

Current Trends and Controversies in Breast Augmentation

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Background: A survey was conducted to study current attitudes and common practices in breast augmentation.

Methods: A 35-item electronic questionnaire was sent to the entire active American Society of Plastic Surgeons membership. It was divided into current controversies, new technologies, common practices, secondary procedures, and member demographics.

Results: There were 1067 respondents. Fifty percent of surgeons never use anatomically shaped implants and another 42 percent do so less than half the time. Autologous fat is used infrequently as a primary technique but more often as a supplemental technique. Approximately 7 percent report a case of anaplastic large cell lymphoma. Eighty-five percent do not use preoperative three-dimensional imaging. More than half of surgeons use acellular dermal matrix in secondary procedures. Approximately half do not use insertion funnels. Preoperative sizing with silicone implants, inframammary incisions, partial submuscular pockets, and smooth silicone implants larger than 300 cc are dominant practice preferences. Postoperative massage is still popular with over half of respondents. Just over half do not use pharmacologic agents for capsular contracture. Capsular contracture and size change were the most frequent reasons for reoperation. Capsular contracture is typically treated with anterior capsulectomy the first time, and either total capsulectomy or anterior capsulectomy with acellular dermal matrix use when recurrent. Almost half of respondents perform fewer than 50 breast augmentations yearly.

Conclusions: There is an established most common approach to breast augmentation among respondents. Most surgeons are slow to embrace controversial practices and to adopt new technologies, although acellular dermal matrix use is becoming more popular. The 7 percent incidence of anaplastic large cell lymphoma was noteworthy. (*Plast. Reconstr. Surg.* 137: 1142, 2016.)

Breast augmentation is the most frequently performed aesthetic surgical procedure in the United States, with over 286,000 cases reported last year.¹ As breast implant technology has advanced, so has the development of best practices designed to achieve high levels of patient satisfaction while minimizing the potential for reoperation.² Although there is consensus on some aspects of breast augmentation, there remains a plethora of options for which there is not.^{3,4}

Currently there are a variety of choices regarding implant selection methodology, incisions,

pocket plane, several aspects of surgical technique, intraoperative antimicrobial solutions, postoperative management, and the handling of various complications. More recently, the use of autologous fat, acellular dermal matrix, three-dimensional imaging, insertion funnels, and anatomically shaped implants has added more options to be considered.⁵⁻¹² The goal of this study was to assess current practices in breast augmentation and explore thought trends in

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A Video Discussion by Karen Horton, M.D., accompanies this article. Go to PRSJJournal.com and click on "Video Discussions" in the "Videos" tab to watch.

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areas of controversy and new technologies. This is a more global examination of the topic compared with a previous survey that focused on a few specific issues.¹³

METHODS

A 35-item breast augmentation questionnaire was sent to all 4972 active members of the American Society of Plastic Surgeons. The survey addressed five areas of interest: current controversies, new technologies, common practices, technical considerations in secondary procedures, and member demographics. The survey was launched by e-mail on April 1, 2015. Reminders were sent 3 weeks and 6 weeks later. Responses were anonymous and the survey results were tabulated using Microsoft Excel (Microsoft Corp., Redmond, Wash.). Questions that included a commentary option were studied individually to uncover relevant issues overlooked by question structure.

RESULTS

There were a total of 1067 responses. The response rate was 21.5 percent, well above the average for American Society of Plastic Surgeons-generated questionnaires. Tables 1 through 5 show respondent answers to survey questions.

Current Controversies

Half of respondents never use anatomically shaped implants, and the vast majority of the remainder use them less than half the time (Table 1). The three greatest concerns regarding anatomical implants were the malrotation potential, higher cost, and lack of proof for aesthetic superiority compared with round implants. There were 68 comments on this question, with 66 of 67 critical, one supportive, and one neutral. The most common comments were as follows: too firm, lack of upper pole fullness, and wrinkling/palpability. It is not clear, though, whether criticisms leveled by respondents were based on actual experience or represent the speculative concerns of nonusers.

