



BREAST AUGMENTATION PLANNER

A step-by-step guide for researching and planning breast augmentation. Learn how to optimize your result and avoid common mistakes.

R I C H A R D F R Y E R , M D

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Learn how to optimize your result and avoid common mistakes.

Richard H. Fryer, MD, FACS

Dedication

This planner is dedicated to patients that earnestly seek truth and facts about breast augmentation despite all the misinformation and confusion that surrounds the topic.

Disclaimer

The information in this planner is for informational and educational purposes only and does not constitute medical advice. It is not intended to be a substitute for consultation with a plastic surgeon or professional medical advice from your healthcare provider. You should always seek advice and care from your doctor to evaluate, diagnose, and potentially implement treatment.

The information contained in this planner (including the text, links, and references) is correct to the author's best ability to determine. The author has attempted to screen and use only credible sources and information but cannot accept liability for incorrect information that may be contained therein.

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Foreword

Congratulations on receiving your copy of one of the most helpful information resources regarding breast augmentation anywhere on the internet. This information is going to outline the entire process of breast augmentation from the point where you begin gathering information through the consultation process and surgery and even your recovery. This information will be invaluable to you and help you avoid common mistakes and misfortunes as you embark on this process.

I have written this as a resource to help educate my own patients, so a significant amount of the information is “this is how I do it”. I have tried to include information regarding many different techniques and opinions to help your education be complete. Obviously, I have developed my own preferences for some things after performing thousands of cosmetic breast augmentation cases. Other surgeons will have their own preferences.

Surprisingly there will be as many opinions as there are surgeons, and this can be very frustrating as a patient trying to understand this information. Despite many advances in plastic surgery there are some fundamentals that, in my opinion, have never been fully understood. I will make a case for why my perspective and opinion is correct and has the potential of unifying surgeons’ understanding and description of the relevant anatomy.

This planner gives you reliable and correct information and directs you to other sources for credible information. The problem that some patients face is that when they begin to look for information on the internet they don’t know if the information they are getting is legitimate. I compiled this information for you to solve that problem; the information that I relate to you is reliable and the other sources I refer to are also trustworthy. I encourage you to refer to them to quench any additional desire for information.

I have also learned that this planner is very popular among women who are not going to be my patients. This planner has become known as an incredible resource for women who are trying to educate themselves. Despite 1/3 of the patients in my practice coming from out of state, not everyone can travel to have me be their surgeon. I am glad you found this resource to help gather important information. The sections about gathering information

“Dr. Fryer’s breast augmentation planner is amazing! It explains the entire process from start to finish in detail and it helped me make a confident decision. This planner is the most condensed information compiled into one convenient source anywhere on the internet.”

–L.A. Blackfoot, ID

and the health risks and comparing your doctor's credentials will be extremely helpful. The sections about the actual surgery itself, and your recovery will likely differ (sometimes very significantly) depending on who you have selected as your surgeon. One of the key takeaways from this entire planner is that your choice of surgeon is going to have a significant impact on your recovery and outcome. Choose wisely.

This information will give you the confidence you want to have when you choose your surgeon. By the time you browse through this information you are going to feel like you already know me and my experienced staff. This will make the decision to book your consultation with me seem like the next logical step. I have the experience that is required to make this process as enjoyable, comfortable, and safe as possible while providing you with the best possible outcome.

The date ranges listed in this planner are estimates only and cannot be relied upon for guaranteed visits or surgery. If you have a specific date in mind for surgery, I encourage you to start early and plan ahead. There are certain "busy seasons" when surgical appointments fill up earlier than others. My office staff will do everything possible to accommodate your desired timeframe but once the surgery spots are reserved there's not much that can be done.

This planner is not a substitute for an actual consultation, and it is not intended to replace a doctor's visit. I think you will be surprised just how much more information I relate during our consultation to help you understand the actual surgery even better. Between this planner and my consultation, you will be extraordinarily educated and prepared to make decisions regarding your breasts.

I am excited for you to begin this journey and am grateful that you are using this planner to help guide you through the process. I am confident you will find this information helpful and informative. I am likewise confident that this information will empower you to be an informed consumer and advocate for yourself.

12-16 weeks before

For most women breast augmentation is not a spur-of-the-moment idea; you may have been considering it for years. You may have been gathering information informally from friends that have had this surgery or from the internet. About 3 - 4 months prior to your anticipated surgery date is when your search really needs to begin.

Even if you have been searching for and gathering information much earlier, this is when you really need to become serious. Much of the information that you have read or heard about previously may not be fresh in your mind. This is when you need to have all your knowledge fresh and ready to assist you in your decision.

Additionally, you need to understand that not all information is of equal value and/or credibility. There is a plethora of information on the internet and social media that has significantly greater entertainment value than any real educational purpose. This is appealing and has potentially helped you develop greater interest in breast augmentation, but you should not rely on that as your primary educational resource.

This breast augmentation planner is invaluable because I'm going to give you all the information in a very compact format. I'm going to answer all the questions that you don't even know you should ask! It's like having a private

"Love, love, LOVE my results!!! I wish I would have done it sooner!"

--S.G. Provo, UT

consultation with a plastic surgeon in the comfort of your own home. Often patients will inquire, “What else should I be asking?” After performing thousands of cosmetic surgeries and consultations I am in the ideal position to help you know the most important information.

This planner may help you think of some questions on your own as well, but I bet if you read this entire planner, you will find that I answer almost every question you can imagine. This information is compact and succinct and presented in a chronological sequence that is easy to understand and use. It is a fantastic resource to read through before your breast augmentation journey begins and then refer to the individual planner sections to help you understand what you’re experiencing and what to expect next.

How to “Grade” the information you find

Not all information is created the same. Some of it is fun, some is helpful, and some is confusing. Not all information is correct, and not all information conveys helpful facts. Some information is wrong and can be insidiously deceptive. Some information is actually an advertisement masquerading as information. The difficulty is trying to determine which category the information you’re accessing falls into.

The internet is a great resource for information because it is readily available and in a format that you are familiar with. You have now received one of the most comprehensive resources of information on the internet regarding breast augmentation. You are fortunate to have this planner because I’m going to help give you the knowledge and information that you need all in one place and organized in a helpful way! I am confident that there is no other single resource anywhere on the internet that comes close to being as helpful and informative as this planner. I am also confident that no other single resource is anywhere close to as exhaustive in the topics and information that I cover.

There is also a plethora of information on social media, but it tends to be more entertaining than educational. There is nothing wrong with good entertainment and if you want to spend some time on social media, be my guest. For many people this may be the resource where their interest was first piqued regarding some of the procedures. I discourage patients from looking for educational information down these rabbit holes, because whatever small tidbits of helpful information you may glean are going to be quite heavily diluted. This is not the most productive use of your time when you are trying to educate yourself prior to making decisions about surgery.

Regardless of your source of electronic information you need to be an informed and educated consumer. Physicians recognize that some scientific information is more important and credible than others. This information is typically presented in reputable, peer-reviewed, scientific journals and whose conclusions are based on well-documented data and validated statistical analysis. Other important information that physicians rely on include expert opinions and descriptions by key opinion leaders in the industry.

Sometimes this type of information is less available to you as a consumer due to access restrictions, and even if it is available, it may not be easily understood. I reference this literature throughout the planner and try to explain important concepts in “layman’s terms” so it is easier for you to understand. I also have the ability to discern between the quality of some publications which may be twisting or bending data to support their ideas. Having performed thousands of breast augmentations myself during my career I could be considered as a key opinion leader in the industry and will therefore share my own

professional opinions. Many of the opinions I discuss are in various stages of publication in plastic surgery literature.

More frequently, however, consumers are exposed to “medical information” on the internet and social media that is of a more entertaining and illustrative nature. This type of information is very engaging and I’m confident that you have spent a significant amount of time perusing this type of electronic information. If you are careful, you may glean a speck of good information from these entertaining sources, but often the purpose is to entertain and engage you as a consumer, rather than to educate you.

As a patient you would be very leery of a surgeon that relied on YouTube for all their medical education. Don’t get me wrong, I doubt there is a physician still practicing medicine that hasn’t turned to the internet to access medical content intended to entertain the viewer, but do you really want that surgeon operating on you? Similarly, as a surgeon I would be very skeptical of a patient that relied solely on TikTok to educate them about their surgery. Now your emphasis should be shifting away from the entertainment content and toward the more educational subject matter.

Entertaining content can be found in places like YouTube, TikTok, and Instagram. Purely educational information is contained in medical textbooks, and credible, peer-reviewed journals. Neither of these extremes are very helpful to you right now. On the one hand entertainment cannot be a substitute for study. On the other hand, your access to, and understanding of, these purely educational sources may be significantly limited. If you have the means to access scholarly articles and the education to understand the textbooks and journals, then you are likely going to find the information contained in this planner too rudimentary for you.

“Dr. Fryer’s breast augmentation planner was the best source of information I found anywhere! It has been invaluable as I’m preparing for surgery.”

—M.J. Elko, NV

The information of greatest value to you right now lies between those two extremes. This knowledge is available from national organizations ([American Society of Aesthetic Plastic Surgery](#), [American Society of Plastic Surgery](#), [Food and Drug Administration](#), and others), and from industry manufacturers (Sientra, Mentor, Allergan, and others). Additionally, you can find online content in various healthcare forums that focus on patients as “consumers” of healthcare (WebMD, RealSelf and others), and on individual physician websites. There should be no informational bias from the national organizations as long as they are recognized by the American Board of Medical Specialties (more about that later).

Information gleaned from industry manufacturers, online patient forums, and even physician websites is likely to display some informational bias. Each manufacturer is going to tell you why their product is superior, and the same for each physician’s website. Online patient forums are also subject to information bias because some physicians pay for advertising that allows them to present their opinions and profiles more prominently than other physicians whose opinions and information could be just as, if not more, helpful than theirs.

Watch for this information bias in these sources and recognize it for what it is and use the information wisely. Yes, even this planner contains biased information because I have very strong opinions regarding breast augmentation, and I will share many of those opinions in this planner. I think I make a good case

for why I disagree with other surgeons though, and my unique methods work astonishingly well for my patients. I think the biggest thing about this planner that sets it apart from other information sources though is how comprehensive it is in covering the subject matter. I have not found any other single source with this much educational information regarding breast augmentation available anywhere and my patients agree with me.

You need to familiarize yourself with surgical information as well as some special topics. Surgical information will include information about options for how the surgery is performed and the type of implants available to choose from. Special topics include some that you have undoubtedly heard about like safety of silicone implants, breast implant illness, and potentially other health issues.

As you begin your research to find information and choose a surgeon, please be aware that any searches you perform on the internet are going to result in some information that is an advertisement, and not necessarily the best or most helpful information out on the internet. Once you know what to look for it is easy to recognize an advertisement as opposed to a web listing that ranks high on Google search engine because it has helpful, new, and fresh information. Advertisements are typically found at the top and bottom of each page in Google.

