

Nonphysician Practice of Dermatologic Surgery: The Texas Perspective

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BACKGROUND. Increases in complications resulting from the nonphysician practice of dermatologic procedures have been reported nationally. This investigation was initiated owing to growing concern regarding the nonphysician practice of medicine in Texas.

OBJECTIVE. The objective was to survey dermatologists in Texas to determine the number of patients seeking corrective treatment owing to complications from dermatologic procedures performed by nonphysicians.

METHODS. A total of 488 dermatologists in Texas were surveyed and seven patients who experienced complications were interviewed by phone.

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AS COSMETIC surgery procedures continue to increase in popularity, greater numbers of nonphysicians are performing these procedures. Technicians, cosmetologists, and aestheticians provide both non-invasive and invasive cosmetic procedures in clinics, spas, or salons. Cosmetic surgery is generally associated with a favorable risk profile when performed by trained and qualified physicians. Nevertheless, the proliferation of inadequately supervised nonphysician providers of cosmetic procedures has led to significant increases in complications such as burns and permanent pigmentary alterations, as well as misdiagnosis of serious medical conditions. In a recent survey conducted by the American Society for Dermatologic Surgery in 2002, nearly 45% of responding physicians stated that they had noted an increase in the number of complications resulting from nonphysician practice of medicine.¹ Brody and colleagues² identified four

RESULTS. Nearly 53% of responding physicians noted increased complications resulting from nonphysician practice of medicine. Approximately 33% of responding physicians reported that complications were known to have occurred in the absence of an on-site supervising physician.

CONCLUSION. The increase in the number of complications owing to nonphysician practice of medicine in Texas mirrors the increases that have been reported nationally. The serious complications reported underscore the need for improved awareness and regulatory changes by state boards of medicine.

factors contributing to the growth of nonphysician practice of cosmetic surgery: “[1] increased use and acceptance of nonphysician clinicians in the healthcare arena, [2] the variability of state laws defining the practice of medicine, [3] the ambiguous distinction between medical procedures and beauty treatments, and [4] the emergence of hybrid ‘medical spas’ and ‘retail clinics.’”

As of April 2003, when the American Society for Dermatologic Surgery reported their findings, only 15 states required a licensed physician to operate laser equipment, nine states and the District of Columbia allowed physicians to delegate laser procedures under direct supervision, and seven states allowed physicians to delegate laser procedures at their own discretion.³ Eighteen states had no regulations regarding laser or other cosmetic surgical procedures.³ Texas was one of the states in which physicians were allowed to delegate such procedures to nonphysicians at their discretion. Nevertheless, supervision was not defined and on-site physician supervision was not specifically required.³

In an effort to define the scope of nonphysician practice of medicine in the state of Texas and to determine the impact of such practice on public health,

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a statewide survey of Texas dermatologists was conducted in March 2003 to determine the number of complications resulting from the nonphysician practice of medicine. A follow-up survey was conducted in July 2003 to determine whether absence of an on-site delegating physician contributed to the complications seen.

Materials and Methods

In March 2003, a survey was conducted of 488 dermatologists in Texas to determine the number of dermatologic surgeons who had treated patient complications owing to the nonphysician practice of medicine in the preceding 12 months. The number and type of complications that resulted from patients who had received treatments from nonphysician operators were tabulated. In addition, telephone interviews were conducted with seven patients who experienced complications from nonphysicians performing cosmetic surgery procedures, including laser/light-based treatments for telangiectasias or solar lentigines, chemical peeling, tattoo removal, and microdermabrasion. Details of these cases related to treatment, provider, setting, adverse effects, and follow-up care were obtained. In a follow-up survey in August 2003, dermatologists were queried as to whether the complications they had seen were known to have resulted from the absence of an on-site supervising physician.

Results

The overall survey response rate was 19%, with 91 dermatologists responding. Nearly 53% of the respondents reported seeing an increase in patient complications treated by nonphysician operators relative to years past. Dermatologists ($n = 40$) reported seeing an increase in complications from laser/light-based hair removal, misdiagnosis or delayed treatment of rosacea ($n = 27$), microdermabrasion ($n = 26$), and acne therapy ($n = 12$) (Figure 1). A total of 896 cases of patient complications were reported. The largest number of complications was seen related to misdiagnosis or delayed treatment of rosacea ($n = 230$) and acne therapy ($n = 209$). Significant numbers ($n = 136$) of misdiagnosed skin cancers, often associated with a delay in treatment, were also reported. Laser/light-based hair removal accounted for 115 reported complications including second- and third-degree burns, permanent hypo- or hyperpigmentation, and scarring. Fifty-six complications resulted from ablative laser therapy including pigmentary alteration and scarring. Chemical peeling accounted for 55 reported complications whereas microdermabrasion accounted for 51 complications. A total of 14 complications were reported as resulting from combined administration of chemical peels and microdermabrasion. Finally, a total of 30 complications were reported from nonablative skin rejuvenation procedures such as intense pulsed-light and laser devices (Figure 2).