Autologous fat as a primary breast augmentation technique is used by less than 20 percent of respondents and less than 50 percent of the time in the vast majority of those that do. The greatest objections to this method (in order) were the possible need for multiple grafting procedures, limited augmentation potential, and cost. There were 247 comments on this question, the most in the survey for a single question, and none were supportive. The most common criticisms were interference with breast cancer

Table 1. Current Controversies

Controversy	% of Total Respondents
Use anatomical implants	
Never	50.2
<50%	42.0
Half the time	4.0
>50%	3.0
Always	0.8
Concerns regarding anatomical implants (can select more than one)	
No concerns	8.6
Aesthetic result not proven superior	47.9
Malrotation potential	75.8
Texturization problem (late seroma, ALCL)	39.1
Limited incision options	19.9
Larger incision	44.6
Higher cost	65.5
Other	6.4
Use of autologous fat for primary augmentation	
Never	81.5
<50%	17.6
Half the time	0.2
>50%	0.6
Always	0.1
Concerns regarding autologous fat as a primary technique (can select more than one)	
No concerns	8.6
Process too complex	25.3
Limited augmentation potential	69.2
Potential donor-site deformity	18.0
May require multiple fat-grafting procedures	72.6
Cost	46.4
Other	23.4
Use of autologous fat as a supplemental technique	
Never	55.0
<50%	41.8
Half the time	2.2
>50%	0.9
Always	0.2
Seen a case of ALCL in your practice	
Yes	7.1
No	92.9
Whether or not to operate on a heterozygous factor V Leiden patient	
Yes, no special precautions beyond SCDs	15.5
Yes, with anticoagulation/chemoprophylaxis and SCDs	51.9
Yes, with SCDs and postoperative ultrasound	3.4
No	29.3

ALCL, anaplastic large cell lymphoma; SCDs, sequential compression devices.

screening (103 comments), concerns that long-term safety is unproven and that the technique may pose an oncologic risk (34 comments), fat necrosis (22 comments), and concerns for liability issues and lack of U.S. Food and Drug Administration/American Society of Plastic Surgeons approval (nine comments). Regarding the use of autologous fat as a supplemental technique with implants, just over half do not use it at all, and the majority of the remainder use it less than half the time.

Approximately 7 percent of surgeons have seen a case of anaplastic large cell lymphoma

Table 2. New Technologies

Characteristic	% of Total Respondents
Use of three-dimensional imaging technology	
Yes	15.1
No	84.9
If yes, assess the role of three-dimensional imaging in your practice (can select more than one)	
It is an effective marketing tool	72.2
It is an effective educational tool	82.3
It is an effective sizing tool	58.9
It has made the consultation process overly complex	13.3
It has not proven worth the cost and effort	10.8
Other	10.8
Use of ADM in secondary cases	
Yes	58.8
No	41.2
If yes, for what purposes? (can select more than one)	
Capsular contracture	52.0
Contour deformities	50.8
Capsulorrhaphy buttress	74.1
Ripples or thin tissues	72.6
Other	6.7
Use of insertion funnels	
Never	51.9
Less than half the time	8.9
Half the time	3.4
Only for small incisions/large implants	3.8
More than half the time	10.6
Always	21.4
If not, why? (can select more than one)	
Extra cost	64.6
Adds extra step	16.2
Not applicable for form-stable implants	6.2
Concerned it may weaken shell	6.2
Not necessary	66.8
Use of adhesive plastic sheeting for skin protection before implant insertion [e.g., Tegaderm (3M, St. Paul, Minn.), Op-Site (Smith & Nephew, London, United Kingdom), Ioban (3M)]	
Yes, over the nipple-areola complex	28.7
Yes, over the incision	2.7
Yes, over both nipple-areola complex and the incision	6.0
No, I do not use it	62.6

ADM, acellular dermal matrix.

(ALCL) in their practice. Regarding deep venous thrombosis, another matter of recent concern, close to one-third of respondents would choose not to perform breast augmentation on a factor V Leiden heterozygous patient. The remainder would choose to do so using sequential compression devices at the very least. Just over half of all respondents would add anticoagulation/chemoprophylaxis as an additional preventive measure.

New Technologies

Most surgeons (85 percent) do not currently use three-dimensional imaging in their practice

(Table 2). The most important advantages cited by users (in descending order) are that it is an effective tool for marketing, patient education, and sizing. There were 17 comments (14 positive) confirming that three-dimensional imaging improved communication with patients and increased the volume of consultations and procedures.

Almost 60 percent of surgeons use acellular dermal matrix for revision procedures or in secondary breast augmentation. The most common indications (in descending order) were as a capsulorrhaphy buttress, to treat ripples or thin tissues, and for capsular contracture, with just over half using it for the latter application. There were 41 comments citing implant malposition, bottoming-out, and symmastia as the most common reasons for use.

Just over half of surgeons do not use funnels for implant insertion, whereas another 21 percent use them all of the time. The two most common objections, cited by approximately two-thirds of nonusers, were the extra cost and that they are believed not to be necessary.