All advertisements include the word “Ad” or “sponsored” (usually on the second line, but I've also seen it on the first line) surrounded by a small round-edged rectangle. Click on the ads if you want (the doctor pays each time someone clicks on the ad) but remember that someone is paying to get your attention. Advertisements can say or claim whatever they want-even if it is blatantly false. You are much better off relying on the information that ranks highly on Google search because of its helpful and informative content and not because someone is paying to put that information in front of you.

To add more confusion to the process of selecting your surgeon, there are multiple doctors and businesses (notice I didn't use the word surgeon) that advertise VERY heavily on Google pay-per-click that are not board-certified plastic surgeons, but the ad makes it seem like they have all the same credentials. I have even seen ads by doctors where the ad says “plastic surgeon” and “board-certified plastic surgeon” and I know for a fact that they are not plastic surgeons. This type of advertising is actually illegal in the state of Utah, but it happens so frequently that it is difficult to enforce. It's like trying to ticket every car traveling 5 MPH over the speed limit on the freeway; there's no way to enforce it routinely. Bottom line, be aware of advertisements and recognize that some of the information that you are fed when you click on that link may be very misleading. This planner will help you recognize content that is more advertisement than it is information.

Equally fraudulent and disturbing is the trend of advertising by selling Groupons. This is a huge red flag and should be avoided completely. I had a patient come to me and report that she had purchased a Groupon for a particular service and called the doctor's office to inquire about redeeming the coupon. She had a funny feeling about things and was surprised by the very high cost the doctor's office quoted her before the groupon discount was applied. She was suspicious, so she had her adult daughter call the office and inquire about the cost of the same surgery, only the adult daughter told the doctor's office she was not aware of any groupon discounts. The office quoted the daughter \$1000 less for the exact same procedure! The groupon was pay \$100 to save \$1000 -- so the office was quoting all Groupon respondents \$1000 higher cost. So essentially, they were just paying \$100 to THINK they were getting a deal. Be aware that this type of misleading and fraudulent behavior is unfortunately common in this industry.

Health Risks

As you begin your education you need to be aware that decisions you make now regarding breast augmentation will affect you for decades into the future. As you will learn, we encourage you to change your implants about every ten years. There are complications that can occur and some of those complications may require another operation or treatment to correct or control. You need to be fully and completely aware of all these issues as you begin to think about breast augmentation. Let's begin this process with some information regarding health risks.

Breast Cancer

I can't talk about health risks with breast augmentation without just mentioning breast cancer in general. Let's get right to the point on this: breast implants do not increase your chance of getting breast cancer.¹⁻⁴ That sounds like great news, doesn't it. Don't get too confident however because your lifetime risk of developing breast cancer is 13% if you do not have a genetically inherited mutation.⁵ That means that one out of every eight women will develop breast cancer in their life time. That also means that seven out of every eight women will not develop breast cancer; saying it that way makes me feel better.

The first thing I want you to know about breast cancer is that it is very treatable in most circumstances if it is detected early. If it is detected later then the chances of survival diminish. We want to find and detect it as early as possible. According to the American Cancer Society recommendations a woman at average risk of breast cancer has the option to begin yearly screening mammograms between the age of 40-44. Beginning at age 45 yearly screening mammograms should be performed.⁶ Having breast implants does not change those screening recommendations. Plan on getting mammograms whether you have implants or not. I hear women saying that they are afraid of getting mammograms because they think it will pop their implants. That may be true in *rare* cases, but if that occurs it is because the mammogram was the straw that broke the camel's back – your implant was going to break sooner or later anyway.

Self-breast exams are controversial because there, "is very little evidence that these tests help find breast cancer early when women also get screening mammograms."⁶ The next paragraph in that American Cancer Society document states that does not mean that self breast exams should not be done however and that there are some circumstances where they may be helpful. I, for one, encourage my patients to perform self-exams because I think it can be helpful. Especially if you are below the suggested age to begin screening mammograms (age 40) then how else are you supposed to detect breast cancer?

The biggest problem with breast self-exams is that no one ever tells women what they are supposed to be doing. We tell you to do the exam but give you no details and no education and that leads to confusion. Almost without exception when I ask patients about their self-exams they say something like, "I have no idea what I'm feeling". That's why I don't think breast exams are as helpful in the literature, because women haven't been educated.

The best time to perform breast self-exams is three to five days after your period ends. Your breasts are naturally less lumpy and engorged right after the end of your monthly cycle. Your breasts are lumpy and bumpy so you shouldn't be trying to feel lumps and bumps because they're all throughout your breasts.

What you're trying to ensure is that all the lumps and bumps feel the same; they should all compress slightly (like a rubber, bouncy ball). Some lumps will be bigger than others and as you become familiar with your breasts you will be able to recognize that the size will fluctuate slightly. All of that is totally normal.

What you are trying to find with breast self-exams are "popcorn kernels" in the tissue; dense, hard lumps that do not compress. Hopefully it's even smaller than a popcorn kernel, but it's that same firm, noncompressible lump that you're trying to detect. It may also feel "stuck" or attached to other compressible tissue or it can also feel rough and irregular shaped. Things that feel perfectly circular or oval are typically cysts that may also feel slightly firmer than normal breast tissue, but they are also typically not as hard as a popcorn kernel.

I encourage you to do your breast self-exams – especially if you are under the age of 40. Yes, that's pretty young to get breast cancer and that's why screening doesn't start until the age of 40. However, the youngest patient for whom I performed breast reconstruction after mastectomy for breast cancer was 23 years old. She didn't have a family history of the breast cancer gene, she was just unlucky enough to develop a mutation in that gene on her own. Do your breast exams – and now you know what you're trying to feel for.

ALCL

There is a strong association between breast implants (specifically textured implants) and anaplastic large cell lymphoma (ALCL).⁷ So strong in fact that the FDA has labeled this cancer with the monicker

"Dr. Fryer's breast augmentation planner helped me understand more about the surgery than any other source of information I found. I knew I wanted him to do my surgery after reading it."

--R.M. Nampa, ID

of "breast implant associated, anaplastic large cell lymphoma" (BIA-ALCL). This name displeased many national plastic surgery organizations because, although less common, other implantable medical devices including orthopedic and vascular have also been associated with atypical lymphomas.⁸ This is an important condition for you to be aware of.

First-things-first: this is a disease that is strongly associated with *textured* breast implants. We are unaware of any cases of this disease when the patient was known to never have exposure to a textured implant. It occurs exclusively in association with textured devices,⁹ or a slightly different phraseology by the American Society of Plastic Surgeons: "To date, there are not any confirmed BIA-ALCL cases that involve only a smooth implant."¹⁰ interestingly, the FDA summarizes the same data and information with slightly different language: "The risk of BIA-ALCL is higher for textured surface implants versus smooth surface implants."⁷

If you aren't considering textured implants, then this is likely something that you have very little to worry about. I don't use textured implants in my practice as a general rule except in rare instances that are so uncommon they are not even worth mentioning for fear of information overload. Whether you are using textured implants or not, the risk for, and association of anaplastic large cell lymphoma with breast implants is important information for you to be aware of.^{7,11-16}

If you have ever had a textured breast implant in the past, then what is your chance of developing ALCL? That's a great question, but the answer is not very straightforward. The simplest answer is: "it depends". A much more complicated answer is anywhere from 1:355 to 1:30,000 depending on the situation and the type of implant texturing.¹⁷⁻²⁸ The implant with the highest association for ALCL was voluntarily withdrawn from the market in 2019.²⁹

We still don't know for sure why the texturing of the implants is associated with this tumor. Theories include inflammatory reaction to the textured surface, particles shed from the surface, or increased bacterial contamination of the implants.^{30,31} The way I think about this is that especially since we don't know exactly *why* this tumor forms around textured implants – all the more reason NOT to use textured implants. Some have even called to ban textured implants all together but some surgeons still have strong preference for these types of implants for some reason.³² I'm sure they have their reasons for using them just like I have my reasons for almost entirely avoiding them; I disagree with their reasoning. I do not understand why anyone would take any risk that isn't absolutely necessary without a clearly defined benefit that you are achieving. I do not perceive any benefit that can only be achieved with a textured implant.

Symptoms of ALCL typically include unexplained breast enlargement, fluid build-up around the implant (seroma), palpable mass in the breast with or without a capsular contracture, or chronic rash of the skin.¹⁰ Surgeons will typically use diagnostic tools to determine if there is fluid around the implant that can be tested for signs of the cancer.³³ Having fluid around the implant does not mean that you have this cancer. Having fluid around the implant with any other symptoms should cause your surgeon to evaluate for potential abnormal tumor cells.

SCC

In March of 2023 the FDA updated information regarding other types of cancer that have been discovered in the scar tissue around breast implants including squamous cell cancer (SCC) and other, rare lymphomas that are not exactly the same as the ALCL. The term squamous cell cancer may seem more familiar to some people because it is the name of the second most common skin cancer in the United States. As of the above date there have been reports of 19 SCC tumors and other lymphomas growing in the scar tissue (capsule) around breast implants in the US.³⁴

Most of the cases (95%) have been in people with a history (or potential history in the case of an individual that had a previous implant but no record of the surface texture) of textured breast implants. There has only been a single case (5% of total cases) where the patient was known to only have smooth implants.³⁴ This newer category of tumors tend to be much more aggressive and resistant to treatment than the ALCL discussed previously. There is no known cause, association, or risk factors because it is so new, and so rare. The American Society of Plastic Surgeons has a very helpful [chart comparing the difference between SCC and ALCL](#).

Other Cancers

Multiple studies confirm that breast implants do not contribute to the development of breast cancer^{1-4,35-48} and some actually purport a small risk reduction.^{1,41,46} Having implants does not change the recommendations for breast cancer screening.⁴⁹ It is important to note that having breast implants does make screening mammography more difficult for the radiologist to interpret but having implants does not necessarily delay the detection of breast cancer.^{50,51} I know that is a confusing statement. It is harder

for radiologists to see all the breast tissue when a patient has implants and therefore, they obtain more images (x-rays) of each breast to help ensure that all the breast tissue has been screened. The cancers detected by mammograms are at very similar stages between the groups with and without implants (therefore my statement that it did not necessarily delay the detection of the breast cancer).⁵²

Other types of cancer have been reported in the literature including cervical, vulvar, brain cancer and leukemia compared to the general population, but it is important to note that the authors of this paper explain in the paper that this difference is not causal and that other issues not measured or included in evaluation could be responsible for the apparent difference.⁵³ This is likewise difficult to explain, but numerous epidemiological studies have shown that women with breast implants have different demographics, habits, and lifestyle or reproductive characteristics compared to those without implants.⁵³⁻⁵⁸ It is difficult to read similar studies that show a relationship between breast implants and diseases and not immediately jump to the conclusion that breast implants *cause* those problems. That is one of the complexities of scientific literature, just because two conditions are related (which is what these studies are saying) does not automatically establish a cause and effect.

