

Once sought nearly exclusively by women, nonsurgical cosmetic procedures are increasingly being sought after by men. Reviewed here are survey data that characterize the spectrum of nonsurgical cosmetic procedures men are preferentially utilizing, the percentage of nonsurgical cosmetic procedures consumers who are men, and how some of these figures are changing with time. While men still comprise a small minority (approximately 10–20%) of those pursuing nonsurgical cosmetic procedures, this sector is growing, in particular for injection of neurotoxins. Practitioners performing nonsurgical cosmetic procedures on male patients need to be aware of anatomical, physiological, behavioral, and psychological factors unique to this demographic.

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Nonsurgical Cosmetic Procedures For Men: Trends And Technique Considerations

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NONSURGICAL COSMETIC procedures (NSCPs), such as injection of neuromodulators and dermal fillers, laser treatments, and sclerotherapy, are becoming increasingly accepted and sought by mainstream society. For example, a recent survey from the American Society for Dermatologic Surgery (ASDS) indicated that dermatologists alone performed nearly three million neuromodulators and soft tissue filler procedures in 2013.¹ Men are becoming increasingly concerned about their appearance. This is reflected not only by their increasing use of NSCPs, but also by their behaviors to maintain physique through use of anabolic steroids.² While the NSCP market has historically been overwhelmingly dominated by female consumers, numerous studies and anecdotal experience suggest that there is increasing interest in these procedures among male patients. Further, physician attitudes toward these patients are changing as well.

While it had previously been posited that the prevalence of psychiatric disease among male cosmetic patients is higher than that among the general population, more recent studies suggest that this is not the case.³ In recognition of these trends, there are now specific centers dedicated to cater to the male cosmetic patient. The present review aims to compare available survey data across specialties and nations to qualitatively assess trends in utilization of NSCPs by men. Further, gender-specific differences in anatomy, physiology, and accordingly in technique are briefly reviewed for injectables (i.e., neurotoxins and soft tissue fillers) as well as sought-after laser treatments.

SURVEY DATA CHARACTERIZING TRENDS IN UTILIZATION OF NONSURGICAL COSMETIC PROCEDURES BY MEN

Since 2005, The American Society for Aesthetic Plastic Surgery (ASAPS) has been issuing an annual survey on

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cosmetic procedure utilization to more than 21,000 practicing dermatologists, plastic surgeons, and otolaryngologists.⁴⁻¹³ According to the 2014 ASAPS survey, the NSCPs with the highest percentage of male patients was intense pulsed light (13.9% males), laser hair removal (12.9% males), and neurotoxin injection (11.5% males) (Table 1). In each year the survey was administered, neurotoxin injections were by far the most popular NSCP for men. The ASAPS surveys suggest that the percentage of all NSCPs being performed in men is on the rise (Figure 1). In 2005, only 8.3 percent of NSCPs were performed on men, whereas this number increased to 10.1 percent in 2014 (Table 1). While the number of neurotoxin injections performed on men has increased from 9.2 to 11.5 percent from 2005 to 2014, the change in the percentage of soft tissue filler procedures being performed on men has been insignificant, from 8.2 to 8.3 percent, respectively. These results further suggest the overall number of NSCPs performed regardless of gender appears to be remaining relatively stagnant (Table 1). These data suggest that the rate at which males are seeking neurotoxin injections is growing more rapidly than that for females. The rate of growth for filler injections, however, is about the same for patients regardless of gender.

The National Ambulatory Medical Care Survey (NAMCS) is a survey of office-based physicians across specialties. In 2007, Housman et al¹⁴ analyzed NAMCS data from 1995 to 2003 and found

that dermatologists were performing more NSCPs than other specialists.¹⁴ Using ICD-9-CM procedure codes, these authors interrogated the data for cosmetic procedures including NSCPs. The authors' analysis suggested that 21.3 percent of all NSCPs during this time were being performed on men (Table 2). Interestingly, these data suggest the most popular procedures for men in order were chemical peels, then soft tissue fillers, then dermabrasion. These observations stand in contrast to ASAPS data and common experience, both of which suggest neurotoxins followed by dermal fillers are the most popular NSCPs for men.¹³ These particular data are subject to the limitation of including only data for which ICD-9-CM codes were entered. A large number of cosmetic procedures are billed directly to the patient, rendering procedure codes unnecessary. Therefore, particular procedures that are more likely to be covered by insurance in part or in whole (e.g., scar rehabilitation) are more likely to be included in this survey than procedures paid for exclusively by the patient.

