Cosmetic Surgery Training in Plastic Surgery Residency Programs in the United States: How Have We Progressed in the Last Three Years?

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Abstract

Background: In 2006, a survey performed by Morrison et al analyzed the experience of aesthetic surgery training from the perspective of residents and their program directors in plastic surgery programs across the United States.

Objectives: The authors conducted a survey to follow-up on the Morrison results three years after publication, to assess the changes in plastic surgery residency programs.

Methods: In December 2009, a 17-question survey was sent to program directors, and a 19-question survey was sent to senior residents in all Accreditation Council for Graduate Medical Education–approved plastic surgery residency programs in the United States. The questions were posed in a five-point ranking format. The two additional questions included in the senior resident survey related to career aspirations and desirable areas of additional training. Ninety-two program directors and 397 senior residents received the survey.

Results: Forty-four program director surveys (47.8%) and 117 (29.5%) senior resident surveys were returned. Two-thirds of programs offered a residents’ clinic, which was considered the preferred method of cosmetic surgery education by residents. Residents reported increased exposure to nonsurgical procedures such as lasers and injectables. Abdominoplasty, breast augmentation, and breast reduction remained the procedures most frequently performed by residents with confidence, as in the 2006 survey. Facial aesthetic procedures, including rhinoplasty and facelift, remained challenging to residents. Many residents (55.7%) felt confident integrating cosmetic surgery into their practice. One-third of residents reported that they would apply for a cosmetic fellowship.

Conclusions: This survey shows an improvement in cosmetic surgery training for plastic surgery residents in the United States, particularly in that noninvasive cosmetic treatments are being increasingly taught. Since 2006, steps have been taken to provide more comprehensive cosmetic surgery education to residents, encouraging the delivery of the safe, high-quality care expected of a board-certified plastic surgeon.

Keywords

aesthetic surgery training, cosmetic surgery training, cosmetic surveys, plastic surgery resident training

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Despite the current recession, the American Society for Aesthetic Plastic Surgery reported that Americans spent over $10 billion dollars on approximately 9.9 million cosmetic procedures in the United States in 2009, representing a decline of only 2% over the previous year. In particular, the demand for minimally-invasive cosmetic procedures increased by 231% from 1997 to 2009. The most popular cosmetic procedures were botulinum toxin type A injections and soft tissue fillers, while the most popular surgical procedures were breast augmentation, liposuction, and blepharoplasty. As the demand for all types of cosmetic procedures continues to grow, training for rising aesthetic surgeons becomes increasingly important.

In a 2006 survey, Morrison et al investigated cosmetic surgery training in plastic surgery residency programs.
across the United States from the perspective of both the trainees and their program directors. It was concluded that senior residents felt deficient in facial cosmetic, minimally-invasive, and newer body-contouring techniques. There were also significant differences between the perceptions of residents and their program directors regarding training quality and surgical experience. The authors of that study therefore recommended that changes in cosmetic surgery training were necessary to “maintain the high standards expected of our specialty.” Following publication of those survey results, an additional training year was added to plastic surgery residencies, and a standardized curriculum was developed for postgraduate cosmetic fellowships.

This study reports the results of a second survey, which we disseminated three years after Morrison’s original report. Our goals were to assess the “adaptability” of these plastic surgery training programs to the growing nonsurgical market and to determine whether the needs identified by the previous study with regard to cosmetic surgery training had been met.

METHODS

In December 2009, surveys (see appendix) were sent to all Accreditation Council for Graduate Medical Education–approved plastic surgery residency programs in the United States (n = 92). The survey was e-mailed via SurveyMonkey (SurveyMonkey, Palo Alto, California) to 92 program directors and 397 senior residents in both integrated and independent programs. The online questionnaire, in which participants were asked to rank their experience on a five-point scale, could be completed in approximately 15 minutes. Responses were collected through January 2010. Between the initial mailing and the survey conclusion, the questionnaire was sent to nonrespondents a total of four times; follow-up e-mail was not sent to those who had already responded to prior e-mail. There were no incentives provided for completing the survey.