Sixty-three percent of surgeons do not use adhesive plastic sheeting for skin protection before implant insertion. Most of the remainder use it to cover the nipple-areola complex and a much smaller number use it to cover the incision area.

Common Practices

Most surgeons surveyed use either round silicone implants, silicone forms, or “rice bags” for preoperative sizing, in that order (Table 3). Approximately 20 percent use tissue-based systems, and fewer either use three-dimensional imaging or no method at all (<15 percent for each). Eighty-two percent use either mostly silicone implants with some saline, or 100 percent silicone. Implant shell surface type is either mostly smooth and sometimes textured (44 percent) or 100 percent smooth (40 percent). The most common size range was 300 to 350 cc in 42 percent and over 350 cc in another 36 percent. Mentor (Santa Barbara, Calif.) implants were most commonly used by respondents.

Inframammary incisions and partial submuscular pockets are by far the most commonly preferred approaches to dissection. Only 2.4 percent used a subfascial pocket plane. Nearly 94 percent of respondents administer intravenous antibiotics at induction of anesthesia, and 56 percent use postoperative antibiotics. Irrigation with either classic triple-antibiotic solution was used by 53 percent and povidone-iodine either with or without additional antibiotics in 31 percent.

Table 3. Common Practices

Characteristic	% of Total Respondents
Method for implant selection (can select more than one)	
Sizing using round silicone implants	54.3
Sizing with silicone forms	33.0
“Rice bags” or other as preoperative sizers	12.7
“High-five” or other tissue-based system	19.8
Imaging technology	12.1
None	13.1
Implant filler type used	
100% silicone	22.4
Mostly silicone/some saline	59.7
Equal use	8.6
Mostly saline/some silicone	7.9
100% saline	1.5
Implant shell surface type used	
100% smooth	40.4
Mostly smooth/some textured	44.3
Equal use	5.4
Mostly textured/some smooth	7.0
100% textured	2.9
Usual implant size range	
<250 cc	0.4
250–300 cc	5.60
275–325 cc	15.9
300–350 cc	42.1
>350 cc	36.0
Implant manufacturer use (can select more than one)	
Allergan (Irvine, Calif.)	60.6
Mentor (Santa Barbara, Calif.)	73.4
Sientra (Santa Barbara, Calif.)	40.4
Most common incision	
Axillary	3.3
Periareolar	12.6
Inframammary	83.9
Periumbilical	0.2
Most common pocket location	
Complete submuscular	12.7
Partial submuscular	79.5
Subglandular	5.4
Subfascial	2.4
Use of antibiotic prophylaxis (can select more than one)	
Intravenous antibiotics at induction of anesthesia	93.7
Povidone-iodine (only) irrigation	13.2
Povidone-iodine/bacitracin or neomycin irrigation	17.7
Classic triple-antibiotic irrigation	53.0
Other irrigation type	11.7
Postoperative oral antibiotics	56.1
Never use antibiotic prophylaxis	0.3
Use of postoperative massage	
Yes	61.5
No	38.5
Recommendation for return to unrestricted activities	
1 day	0.8
1 wk	4.6
2–3 wk	27.7
4 wk	30.4
6 wk	33.54
2–3 mo	3.0

(Continued)

Table 3. (Continued)

Characteristic	% of Total Respondents
Use of pharmacologic agents for capsular contracture	
Yes, prophylactically in all	3.5
Yes, only at first sign of onset	35.8
Yes, as first option in established contracture	8.4
Never	52.3
Are they effective in reducing capsular contracture?	
Yes	9.3
Only if started early	14.1
Not sure	47.5
No	29.1
Nonsurgical methods for treating capsular contracture (can select more than one)	
Leukotriene inhibitors	39.0
Papaverine	1.5
Cox-2 inhibitors	6.1
External ultrasound	8.1
Pulsed electromagnetic field therapy	0.6
Massage	54.9
Closed capsulotomy	4.5
None	25.5
Other	7.9

Table 4. Technical Considerations in Secondary Procedures

Characteristic	% of Total Respondents
Most common reasons for reoperation beyond hematoma or infection	
Capsular contracture	36
Implant malposition	16.9
Implant failure	17.1
Seroma	0.8
Size change	31.2
Surgical technique most commonly used for capsular contracture	
Anterior capsulectomy	46.1
Total capsulectomy	35.1
Capsulectomy with ADM lining	5.6
Neopocket formation	11.2
Neopocket with ADM lining	1.9
Most common technique for treating recurrent capsular contracture in patients with subpectoral (dual-plane) implants	
Anterior capsulectomy	5.5
Total capsulectomy	25.2
Capsulectomy with ADM pocket lining	27.5
Neopocket formation	17.8
Neopocket formation with ADM pocket lining	12.5
No surgical treatment if bilateral capsular contracture and symmetric	4.3
No surgery and consider removing implants	7.3
Most common treatment for double-bubble or bottoming-out	
Percutaneous suture or external support for early onset	3.7
Capsulorrhaphy alone	55.7
Capsulorrhaphy with ADM buttress	38.7
Remove implants and replace later	1.9

ADM, acellular dermal matrix.