The ASDS surveys dermatologists annually on the number of procedures they are performing. Gender-specific data are available only for neurotoxins and dermal fillers from 2011 through 2014, and these data are summarized in Table 3.^{1,15-17} In summary, the data show that the percentage of neurotoxin injections performed on men increased from 10 percent in 2011 to 13 percent in 2014, whereas the percentage of soft tissue filler procedures performed

on men increased from eight to only nine percent over the same time interval. In accordance with the ASAPS data, these results suggest that the percentage of men seeking neuromodulator injections is increasing more rapidly than that for other NSCPs.

The 2013 International Society of Aesthetic Plastic Surgery (ISAPS) procedure survey, including data from 10 nations, indicated that men comprise 11.3 percent of those undergoing NSCPs (Table 4).¹⁸ Men made up the largest percentage of those seeking laser hair removal (15.1%), followed by neurotoxin injection (12.5%). Men made up the smallest percentage (6.4%) of those obtaining noninvasive facial rejuvenation procedures such as intense pulsed light. Data from previous years is not available for review.

GENERAL CONSIDERATIONS FOR MALE PATIENTS UNDERGOING NSCPs

There are significant anatomical, physiological, and behavioral differences in the aging male face that warrant specific treatment considerations. For example, men have more skeletal musculature than their female counterpart¹⁹ and this likely extends to mimetic musculature given that men have more facial muscular movement than women.²⁰ These observations may explain why men tend to generally have more exuberant dynamic facial rhytids than women²¹ in areas other than the perioral area.²² Non-facial skin is thicker in males and has a higher collagen content than in females.²³ These findings likely extend to

Table 1. Gender-specific demographic data for nonsurgical cosmetic procedures from The American Society for Aesthetic Plastic Surgery procedure surveys from 2005 to 2014⁴⁻¹³

	YEAR	TOTAL	FEMALE TOTAL	FEMALE %	MALE TOTAL	MALE %
TOTAL PROCEDURES	2005	9,297,730	8,525,713	91.7	772,017	8.3
	2006	9,533,982	8,786,240	92.2	747,742	7.8
	2007	9,621,999	8,725,422	90.7	896,577	9.3
	2008	8,491,862	7,794,073	91.8	697,789	8.2
	2009	8,522,139	7,747,782	90.9	774,357	9.1
	2010	9,336,814	8,586,740	92.0	750,074	8.0
	2011	7,555,986	6,904,810	91.4	651,176	8.6
	2012	8,416,470	7,608,459	90.4	808,011	9.6
	2013	9,536,562	8,654,899	90.8	881,663	9.2
	2014	8,898,652	7,998,136	89.9	900,516	10.1
NEUROTOXIN	2005	3,294,782	2,990,658	90.8	304,124	9.2
	2006	3,181,591	2,881,119	90.6	300,472	9.4
	2007	2,775,175	2,445,656	88.1	329,519	11.9
	2008	2,464,123	2,239,024	90.9	225,099	9.1
	2009	2,557,068	2,299,282	89.9	257,786	10.1
	2010	2,437,165	2,211,930	90.8	225,235	9.2
	2011	2,619,739	2,355,455	89.9	264,284	10.1
	2012	3,257,913	2,915,865	89.5	342,048	10.5
	2013	3,766,148	3,381,476	89.8	384,672	10.2
	2014	3,588,219	3,174,856	88.5	413,363	11.5
FILLER	2005	1,645,441	1,511,305	91.8	134,136	8.2
	2006	1,972,131	1,868,934	94.8	103,197	5.2
	2007	1,723,478	1,610,616	93.5	112,862	6.5
	2008	1,528,829	1,444,505	94.5	84,324	5.5
	2009	1,579,897	1,461,550	92.5	118,347	7.5
	2010	1,547,679	1,457,647	94.2	90,032	5.8
	2011	1,441,703	1,336,346	92.7	105,357	7.3
	2012	1,623,346	1,497,811	92.3	125,535	7.7
	2013	2,125,506	1,964,853	92.4	160,653	7.6
	2014	1,908,993	1,751,049	91.7	157,944	8.3

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Table 1 continued. Gender-specific demographic data for nonsurgical cosmetic procedures from The American Society for Aesthetic Plastic Surgery procedure surveys from 2005 to 2014⁴⁻¹³