As with the 2006 survey by Morrison et al, two broad categories were investigated: (1) the specific aspects of current plastic surgery residency training programs, focusing on residents’ exposure to cosmetic surgery, and (2) the self-reported competence and satisfaction of senior residents resulting from their cosmetic surgery training experience. The program director survey included 17 questions, and the senior resident survey included 19 questions. The two additional questions in the senior resident survey were related to career aspirations and areas of additional desired training. Questions regarding newer procedures in body contouring and noninvasive treatments were included in both surveys. On most questions, respondents were asked to rank their answers from one (lowest) to five (highest).

Data were tabulated, analyzed, and compared to the results from Morrison et al. Statistical analysis was performed with GraphPad Prism (GraphPad Software, La Jolla, California). Incomplete surveys were included in the data to the greatest possible extent.

RESULTS

A total of 161 of the 397 surveys were returned (40.6%). Forty-four program director surveys (47.8%) and 117 senior resident surveys (29.5%) were received.

Program Director Surveys

Of the responding program directors, 95.5% were men and 4.5% were women. Half (50.0%) supervised independent programs; 27.3% represented integrated programs; 22.7% represented both integrated and independent programs (Table 1). All programs offered some training in cosmetic surgery, although only about one-third of all programs (38.6%) offered designated, specific cosmetic surgery rotations. Of the programs that did offer designated cosmetic surgery rotations, the length of training varied. Independent programs included an average of three to six months of designated cosmetic surgery exposure. By the fifth and sixth years, all integrated programs offered between one and six months of cosmetic surgery exposure. Three-quarters of program directors reported that 25% to 75% of cosmetic cases were actually performed by residents.

A large percentage of program directors (88.4%) offered rotations with faculty whose practices were primarily cosmetic. Just over half the programs (55.8%) offered a resident cosmetic clinic. In these clinics, 32.0% of residents performed 10 to 15 cases per year as the operating surgeon; 28.0% performed 16 to 20 cases; 32.0% performed more than 20 cases. Program directors felt that the resident cosmetic clinic (45.9%) and the staff cosmetic clinic (46.5%) offered the most benefit for residents in terms of education. Books and journals were felt to be the least favorable method of teaching cosmetic surgery (54.8%).

As expected, program directors reported that breast reduction (95.5%), abdominoplasty (93.2%), and open breast augmentation (79.5%) were procedures that their residents could perform confidently (Table 2). Endoscopic breast augmentations (54.5%) and hair transplantation (56.8%) were felt to be the most challenging procedures for residents. About half the program directors (48.8%) felt confident in their residents’ ability to perform rhinoplasty.

In terms of experience with noninvasive cosmetic procedures, most programs (97.7%) offered training with injectables, laser resurfacing (83.7%), noninvasive laser techniques (81.4%), and superficial chemical peels (67.4%). Training in deep chemical peels was offered in only 37.2% of residency programs. Although the majority of program directors felt that a cosmetic surgery fellowship was not necessary for cosmetic surgery practice, 27.3% of respondents felt that their residents were “very prepared” to integrate cosmetic surgery into their practice. Interestingly, however, 70% were “satisfied” or “very satisfied” with the cosmetic training they offered as part of their residency programs.
Senior Resident Survey

Of the residents who responded to the survey, 72.6% were men and 27.4% were women. Approximately two-thirds of respondents were enrolled in an independent program (64.1%) versus an integrated program (35.9%). Three-quarters of residents reported working with faculty whose practice was primarily cosmetic. Approximately two-thirds of programs offered a designated cosmetic surgery month (or months). Residents reported that of the independent programs, 44.4% offered two to three months of cosmetic surgery training in the first year of the program; 54.6% offered three to four months in the second year. For the integrated programs, the duration of exposure to cosmetic surgery varied according to years of training. Residents were provided with less cosmetic training in the first three years of their program, with the most exposure occurring in years five and six. The majority (52.7%) of respondents reported one to three months of exposure to cosmetic surgery training in their sixth year; 31.9% of respondents reported having three to four months of training in their fifth year. Approximately two-thirds of residents felt that they acted as the operating surgeon in 25% to 75% of