BII & Silicone Safety

We have just reviewed a significant volume of information regarding things with which you may be completely unfamiliar or may have only very superficial understanding. It is important for you to understand those topics before we begin to address a topic about which you are likely a little more familiar: breast implant illness or BII. It is hard to research anything about breast augmentation on the internet without your search terms, eventually returning stories about people who claim their implants were making them sick and then they had the implants, and all the scar tissue removed and they immediately felt better. I cannot deny the fact that these stories are present on the internet, but you need to understand that they are just that - *stories* and not *data*.

The stories are very compelling, and they seem to be permeating every corner of the internet and social media. Let me be very clear before we tackle this important subject that I am not inferring that these stories are lies or that the people relating the stories don't believe what they are saying. As a scientist, however, you must rely on data to make decisions and not base your opinions on anecdotes. The stories you read on social media and the internet, for the most part, are not supported by peer reviewed, reputable, high-quality research. I'm going to try my best to walk you through the information without overwhelming you with scientific terms to help you achieve a greater level of understanding of how some of the stories that you read may actually contain some facts, but how the data still supports the overall safety of breast implants.

"I can't believe how many wrong things I learned on the web about breast augmentation. It was freaking me out. The breast planner talked about all my concerns and helped me understand things so much better. I think that everyone should read it."

--P.M. Green River, WY

Let's begin by talking about silicone in general. All currently available implant shells (both saline filled and silicone filled) are made of silicone elastomers.⁵⁹ The fill material of the silicone implants consist of organic silicone called PDMS (polydimethylsiloxane) with varying degrees of cross-linking.^{59,60} The cross-

linking provides greater cohesiveness and viscosity to the silicone that imparts a more realistic feel. The fill material for saline implants is a physiological saltwater solution.

These same “organic silicones” used in breast implants are used commonly in many different industries and for varying purposes. According to Wikipedia it is both inert (not chemically reactive) and non-toxic.⁶¹ It is the most widely used silicone material in the manufacture of cosmetics and personal care products and are found in contact lenses, shampoos, conditioners, lotions, cosmetics, personal lubricants, and moisturizers.⁶² PDMS is also added to many cooking oils to help reduce spatter and splashing during cooking.⁶¹ Using very sophisticated testing, silicon is detectable in both the blood and plasma of women that have *never* been exposed to breast implants.⁶³ That same review compared the amount of silicon from control subjects and women that had both saline and silicone breast implants and there was no statistical difference between the silicon levels detected between the two groups.

Breast implants are considered “biocompatible”.⁶⁴ The organic silicones used for breast implants is commonly found in products all around us. Breast implants, however, should not be considered lifetime devices; they should be changed approximately every ten years to help mitigate the risk of rupture. There is no detectable difference in capsule silicon level between women with intact or ruptured implants.⁶³ This helps us understand that ruptured silicone implants are dangerous and they do not cause increased systemic silicon levels, but the ruptured silicone is very irritating to the scar tissue (capsule) and will eventually result in a capsular contracture.⁶⁵

When considering the safety of a product you need to differentiate *localized* from *systemic* complications. There are many well-described local complications of breast implants including rupture, displacement, rippling, and encapsulation. In fact the FDA has created an alphabetical list of 26 potential complications of breast implants⁶⁶ and links to complete lists of potential complications for each individual implant are available on the FDA website.⁶⁷ Your risk for needing future surgery on your breast due to local complications is far greater than your chance of needing a revision due to systemic symptoms.⁶⁸

Some systemic symptoms of breast implants are reported by the FDA but read very carefully the full paragraph of how they are described: “Symptoms such as fatigue, memory loss, rash, “brain fog,” and joint pain may be associated with breast implants. Some patients may use the term “breast implant illness” (BII) to describe these symptoms. Researchers are investigating these symptoms to better understand their origins. *These symptoms and what cause them are poorly understood.* In some cases, removal of the breast implants without replacement is reported to reverse symptoms of breast implant illness.”⁶⁶ (italics added for clarity).

The FDA statement regarding systemic symptoms (often called breast implant illness or BII) is very vague indeed, but the key to the issue lies in the phrase, “These symptoms and what causes them are poorly understood.” The safety of silicone breast implants has been extensively investigated. Indeed few, if any, medical devices have been subjected to this degree of scrutiny.⁶⁹ Careful, scientific review of quality, peer-reviewed studies overwhelming supports the safety of silicone breast implants.⁶⁹⁻⁸⁷ A recent article that sites evidence for increased risks of certain systemic diseases⁸⁸ has methodologic and other scientific flaws that substantially reduce the meaningfulness of the claims when other scientists evaluate the claims.⁸⁹⁻⁹²

This is the difficulty with scientific literature and data, unless you happen to be a scientist or physician yourself it can be confusing to discern exactly how meaningful the conclusions are. In the article mentioned above (Coroneos et al) they cite a greater chance of melanoma in women with breast implants compared to the general population. That sounds very scientific, but that does NOT prove a cause and effect. It could be argued (very scientifically I might add) that women that have breast implants are more likely to spend greater amounts of time in swimsuits which exposes them to larger amounts of ultraviolet rays which in turn could increase the rate of melanoma. The implants didn't cause or contribute to the melanoma; it was the behavior of sunbathing that led to the disease.

Another term less frequently used, but similar to breast implant illness is autoimmune/inflammatory syndrome induced by adjuvants (ASIA) syndrome. In many ways you can consider these as the same thing, but ASIA syndrome also includes other foreign materials and injected silicone. Not infrequently I see people borrow data from one to support positions or claims of the other.

Some may attempt to claim a greater risk to a patient's health if the silicone implant is ruptured. Such claims are not supported by scientific literature. Ruptured silicone (or intact implants for that matter) have **not** been linked to connective tissue diseases, breast cancer, or reproductive problems.^{69-71,93-95}

Now, how could there be elements of truth in these stories you read on the internet without that story being in direct contradiction with the data I have referenced? There are several different perspectives to consider. First, I need to reconfirm my previous statement regarding women relating symptoms that they attribute to their implants. Patients need to be given support and care when they mention symptoms and health concerns and personal (or scientific) opinions regarding the source of those maladies need to take a back seat to the overall care of the patient. I believe strongly however in the importance of offering support and options that give the highest level of care with the greatest chance of symptomatic improvement and the lowest chance of complication or risk. Even articles written from the perspective that BII should be a medically recognized diagnosis indicate that the pathophysiology is unclear, and that more research needs to be done to determine the best "biopsychosocial approaches" to guide treatment.⁹⁶ I completely agree with that statement – we need to base our support for and treatment of these patients on scientific evidence.

There is a growing body of literature indicating that symptoms and reports of breast implant illness are *heavily* influenced by social media.^{71,97-101} Social media and internet is largely responsible for the nation's predominant familiarity with breast implant illness (for which there is no concrete data or proof), and relative naivete with anaplastic large cell lymphoma (ALCL – for which there is strong scientific association).¹⁰² You have to be very careful where you are getting your information and how much credibility you assign that information. Social media can be very entertaining and engaging, but it should *not* be confused for reliable and credible information.

One perspective on this situation is that these patients were going to develop the symptoms or diseases whether they had breast implants or not.^{72,103} Several investigative papers show no change in the odds of developing autoimmune and other diseases in mastectomy patients whether their reconstruction was performed with silicone implants or with their own, autologous tissue or in women who receive implants for cosmetic reasons.^{59,78,81,88,104-112}

This would account for those individuals that accept the common suggestion found on social media platforms that they need to have their implants and all the scar tissue removed and despite following

“I think everybody needs to read Dr. Fryer’s book. You learn thing you never even heard about before and it helps you make confident decisions. My entire experience with Dr. Fryer and his office from start to finish has been incredible and it all started with me finding this book. Read his book!”

--R.L. Idaho Falls, ID

this recommendation they don’t experience any change in their disease or symptoms. Depending on how you want to categorize improvement in symptoms there are as many as ¼ to ½ of patients that do NOT improve after implant removal and complete capsulectomy.^{113,114} One thing is certain: removing the scar tissue (capsulectomy in any of its forms) is NOT a benign procedure and carries significant, additional risks.¹¹⁵⁻¹¹⁹

Some have drawn parallels between patient satisfaction with their post-operative appearance to how they feel. In other words, the higher the satisfaction with the appearance of their breasts, the less likely they were to report negative

systemic symptoms. This is a very difficult theory to validate scientifically and would require a very significant, coordinated effort to study. The difficulty lies in the possibility that one’s perception of how they look can affect how they feel and vice versa. Confounding the difficulty in confirmation is the fact that these are self-reported symptoms without laboratory or diagnostic validation.

Yet another perspective is that symptoms can be psychosomatic in origin and the popularity of social media and internet may contribute heavily.^{69,97,99,120-125} The mind is a very powerful thing, and the power of suggestion is real. Information regarding breast implant illness is readily available online but the validity and scientific significance is not moderated and policed. For the most part, the information is a nonscientific discussion trying to make sense of extraordinarily complex issues. Patients’ exposure to this overwhelming amount of negative information regarding breast implants can produce similar symptoms in the reader through a process known as the nocebo effect.^{126,127} Nocebo is the opposite of placebo. This means that patients can develop harmful side effects or worsening symptoms due to negative expectations.^{126,128-130}

If someone’s symptoms related to their implants is purely psychosomatic then any intervention touted to relieve those maladies is likely to succeed if the patient believes that information to the same extent that they believed the information that led to those symptoms. The downside to this is that the most frequently touted intervention is total capsulectomy or “en-bloc” capsulectomy and this procedure carries significant risks.¹¹⁷ Do you see the danger here? You are exposing a patient to significant risks undergoing an extensive surgical procedure to cure their *belief* of an illness. This is an example of the placebo effect – the reverse of the nocebo effect discussed previously.^{127,131}

There is another potential situation in which undergoing treatment may result in improved health outcomes: biofilm.^{118,132-138} Bacteria behave differently when they are in the presence of an implantable device than when they are only associated with tissue. The implant (commonly just referred to as a “foreign body”) offers the bacteria a way to shelter from the body’s host defenses. The bacteria do this by producing a substance called biofilm that strongly attaches to the foreign body creating a “fortress” for the bacteria to occupy. Biofilm prevents the body’s host defenses from penetrating and attacking the bacteria to eradicate the colonization. You need to understand that this is not considered and

“infection” because the level of bacteria does not increase to the point of creating classic symptoms of infection. Instead, this is bacterial contamination.