	YEAR	TOTAL	FEMALE TOTAL	FEMALE %	MALE TOTAL	MALE %
LASER HAIR REMOVAL	2005	1,566,909	1,334,669	85.2	232,240	14.8
	2006	1,475,296	1,308,739	88.7	166,557	11.3
	2007	1,412,658	1,226,974	86.9	185,684	13.1
	2008	1,280,963	1,101,255	86.0	179,708	14.0
	2009	1,280,031	1,113,996	87.0	166,035	13.0
	2010	936,271	817,383	87.3	118,888	12.7
	2011	919,802	812,352	88.3	107,450	11.7
	2012	883,893	757,489	85.7	126,404	14.3
	2013	901,570	773,278	85.8	128,292	14.2
	2014	828,480	721,874	87.1	106,606	12.9
ABLATIVE LASER	2005	475,689	432,606	90.9	43,083	9.1
	2006	576,512	528,061	91.6	48,451	8.4
	2007	509,901	479,799	94.1	30,102	5.9
	2008	570,880	532,008	93.2	38,872	6.8
	2009	522,319	463,339	88.7	58,980	11.3
	2010	562,605	518,275	92.1	44,330	7.9
	2011	345,587	319,810	92.5	25,777	7.5
	2012	432,496	401,915	92.9	30,581	7.1
	2013	359,404	334,026	92.9	25,378	7.1
	2014	408,433	381,890	93.5	26,543	6.5
INTENSE PULSED LIGHT	2005	N/A	N/A	N/A	N/A	N/A
	2006	N/A	N/A	N/A	N/A	N/A
	2007	647,707	584,530	90.2	63,177	9.8
	2008	526,828	479,941	91.1	46,887	8.9
	2009	452,210	404,534	89.5	47,676	10.5
	2010	381,480	345,545	90.6	35,935	9.4
	2011	439,161	396,866	90.4	42,295	9.6
	2012	337,482	308,764	91.5	28,718	8.5
	2013	456,613	413,186	90.5	43,427	9.5
	2014	370,496	318,846	86.1	51,650	13.9

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Table 1 continued. Gender-specific demographic data for nonsurgical cosmetic procedures from The American Society for Aesthetic Plastic Surgery procedure surveys from 2005 to 2014⁴⁻¹³

	YEAR	TOTAL	FEMALE TOTAL	FEMALE %	MALE TOTAL	MALE %
FRAXEL	2005	N/A	N/A	N/A	N/A	N/A
	2006	N/A	N/A	N/A	N/A	N/A
	2007	167,351	153,954	92.0	13,397	8.0
	2008	110,392	103,468	93.7	6,924	6.3
	2009	119,676	109,091	91.2	10,585	8.8
	2010	102,016	94,003	92.1	8,013	7.9
	2011	100,433	92,719	92.3	7,714	7.7
	2012	86,313	75,349	87.3	10,964	12.7
	2013	90,801	83,490	91.9	7,311	8.1
	2014	84,833	75,589	89.1	9,244	10.9
NONINVASIVE TIGHTENING	2005	N/A	N/A	N/A	N/A	N/A
	2006	N/A	N/A	N/A	N/A	N/A
	2007	258,236	239,168	92.6	19,068	7.4
	2008	257,995	232,594	90.2	25,401	9.8
	2009	275,118	264,366	96.1	10,752	3.9
	2010	247,500	236,588	95.6	10,912	4.4
	2011	297,795	279,549	93.9	18,246	6.1
	2012	350,353	318,196	90.8	32,157	9.2
	2013	388,311	342,277	88.1	46,034	11.9
	2014	433,671	395,581	91.2	38,090	8.8
SCLEROTHERAPY	2005	554,252	548,045	98.9	6,207	1.1
	2006	559,284	541,291	96.8	17,993	3.2
	2007	471,639	467,844	99.2	3,795	0.8
	2008	423,842	417,465	98.5	6,377	1.5
	2009	452,924	442,015	97.6	10,909	2.4
	2010	444,888	434,994	97.8	9,894	2.2
	2011	354,731	348,501	98.2	6,230	1.8
	2012	296,501	282,229	95.2	14,272	4.8
	2013	375,446	367,384	97.9	8,062	2.1
	2014	315,707	305,377	96.7	10,330	3.3

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Table 1 continued. Gender-specific demographic data for nonsurgical cosmetic procedures from The American Society for Aesthetic Plastic Surgery procedure surveys from 2005 to 2014⁴⁻¹³