Table 1. Cosmetic Surgery Training Survey Responses From Program Directors and Senior Residents in Plastic Surgery Programs

<table>
<thead>
<tr>
<th>Variable</th>
<th>Program Directors</th>
<th>Residents</th>
</tr>
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<td></td>
<td>Total</td>
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</tr>
<tr>
<td>Sex</td>
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<td></td>
</tr>
<tr>
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<tr>
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<td>38.6</td>
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<td>61.4</td>
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<td>Rotations with faculty</td>
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<td></td>
</tr>
<tr>
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<td>88.4</td>
</tr>
<tr>
<td>No</td>
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<td>Chemical peels</td>
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<td>Superficial</td>
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</tr>
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<td>Intermediate</td>
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<td>Noninvasive laser treat-</td>
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<tr>
<td>No</td>
<td>33</td>
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*aChi-square tests.

p values for 2006 in parentheses.

Chemical peel only, t test.

All nonsurgical procedures, t test.
## Table 2. Program Director and Resident Perception of Residents’ Ability to Perform Cosmetic Procedures

<table>
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<th>Procedure</th>
<th>Group</th>
<th>Total</th>
<th>1 (%)</th>
<th>2 (%)</th>
<th>3 (%)</th>
<th>4 (%)</th>
<th>5 (%)</th>
<th>(^*p)</th>
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<td>0 (0.0)</td>
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<td>0 (0.0)</td>
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<td>42 (36.2)</td>
<td>(&lt;0.001)</td>
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<td>0 (0.0)</td>
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</table>

*Wilcoxon rank sum tests*

\(^*p\) value from 2006 in brackets
cosmetic cases in which they participated, whereas only one-third felt that they performed this role in less than 25% of the cosmetic cases.

Slightly more than half the residents (56.9%) reported that they had access to a resident cosmetic clinic, with 47.8% performing more than 20 cosmetic cases per year in that clinic. Residents felt that their best method of learning cosmetic surgery was through the resident cosmetic clinic (67.6% ranked this highest), followed by a staff cosmetic clinic (68.8% gave this the second-highest rating) and by books and journals (69.6% ranked this lowest).

Although three-quarters of residents felt reasonably confident in performing facelift and rhinoplasty procedures, residents reported that if they could spend an additional month of their residency improving their skills, 41.7% would choose facelift training, while 60.9% would choose rhinoplasty training. In addition, 62.8% of residents felt that they required more than 10 cases of experience to perform rhinoplasty safely and confidently, and 48.2% felt that more than 10 cases were required for facelifts.

Overall, 56.7% of residents were “satisfied” or “very satisfied” with their cosmetic training, and 55.7% felt “prepared” or “very prepared” for integrating cosmetic surgery into their practice (Table 3). Only 31.5% felt the need for a cosmetic fellowship. One-third of residents planned to go into solo private practice, one-third into group private practice, and one-third into academia (Table 4).

**Comparisons with 2006 Survey**

The 2006 survey had a higher response rate than ours (64% for program directors and 33% for senior residents, \(P = .028\)). Both surveys had a similar distribution of male-to-female respondents. Fewer programs offered a specific cosmetic surgery rotation in 2009 as compared to 2006. Questions about newer procedures such as injectables and body contouring (thighlifts, brachioplasty, circumferential abdominoplasty, and lower bodylifts) were included in the 2009 survey to reflect changing cosmetic practice (Table 2). In terms of residents’ ability to perform procedures, there were fewer significant differences between the reported perceptions of program directors and residents in 2009 as compared to the 2006 results (Table 2). While there was a reduction in number of cases performed by residents in 2009, this was not significant (\(P = .1491\)). In both surveys, approximately 50% of residents desired further subspecialty training. Of note, there was an increase in residents wishing to undergo further subspecialty training in breast in the 2009 survey.