Bacterial contamination still produces foreign proteins that the body recognizes as being a problem and can activate the immune response, and this hypothesis could explain the claims of auto-immune issues.^{83,139-142} This effectively creates a scenario where the body recognizes a problem but the immune system is faced with an impossible task of eradicating the bacteria. The only way to resolve the issue is by removing the implant that harbors the bacterial contamination. If this scenario is the source of an immune response, then only the implant needs to be removed since the biofilm is inseparably attached to the foreign body’s surface. The removal of the scar tissue surrounding the implant only increases the patients’ exposure to possible complications and adverse outcomes.¹¹⁷

This is a close-up photograph of a saline implant that I removed from a patient showing small calcifications attached firmly to the implant itself. Calcifications of scar capsules surrounding breast implants are not unexpected, but actual calcifications attached to the implant shell are not nearly as common.¹⁴³⁻¹⁴⁸ I could not wipe or peel these calcifications off the surface without fear of tearing the implant shell itself. No, this is not biofilm, and the patient didn’t remove the implants because she was having any type of symptoms. Biofilm is invisible to the naked eye. I include this photograph (Figure 1) just to help you understand that biological processes can firmly and permanently attach themselves to implants in the body.

This is a very uncommon finding and almost all implants that are removed have no visible surface irregularities. Textured implants will frequently have remnants of scar tissue and possibly some calcifications attached to them as you will see in a few more pages. This hopefully helps you understand that if biofilm is attached to the surface of the implant, then simply removing the implant will remove the biofilm. That’s all that would be necessary to eradicate any symptoms possibly attributable to the biofilm.

One study was able to isolate bacteria in 36% of patients with symptoms of breast implant illness, a six-fold increase over control subjects.¹⁴⁰ Although this study isolated bacteria by culturing the capsule around the implant and touts the effectiveness of removing the capsule in improving the patients’ symptoms one should not infer that complete capsulectomy



Figure 1 Biological processes can attach to the surface of an implant. Here, calcium crystals (hydroxyapatite) are firmly adherent to the surface of a saline implant.

is the only way to treat this. Instead, the body of the paper includes explanations of how difficult it is to separate the biofilm (and subsequently the bacteria) from the surface of the implant. It requires more sophisticated isolation techniques including sonication (a technology that is infrequently available), morselization of tissue fragments, and longer culture times.¹⁴⁹⁻¹⁵¹ Instead I believe that discerning physicians should infer that implant removal alone is necessary to resolve symptoms since the premise of biofilm is that it requires a foreign device or implant and that without it biofilm cannot exist.

In fact investigators have shown no difference in symptomatic improvement based on the type or extent of capsule removal and longevity of improvement is unchanged.^{152,153} I personally spoke to the authors when they presented these findings in a webinar and proposed that I didn't think that removal of the capsule offered any benefit at all. They replied that some surgeons involved in the research felt similarly, but that to fulfill all the aims of the study (which also included submitting enough capsule specimen for heavy-metal testing) at least a partial capsulectomy had to be performed. I predict that as we investigate further into device-related problems, potentially including breast implant illness, that we will increase our realization of just how frequently, and importantly, biofilm plays a role in complications. I similarly predict that we will be able to show that removal of the capsule is not necessary.

Despite my efforts to explain why I believe removing the scar capsule is unnecessary, there will continue to be those that believe it is extremely important. Other reasons why people continue to encourage complete capsulectomy include contamination by heavy-metals.¹⁵⁴⁻¹⁵⁶ We have very high quality publications that refute claims of silicone breast implants being the source for heavy-metal contamination.^{157,158} Instead, many other lifestyle choices including smoking, presence of tattoos, dietary supplements, and gluten free diets have been shown to have greater influence on finding heavy-metals in tissue samples than being exposed to silicone breast implants.¹⁵⁷

Older publications cite different chemical byproducts and toxins identified in tissue from the degradation of polyurethane foam coatings found on implants.^{159,160} It is important for you to understand that the FDA and others estimated that the lifetime risk of disease associated with these degradation byproducts was less than 1:1,000,000 or effectively null.¹⁶¹ Despite these findings all polyurethane coated implants were withdrawn from the market in 1991. Articles referencing this information are still brought up today in support of toxin theories, but they are not relevant for the implants currently on the market.

A patient Safety Advisory published by the Aesthetic Society (ASAPS) regarding breast implant removal and capsulectomy (updated September 8, 2023) succinctly and accurately relates the scientific position of almost twenty international plastic surgery organizations regarding breast implant illness.¹⁶² It clearly recommends that surgeons should **not** encourage potentially riskier, more expensive procedures such as capsulectomy because there is no evidence of benefit.^{118,119} Surgeons promoting themselves as "explant experts" who have no additional training or other basis to deem them more of an expert than other board-certified plastic surgeons, should cease marketing themselves as such."¹⁶² Other authors go further suggesting that referring to the specialized procedure of "en-bloc capsulectomy" is dishonest and misleading.¹⁶³ I have included a more succinct, but slightly more dated, version of the current Aesthetic Society policy and expert advice below.

The Aesthetic Society Advisory on Breast Implant Illness

Breast implant illness (BII) is a subject that is increasingly on the minds of many of our patients. Because of low incidence and variable presentation, it will be some time before we understand the etiopathogenesis and best treatment for this condition.

The Aesthetic Society makes no attempt to speak for every Society member or for plastic surgeons in general, but patients with this condition require and deserve the best possible care and must not be preyed upon by overly aggressive work-up and treatment.

The following is the Society's current position on BII:

1) There is currently no science to support genetic testing as a means of determining which patients may be susceptible to BII. The Aesthetic Society is in favor of, and the Society's research arm, Aesthetic Surgery Education and Research Foundation, may provide financial support for, further research in this area.

2) There is no evidence that capsulectomy is the treatment for BII. Further, there is no evidence that an en bloc capsulectomy is superior to precise capsulectomy or more limited forms of capsulectomy.

The Aesthetic Society will update the position on Breast Implant Illness as scientific data is accumulated.

July 16, 2019

The Aesthetic Society

American Society of Aesthetic Plastic Surgeons

[This advisory is accessible here.](#)

To the contrary, there is very compelling evidence that there is equal chance of symptom improvement regardless of the type of capsulectomy performed¹⁶⁴ or even if *none* of the capsule is removed.¹⁶⁵ Further evidence shows that claims that implants (and therefore the capsule) contain heavy metals are completely false.¹⁵⁷ Common biomarkers and lab tests fail to show any differences in women who claim BII symptoms versus women without symptoms versus women who have never had implants.¹⁶⁶ And from that same study series they find that the longevity of improvement in symptoms (in those that recognized improvement) is the same regardless of the amount of capsule removed.¹⁵³ There is no peer-reviewed evidence or data to support or encourage capsulectomy that I am aware of; believe me I have looked.

Patients have also brought up stories of watching videos on the internet of surgeons removing implants filled with mold. I have seen some of those same videos and I can tell you that these are unfounded and that there is a perfectly reasonable explanation for what you are seeing. I have seen those same videos and can absolutely confirm that the implant is NOT filled with mold, but instead are saline implants that surgeons filled with a dilute betadine mixture to potentially decrease bacterial contamination. This practice was found to be unnecessary in decreasing contamination but did create issues with the valve that closed the saline port and therefore implant manufacturers discouraged surgeons from including betadine when filling saline implants.¹⁶⁷ Ultimately implant manufacturers indicated that they would "void" the implant warranty if betadine was included when filling the implant.

Figure 2 shows an implant that I removed from a patient that wanted to switch to a silicone implant. She had no symptoms of BII and had been completely satisfied with her outcome for over a decade; it was just time to change things out. This also happens to be a textured implant (more about textured implants in a few more pages) that is why the surface appears so irregular. There are remnants of scar tissue and some calcifications adherent to the implant surface (similar to what I showed previously in Figure 1).



Figure 2: Textured, saline implant filled with a dilute betadine mixture. This is NOT mold, bacteria, or any other type of contamination.

Yes, this looks horrible and unnatural. I can certainly understand how people might think this is mold. This is how rumors and stories start; people try to explain something that they don't understand in ways that make sense to them. Part of the extensive research in the biospecimen research study performed by the Aesthetic Surgery Education and Research Foundation (ASERF) included next-generation sequencing for bacterial and fungal genomes and no fungal elements were identified in *any* of the samples they tested.¹⁶⁸

I know this is a lot of information to digest regarding breast implant safety and all the claims made regarding implant-associated illnesses, but it is important for you to understand the controversy and claims. One final statement that you may hear regarding implants is that all breast implants have a black box warning from the FDA. A black box warning is uncommon from the FDA but indicates that a higher level of care and concern should be exercised when using that product. It is NOT an indictment against the safety or appropriateness of the product but rather a way to highlight the importance of vigilance and mindfulness. The final assessment of most researchers and the FDA is that breast implants are safe and that there is no conclusive evidence of any soft-tissue or auto-immune diseases other than those already mentioned herein.

Surgical information

Breast augmentation surgery involves placing an implant behind the breast tissue to enhance the size and shape of the breast. This involves selecting an implant (saline vs. silicone, smooth vs textured, round vs teardrop), careful placement of the implant either in front of (subglandular) or behind (submuscular) the large, anterior chest wall muscle (pectoralis major), by using one of several incisions. This is most commonly performed under general anesthesia but can also be done under conscious sedation in some circumstances.

Implants

Breast implants can be categorized by several different attributes. Most notable of these is the content of the implant, which can be either saline or silicone. Saline implants are filled at the time of your surgery to the desired volume with a sterile saltwater solution similar, if not identical, to the saline used when receiving an I.V. There is a range of optimal fill for a given saline implant so even though you have a 300 cc implant it may be filled to 325 cc. Saline implants are less expensive, and saline is

physiologically similar to your body's own fluid so there are no consequences if it ruptures. In my opinion that is where the benefits of saline implants end.

Saline implants tend to “ripple” much more than their silicone counterparts. In fact, that is where the term “rippling” originates is from the characteristic sloshing or jiggling sensations present with saline implants. Additionally, the rounded edge or sides of the implant tend to fold or crease more frequently and to a greater extent. This creasing is like a slight scalloping of the contour of the implant. Despite being filled with saline, the outside shell of all saline implants is still made of silicone.



Figure 2 Rippling or Scalloping of a saline implant can be felt through the tissue and sometimes seen.

There are many types of silicone implants available today, each with its own different gelatinous characteristics. Since being reintroduced to the market silicone implants have become the more popular choice for breast augmentation because of the more natural feel.¹⁶⁹ Women with less breast tissue and thinner skin, as well as those that have experienced significant rippling with prior saline implants are likely to obtain more natural results with silicone-filled implants.^{169,170} Some studies have concluded that reconstructive patients' satisfaction with their breasts and psychological well-being is higher with silicone implants than with saline.^{171,172}

Another categorization of breast implants is based on their shape. Breast implants can be round or anatomic with each of those categories encompassing multiple different projections or profiles. Some surgeons have strong preference for anatomic or teardrop shaped implants claiming that this shape offers a more natural appearance. This claim seems logical since, after all, the name is “anatomic”. This is NOT, however, what we learn from looking at published literature.