	YEAR	TOTAL	FEMALE TOTAL	FEMALE %	MALE TOTAL	MALE %
MICRODERMABRASION	2005	1,023,931	939,508	91.8	84,423	8.2
	2006	993,072	921,970	92.8	71,102	7.2
	2007	829,658	743,748	89.6	85,910	10.4
	2008	557,131	517,307	92.9	39,824	7.1
	2009	621,943	565,031	90.8	56,912	9.2
	2010	450,744	416,315	92.4	34,429	7.6
	2011	499,427	468,466	93.8	30,961	6.2
	2012	498,820	454,069	91.0	44,751	9.0
	2013	479,865	452,351	94.3	27,514	5.7
	2014	417,034	372,218	89.3	44,816	10.7
CHEMICAL PEELS	2005	556,171	533,009	95.8	23,162	4.2
	2006	558,430	530,147	94.9	28,283	5.1
	2007	575,081	536,044	93.2	39,037	6.8
	2008	591,808	554,492	93.7	37,316	6.3
	2009	528,285	492,335	93.2	35,950	6.8
	2010	493,806	469,570	95.1	24,236	4.9
	2011	384,222	360,313	93.8	23,909	6.2
	2012	443,824	418,774	94.4	25,050	5.6
	2013	444,268	412,870	92.9	31,398	7.1
	2014	484,053	452,872	93.6	31,181	6.4

facial skin. Men also tend to have more sebaceous skin and may therefore be more inclined to seek treatment for sebaceous hyperplasia. Men have greater vascularity and perfusion of facial skin, which may carry implications for complications of NSCPs,²⁴ such as bleeding and bruising.

There are gender-specific differences in facial bone structure. In particular, men have a more prominent supraorbital rim, a larger forehead, and flatter cheeks that are

more angular.²⁵ Men also have a greater forehead slope from brow to hairline, a flatter brow, and a more defined hairline with a wider and more forwardly projected chin.²⁶ These anatomic differences are of paramount consideration in the context of cosmetic interventions, as exaggeration rather than restoration of typical male features can result in an aggressive or threatening appearance, whereas accentuation of feminine features will have a feminizing effect.²⁶

In addition to considerations of gender-specific anatomical and physiological considerations, behavioral and psychological factors must also be considered when addressing cosmetic concerns of male patients. Men, like women, find facial symmetry desirable.²⁷ However, men often do not desire complete eradication of dynamic rhytids, preferring instead to have them softened.²⁶ Men may also be less inclined to request procedures associated with downtime such as

fully ablative resurfacing,²⁸ perhaps due to a combination of social stigmatization and career issues. Men also tend to be more conservative and tend to elect for only one procedure at a time, particularly with their first treatment sessions.²⁸ Although it has not yet been studied, a higher percentage of male cosmetic patients may be naïve and may therefore have a less clear understanding of procedures from which they may benefit. Regardless of current trends, men still make up a small minority of those seeking NSCPs, so they are less likely to have heard about specific procedures from same-gender peers. It is therefore possible that new male cosmetic patients may require more counseling than their female counterparts.

Clinics with a specific understanding of male NSCP patients can foster an environment with which these patients will be comfortable and in which they will achieve desirable outcomes. Such clinics may serve to destigmatize