Despite some differences, there were many similarities in the results of the two surveys. In 2006, there were three times as many male residents as female residents; this remained consistent and highly significant (\(P < .0001\)).
both time points, approximately two-thirds of programs offered resident clinics, and residents reported being “very satisfied” with the cosmetic surgery training in their programs (but less so than their program directors). Also, only one-third of residents felt the need for a cosmetic fellowship in both surveys. In both the 2006 and 2009 surveys, rhinoplasty was the procedure for which residents felt that additional training would be most beneficial, whereas abdominoplasty and breast reduction were areas where additional training was felt to be the least potentially beneficial (Table 5). Interestingly, in both surveys, of the top five procedures for which the residents would like further training, three were nonsurgical (chemical peels, laser resurfacing, and skin care). In both 2006 and 2009, one-third of residents planned to practice in an academic institution, while the majority of trainees planned to enter into solo or group practice.

### DISCUSSION

Despite the recession, certain areas of cosmetic surgery have continued to grow in demand, including noninvasive and body-contouring procedures. Given the significance of all types of cosmetic procedures in today’s plastic surgery practices, excellence in training is a must for the health of the specialty. The plastic surgery operative log guidelines for residents—as outlined by the Residency Review Committee of the Accreditation Council for Graduate Medical Education—stipulate a minimum number of cosmetic procedures. The current minimum requirements include 10 breast augmentation cases, seven facelifts, eight blepharoplasties, six rhinoplasties, five abdominoplasties, and nine “other” cosmetic surgery procedures. Given that these minimum numbers are nearly two decades old and our results indicate that a certain measure of discomfort remains after these requirements are fulfilled, it may be time to review them and adjust these minimum numbers.

The importance of minimally-invasive cosmetic procedures was highlighted in an economic analysis by Liu and Miller, who suggested that the next decade of growth in cosmetic surgery will be driven by the demand for nonsurgical procedures and that this growth will challenge the capabilities and capacity of surgeons to meet the demand for these procedures. These findings were also supported by the American Society for Aesthetic Plastic Surgery and the American Society of Plastic Surgeons’ joint Cosmetic Medicine Task Force on cosmetic medicine and surgery. While these noninvasive techniques may not be as difficult to master as many invasive operations, it is reassuring to see academic programs embracing and teaching the importance of noninvasive cosmetic medicine.

The American Society of Plastic Surgeons’ Plastic Surgery Workforce Task Force study, which examined characteristics of the current plastic surgery workforce, published its results in 2010. The report concluded that “for half of the respondents, 75% or greater of their individual practice was focused on cosmetic surgery.” The authors went on to state that “three-fourths of respondents have seen an increase in cosmetic cases over the past 10 years” and that there was likely to be an “increase in demand for aesthetic surgery, for at least the next two generations.” Studies from Canada, Brazil, and England all highlight the need for comprehensive cosmetic surgery training to prepare residents for high standards in clinical practice. These studies highlight the integral part that cosmetic surgery plays for many currently-practicing plastic surgeons. Coupled with the fact that the landscape of the cosmetic surgery market has changed significantly in the past decade, it seems logical that the breadth of cosmetic training during plastic surgery residency should follow suit. Our survey documents that while some residents’ and program directors’ concerns are similar to perceptions reported in the 2006 survey, changes have indeed occurred since that time. In an effort to address the changes in plastic surgery practice and residency training, the Residency Review Committee has recently mandated a six-year integrated pathway and a three-year independent pathway to allow for greater exposure to a variety of plastic surgery areas. While this additional training time will be distributed a number of clinical areas, as suggested by the committee, the new mandates reinforce the importance of expanding the breadth of cosmetic surgery training.

