961.¹ Goldman went on to become the director of dermatology at the University of Cincinnati, and the first president of the American Society for Laser Medicine and Surgery. Further research advances in laser dermatology and surgery were spearheaded by R. Rox Anderson at the Wellman Institute for Photomedicine at Harvard University, and his clinical counterpart, Kenneth A. Arndt, who also wrote the first textbooks in the field. Dermatology continues to be a major repository of laser expertise within medicine. In recent years, the dermatology laser field has enlarged to include

broadband light as well as other energy sources, such as radiofrequency and therapeutic ultrasound. Clinical dermatology applications of lasers and energy devices have grown, and more dermatologists than ever before own and use instruments.

PART I. PRACTICE GAPS (IN CLINICAL DERMATOLOGY PRACTICE)

Best Practice

Best practices for laser, light, and energy device procedures are largely similar to best practices for cosmetic dermatologic surgery (see previous section) (**Box 1**). Additional best practices relevant

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^a Micrographic Surgery and Dermatology Oncology, Department of Dermatology, Feinberg School of Medicine, Northwestern University, 676 North St. Clair Street, Suite 1600, Chicago, IL 60611, USA; ^b Department of Otolaryngology, Feinberg School of Medicine, Northwestern University, 676 North St. Clair Street, Suite 1600, Chicago, IL 60611, USA; ^c Department of Surgery, Feinberg School of Medicine, Northwestern University, 676 North St. Clair Street, Suite 1600, Chicago, IL 60611, USA; ^d Department of Dermatology and Cutaneous Surgery, University of Miami Miller School of Medicine, 1475 NW 12th Avenue, Miami, FL 33136, USA; ^e Division of Dermatology, Department of Internal Medicine, Washington University in St Louis, 969 Mason Rd., Suite 200, St Louis, MO 63141, USA; ^f Department of Dermatology, Pennsylvania State University, Penn State Milton S. Hershey Medical Center, 500 University Drive, UPC 1, Suite 100, Hershey, PA 17033, USA

* Corresponding author. Department of Dermatology, 676 North St. Clair Street, Suite 1600, Chicago, IL 60611. E-mail address: m-alam@northwestern.edu

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Box 1**Laser, light, and energy treatments: practice gaps***Best Practice*

- Availability of appropriate protective eyewear for patients and operators, and other in-room safety protocols.
- Scheduled preventive maintenance of devices.
- Designation of a laser safety officer and training of all personnel who work with lasers and energy devices.
- Identifying contraindications for laser therapy and lower energy treatments to reduce risk when appropriate.

How Current Practices Differ from Best Practice

- Slow or variable adoption of novel device technologies with potential inability to offer a range of device options for different patients.
- Variability in staff training in laser safety, maintenance procedures, and operating procedures.
- Relative dearth of epidemiologic information regarding the procedures sought by patients, their ability to access these procedures, and their satisfaction after treatment.

Barriers to Best Practice Implementation

- Substantial fixed cost of acquiring lasers and energy devices, and the associated difficulty in covering these hardware costs in low-volume laser practices.
- Limited space in-office for storage of bulky lasers, with this being a particular issue in urban centers.
- Shortage of time available to research new devices, acquire new laser training and skills, incorporate new devices and procedures into the practice, and retrain all relevant staff.
- Reluctance to decrease general dermatology practice time to accommodate laser procedures.
- Inaccessibility or unavailability of reliable authorities or consultants who can advise dermatologists on upgrading their hardware and retraining themselves and their staff in a pragmatic, cost-efficient manner.
- Educational and training options for cutaneous laser and device surgery are not well advertised. There is no central repository that lists or vets all laser courses, programs of relevant professional societies, online educational modules, and preceptorship and fellowship opportunities.
- Limited research funding and inherent difficulties in comparing laser procedures side by side.

Strategies to Overcome Barriers

- Making laser use more cost-effective for dermatologists who have lower volume practices via rental or leasing programs that offer the latest products, come with appropriate training, and allow every dermatologist who wants to provide particular procedures to be able to do so.
- Investment in research to uncover and perfect novel medical indications for laser and energy devices.
- Easily accessible, comprehensive list of training opportunities.
- A match process for fellowships in laser and cosmetic surgery would also help advertise the availability of such more in-depth training options.

to lasers and light devices include (1) availability of appropriate protective eyewear for patients and operators, and other in-room safety protocols; (2) scheduled preventive maintenance of devices, often within the context of ongoing service contracts; and (3) designation of a laser safety officer and training of all personnel who work with lasers and energy devices.

Since the advent of selective laser devices in 1983, lasers and energy devices have become

increasingly specialized, with certain wavelengths, pulse durations, and underlying technologies used for specific dermatologic indications. Best practice among full-service laser practices is to have available on-site a suite of devices that collectively are able to address all patient complaints amenable to energy treatment. This does not mean laser practices are expected to own every dermatologic energy device. Rather, the leading practices have one or more devices

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