The follow-up survey sent in August 2003 indicated that nearly 33% of responding physicians attributed the complications to the absence of an on-site

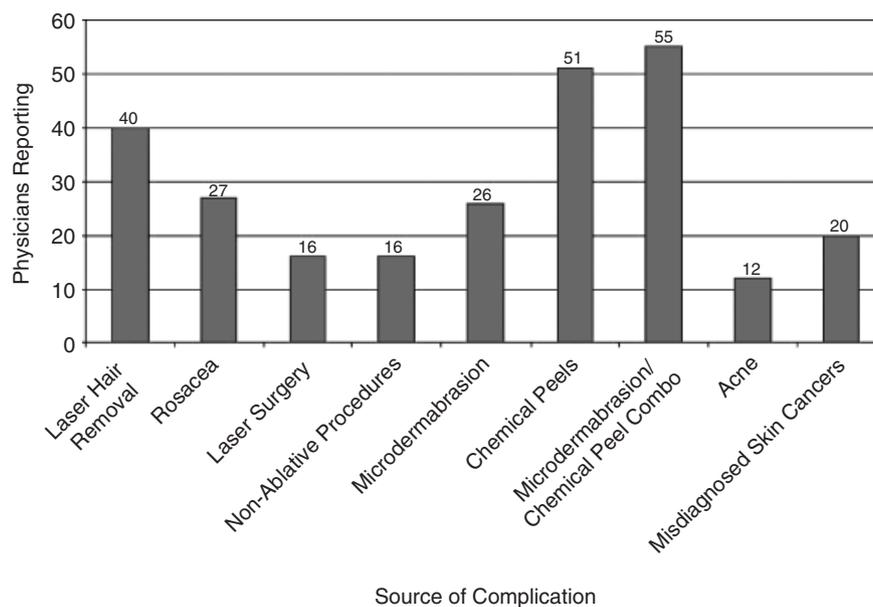


Figure 1. Physician response: March 2003 survey on patient complications resulting from nonphysician practice of medicine. Nearly 53% of respondents reported an increase in patient complication treated.

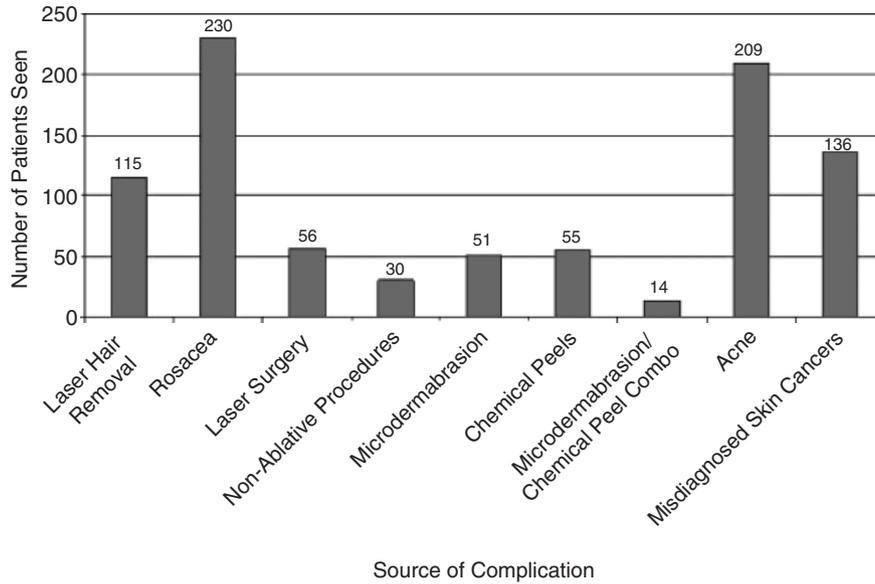


Figure 2. Patient complications: March 2003 survey on patient complications resulting from nonphysician practice of medicine.

supervising physician. Misdiagnosis of rosacea ($n = 37$), complications from chemical peels ($n = 27$), and complications from laser hair removal ($n = 26$) were the most commonly reported events (Figure 3). Overall, nearly 20% of all complications reported (176/896) were attributed to the lack of an on-site supervising physician.