Similar to those of the Morrison et al study, our respondents reported that facial aesthetic procedures such as facelift and rhinoplasty remain challenging to plastic

### Table 5. Additional Areas of Training Desired by Residents: Comparison Between 2006 and 2009 Surveys

<table>
<thead>
<tr>
<th>Procedure</th>
<th>2006 (%)</th>
<th>2009 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rhinoplasty</td>
<td>70.1</td>
<td>60.9</td>
</tr>
<tr>
<td>Chemical peels</td>
<td>48.7</td>
<td>42.6</td>
</tr>
<tr>
<td>Facelift</td>
<td>47.9</td>
<td>41.7</td>
</tr>
<tr>
<td>Laser resurfacing</td>
<td>45.3</td>
<td>44.3</td>
</tr>
<tr>
<td>Skin care</td>
<td>40.3</td>
<td>39.1</td>
</tr>
<tr>
<td>Brow lift</td>
<td>36.3</td>
<td>33.0</td>
</tr>
<tr>
<td>Noninvasive laser treatments</td>
<td>32.5</td>
<td>33.9</td>
</tr>
<tr>
<td>Blepharoplasty</td>
<td>28.6</td>
<td>23.5</td>
</tr>
<tr>
<td>Hair transplantation</td>
<td>28.2</td>
<td>21.7</td>
</tr>
<tr>
<td>Body contouring after massive weight loss</td>
<td>15.0</td>
<td>15.7</td>
</tr>
<tr>
<td>Mastopexy</td>
<td>9.8</td>
<td>11.3</td>
</tr>
<tr>
<td>Breast augmentation</td>
<td>4.7</td>
<td>5.2</td>
</tr>
<tr>
<td>Abdominoplasty</td>
<td>0.9</td>
<td>0.0</td>
</tr>
<tr>
<td>Breast reduction</td>
<td>0.9</td>
<td>0.9</td>
</tr>
</tbody>
</table>
surgery residents, who would like to gain more hands-on experience with these operations during their training to improve their skill set. However, residents and program directors reported increasing levels of resident confidence in newer and more complex body-contouring procedures, as well as increased confidence in nonsurgical procedures. Residents now have greater exposure to nonsurgical procedures such as injectables (95% in 2010, compared to 35.7% in 2006), laser resurfacing (66% in 2010, compared to 54% in 2006), and noninvasive laser treatments (49% in 2010, compared to 35.7% in 2006), but there is still limited exposure to chemical peels and general skin care. This increase in exposure to and familiarity with both body contouring and noninvasive cosmetic techniques compared to that of the 2006 survey documents a significant shift in resident training experience and coincides with what is occurring in plastic surgery practices today.

Consistent with the 2006 survey, residents felt that the best method for developing their cosmetic surgery skills was in a resident cosmetic clinic, whereas program directors felt that a combination of both resident and staff cosmetic clinics provided the best cosmetic surgery training. The importance of a resident cosmetic clinic has been supported by a study from Pu et al., who showed that their resident cosmetic clinic accounted for 82.4% of their residents’ exposure to cosmetic surgery. In that clinic, each resident performed an average of 104 procedures. They demonstrated a low complication rate, with no litigation filed against any resident, despite 805 procedures being performed in the resident cosmetic clinic over a 10-year period. They concluded that “a chief resident-run clinic can be an effective and safe learning tool, providing benefit to the patient and the surgeon in training.” These findings were corroborated by Pyle et al., Most recently, a survey by Neaman et al. of all plastic surgery residency programs highlighted that “the majority of plastic surgery programs use the chief resident clinic model to enhance resident education” and that these clinics are a useful way of allowing residents to develop “autonomy [and] surgical maturity” and to achieve the core competencies as set out by the Accreditation Council for Graduate Medical Education.