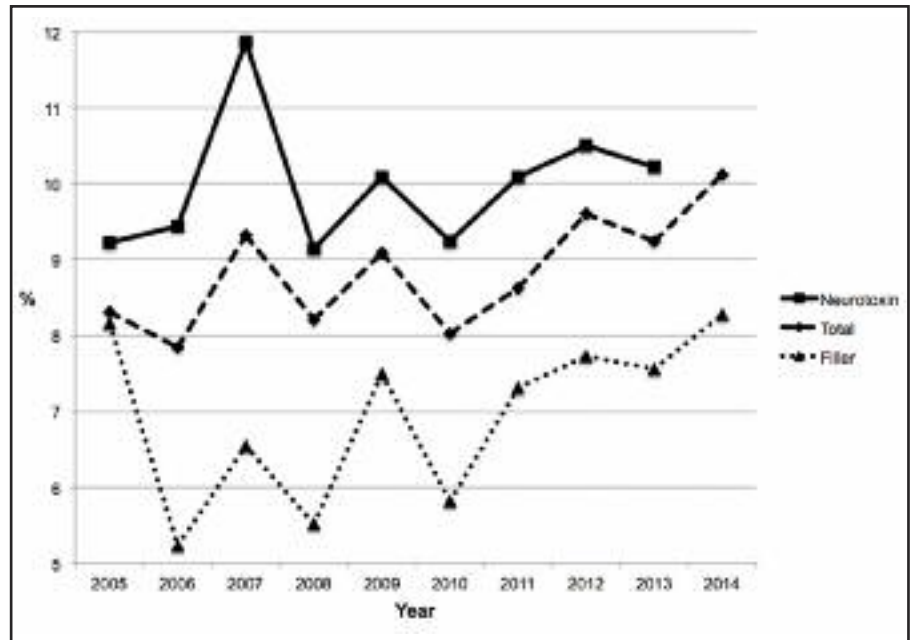


Figure 1. Percentage of total nonsurgical cosmetic procedures versus time for neurotoxin injections and soft tissue filler injections performed on men from 2005 through 2014. Data from The American Society for Aesthetic Plastic Surgery procedure surveys.⁴⁻¹³

NSCPs among some men who may still believe that these procedures are “only for women.” However, caution must be used to avoid creating spaces that feel hypermasculine for this would have the potential to alienate some patients.

GENDER-SPECIFIC APPROACH FOR NONSURGICAL COSMETIC PROCEDURES FOR MALE PATIENTS

Data suggests that men seek treatment with nonablative fractional resurfacing devices for different indications than do

Table 2. Gender-specific data on nonsurgical cosmetic procedures from the National Ambulatory Medical Care Survey pooled from 1995 to 2003. Data from Housman et al 2008.¹⁴

PROCEDURE	TOTAL NUMBER	TOTAL %	NUMBER WOMEN	% WOMEN	NUMBER MEN	% MEN
CHEMICAL PEELS	2,706,802	28.8	1,796,168	66.4	910,635	33.6
DERMAL FILLER	2,570,137	27.3	1,814,297	70.6	755,841	29.4
SCLEROTHERAPY	1,803,140	19.2	1,715,284	95.1	87,856	4.9
NEUROTOXIN	746,079	7.9	720,977	96.6	25,102	3.4
EPIILATION	383,499	4.1	377,920	98.5	5,578	1.5
DERMABRASION	1,172,808	12.5	953,865	81.3	218,943	18.7
COLLAGEN	19,524	0.2	19,524	100.0	0	0.0
TOTAL	9,401,989	100	7,398,035	78.7	2,003,954	21.3

Table 3. Gender-specific data on nonsurgical cosmetic procedures from The American Society for Dermatologic Surgery procedure survey from 2011 through 2014^{1,15-17}

	YEAR	TOTAL	FEMALE NUMBER	FEMALE %	MALE NUMBER	MALE %
NEUROTOXIN	2011	1,200,000	1,080,000	90	120,000	10
	2012	1,493,147	1,328,901	89	164,246	11
	2013	1,800,000	1,602,000	89	198,000	11
	2014	1,740,000	1,513,800	87	226,200	13
FILLERS	2011	830,800	764,336	92	66,464	8
	2012	916,455	843,139	92	73,316	8
	2013	995,000	895,500	90	99,500	10
	2014	1,010,000	919,100	91	90,900	9

Table 4. Gender-specific data on nonsurgical cosmetic procedures from the International Society of Aesthetic Plastic Surgery 2013 procedure survey¹⁸

PROCEDURE	TOTAL	TOTAL %	TOTAL FEMALE	FEMALE %	TOTAL MALE	MALE %
NEUROTOXIN	5,145,189	43.3	4,501,514	87.5	643,675	12.5
CHEMICAL PEEL, CO ₂ RESURFACING, DERMABRASION	773,442	6.5	682,647	88.3	90,795	11.7
NONABLATIVE REJUVENATION	1,307,300	11.0	1,223,520	93.6	83,780	6.4
FILLERS	3,089,686	26.0	2,787,799	90.2	301,887	9.8
LASER HAIR REMOVAL	1,440,253	12.1	1,222,720	84.9	217,533	15.1
SCLEROTHERAPY	119,040	1.0	109,771	92.2	9,269	7.8
TOTAL	11,874,910	100	10,527,971	88.7	1,346,939	11.3

women. According to one study, the most common indications for men in decreasing order were acne scars, facial photoaging, and traumatic/surgical scars.²⁹ In

contrast, the most common indications for women were facial photoaging, non-facial photoaging, and acne scars in descending order. Anecdotal evidence also suggests

that men are less likely than their female counterparts to seek more than one cosmetic treatment per visit, in particular for their initial treatment.²⁸ Men also tend to be less

patient and expect immediate results, yet do not tolerate post-procedure edema and erythema and are relatively unwilling to use masking agents such as make-up, but also tend to have fewer post-procedure acne flares than women.²⁸ One author has reported the use of devices, such as the 590nm LED, to reduce post-procedure erythema and edema to minimize downtime after photorejuvenation with nonablative lasers in men.²⁸ The same author advocates using higher fluences with men than with women, perhaps owing to some of the aforementioned gender-specific differences in anatomy and physiology of skin. Another technique the authors' group commonly employs is use of a single application of a high potency topical corticosteroid immediately after the procedure to reduce post-procedure erythema and edema.