In six of the seven cases profiled during telephone interviews, a nonphysician operator such as a beauty salon owner, technician, or cosmetologist administered treatment. The sixth patient was unable to identify the provider's credentials (oral communication, July

2003). One patient with a capillary venous malformation developed a permanent atrophic scar following test spot treatment with two combined lasers (long-pulsed 532-nm KTP and long-pulsed 1064-nm ND:YAG) by a technician in a physician's office (Figure 4). The supervising physician was not on site and did not evaluate the patient on the day of treatment even though the patient complained of severe pain and burning to the technician immediately following treatment. A second patient suffered second- and third-degree burns on her face after undergoing a combined microdermabrasion and chemical peel

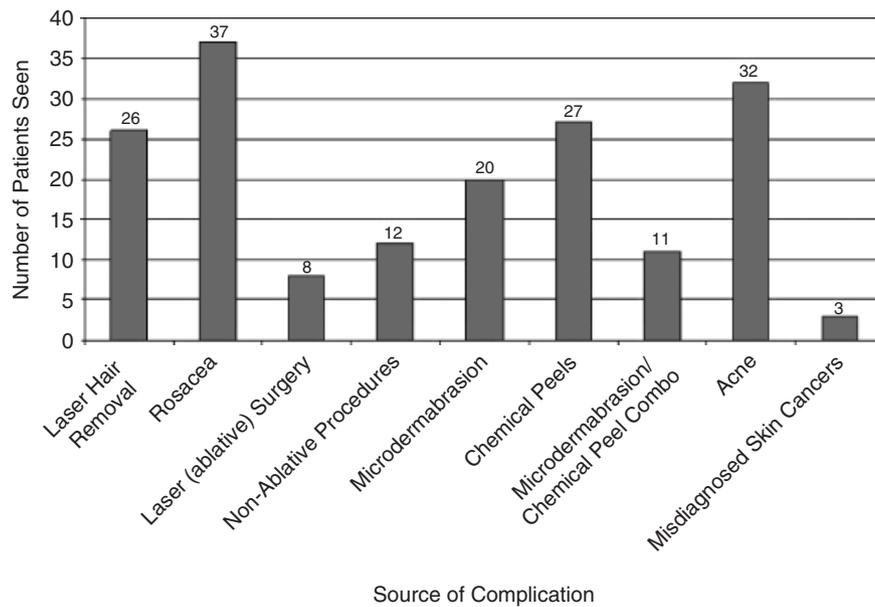


Figure 3. Patient complications: August 2003 survey on patient complications from unsupervised (delegating physician off site) nonphysician practice of medicine.



Figure 4. Permanent atrophic scar following laser test spot of a capillary venous malformation.

treatment at a spa. The technician left the patient in the treatment room unattended for over 20 min after the chemical peel had been applied (Figure 5). Permanent hypopigmented scars resulted from intense pulsed-light treatment of solar lentigines on the chest after treatment by a technician (Figure 6). When the patient complained of “burning” and demanded to see the physician supervisor she was told to come back another day. When a meeting was finally set up with the listed supervising physician 1 week later, the patient was introduced to the oral surgeon in charge of the clinic who told her to “just get some sun so the white spots will go away.”

The fourth patient had laser treatment for a tattoo on her ankle by an unsupervised technician using



Figure 5. Burns and hyperpigmentation following microdermabrasion and chemical peel.



Figure 6. Burns and permanent hypopigmentation following intense pulsed light treatment of solar lentigines.

intense pulsed light, which resulted in painful blistering following the treatment and permanent keloidal scarring at the treatment site. Critical delay in treatment for a nodular basal cell carcinoma occurred in a patient who was seen by a technician in a beauty spa and told that microdermabrasion would help to eliminate the “bump” on her cheek. The sixth patient was treated for laser hair removal by a technician at a salon and developed blisters and hypopigmentation (Figure 7). The supervising physician was a retired family practitioner who was actually residing in another city and did not evaluate the patient either before or after her treatment. The seventh patient went to a spa and had intense pulsed-light treatment of solar lentigines on her arms and developed linear hypopigmented bands on her arms. When the patient returned to the salon, the salon owner offered to “even out” the hypopigmented bands on her arms by treating the skin between the bands so that the arm would be more uniform in color (Figure 8). Types of treatment, provider, setting, adverse effects are summarized in Table 1.