Table 5. Demographics and Practice Patterns

Characteristic	% of Respondents
Years in practice	
0–5	15.8
6–10	13.9
11–15	14.2
16–20	15.1
21–25	15.3
>25	25.7
Type of practice	
Solo	51.6
Solo practice–shared facility	8.8
Small plastic surgery group (2–5 surgeons)	20.4
Large plastic surgery practice (≥6 surgeons)	2.6
Other (multispecialty group, academic, military)	16.7
Nature of practice	
100% reconstructive	2.2
25% cosmetic, 75% reconstructive	23.6
50% cosmetic, 50% reconstructive	23.3
75% cosmetic, 25% reconstructive	27.3
100% cosmetic	23.7
Annual number of primary augmentations	
1–50	48.9
51–150	35.4
151–250	10.3
251–350	3.2
>350	2.1

More than half of respondents (61.5 percent) use a postoperative implant massage program. Time for return to unrestricted activities was somewhat evenly distributed between 2 and 3 weeks, 4 weeks, and 6 weeks, although the percentages gradually increased as the time intervals got longer.

Regarding nonsurgical methods for treating capsular contracture, most respondents (55 percent) begin with massage. Pharmacologic agents are most commonly used at the first sign of onset (36 percent), although just over half never use them. Almost three-quarters are either not sure that these agents are helpful or believe that they are not. There were 80 comments on this topic, including 29 advocating vitamin E therapy as helpful, and eight mentioning Singulair (Merck, Kenilworth, N.J.) specifically.

Technical Considerations in Secondary Procedures

The most common reasons for reoperation are capsular contracture (36 percent) and size change (31 percent) (Table 4). Next in occurrence are implant failure or malposition, both with a similar number of respondents (17 percent). First-time capsular contracture is most commonly treated by either anterior capsulectomy (46 percent) or total capsulectomy (35 percent). Recurrent contracture is most commonly treated by capsulectomy

with acellular dermal matrix pocket lining (27.5 percent), although an almost equal number perform total capsulectomy alone the second time. The most common treatment for double-bubble deformity or bottoming-out is capsulorrhaphy alone (56 percent), with another sizable segment combining capsulorrhaphy with an acellular dermal matrix buttress (39 percent).

Respondent Demographics and Practice Patterns

Surgeon experience was reasonably even among the six intervals of practice time surveyed, although one-quarter had the longest experience (>25 years) (Table 5). The practice type was solo in just over half and small group practice in another 20 percent. Practice case type ratios were essentially distributed evenly when disregarding the 2.2 percent solely reconstructive practices, a group logically the least likely to respond to a breast augmentation survey. The number of cases performed annually by respondents was notable in that close to half performed no more than 50 cases per year.

DISCUSSION

The evolution of breast augmentation has created many choices for both patients and plastic surgeons. With continued emergence of new innovations and technologies, the goal of this study was to capture a snapshot of current practices among American Society of Plastic Surgeons members.

Seemingly more popular abroad, anatomical implant use is still controversial in the United States.^{14–16} Malrotation potential remains the greatest concern to nonusers in this survey. Although this occurs in not more than 2.6 percent of patients in recent studies, this issue nevertheless becomes as relevant as capsular contracture given a similar range of incidence.^{17,18} There are no studies that prove aesthetic superiority of anatomical implants, another major concern of survey respondents. In fact, there are several studies offering evidence to the contrary.^{19,20} In light of this and other issues, justifying the higher cost was the second greatest concern of respondents. Moreover, a significant proportion expressed concern about possible adverse long-term consequences of texturization that have recently been elucidated.^{21,22} In view of the 7 percent incidence of ALCL observed in respondent practices, this disease entity may be more prevalent than previously believed. If texturization proves to be either contributory or specifically causative, the continued use of anatomical implants would logically increase the pool of patients at risk for developing ALCL.