At the 2010 Annual Meeting of the Association of Academic Chairmen in Plastic Surgery, the utility of resident cosmetic clinics was covered during a panel discussion about cosmetic surgery training. It was agreed that the resident cosmetic clinic is theoretically advantageous for cosmetic surgery training and that all plastic surgery residency programs should consider incorporating this valuable educational resource. Barriers to instituting such a clinic—including cost, staff oversight, malpractice concerns, and administrative issues—have been overcome by many programs currently running active resident clinics. Other resources that could be instituted to enhance resident education were discussed at the 2010 meeting, including incorporation of dedicated cosmetic surgery rotations in plastic surgery residencies, outreach to community-based plastic surgeons with a focus on cosmetic surgery, lectures and staffing of resident cosmetic cases, providing continuing medical education in cosmetic surgery for academic plastic surgeons, and accessing resources for cosmetic surgery education provided by national plastic surgery organizations. The American Society of Plastic Surgeons and the American Society for Aesthetic Plastic Surgery have both been proactive in taking steps to encourage resident participation in national conferences, including offering free meeting attendance, access to online content and web-based seminars, and traveling professorships. With these changes and the advent of integrated programs, it would be interesting to repeat this survey again in the next three years to see if residents’ cosmetic surgery experience has changed.

In the current survey, 25% of program directors and 31% of residents felt that a cosmetic fellowship was necessary. These percentages were lower than those in the 2006 survey, suggesting that program directors and residents are now more confident about the cosmetic surgery training. Therefore, while postgraduate cosmetic fellowships are not an integral part of cosmetic plastic surgery residency training, they remain available for residents who feel the need for further training. The American Society for Aesthetic Plastic Surgery has recently developed a core curriculum in cosmetic surgery training, which is now being instituted by most cosmetic surgery fellowships in the United States. The instructional outline available on its website is split into three components: fellowship design, responsibilities of the fellowship director, and design of the core curriculum. The curriculum itself is divided into facial aesthetic surgery, aesthetic breast, body aesthetic techniques, cosmetic medicine, the practice of aesthetic surgery, and medicolegal/psychological aspects of aesthetic surgery. The concept of a more uniform training curriculum is consistent with many other fellowship programs in other specialties.

On the basis of the 2006 and 2009 survey results, we offer the following suggestions; (1) Every plastic surgery program should endeavor to establish a senior resident cosmetic clinic allowing independent operating but with direct staff oversight. For those programs currently not running such clinics, administrative advice should be sought from programs that have instituted clinics of their own. (2) While the Residency Review Committee mandates a minimum number of cases, plastic surgery residencies should strive to provide a significantly expanded experience for their residents, especially in the areas deemed difficult by residents and program directors in both the 2006 and 2009 surveys (eg, facial cosmetic surgery). In addition, the list of cosmetic index cases should be updated to include minimally-invasive procedures. (3) For those programs weak in a given clinical area, private practice or ancillary support should be sought locally or regionally. (4) Residents should make ample use of cosmetic surgery training modules supplied by national plastic surgery societies, including web-based education and national meetings. (5) For those residents desiring
further cosmetic surgery training, program directors should encourage and expedite such opportunities.

In short, there are significant changes being introduced in overall plastic surgery training, such as increasing the residency program length by one year, implementing more integrated programs, and instituting the previously-described curriculum changes. Continual audit of the outcomes should therefore be encouraged. The low response rate to this survey may be due in part to the shorter time frame over which the responses were collected (one month in 2009, as compared to six months in the 2006 survey). We recommend that this survey be repeated in the next three years, allowing a longer period for data collection; in this way, the effects of the integrated plastic surgery programs can be assessed in comparison to traditional courses. We hope that the results of this survey will act as a springboard to encourage further discussion on how to improve the already-positive cosmetic surgery experience in plastic surgery residency.