In the seven cases presented, only one patient was treated in a medical clinic and all other treatments were performed in salons, spas, and nonmedical skin care clinics by nonmedical personnel such as spa aestheticians or cosmetologists who work on clients after minimal training. The nonphysician operators were in all cases acting independently and without direct supervision at the time of the procedure.

Discussion

Nonphysician practice of laser and intense pulse light as well as other cosmetic procedures has burgeoned into an extremely lucrative industry that can place profit ahead of patient welfare. Once the domain of



Figure 7. Blistering and subsequent hypopigmentation following laser hair removal treatment.



Figure 8. Linear hypopigmented bands after intense pulsed-light treatment for solar lentigines on arms.

physicians, cosmetic procedures are now performed by nonprofessionals with minimum training who lack the ability to evaluate and diagnose dermatologic conditions, to determine the proper treatment for these conditions, or to recognize and manage complications resulting from treatment. The performance of laser and other cosmetic procedures by nonphysicians has contributed to an increase in the number of complications related to these procedures.^{1,2} This increase has been reported nationally and has been confirmed by our study in the state of Texas.

Mirroring the nationwide trend, cosmetic surgery has gained increased popularity in Texas.^{3,4} There are numerous day spas and beauty salons that offer laser hair removal, nonablative skin rejuvenation, botulinum toxin cosmetic injections, collagen injections, microdermabrasion, and chemical peels. The line between what constitutes a beauty treatment and what constitutes a medical procedure has become blurred in the public mind. Nevertheless, although an improper beauty treatment can only fail by not being effective,

the newer lasers and light sources are powerful invasive medical devices with potential not only to provide significant improvements, but also the potential to cause devastating consequences if used improperly. Patients are often lured to spas and skin care clinics by misleading advertisements promising high-tech beauty treatments without mention of the potential risks associated with any cosmetic procedure.

Texas was one of seven states that allowed physicians to delegate laser procedures at their discretion without specific regulations regarding the type of training required of personnel before performing laser surgery.⁵ There was also no requirement that a supervising physician be present on site during the procedure. The laxity of regulations in Texas regarding delegation of laser and cosmetic surgery led to an increase in nonphysician providers. The false perception that cosmetic procedures are not the practice of medicine has contributed to public acceptance of aestheticians and cosmetologists performing these procedures.

Table 1. Patient Complications

Case	Provider	Treatment	Complication	Environment	Comments
1	Technician	Laser treatment of a capillary venous malformation	Burns and atrophic scarring	Medical clinic	Technician performed test spots with two combined lasers (long-pulsed 532-nm KTP and long-pulsed 1064-nm ND:YAG) without physician supervision
2	Cosmetologist	Microdermabrasion and chemical peel	Blistering and hyperpigmented scars	Skin care clinic	Cosmetologist who applied chemical peel on the patient and left her in the room unattended for more than 20 min
3	Technician	Intense pulsed-light treatment for solar lentigines on chest	Burns and permanent hypopigmented scars	Medical spa	The medical director who was described as a skin expert was actually an oral surgeon who was not on-site and met patient 1 week after the incident
4	Technician	Laser treatment of ankle tattoo	Blistering with development of keloidal scars	Medical spa	Intense pulsed light, which resulted in blistering and permanent keloidal scarring at the treatment site
5	Technician	Microdermabrasion of a "bump" on cheek	Significant delay in treatment of a basal cell carcinoma	Spa/salon	When patient finally went to a dermatologist for a second opinion she was told that the lesion on the cheek was a nodular basal cell carcinoma
6	Technician	Laser hair removal	Blistering and hypopigmentation	Spa	Medical director was a retired family physician residing in another town who failed to evaluate patient before or after treatment
7	Technician	Intense pulsed-light treatment for solar lentigines on arms	Burns and linear hypopigmented bands	Spa	Technician offered to "even out" the skin color by treating areas adjacent to hypopigmented bands

Texas law defines the practice of medicine by a physician as the diagnosis or treatment of any disease or deformity by any system or method.⁶ Nonphysicians who claim to offer diagnosis and treatment for conditions such as rosacea, hirsutism, pigmented lesions, acne vulgaris, or dermatoheliosis are engaging in the practice of medicine, a violation of the law in Texas and presumably other states as well. To circumvent this problem, spas and skin care clinics often operate by having a licensed physician serve as supervising medical director even though the physician is not present in the treatment room, does not evaluate the patient at any point, and is typically based off site. In our study, approximately 20% of all reported complications occurred in the absence of an on-site delegating physician. Although consumers are led to believe they are receiving quality medical care, many are treated by inexperienced technicians with no formal medical training and under no meaningful supervision. In some cases, inappropriate diagnosis and treatment by a nonphysician can result in potentially serious consequences.