There is no observable difference between round and anatomic implants in the scientific literature. The two implants look different when they are sitting on a table; this fact is undeniable. After placement of the implant, however, neither plastic surgeon nor lay observers can tell the difference between them.¹⁷³⁻¹⁷⁶ Even in breast reconstruction there is no difference in satisfaction between anatomic and round implants.¹⁷⁷ Another potential issue of anatomic implants is rotation, which is not an issue with round implants.¹⁷⁸ The potential for rotation is highly dependent upon the technique, experience, and skill of the surgeon with some surgeons complaining about this complication much more frequently than others.¹⁷⁹

All anatomic or teardrop implants have a textured surface to help reduce the likelihood of rotation. This introduces another way to categorize implants: textured versus smooth. Textured implants were introduced in 1968¹⁸⁰ with the intention of decreasing the incidence of capsular contracture.¹⁸¹⁻¹⁸³ They have a slightly roughened surface similar to sandpaper and the idea is that the scar tissue that forms can attach to the irregular surface thereby increasing the surface area of the scar tissue. Capsular contracture occurs when the three-dimensional surface area of the scar tissue begins to restrict free movement of the implant; by starting with a greater surface area, it theoretically decreases the chances

of it occurring. Since being introduced other authors have also claimed that the texturing helps to decrease the chances of malpositioning (also referred to as “bottoming out”).¹⁸⁴⁻¹⁸⁷

These proposed benefits of textured implants, decreased capsular contracture rates and lower risk for bottoming out, however are disputed by others.¹⁸⁸ Additionally, textured implants introduce other risks and complications that are not seen with smooth implants including double capsules, implant rotation, increased bacterial growth, and delayed fluid collections surrounding the implants.¹⁸⁹⁻¹⁹² Textured implants have also been associated with anaplastic large cell lymphoma (ALCL); there has not been a single case report of ALCL in a woman whose implant history is known to include only smooth implants.¹⁹³ Some textured breast implant devices have been voluntarily removed from the market¹⁹⁴ and according to data presented to the FDA by implant manufacturers over 90% of all breast implants currently used in the United States are smooth.¹⁹³

Professionally I have not been a proponent of textured implants. The only circumstance in which I would consider using a textured implant is if I were to place the implant on top of the muscle (which I perform only rarely). Since the benefits of textured implants are debatable, and because they introduce known, and well accepted complications, I prefer to avoid their use altogether. For all the reasons listed above my strong professional preference is to use smooth, round implants.

Above or below the muscle

The implant can be placed either in front of, or behind the large chest muscle, pectoralis major. The descriptions of where the implant is located in relation to the muscle can be confusing to some people and it may be helpful to understand why surgeons describe things the way they do. It all has to do with something called “anatomic position” and standardization of relationships. The anatomic position is defined as standing upright with the legs parallel, face looking forward, and arms extended at the sides with the palms facing forward. All descriptions of relationships are based on this standardization.

An implant described as being subglandular means that it is “deep” to the glandular tissue of the breast. A submuscular (subpectoral) implant is deep to the pectoralis major muscle. The prefix “sub” does not mean “below” because that could be confused with “inferior”. These are the most common descriptions, but occasionally terms like “retropectoral” (behind the pectoral) “suprapectoral”/“supramuscular” (above the pectoral or muscle) are used.

The National Breast Implant Registry statistics for 2021 show that in the United States 93% of all

“Dr. Fryer’s book helped explain a lot of complicated stuff, so I felt better about my choice to get my breasts done. If you want to know everything that you can about breast augmentation then you need to read this!”

-- J.P. Duchesne, UT

cosmetic breast implants were placed behind the muscle (submuscular).¹⁹⁵ This is my strong professional recommendation to my patients with extremely rare exception. It would be too exhausting to read about all the benefits of an implant located behind the muscle; there’s just too much information. Instead, I will focus on the only downside to an implant behind the muscle and the only exception to my recommendation for submuscular placement.

The only downside to a submuscular implant is something called “animation”. This occurs when you flex your chest muscles strongly and the muscle then presses against the implant and causes the implant to bulge slightly to the side. When the muscles relax the scar tissue that has developed around the implant causes the implant to move back into the desired position. In extreme cases of animation, the muscle can pull or tug unnaturally on the lower breast skin and create an irregular shape or crease in the breast that is not present when the muscle is relaxed. This extreme example of animation is sometimes referred to as “window shading”. To help prevent this window shading and to decrease the total amount of animation I use a technique of implant positioning called “dual plane” in all my augmentation patients (more about that later).

The only time I entertain the idea of placing the implant above the muscle is in professional or Olympic athletes. Placing the implant behind the muscle does result in a loss of muscle volume and strength that might prove detrimental to their career.^{196,197} This loss of volume, however, does not translate into a permanent loss of strength for the average patient,¹⁹⁸⁻²⁰⁰ but professional and Olympic athletes are anything but average by definition.²⁰¹ Having said this, however, I am aware of several professional athletes in my practice that have still opted for submuscular placement of breast implants when they are made aware of the benefits. One such athlete from my practice, a professional rock climber, still competes at the very highest levels of the sport.

To complicate things even more surgeons sometimes use terms like: complete submuscular, partial submuscular, dual plane, and subfascial. It is confusing to say the least for a layperson to navigate all these different terms especially since many of them are poorly understood by plastic surgeons. Not wanting to overly confuse you at this point I’m not going to go into great detail about this topic. All submuscular implants are technically *partially* submuscular (Figure 4) unless specific steps are taken to

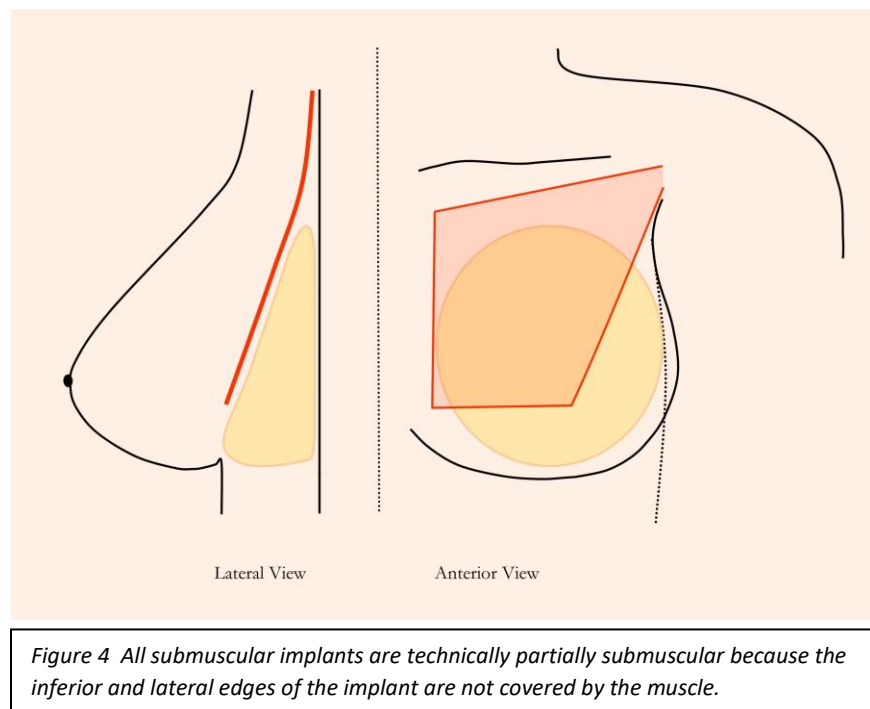


Figure 4 All submuscular implants are technically partially submuscular because the inferior and lateral edges of the implant are not covered by the muscle.

mobilize the insertions of the serratus anterior muscle which is then sewn to the pectoralis muscle to create a complete covering of muscle (very few surgeons do this for cosmetic purposes, more may attempt this for reconstruction purposes).²⁰² I have not found a situation where I feel the benefits outweigh the risks for complete submuscular placement.

I use a technique called dual plane (a subcategory of submuscular) for all my breast augmentation patients. This technique was popularized by John Tebbets as a way of addressing, improving, and refining multiple issues with breast augmentation.²⁰³ Dual plane utilizes a standard submuscular position

but detaches a varying degree of breast tissue from the front of the muscle. This helps improve breast shape and characteristics in almost every cosmetic breast augmentation patient that I am aware of and therefore I perform a “dual plane, (partial) submuscular” approach on every patient. Dual plane doesn’t increase the recovery from, or the risks associated with breast augmentation.

In early 2025 Kylie Jenner discussed how her implants are “half under the muscle” and created quite a stir. Everyone got excited about this “new” technique that had achieved such a beautiful and natural result. This is NOT a new technique at all; it is simply the dual plane technique that I just described. She simply used common English terms that anyone can understand to explain the dual plane concept but because it was new wording or a different title people assumed that it was a new technique.

Subfascial breast augmentation is when surgeons place the implant behind the lining of the muscle (*not* the muscle itself) thereby reducing the animation effect of the muscle.²⁰⁴ The lining of all muscles is called the “fascia” and for the pectoralis muscle it is approximately 1 mm thick (for reference a dime is 1.3 mm thick). I have not encountered a situation in which I felt a subfascial position would be better than a submuscular position. Most comparisons in the literature compare subfascial against subglandular and claim that subfascial is better, but I am not aware of any literature suggesting that subfascial has any substantial benefits over submuscular, especially when compared against dual plane, submuscular.²⁰⁵ Knowing all the data and the arguments, I will continue performing the dual plane technique.

Incision

There are three common incision placements for breast augmentation: axillary (armpit), periareolar (edge of the areola), and inframammary crease. Transumbilical (through the belly button) is also an option when using saline implants, but this is extremely uncommon and in my opinion is performed well by only a handful of surgeons nationally. I can understand a patient’s interest in not having a scar anywhere on the breast, but if the outcome of the operation is anything less than perfect, I think that in hindsight patients would rather opt for a small, discreet scar on the breast than a misshapen breast.

Incisions around the areola are the second most common incision location and are performed in 4% of all cosmetic breast augmentations.¹⁹⁵ This happens to be my least preferred incision location professionally. The benefit of this incision is taking advantage of the natural color difference between the skin of the breast and the areola. This can help to hide and disguise a scar in this location. If it heals well, it is truly difficult to see. If it does not heal well, it becomes the most obvious scar on the breasts. When patients come to me to fix other surgeons’ work, I have recognized that this

incision can create an indentation at the inferior border of the areola that is quite conspicuous. The scar itself may camouflage very nicely at the border, but the indentation can be obvious. (Figure 5) Additionally, this incision has been implicated by some authors with increased bacterial contamination



Figure 5: Incisions around the areola can create an obvious indentation even when the scar seems to be nearly invisible.

and capsular contracture rates even to the point where some experts have urged avoiding its use.^{150,206,207}

Incisions can also be made in the underarm area (2%) for breast augmentation.¹⁹⁵ The benefit of this incision is that there is no scar on the breast. The disadvantages of this incision is higher chance of capsular contracture,²⁰⁸ although this is denied by other surgeons.²⁰⁹ This is the confusing part of interpreting medical literature; how can two people write a paper and report two opposite results. This is where having significant knowledge on the subject can help because as a surgeon, I can look at the methods they used, compare data between two authors and answer to my own satisfaction which data I choose to rely on. Looking carefully at these papers and the outcomes reported by these authors I conclude that the armpit incision has a higher chance of capsular contracture. I have ruptured silicone implants while placing them through an axillary incision and therefore do not use this incision for silicone implants.