Careful consideration of male facial anatomy is essential for patients seeking injection of dermal fillers. For example, outcomes may be more favorable when men are injected with volumizing filler in the lateral face (i.e., zygomatic cheek), as filler injected in the central face tends to be more feminizing. Also, the increased vascularity in the beard area of the male face suggests that men may be more prone to bruising following injections of filler for neurotoxin into the lower face.^{24,25,30}

There are numerous gender-specific differences in facial anatomy that render special attention to technique absolutely essential for men requesting neurotoxin injections. Many of these

differences have been reviewed elsewhere,^{26,30,31} so the present discussion will highlight solely a few salient points. Men tend to have larger foreheads, often resulting in the need for more injection sites. Men also tend to have brows that are low by nature, so injections that are too low or potent can easily result in ptosis.³⁰ The male brow also tends to be flatter than that in women, so when choosing injection sites, care must be taken to avoid central or lateral brow lift.³⁰ While there is at present no data to suggest that men require significantly more units of neurotoxin to successfully treat forehead rhytids, a randomized, double-blind study showed that men may require as much as 40 to 80 units of onabotulinumA to successfully treat glabellar rhytids, and that these high doses are not associated with an increased risk of complications.³² With treatment of the glabellar complex and resulting chemodenervation of the medial frontalis, there can be recruitment of lateral frontalis resulting in lateral brow lift.³¹ This is generally an undesirable outcome in males as it results in an eyebrow arch that is more typical of the female brow. Fortunately, this can be corrected or anticipated by treating the lateral frontalis at the same time as the glabellar complex.³¹ Moreover, the orbicularis oculi extends more laterally in men, so additional lateral depots may be required when treating lateral canthal folds.³¹

DISCUSSION

Men are showing increasing interest in NSCPs, perhaps more so

than in surgical cosmetic interventions for which interest among males may not be rising as rapidly.³³ The ASAPs survey data reviewed here suggest that the percentage of all NSCPs performed on men is slowly trending upward, implying that the male cosmetic sector is growing more rapidly than the female sector. Much of this trend is likely attributable to the high rate of growth of neurotoxin injections, which were the most popular NSCP requested by men in a survey series (Table 1). The ASDS survey results also suggested that rates of neurotoxin injections are on the rise among men, whereas filler injection rates are increasing modestly, if at all. All three surveys reviewed suggest that men comprise approximately 10 to 20 percent of individuals seeking NSCPs, which is consistent with rates at our practice. It therefore bears emphasizing that while the male sector of this industry is increasing, males still make up a small minority of those pursuing these procedures.

There are likely numerous reasons why men are increasingly seeking out NSCPs. The overall trend regardless of gender is toward more NSCPs, and this is likely associated with societal destigmatization. Further, while in recent years there have been "reality" television programs that have shown cast members undergoing procedures, there are currently on-air several programs that focus specifically on cosmetic procedures. In addition to the societal destigmatization, it is possible that an additional

contributing factor is the movement of so-called “metrosexuals”—progressive young urban heterosexual men who are meticulous about their appearance, a trait that had historically been attributed to women and homosexual men.³⁴ It is plausible that men self-identifying as “metrosexual” may be over-represented among those seeking NSCPs, but this has not yet been studied.

Future studies should aim to further characterize this segment of the NSCP market with behavioral surveys. Further, the data reviewed here are merely semiquantitative, meaning there is still a need for systematic studies that will allow a more accurate characterization of these trends over time. One significant limitation of survey data is that changes in survey protocols may be altered from year to year, rendering comparisons across survey years problematic. Despite these limitations, the data reviewed here consistently suggest that men are increasingly interested in NSCPs. Clinics treating a large number of male cosmetics patients need to be aware of not only the gender-specific anatomical and physiological considerations reviewed here, but also the behavioral and psychological attributes specific to the population comprising this burgeoning niche.

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