The survey results emphasize the need for clearly defined state regulations of who can perform cosmetic procedures and under what circumstances. The experience of some states has shown that such regulations may be difficult to achieve. The effort to create stricter regulations regarding the use of lasers in Texas was led by the Texas Dermatological Society and the Texas Society of Plastic Surgeons and supported by 10

other state medical and surgical specialty societies. The American Society for Dermatologic Surgery, the American Society for Laser Medicine and Surgery, and the American Academy of Dermatology, all of whom endorse on-site supervision of laser procedures, gave their support as well. Nevertheless, strong opposition from owners of laser hair removal centers, electrologists, aestheticians, and even dissenting dermatologists resulted in prolonged deliberations with the Texas State Board of Medical Examiners. In August 2003, the results of this survey were presented to the Board of Medical Examiners. Subsequently, the Board adopted rules stating that the use of lasers and pulsed-light devices constitutes the practice of medicine.⁷ In addition, the rules stipulate that: (1) ablative laser procedures be performed by a physician; (2) a physician be present on site when nonablative laser procedures are performed by nonphysician delegates other than advanced health practitioners (physician assistants and advanced practice nurses); (3) a physician or advanced health practitioner examine a patient before any laser treatment; (4) a physician personally evaluates any complications; and (5) implementation of educational requirements for training purposes.

Although this new regulation does not address all potential concerns, it is a significant leap forward with regard to the regulation of nonphysician use of lasers in Texas. Data obtained from our survey clearly show that significant numbers of serious complications can

be attributed to the lack of on-site physician supervision. Position statements by all three national dermatologic organizations agree that the use of any laser and light source should be considered the practice of medicine and should be performed by a physician or trained medical professional under direct on-site physician supervision for treatment of all patients.⁸⁻¹⁰ Clearly, continued vigilance by all physicians is necessary to create and enforce regulations regarding the use of lasers and other dermatologic surgery procedures. We believe that it is imperative that dermatologists in other states conduct similar studies to help pressure their state medical boards to improve and enact stricter regulations for the nonphysician practice of cosmetic surgery. We also believe that forming coalitions with other specialty societies, especially plastic surgery, can strengthen such efforts.

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References

1. American Society for Dermatologic Surgery, ASDS Finds Increase in Complications. Rolling Meadows (IL): Currents, July 2002. Available from: <http://www.asds-net.org>.
2. Brody HJ, Geronemus RG, Farris PK. Beauty versus medicine: the nonphysician practice of dermatologic surgery. *Dermatol Surg* 2003;29:319-24.
3. Dermatologic Surgeons Report 11% Increase in Skin Surgery Procedures Performed in 2003 Compared to 2001 [Internet]. Rolling Meadows (IL): American Society for Dermatologic Surgery, 2003 Jun 5 [c2004]. Available from: http://asds-net.org/Media/Archives/media-News_Release-DermSurgReportIncrInProcedure-sIn2002.html
4. American Society for Aesthetic Plastic and Cosmetic Surgery. National Statistical Database (NY). 2002.
5. American Electrology Association, June 2001. Available from: <http://hairfacts.com/govreg/streglaser.html>.
6. Texas Medical Practice Act. V.A.C.S. Art. 4495b.
7. Texas State Board of Medical Examiners Board Rules Chapter 193, Standing Delegation orders, 193.11. Nov 2003.
8. Position Statement on the Use of Lasers and Light Devices. Rolling Meadows (IL): American Society for Dermatologic Surgery, 2002.
9. Position Statement on the Use of Lasers, Pulsed Light, Radio Frequency, and Medical Microwave Devices [Internet]. Schaumburg (IL): American Academy of Dermatology Association, 2002 Feb 22. Available from: <http://www.aadassociation.org/Policy/lasers.html>
10. Principles of Non-Physician Use of Laser and Related Technology. Wausau (WI): American Society of Laser Medicine and Surgery, 2002.