The incision at the bottom of the breast near the crease (inframammary) is by far the most common (about 90%).¹⁹⁵ This is my most preferred and commonly utilized incision for many reasons. Among those reasons are: shorter scar, direct visualization of the operative area (more about this in the next section), better control of implant placement, lower complication rates, and a scar located in an area that no one really ever sees.^{206,207,210} When was the last time you really looked at the crease of your breast? My point exactly.

Anesthesia technique

Breast augmentation can be performed with the patient under general anesthesia or conscious sedation. The debate between these two options has no definitive answer. Either method can be safe and effective; at the same time either can be unsafe and unpleasant if not administered correctly. In the state of Utah, the physician performing the procedure cannot simultaneously direct your anesthesia. This law helps ensure patient safety and good outcomes. If your surgeon is responsible for both operating and your comfort, what do you want him/her to focus on if critical issues with both arise at the same time? Bottom line: this is a patient safety issue, and I agree with the intent and importance of the law.

Both sedation and general anesthesia are safe options for most cosmetic operations.²¹¹⁻²¹⁸ Despite their very similar safety profile, in my opinion general anesthesia allows for increased patient comfort (and less surgeon frustration) when the surgery involves significant muscle manipulation such as elevating the chest wall muscle for breast augmentation or tightening the abdominal wall muscles during a tummy tuck. General anesthesia allows increased sedation and relaxation without fear of decreasing the patients' breathing. I personally prefer general anesthesia because my patients remain more comfortable during the surgery and the medications we use have the lowest risks of undesirable side effects.²¹⁹

Surgical technique

The actual surgical technique used can be categorized into two groups: electrocautery and blunt. Here, too, surgeons typically have strong preferences for one technique over

"My husband works with plastic surgeons throughout Salt Lake and Utah counties. He recommended that I have my breast augmentation with Dr. Fryer because of his precision, skill, and because of his fantastic outcomes."

-B.H. Salt Lake City, UT Physician's wife

the other. Each group has their own reasons for using that technique, but it is interesting that both camps tend to cite the same reason why they prefer their method: “because there is less bleeding”. I think they are both wrong (see below regarding surgical refinements pioneered by John Tebbetts, MD).

Blunt dissection is performed by making the skin incision and spreading through the tissue to identify the lateral edge of the pectoralis major muscle. After identifying this portion of the muscle, the surgeon inserts a metal bar beneath the muscle edge (the lateral edge of the muscle has no bony attachments) and tears the muscle away from the bone. This is done by feel and by examining the surface of the breast as the pocket is created and the surgeon never actually sees what is taking place in the tissue. Proponents of this technique cite the tendency for torn blood vessels to spasm and decrease blood loss. This spasm must hopefully last long enough for the torn blood vessels to completely seal by clotting.

Electrocautery refers to using electricity to create the space for the implant by cauterizing through the tissue typically under direct vision. Cutting through a blood vessel even with this cauterizing technique can cause it to retract and continue bleeding and then the surgeon must search for the vessel to attempt and coagulate it. Once any bleeding is encountered it quickly obscures the tissue planes that the surgeon must carefully separate to successfully create the space for the implant. I have used both techniques hundreds of times, and I believe that each method results in more bleeding than is desired.

John Tebbetts, MD was a brilliant surgeon that developed surgical techniques and principles that changed the gold standard for outcomes in breast augmentation in my opinion.²²⁰ I spent a month in Dallas, Texas in a self-directed externship and had the privilege of spending some of that time with Dr.

“My breast aug recovery was so easy – more discomfort rather than pain! I was active the very next day and didn’t have any bruising at all. It was way different than my friends that went to other surgeons. I am so glad I found Dr. Fryer!”

--M.H. Rock Springs, WY

Tebbetts watching him perform surgery. Despite having completed over seven years of surgical training, I had never witnessed anything comparable to his surgical technique for breast augmentation; there was almost no blood loss whatsoever for the entire procedure. He used electrocautery, but he used it in a way that I had never witnessed before. The technique includes “prospective hemostasis” (predict and prevent bleeding before it even starts), direct visualization of the surgical field, and an absolute

mastery of the pertinent anatomy. John was, without a doubt, one of the most gifted surgeons I have ever had the honor to learn from. He passed away in March 2023. I am indebted to him because my contributions and refinements to breast augmentation would not have been possible without his pioneering legacy.

So why doesn’t everyone just use Dr. Tebbetts’ technique if it is that much better? Despite reading about it and watching him perform it many, many times it took me *years* before I could duplicate it. It was the most frustrating thing ever in my surgical career because I couldn’t comprehend why I wasn’t able to successfully implement his technique. It is because it takes years of dedication to those principles to master them. Most surgeons never achieve that level of proficiency with this operation. To date, I am aware of precious few surgeons that can claim that level of skill with this operation and most, if not all, of those surgeons learned the technique directly from John Tebbetts. I count myself very fortunate to be among those few surgeons who can perform the entire procedure with less than a thimble-full of blood loss total.

Many years ago, I performed breast augmentation on two patients on the same day that both had a clotting disorder called von Willebrand's disease. This disease affects how well their platelets work and typically leads to very easy bruising and increased surgical blood loss. I took photos of the entire blood loss for each patient to show just how little blood loss is possible even for someone with a known

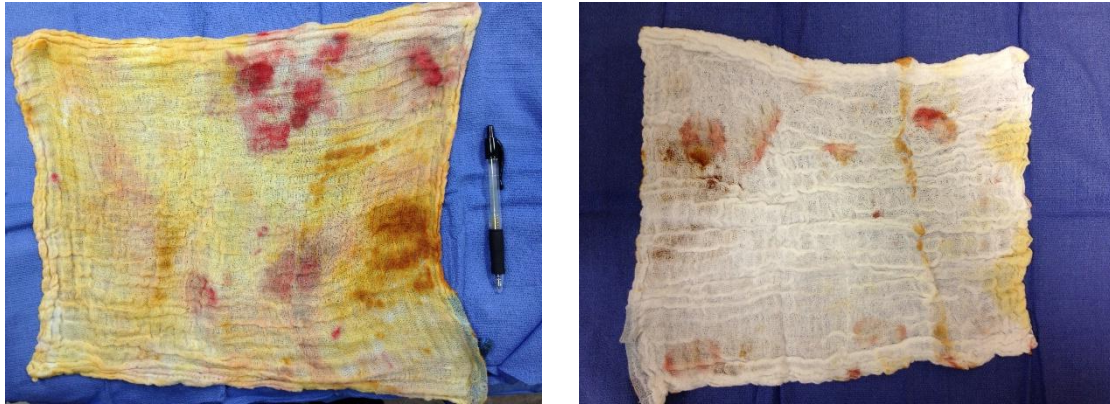


Figure 6 Total blood loss for two patients with the clotting disorder Von Willebrand Disease after breast augmentation. The blood is red, and the betadine used to wash the pocket is brown.

clotting disorder. I included a pen in one of the photos to help you understand the scale and true size. The white cloths are called “sponges” and are what surgeons use in the operating room to wipe or remove blood from the tissue. The brownish discolorations are betadine used to help disinfect the tissue, and you guessed it, the blood is red. That is the entire blood loss for each of those two patients. (Figure 6)

Internal Bra or Mesh

There is quite the excitement about the “internal bra” for breast augmentation. I am not a fan of using mesh in breasts. It has been sensationalized as the newest technique for breast augmentation and as achieving results otherwise not possible. The truth regarding the use of these mesh supports, however, is that they don't necessarily work any better than other well described techniques.^{221,222} So why all the fuss? Maybe because it sounds good. Or does it?

First, let's look at the purpose of using the internal bra. It is used to help prevent implant malpositioning or bottoming out.²²³ We've mentioned this already several times as one of the most common complications following breast augmentation. It is very understandable then that people are trying to do something to prevent this from occurring. It is also used to treat or correct malpositioning during a revision surgery.²²⁴ They are trying to add additional strength to the tissue to treat the problem. And the final reason to use the internal bra or mesh.... because you're not proficient with the other well-described techniques for repositioning or repairing bottoming out. Even in the studies cited directly above supporting the use of mesh, the data that they quote do not achieve statistical significance for superiority over other, well-described techniques and most of the authors acknowledge this in their discussions.

A recent analysis of all published material regarding the use of mesh in aesthetic breast surgery concluded that the, “current evidence is insufficient to recommend the routine use of mesh in aesthetic

breast surgery.”²²² This extensive review included 31 reported studies of mesh in aesthetic breast surgery all of which generally reported favorable outcomes, but none of them compared using mesh versus not using mesh. The problem with this type of study is that there is no way to prove that using the mesh results in any additional benefit.

This same review found that 18 of the 31 (58%) published articles contained significant conflicts of interest with the authors which generally means that they somehow had a financial and or business relationship with the makers of the mesh through which they could receive some benefit. Authors are required to disclose potential conflicts of interest when they publish. Significant conflicts of interest weaken the validity and strength of the reported outcomes. Another way to look at this information is that between half and two-thirds of all publications regarding the use of mesh in aesthetic breast surgery are written by individuals that have something to gain by encouraging other surgeons to use that same product. The fact that such a significant percentage of articles are written by physicians with conflicts of interest on the topic is somewhat concerning.

Additionally, the use of an “internal bra” or mesh has the potential of exposing patients to additional risks without any evidence of prolonged or improved benefits. Although some of the articles I cite here are for breast surgeries without an implant, the literature is pretty clear that there is no proven benefit of using mesh.²²⁵⁻²²⁷ Medical professionals have been warned about potential complications of using mesh in breast surgery.²²⁸ The FDA sent a letter to healthcare professionals in which it states, “...**the safety and effectiveness of surgical mesh in breast surgery, including in augmentation or reconstruction, has not been determined by the FDA.**”²²⁹ The bold typeset was included in the FDA letter – I did not add it for emphasis here.

The fact that it was bolded in the original letter should underscore its importance. I am personally aware of multiple different complications including infection, extrusion, pain, and palpability that have required reoperation by physicians that have chosen to use mesh. There is only one thing for certain if you choose to use mesh for your cosmetic breast procedure: you are going to have to pay for the mesh (roughly \$1,600 the last time a sales rep tried to convince me that I needed to offer this to patients).

I do not use an internal bra or mesh for breast augmentation. My rate for malpositioning or bottoming out is significantly below the nationally reported data already and therefore I do not see a need or purpose. For many surgeons I think it is just a crutch they use when trying to reduce their complication rate. I achieve my lower rate for bottoming out or malpositioning by thinking about breast augmentation differently and thinking outside the box. I get lower complication rates because I don’t follow the trends or techniques that result in those problems.