CONCLUSIONS

Cosmetic surgery remains popular with patients despite recent economic downturns; it is still an essential component of the plastic surgeon’s practice. With the rapid evolution of this subspecialty, providing comprehensive cosmetic surgery education for our plastic surgery residents has become necessary to ensure the future delivery of the high-quality care expected of board-certified plastic surgeons and to maintain patient safety benchmarks. The results of this survey demonstrate that improvements have been made over the past three years in US resident-training programs, in particular with regard to increased education in minimally-invasive (nonsurgical) and surgical body-contouring procedures. However, to maintain our high standards as a specialty in this competitive era, an ongoing review of the cosmetic surgery training curriculum is encouraged.

APPENDIX: RESIDENT AND DIRECTOR SURVEYS

Residents

1. Please select gender
   Male/Female
2. Which type of program are you enrolled in?
   Independent program
   Integrated program
3. Did you have a designated cosmetic surgery month(s) in your residency program?
   Yes/No
4. If you answered “YES” on question 3, how many months of cosmetic surgery rotation did you have in each year of your residency? (please select one for each applicable question, choosing between independent OR integrated)
   Independent program PGY1
   Independent program PGY2
   Integrated program PGY1
   Integrated program PGY2
   Integrated program PGY3
   Integrated program PGY4
   Integrated program PGY5
   Integrated program PGY6
   Integrated program
5. If you did NOT have a cosmetic specific rotation, was there inclusion of cosmetic surgery in other rotations?
   Yes/No
6. Were there rotations with faculty, either full-time or adjunct, whose practice was primarily cosmetic?
   Yes/No
7. During your cosmetic rotation did you have any training in: (check all that apply)
   Chemical peels – superficial
   Chemical peels – intermediate
   Chemical peels – deep
   Laser resurfacing
   Noninvasive laser treatments (fraxel, IPL, Syneron, hair removal)
   Injectables
8. Please rate your level of confidence in performing the following procedures (1 = not at all confident and 5 = very confident)
   Abdominoplasty
   Upper blepharoplasty
   Lower blepharoplasty
   Brachioplasty
   Circumferential abdominoplasty
   Lower bodylift
   Thighlift
   Endoscopic breast augmentation
   Open breast augmentation
   Breast reduction
   Endoscopic browlift
   Open browlift
   Facelift
   Hair transplantation
   Lateral canthopexy/plasty
   Mastopexy
   Rhinoplasty
9. If you could dedicate a month during your residency to improve your skills in a procedure that you don’t feel currently confident doing, what would you choose? (check all that apply)
- Skin care
- Laser resurfacing
- Chemical peels
- Noninvasive laser treatments
- Breast reduction
- Breast augmentation
- Abdominoplasty
- Body contouring after massive weight loss
- Rhinoplasty
- Facelift
- Browlift
- Blepharoplasty
- Mastopexy
- Hair transplantation

10. Please rate your satisfaction with your cosmetic training (1 = not at all satisfied and 5 = very satisfied)
1-5

11. How many of each of the following cases do you think you would need to do in order to perform that procedure safely with confidence? The options given are 0-3; 4-7; 8-10; >10
- Breast reduction
- Breast augmentation
- Abdominoplasty
- Liposuction
- Facelift
- Rhinoplasty

12. Regarding your staff approach to a cosmetic case, what percentage of a cosmetic case do you actually do?
- <25%
- 25-50%
- 51-75%
- 76-99%
- 100%

13. Do you have a resident cosmetic clinic?
Yes/No

14. If you answered “YES” to question 13, how many cases a year are you allowed to do in your resident cosmetic clinic?
- 1-9
- 10-15
- 16-20
- >20

15. Where do you think that you get the most benefit from learning a cosmetic case? Please rank the following (1 = best, 2 = second best, 3 = worst): The options given are 1; 2; 3
- Resident cosmetic clinic
- Staff cosmetic patient
- Books, journals

16. Please rate how well prepared you are to integrate cosmetic surgery into your practice when you graduate? (1 = not at all prepared, 5 = very prepared)
1-5

