
Preface

Many textbooks are titled some variation of “The Art of Plastic Surgery.” This volume concentrates on the science, relying on data rather than expert opinion. The source material has been published in the major peer-reviewed plastic surgery journals. Many of the conclusions challenge the status quo.

Financial entanglement represents the single biggest problem facing plastic surgery research. Conflicts are not always financial. They can be intellectual, such as being heavily invested professionally in a certain method, such that there is no going back without a loss of credibility (in the author’s mind, anyway). I can think of only a few instances of a surgeon writing, “What I said before is wrong.” My opinion of that author goes up, not down, for correcting the record.

Being in solo private practice frees me from many of the constraints of academic medicine, which is often not as evidence based as one might think. All of my studies are self-funded. The only financial conflict I have is in being a plastic surgeon who believes in the value of, and profits from, performing cosmetic surgery.

As a single-author volume, this book is open to charges that it represents the experience of one surgeon. My methods frequently differ from the way plastic surgery is done at other institutions. My purpose in writing is not to recite the mainstream view but to challenge it. One surgeon, one facility, and one method eliminate many confounders that, well, confound multisurgeon and multicenter studies.

Existing textbooks are composed of many chapters written by well-known contributors describing their “How I do it” methods. One surgeon describes how to perform a breast reduction using the vertical technique, another describes the Wise pattern, and another discusses how to dissect a central breast mound and apply a mesh. This old habit makes for thick textbooks. What is the reader to make of all this often conflicting information? A breast lift is a simple concept. There are not 100 equally valid ways to do it. I use only two operations for almost all of my cosmetic breast surgery patients – implants, a vertical breast lift/reduction, or a combination of the two. Really, only one chapter on mastopexy is needed – the one that stands up to scientific scrutiny. Nonvertical methods may be discarded.

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For generations now, plastic surgeons have described methods to lift the breast tissue using breast tissue rearrangements and “suspending” sutures. These efforts puzzled me. After all, did we not have breast implants at our disposal? Until recently, the combination of implants and a breast lift was perceived to be dangerous and at cross purposes – tightening the breast while simultaneously expanding it. Today we know differently.

It seemed to me that almost everything plastic surgeons “knew” (examples provided in Table 1) was based on clinical impressions alone. Starting in

Table 1 Things we “know” that are wrong

1. Individual risk stratification (including Caprini scores)
2. Chemoprophylaxis
3. Breast autoaugmentation
4. Textured implants
5. Form-stable implants
6. BREAST-Q
7. Acellular Dermal Matrix for cosmetic breast surgery
8. Implant sizing based on tissue measurements
9. Routine open capsulectomy for capsular contracture
10. General endotracheal anesthesia with paralysis
11. Intraoperative 14-point plan, including nipple shields, to prevent capsular contracture
12. Mosque dome preoperative nipple siting
13. Nonvertical (including inferior pedicle Wise pattern) mammaplasty
14. Nipple grafting
15. Suspension sutures
16. Mesh scaffolds
17. Breast hypertrophy after liposuction (fat redistribution theory)
18. Dual plane dissection to elevate nipple
19. Blocking sutures
20. Controlling/securing the IMF
21. Pectoralis muscle loop
22. Staged augmentation mastopexy
23. Periareolar mastopexy
24. Electrodisssection
25. Ideal breast fuller in lower pole than upper pole (45:55 ratio)
26. One-breast feel
27. No-touch technique
28. Triple antibiotic irrigation
29. 5-centimeter rule to prevent pseudoptosis
30. Nipple as a marker for ptosis
31. Increased risk of combined procedures
32. Accuracy of 3-D computer simulations
33. Randomizing surgical methods
34. Internal bra/laser bra
35. 20° skyward nipple inclination
36. Sub-IMF incision siting, including ICE principle
37. No-vertical-scar breast reduction

(continued)

Table 1 (continued)

38. 24 h recovery after breast augmentation
39. External volume expansion
40. Tension shielding to improve scars
41. Repeating inverted-T dissection for secondary mammoplasties
42. Nipple transposition as opposed to reposition
43. Unreasonable expectations are more common in breast lift patients
44. Large implant sizes (>400 cc) are unsafe
45. Skin-only mastopexies
46. Cosmetic breast surgery is an art and, by its nature, resistant to scientific evaluation

2002, I launched a battery of clinical, measurement, and outcome studies to learn more. I soon realized that in order to measure results, a breast measurement system was needed, motivating me to develop a two-dimensional measurement system. After evaluating hundreds of published before-and-after photographs, the message was clear – breast autoaugmentation and fascial sutures did not work, despite all of the claims. This was the first of many “emperor wears no clothes” moments that were yet to come.

My outcome studies, based on over 1000 patient surveys, produced unexpected findings. Surgeons for years have warned patients of the dangers of implant sizes that are too large, convinced that large implants would distort the breast and that reoperations would be inevitable. My studies showed otherwise. Women treated with larger implant sizes were more satisfied and experienced no more complications than women with smaller implant sizes. These women did not have a higher reoperation rate after all. Mastopexy patients reported improvements in symptoms of neck, shoulder, and back pain, and exercise tolerance, just as my breast reduction patients did. It became clear that the old, largely insurance-driven, breast lift versus reduction (or form versus function) dichotomy was arbitrary.