I do not agree with how all surgeons have been taught to measure and size women for implants. Better said, I do not agree with how all surgeons *haven’t been taught* to measure and size women for implants. No one has ever determined a standardized, accurate, reproducible process to measure a woman’s breasts and chest wall. I will expound on this a little bit later when I describe my consultation process, but this is a critical point to make. I believe that surgeons start with the wrong implant dimensions and therefore have higher complication rates. More about my unique measuring and sizing technique later; I am currently in the process of publishing this method.

Another way to describe the issue is that they are trying to force implants into spaces that are too wide for a woman’s frame. The tissue responsible for supporting the implants becomes overwhelmed by the

size and pressure of the implant and the tissue stretches and gives way resulting in malpositioning and bottoming out. In my opinion the result was almost certain from the beginning because of erroneous planning.

Instead of rethinking the process and planning differently, surgeons are now trying to reinforce the tissue to strengthen it. I can understand how they might arrive at this conclusion, but in my opinion, it remains equally flawed. If the tissue is not strong enough to support the position of the implant by itself then suturing mesh to that same, weak tissue is also unlikely to succeed. To help you understand the problem a little better let's compare the tissue to a retaining wall. If a retaining wall is not anchored strongly enough to prevent the earth from moving, then nailing a tarp on the inside of the wall isn't going to change the outcome; the earth is still going to move.

If it isn't already obvious let me just say it: I'm not a fan of mesh. Never have been. Now you might say what harm can come from mesh, just put it in there just in case it might help. Seriously? Let me list the reasons why you shouldn't just put mesh in there with the hopes of it helping. It's more expensive, typically by thousands of dollars. Most of the information regarding complications comes from breast reconstruction literature and not cosmetic breast surgery, but the literature is clear that using mesh opens the door for potential complications. These complications include: infection (significantly increased risk), seroma (fluid trapped under the tissue), failure of reconstruction (the mesh didn't hold the position of the implant like it was intended), palpability of the mesh due to folds or stiffness of the material, overall increased cost, abnormal breast shape, patient dissatisfaction, and malpositioning.²³⁰⁻

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Some surgeons claim that it acts like a push-up bra to hold fullness in the upper part of the breast. That is intriguing theoretically, but it lacks substance and proven benefit in reality. Think about it for a moment comparing your breast tissue to rice in a bag. If you are trying to force the rice into the upper part of the bag you must apply even more force at the bottom of the bag to create that fullness at the top. This has the unintended consequence of overly flattening the bottom part of the bag of rice. Do you really want to sacrifice the rounded full appearance and create an overly flat or angular shape at the bottom of your breast to achieve greater fullness at the top? I didn't think so. Once again, I'm not convinced that it achieves what people hope it will achieve.

Fat Grafting

Fat grafting to breasts has also been wildly popularized recently. Let me first say that fat grafting to breasts DOES work, so I am a believer in this treatment method. Let me clarify, however, that fat grafting to increase the size of breasts is rarely the answer that people hope it to be. The problem comes down to two issues: not enough fat to harvest, and not enough space or volume into which the graft can be placed. The second issue is harder to understand, and I will address that specifically soon, but first let's talk about the easier issues.

Not infrequently patients will inquire about fat grafting to breasts and when I look at their body there is clearly not enough fat that can be harvested to make a significant difference in the volume of their breasts. This happens because not all the grafted fat survives, and not all the harvested fat is graftable fat. Each of those two steps reduces the amount of fat by a factor of two, so in all it is reduced by a factor of four. In order to increase the breast by 100 cc's you need to graft 200 cc's, and in order to graft 200 cc's you need to be able to harvest 400 cc's. And then unless you are planning on only grafting one breast you have to plan to harvest 800 cc's to get the 100 cc increase in each breast. These are

approximations and some surgeons may use different conversion factors for their practice, but these are fairly standard for most surgeons. A significant proportion of my patients do not have 800 cc's of fat that I can readily obtain with liposuction.

There is no industry standard for how many cc's a typical bra cup size is, but there are some generalities to at least help you understand this a little bit better. One cup size increase in breast size typically translates to 150 cc's of volume.²³⁹ Although these authors (and most surgeons) agree that this is difficult to use as a planning tool for surgery and that often increased volumes are necessary to achieve what patients believe to be one cup size. More frequently I hear surgeons talk about 200 cc's as equaling a cup size. So, in other words to increase a cup size would be 200 cc's of fat that survives which means 400 cc's of grafted fat, which means 800 cc's of harvested fat, which means 1,600 cc's total to graft both breasts. That is a lot of fat to harvest on anyone. Most papers discussing fat grafting to breasts discuss average *grafting* volumes under 200 cc's and therefore only half of that volume remaining in the long term (a half a cup size increase or less).²⁴⁰

Even more difficult to understand is that you need space or volume into which you graft the fat for the fat to survive. Fat grafts survive by begging and borrowing oxygen and nutrients from surrounding tissue that already has its own blood supply. It takes 7-14 days for the grafted fat to develop its own blood supply and therefore survive long-term. If the fat must borrow oxygen and nutrients from vascularized tissue, then it makes sense that you don't want grafted fat to be immediately adjacent to other grafted fat because it can't borrow from tissue whose survival is dependent on also borrowing tissue. The more spread out the grafted fat can be the greater the chance of survival.

Let's use another example here to help you understand it better. Let's use red marbles to represent tissue that has its own blood supply and yellow marbles to represent the fat we are grafting into the tissue. If you begin with a relatively small number of red marbles (vascularized tissue) then there are less potential places for the yellow marbles (fat graft) to be within those red marbles before you start getting yellow marbles touching other yellow marbles which adversely affects how many will survive. If you start out with a ton of red marbles (in which case, you could then ask yourself why are you even trying to increase the volume by adding more marbles) then there are more possible places for yellow marbles to be so that they are completely surrounded by red marbles. I hope that example helps you understand the issue better. Ultimately you can maybe increase the overall volume of the tissue by a maximum of about 15 – 20% with fat grafting.

Thinking about it another way, is all the expense and recovery worth a 15 – 20% increase in breast volume to you? Some surgeons propose to use both an implant and fat grafting to improve the shape and volume of the breast. Sure, I guess that's an option, but the fat grafting to the breast is going to be almost unnoticeable compared to the increased volume due to the implant. Why not just use a larger implant instead? Some surgeons say they are shaping the breast with the fat graft. Sure, I guess that's an option, yet again, but if you are trying to say that you are shaping the part of the breast tissue to which the volume of the implant is not contributing then you are talking about the areas of the breast usually at the top or medial aspect of the breast. These are the areas where the implant has a more difficult time adding the volume, but those are also the areas of the breast where you have almost no native breast tissue and therefore don't have room to graft any significant amount of fat. You run into the issue of not having very many red marbles so you can't add very many yellow marbles.

Can one fat graft at the same time as using an implant? Yes. That doesn't mean that I suggest that to my clients as the best or preferable option because I am not convinced that patients ever really notice the subtle changes that come from the fat grafting. In my opinion over 95% of the difference that they see is due to the implant. Oh, and by the way, even in published studies the risks and complications from fat grafting are over 25% with the majority of complications coming from fat necrosis and it's sequelae.²⁴¹ Do you really want to increase your risk of complications just to get an extra 5% result? I didn't think so.

Liposuction

Some surgeons also suggest liposuction of the breast area as a way of contouring and refining the breast shape. The most common area surgeons suggest treating with liposuction is the fullness just in front of your armpit crease. Physicians call this the anterior axillary fold area. It is a very common area about which women complain, and it is generally accentuated when wearing a bra and other clothing. Typically, the bra strap or bra cup pass right beneath the area compressing the underlying tissue and makes the area seem even more obvious.

There isn't a single week in my practice that someone doesn't share their displeasure with this area of their body. There isn't a single month in my practice that a patient doesn't share that they have seen another surgeon in consultation that suggested liposuctioning the area. Less than once a year do I actually see a patient that I think will benefit from liposuction to this area. Let me explain why.

This area is not typically made up of excess fat. It's confusing because women often pinch this "puffy" area with their fingers and one can easily believe that it is excess fat. I always have my patients pinch the area with the fingers of their opposite hand and then raise that arm straight in the air. Do this quickly so that you can see for yourself what happens with this area. It magically disappears. The reason it disappears is because it is not excess fat, but rather it is skin that you need to have full range of motion of your shoulder.

This area becomes more visible and problematic as women age because they typically lose some of the upper pole fullness of their breasts. As the volume of the breasts drops it leaves an area of flatness or even depression just beneath this area thereby accentuating the perceived fullness. Just adding an implant (or a breast lift for patients that need a breast lift) increases the upper pole fullness which then blends in with the contour of that area and it magically becomes less prominent. Yes, that's right, it becomes less prominent even without performing liposuction.

Other "Magic"

I can't predict what other magical surgical techniques surgeons will claim to have or develop in the future. There are things that work and that are well described in the plastic surgery literature and despite these things being well described and accepted doesn't, however, mean that all surgeons understand them or are capable of implementing them. My description of John Tebbett's surgical technique is an example of this. I have witnessed the difference that this technique makes for patients and despite it being well documented and described there are only a handful of surgeons that can duplicate it. If surgeons want to claim some other magic as their own you must ask yourself the question, "Is it really better, or is it just trying to correct or compensate for some other fault or issue?"

I freely admit that I do things differently and that my ideas depart from what other surgeons think or believe or do. But the reason I depart from generally accepted principles and practices is that I believe they are all based on an incorrect foundation. My unique method for measuring and planning for breast

augmentation corrects those misperceptions and I believe serves the foundation upon which all other techniques and principles of breast surgery are based. Fads will come and go over the years, but good surgical principles and practices will remain the same especially when they are based on a strong and correct foundation.

Research your surgeon's credentials

Arguably the single most important decision you make regarding breast augmentation is who you choose to be your surgeon. Unfortunately, internet resources are not always completely reliable because there is no internet police to keep people honest about the information they post. Misinformation comes not only from other patients who repeat unsubstantiated information that they have heard but also from physicians trying to advertise their practices. Unrealistic claims about results and recovery are all over the internet. Physicians will also make all kinds of claims about their credentials which sound fabulous, but the reality may differ significantly. Not all information on the internet offers the same value for you as a consumer. You are going to be targeted by advertisements almost immediately after your first internet search about breast augmentation and you need to be able to differentiate information from advertising.

The internet is filled with information that can be helpful in this process. Unfortunately, it is also filled with information that can be misleading, unreliable, and potentially even fraudulent. I will try to give you reliable and credible resources to vet your information and to adequately research your surgeon's credentials. Do your research carefully; it is hard, and sometimes impossible, to fix a poor result.