The use of autologous fat for primary breast augmentation combined with preoperative external expansion is an emerging technology still under development at several centers.^{6-8,12} It is not surprising then that the vast majority of practitioners do not use this technique yet and that most of the other practitioners use it less than half the time. The two greatest concerns expressed are the limited volume increase achievable compared to implants and the possible need for multiple fat-grafting procedures. Moreover, there was concern expressed by many as write-in comments that the technique may interfere with breast cancer screening and that its long-term safety is as yet unproven. These issues may be part of the impetus for the most recent iteration of the technique, which is a composite procedure that combines breast implants with supplemental fat grafting.²³ Using fat grafting solely as a supplemental technique was judged more reasonable by respondents, although just over half do not practice this technique either.

Although most surgeons would rightly avoid performing breast augmentation on a homozygous factor V Leyden patient, the sentiment among survey respondents is quite different in the case of heterozygous individuals. Greater awareness and diagnosis of this condition in recent times makes this issue a more frequent occurrence among prospective patients seeking breast augmentation. At least 5 percent of the population carries this trait and have between three and 10 times the risk for developing deep venous thrombosis compared with the unaffected population.²⁴ Although sequential compression device use is standard today for all patients, using chemoprophylaxis for breast augmentation in higher risk individuals has not been formally studied in terms of potential untoward results. Although most studies show no increase in hematomas when using chemoprophylaxis for most plastic surgical procedures, there is evidence at least in the case of rhytidectomy that it does.^{25,26} A hematoma attributable to chemoprophylaxis theoretically could contribute to capsular contracture development. Perhaps even more important, because breast augmentation is rarely a one-time event for the individual, heterozygous factor V patients will be subjected to repeated increased risk for developing deep venous thrombosis and its possible sequelae.

A small percentage of respondents (15 percent) use three-dimensional imaging in their practices. It is not clear whether the 11 percent of respondents who believe that it has not proven worth the cost and effort are a subset of the

declared users or perhaps represent a group of former users. In any event, advocates give it high marks as an educational tool, marketing tool, and even as a sizing method. The latter belief is corroborated by recent studies that show a predictive accuracy of over 90 percent when used as a sizing tool.^{11,27} That said, it remains to be seen whether or not this technique will eventually replace the low-tech alternative of sizing with silicone implants that the majority of respondents currently use. The latter technique certainly gives the patient an actual three-dimensional simulation and a sense of implant weight compared with three-dimensional imaging alone. Moreover, the concepts used for writing the software that simulates postoperative appearance with anatomical versus round implants are speculative.¹⁶

Although insertion funnels are considered both cost prohibitive and unnecessary by almost two-thirds of those surveyed, there are advantages to using them in the authors' experience. First, their general utility improves as implant size increases. Second, they can mitigate implant size restrictions when small-diameter areolas are used for pocket access. Third, they make normal incision lengths possible in the case of textured form-stable anatomical implants while minimizing the prospect of gel fracture. Finally, in cases of significant volume asymmetry where placement of multiple silicone sizers can be a useful aid to accurate implant selection, they both greatly reduce repetitive insertion trauma that may contribute to capsular contracture development while also helping to maintain maximum sterility. In addition, it has been shown that the use of funnels decreases exposure to bacterial contamination by reducing skin contact with the implant.²⁸

Regarding adhesive plastic sheeting, advocates curiously focus on covering the nipple area, with little interest in protecting the skin around the incision. Although the latter also poses a significant bacteriologic risk, the point may be moot because almost two-thirds surveyed do not use this technique.

The historical preference by the majority of surgeons for using inframammary incisions and partial (dual-plane) submuscular implant coverage is confirmed by the survey results. The former practice has likely been further encouraged both by the recent disparagement of periareolar incisions based on bacteriologic concerns and by the incision requirements of textured anatomical implants. The preference for partial submuscular implant placement has been uninfluenced by the subfascial concept, which the survey confirms has not gained traction as a superior alternative.

Since the end of the silicone implant moratorium in 2006, these devices have become very dominant, with only a single-digit percentage of survey respondents using saline implants either exclusively or most of the time. Similarly, smooth implants demonstrate the same degree of dominance, with only 10 percent reporting using textured implants either exclusively or most of the time. The differences in manufacturer preference are less relevant than recognizing that plastic surgeons are fortunate to have three good options today.