17. If you are interested in a cosmetic practice, do you feel the need for a cosmetic fellowship?
Yes/No

18. Do you plan to pursue subspecialty training?
- No
- Cosmetics
- Breast
- Hand
- Craniofacial

19. What are your future goals?
- Solo private practice
- Group private practice
- Academic institution

Chiefs/Chairs
1. Please select gender:
- Male/Female

2. Which type of program do you offer?
- Independent program
- Integrated program
- Both independent and integrated programs

3. Do you have a designated cosmetic surgery month(s) in your residency program?
Yes/No

4. If you answered “YES” on question 3, how many months of cosmetic surgery rotation do you teach in each year of the residency? (please select one for each applicable question)
- Independent program PGY1
- Independent program PGY2
- Integrated program PGY1
- Integrated program PGY2
- Integrated program PGY3
- Integrated program PGY4
- Integrated program PGY5
- Integrated program PGY6
- Integrated program

5. If you do NOT offer a cosmetic specific rotation, is there inclusion of cosmetic surgery in other rotations?
Yes/No

6. Do you offer rotations with faculty, either full-time or adjunct, whose practice is primarily cosmetic?
Yes/No

7. During cosmetic rotations do you offer any training in: (check all that apply)
- Chemical peels – superficial
- Chemical peels – intermediate
- Chemical peels – deep

(continued)
APPENDIX (CONTINUED)

Laser resurfacing  
Noninvasive laser treatments (fraxel, IPL, Syneron, hair removal)  
Injectables  
8. Please rate your level of confidence you would expect of a resident enrolled in your program in performing the following procedures (1 = not at all confident and 5 = very confident)  
Abdominoplasty  
Upper blepharoplasty  
Lower blepharoplasty  
Brachioplasty  
Circumferential abdominoplasty  
Lower bodylift  
Thighlift  
Endoscopic breast augmentation  
Open breast augmentation  
Breast reduction  
Endoscopic browlift  
Open browlift  
Facelift  
Hair transplantation  
Lateral canthopexy/plasty  
Mastopexy  
Rhinoplasty  
9. Based on what your program offers, if you could dedicate a month of training to improve your residents skills in a procedure, what would you choose? (check all that apply)  
Skin care  
Laser resurfacing  
Chemical peels  
Noninvasive laser treatments  
Breast reduction  
Breast augmentation  
Abdominoplasty  
Body contouring after massive weight loss  
Rhinoplasty  
Facelift  
Browlift  
Blepharoplasty  
Mastopexy  
Hair transplantation  
10. Please rate your satisfaction with the programs cosmetic training (1 = not at all satisfied and 5 = very satisfied)  
1-5  
11. How many of each of the following cases do you think the resident would need to do in order to perform that procedure safely with confidence?  
The options given are 0-3; 4-7; 8-10; >10  
Breast reduction  
Breast augmentation  
Abdominoplasty  
Liposuction  
Facelift  
Rhinoplasty  
12. Regarding the staff approach to a cosmetic case, what percentage of a cosmetic case does the resident actually do?  
<25%  
25-50%  
51-75%  
76-99%  
100%  
13. Do you offer a resident cosmetic clinic?  
Yes/No  
14. If you answered “YES” to question 13, how many cases a year is the resident allowed to do in the resident cosmetic clinic?  
1-9  
10-15  
16-20  
>20  
15. Where do you think that the resident gets the most benefit from learning a cosmetic case? Please rank the following (1 = best, 2 = second best, 3 = worst):  
The options given are 1; 2; 3  
Resident cosmetic clinic  
Staff cosmetic patient  
Books, journals  
16. Please rate how well prepared you would expect the resident to be to integrate cosmetic surgery into their practice when they graduate? (1 = not at all prepared, 5 = very prepared)  
1-5  
17. If a resident is interested in a cosmetic practice, would you expect them to need to complete a cosmetic fellowship?  
Yes/No

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**REFERENCES**