Saline implants have long been considered an inferior option compared with silicone gel implants. To the chagrin of plastic surgeons, silicone breast implants were unavailable in the United States from 1992 to 2006, forcing American surgeons to gain experience with saline implants. There was a silver lining to that experience; many surgeons learned that saline implants were not such an inferior choice after all.

In 2012 and 2013, form-stable “gummy bear” implants were finally introduced to the American marketplace, having been used for decades already in Europe. Supportive studies were funded by the manufacturer, and consultants were very highly paid. (According to the Sunshine Act website, one lead author of a core study received \$4.6 million in royalties in 2015.) These shaped implants were promoted as offering a more natural tear-drop shape. After all, who wants a round breast? But these implants were much firmer than their predecessors. They had to be to resist gravitational deformation, like a gummy bear. Advertisements showed a portion of the implant cut out like a piece of pie. It appeared that the material was solid and would resist forming folds and leaks. In time, magnetic resonance studies would prove otherwise. Some operators, including the author, were never impressed with

gummy bear implants. My outcome study revealed that 23% of women thought their saline and less cohesive silicone gel implants were already too firm. Why would women want even firmer implants that can rotate? What about the attractive jiggle quality of less cohesive implants?

In the last decade, we have learned that textured implants, especially the Biocell (Allergan Inc., Irvine, CA) type, are linked to a form of lymphoma that is not as rare as we first thought. Rather than implicating texturing as the cause, corporate-funded researchers promote an infectious etiology and insist that surgeons adopt a laundry list of measures to avoid infection at surgery – as if infection acquired at surgery could cause Anaplastic Large Cell Lymphoma (ALCL) to develop, on average, 8 years later. An infectious etiology has much different implications than a faulty product. The surgeon is blamed for this problem rather than the product. The causal link is obvious. After all, this problem was never reported before textured implants became available in the 1990s, and it occurs exclusively in women with textured implants.

Manufacturers do not promote saline implants for one reason – they are not as profitable as silicone gel implants, which cost two or three times as much. Silicone gel implants would likely be a historical relic if saline implants were the more profitable option.

Acellular dermal matrix, or ADM (i.e., skin that is shaved off cadavers and then processed to remove the donor cells), is widely promoted today. Some surgeons insert Alloderm (Lifecell Corp., Branchburg, NJ) at the time of a capsulectomy in an effort to prevent capsular contracture. Almost all investigators receive corporate funding and discounted products. Combining capsulectomy and ADM greatly increases patient morbidity and cost. Insertion of a second avascular product increases the potential for complications. A much simpler, inexpensive, and at least equally effective, alternative is overlooked – open capsulotomy. Its success (recurrence rate 23%) speaks against the infected biofilm theory of capsular contracture.

Recapitulating history, some plastic surgeons are experimenting with a mesh that is supposed to act as an internal bra. This 30-year-old concept has never been shown to be effective. In fact, the author's measurement study found it ineffective. The manufacturer pays its consultants, who promote the product on TV and the Internet, and funds scientific publications that blur the line between science and marketing.

Caprini scores are supposed to identify individuals who are likely to suffer a venous thromboembolism (VTE). These scores are then used to justify the use of anticoagulants (yes, Caprini received funding from virtually all the anticoagulant manufacturers) after surgery. The subtext is, if surgeons fail to follow risk stratification guidelines, they will be defenseless in court. Uninformed expert testimony compounds the tragedy of a fatal pulmonary embolus. The more I investigated risk stratification and chemoprophylaxis, the more I learned that the whole concept – the ethics, efficacy, and safety – is flawed. It was another “emperor wears no clothes” moment, but there was another silver lining. I soon learned how to reduce risk and identify affected individuals (after surgery, not before) using a superior anesthesia method and ultrasound technology.

Alarmingly, many of the concepts and recommendations that have been published in our literature are wrong (Table 1). More of what we think we know may be wrong rather than right. These shibboleths will be challenged in the chapters that follow.

“When we meet a fact which contradicts a prevailing theory, we must accept the fact and abandon the theory, even when the theory is supported by great names and generally accepted.” - Claude Bernard 1865.

A disregard of the scientific method has real consequences that affect patient care and in some cases their lives. Even the plastic surgeon’s life can be devastated by wrong assumptions (in the case of VTE prevention). When it comes to evidence-based medicine, we need to walk the walk, not just talk the talk. Proper methodology is not complicated. It starts with consecutive patients, a reasonable inclusion rate, and an objective measuring device. Patient-reported outcome studies are needed, and not ones that are outsourced (i.e., the BREAST-Q).

Galileo would never have discovered that objects fall at the same rate, propelled by gravity regardless of mass, if he did not use a clock (actually an hourglass). Four hundred years later, measurements have not reached the mainstream in our discipline. Not only do plastic surgeons not measure their results, many do not wish to measure their results. They would prefer to engage in thought experiments and punditry. I call this nonscientific purgatory. Measurements are the missing link in objective analysis. In many ways, evidence-based medicine is measurement-based medicine. It is time to right the ship, for the sake of our patients and ourselves.

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Leawood, KS, USA

Eric Swanson, MD

Reference

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Evidence-Based Cosmetic Breast Surgery

Swanson, E.

2017, XIV, 214 p. 159 illus. in color., Hardcover

ISBN: 978-3-319-53957-7