Preoperative sizing with implants, silicone forms, or rice bags has been disparaged in recent times with the implication that tissue-based methods are a superior alternative.^{29,30} However, the former is the most widely practiced method by survey respondents by far, with only 20 percent using tissue-based methods. Tissue-based methods do provide critical information regarding size restrictions imposed by individual anatomy.³¹ The role of tissue-based methods may be best suited as an adjunct to sizing methods whereby patient size preference is modified based on anatomical limitations revealed through tissue-based analysis. Given that 42 percent of respondents typically use implants of at least 300 cc and another 36 percent at least 350 cc, this combined approach makes sense. Where three-dimensional imaging fits into the utility of preoperative sizing methodology is as yet unclear.

There remain some murky subjects in breast augmentation that the survey also explored: the role of postoperative antibiotics, the use of pharmacologic agents for capsular contracture, other nonsurgical methods of managing capsular contracture, and postoperative massage. The concept of perioperative intravenous antibiotics and intraoperative antibiotic irrigation are overwhelmingly subscribed to by survey respondents, but the use of postoperative oral antibiotics is supported only by just over half. A rational plea has been made previously for eliminating postoperative antibiotic use in plastic surgery.³² However, there is evidence at least in the case of breast reconstruction with implants that postoperative oral antibiotic use reduces surgical-site infections.³³ Although infection is rare in breast augmentation, there is an understandable concern over what is at risk with this procedure. It might also prove difficult to defend the position of not using postoperative antibiotics should an infection occur, scientific rationale notwithstanding. In any event, plastic surgeons are divided almost evenly on this issue, so it remains unresolved pending further scientific study.

Nonoperative treatment of capsular contracture has been demonstrated to have a limited potential for success, regardless of whether pharmacologic agents, massage, or methods such as ultrasound or pulsed electromagnetic field therapy are used.^{34,35} Most surveyed believe that pharmacologic agents are more likely to work if they are started early on in the contracture process, and that leukotriene inhibitors are the best agents. However, supportive evidence is sparse.^{36,37}

Massage remains curiously popular both as a prophylactic and as a treatment measure for capsular contracture (Table 3). Interestingly, there have never been any controlled studies that support its value beyond historical tradition. It seems equally plausible that it could cause more inflammation rather than reduce it. The notion that it keeps the pocket enlarged is not generally supported by typical findings during reoperative procedures. Despite its popularity, this practice remains an enigma that begs for formal scientific study.

Although capsular contracture, implant malposition, and implant failure may be less avoidable reasons for reoperative surgery, the relatively high incidence of size change surgery noted in the survey would seem amenable to improvement with optimal preoperative management. A thorough preoperative sizing process and multiple visits with those equivocating over size are effective measures that can drastically reduce requests for size change surgery.

There is no consensus on whether anterior capsulectomy alone is sufficient treatment for first-time capsular contracture or whether total capsulectomy is necessary, with respondents divided. The latter technique often proves tedious, may incompletely remove the posterior capsule, takes longer, provokes more drainage, and risks chest wall puncture. If proof of its benefit remains uncertain, perhaps anterior capsulectomy alone makes the most sense.

Although total capsulectomy is a mainstay of treatment for recurrent capsular contracture, popularity is growing for the adjunctive measures of neopocket formation, the use of acellular dermal matrix to line the implant pocket, and combining the two techniques in some instances. Acellular dermal matrix appears to be particularly effective in preventing recurrent capsule formation, whereas neopocket formation is perhaps best suited to repositioning the pocket in cases of implant malposition.³⁸⁻⁴² Acellular dermal matrix also plays a significant role in respondent practices for treating double-bubble or bottoming-out as an adjunct to capsulorrhaphy.

CONCLUSIONS

There is a generally agreed on approach to breast augmentation among survey respondents that encompasses many variables. The most common practices include using inframammary incisions, partial submuscular pockets, smooth silicone implants, preoperative sizing with implants or other devices, intravenous antibiotics, antibiotic irrigation fluid, and an implant size range generally over 300 cc. There are new technologies that most surgeons are slow to embrace, including three-dimensional imaging, the use of insertion funnels, and the use of adhesive plastic sheeting. However, the use of acellular dermal matrix in reoperative surgery is becoming decidedly more popular. It has utility in treating the effects of thin tissues, contour deformities, and capsular contracture, and in buttressing capsulorrhaphy repairs. There are also controversial practices on which survey respondents demonstrated a divided opinion, including the use of anatomical implants, autologous fat grafting, operating on higher risk patients, the use of postoperative oral antibiotics, and nonoperative treatment for capsular contracture. The 7 percent incidence of ALCL in respondent practices was noteworthy in view of recent reports documenting rare occurrence of this entity.

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