Reviews

The most likely place for people to turn when researching Word-of-mouth is an important and reliable source of information regarding actual physicians and their outcomes. Almost 75% of potential patients indicate that reviews are their first-line choice for finding a new doctor and 70% consider positive physician reviews as "important" or "very important".²⁴² Typically, patients are going to tell you how it really is and not sugar coat things. Honest reviews can be therefore very helpful, but "bogus" reviews may be touting opinions (one way or another) that are not valid.

"My partner works in the OR and she told me about Dr. Fryer. She says he's the only plastic surgeon she would ever go to for a mommy makeover."

-- B.A. Sandy, UT

What's the difference between a valid review and a bogus one? A valid review is written by a patient that has undergone a procedure with a surgeon and gives an objective opinion about their experience with the surgeon and the office *and receives no compensation or incentive for that review*. Bogus reviews encompass pretty much anything and everything else.

Have you ever read a lengthy 5-star review about a product you're interested in and you get to the 27th paragraph and they say something like, "Full disclosure, they sent me this product free of charge in exchange for an unbiased review, but I can promise you that did not influence my decision at all to give this product my highest possible endorsement." This is an example of a "bogus review" in my opinion. There is no way that someone would write a glowing 27 paragraph endorsement of a random product like a backpacking pressure cooker unless they were obligated to because of the business relationship (receiving the product free of charge or at a significant discount).

The American Society of Plastic Surgeons Code of Ethics specifically prohibits this type of endorsement. "Each Member may be subject to disciplinary action, including expulsion, if: (G) The Member uses, participates in or promotes the use of any form of public communication containing a false, fraudulent, deceptive, or misleading statement or claim, including a statement or claim which:(7) Contains a testimonial or endorsement pertaining to the quality of the member's medical care or the member's qualifications if the endorser has been compensated by the Member or a third party retained by the Member for making such testimonial or endorsement."²⁴³ Another questionably ethical practice I have heard of is having patients sign an agreement to not post negative reviews.²⁴⁴

Sadly, this tenant is frequently bent, broken, twisted, or massaged trying to obtain endorsements, followers, influencers, and reviews to benefit a surgeon's reputation and/or online exposure. It remains just enough of a gray area that surgeons aggressively search for these opportunities. You must be extremely savvy when reading reviews based on social media influencers and number of followers etc. because you can't fabricate truth out of fiction by increasing the number of "likes" or by harnessing public opinion. The Netflix documentary "*The Social Dilemma*" offers a very somber warning: "The platforms make it possible to spread manipulative narratives with phenomenal ease, and without very much money." (- Renée Diresta, research manager of Stanford Internet Observatory, former head of policy at Data for Democracy)

And lastly the final type of bogus review is suppressing or deleting valid negative reviews. That's correct, there are businesses that specialize in trying to delete or manipulate negative online reviews even when the reviews themselves are completely valid. I have seen these types of services employed, very effectively I might add, for a particular surgeon with a long string of very poor outcomes and very poor reviews. The way they suppressed these valid negative reviews is by manufacturing or creating large numbers of positive reviews that "buried" the negative reviews. These types of tactics are recognizable when there is a very large number of reviews in a very short timeframe, and they will often leave only a star rating and no explanation. If they leave a written review the reviews are sometimes very poorly worded, with misspellings, poor grammar, or don't really make sense; they are sometimes written by overseas companies where English is not spoken as the primary language. Now, more commonly AI is used to generate these bogus reviews to bury a negative review.

Although reviews are undoubtedly a good place to start when you are searching for a plastic surgeon, please use caution and be an educated patient and consumer as you gather your information. I can only speak for myself and my own practice, but I have never paid, bartered, negotiated, or traded for any type of endorsement or review. I have never used a service to either generate positive reviews or to bury negative reviews. I ask for reviews but offer nothing of value in exchange. Patients that have written my reviews do so because of gratitude for excellent care and exceptional outcomes. I don't know my Instagram account password, I have no idea how many followers I have (let alone who they are or whether they are considered an "influencer").

I'm old school. If you have to do anything other than operate to get people to talk about your surgical skills then you might not have the surgical skills you claim to have. I'm very happy that my patients are happy enough to relate their experiences and outcomes in their reviews. I happen to have (overwhelmingly) more online reviews regarding surgical outcomes than anyone else in my specialty in the intermountain west area: 1,714 reviews (as of July 20, 2023) to be exact in the four review sites that are highlighted under a Google search for my practice averaging 4.9 stars. My patients do the talking for

me. Some clinics may have more overall reviews, but most of those reviews are regarding Botox and fillers and laser treatments that aren't even performed by the surgeon. My reviews are based on my surgical outcomes.

One comment I hear repeatedly from my breast augmentation patients is how smooth and rapid their recovery was compared to some of their friends with whom they talked to. Every patient is unique and each will have a slightly different recovery experience, but I think that the technique used for the procedure is a major factor in how they recover. I think my technique is distinctive because I can perform the entire procedure with almost no blood loss (usually less than a half teaspoon of blood loss).

Several doctors advertise "rapid recovery breast augmentation". It is funny to read the patient reviews about how their recovery went because their stories are anything but "rapid". The same goes for the "pain free" or "almost pain free" (enough complaints were filed that they had to stop advertising "pain free") breast augmentation. I would gladly compare my average patient to the patient of anyone who advertises those services and 9 times out of 10 my average patient will experience less discomfort and a faster recovery than those other doctors. The reviews of those doctors that heavily advertise those outcomes say it all.

"Dr. Fryer has been phenomenal. The surgery was wonderful and the recovery was a breeze. I absolutely love the results! Dr. Fryer and his staff are amazing!"

—A.H., Logan, UT

Legal actions

Legal actions filed against the physician will typically give you an insight into the worst outcomes of that surgeon. All surgeons (and physicians for that matter) will eventually face a malpractice lawsuit at some point in their career. Most malpractice claims for cosmetic surgery outcomes are brought against physicians that are practicing outside the scope of their training; typically meaning that they aren't board-certified plastic surgeons.²⁴⁵ The fact that someone has had a malpractice lawsuit doesn't make them a poor physician but if they have more than several that should be telling you something. Plastic surgeons have the fifth highest new malpractice claim rates among physicians.²⁴⁶ This amounts to a 15% chance per year of being sued.²⁴⁷ You can contact the county clerk's office in the county where the surgeon works and request a list of all malpractice suits filed against a particular surgeon.

In the state of Utah after filing a malpractice claim a prelitigation hearing must be scheduled with the Division of Professional Licensing (DOPL). The prelitigation hearing is conducted with a neutral attorney acting as the panel chairman, a neutral physician (of the same specialty that is being sued), a neutral healthcare provider (typically a nurse), and a neutral layperson that hear the evidence of the plaintiff (patient) and defense (physician) and make of ruling of "meritorious" or "non-meritorious". Meaning that the panel feels that the malpractice claim has merit, or it doesn't. Regardless of the panel findings the patient can continue to trial, but the prelitigation panel often helps the plaintiff attorney determine the likelihood of winning a payout in court. Approximately 40% of all claims filed against plastic surgeons are dropped before trial. Over 70% of all claims against plastic surgeons are closed without an indemnity payout.^{247,248}

Large payouts for malpractice could be considered worrisome since the majority don't result in any monetary payments. Something even more worrisome is a physician that doesn't have malpractice insurance. This is a bad sign indeed. It typically means that the surgeon is "not insurable" – no insurance company wants the liability, or that the cost to be insured is so high (because of the increased liability) that the surgeon makes the decision to not carry malpractice insurance. Surprisingly, this is something that attorneys may suggest to their clients to discourage potential malpractice claims.

That's right, attorneys are less likely to even file initial malpractice accusations against surgeons that don't have malpractice coverage because they know that the chances of obtaining a cash payout are much lower. The attorneys then typically advise the doctor to arrange their financial holdings in such a way to shield their true wealth so that they can claim bankruptcy if they lose a malpractice claim thus erasing the debt. Yes, this is completely legitimate and legal, but it is not common unless the physician has been sued excessively or lost a large amount of money through their malpractice insurance. If your surgeon doesn't have malpractice insurance this is one of the largest red flags you could ever come across. It is a well-recognized pattern that some physicians just seem to have significantly more malpractice suits filed against them;²⁴⁹ this isn't a trait that you should ignore.

DOPL actions

Perhaps even more worrisome than a physician that has had numerous malpractice claims, or even a surgeon without malpractice insurance is a doctor that has had disciplinary action from the state's medical board or DOPL. I cannot emphasize this enough, you must ensure your surgeon hasn't been disciplined or had restrictions placed on their license. Issues and violations that result in disciplinary actions or restrictions are extremely egregious in most instances but they don't always make headlines so you still have to perform your due diligence. The problem is that by the time the medical boards take action there are already many unfortunate victims. You don't want to be one of those victims.

First let's just skim over some headlines. "Plastic Surgeon Convicted of Attempted Manslaughter over Death of Teen During Botched Breast Augmentation".²⁵⁰ "TikTok-famous plastic surgeon has medical license suspended".²⁵¹ "'Dangerous to the public': Celebrity cosmetic surgeon suspended amid probe."²⁵² "'Dancing Doctor' agrees to two-and-a-half-year suspension of medical license, records show".²⁵³ "New Accusations Against Plastic Surgeon Charged With Murder".²⁵⁴ "TikTok plastic surgeon banned from performing cosmetic procedures".²⁵⁵ "Orem plastic surgeon who kidnapped girlfriend gives up med license".²⁵⁶ "Indianapolis surgeon's medical license suspended for 90 days".²⁵⁷ "Ohio Plastic Surgeon Loses Medical License After TikTok Livestreams".²⁵⁸ "Plastic surgeon must pay \$5 million for illegally manipulating consumer ratings."²⁴⁴ "Malpractice suits mount against Utah surgeon amid board-certification concerns."²⁵⁹

All I can say is, "WOW"! I am personally aware of disciplinary actions against other physicians that didn't generate national headlines that are even more shocking and disturbing than those above. Let me be clear that I am not trying to pass moral judgement on anyone here. Also please remember that (at least in our beautiful country for which countless brave women and men have sacrificed to make and keep free) all individuals are innocent until proven guilty. Some of the above headlines report on allegations, not convictions. Please take this into account as you consider these issues.

It is quite simple to determine if a physician has been sanctioned or disciplined in the past. You can check your state's division of professional licensing listings. You can [click here for that search feature for the state of Utah](#). [All other states](#) have similar search functions to both verify that a doctor is licensed and whether there have been disciplinary actions. I am not trying to say that every physician that has ever had disciplinary action against them should not be allowed to practice medicine. I am Christian, and one of my core beliefs as a Christian is that people can change. I truly believe that. It is an unfortunate fact of life however that recidivism (the tendency to relapse back into former behavior after experiencing negative consequences for that behavior) is a real phenomenon and should you choose to place yourself in that position you should at least do so knowingly.

Most of the doctors in the above headlines are not currently practicing medicine (notice I say most, because some of them are still actively seeing and caring for patients) so likely you're not going to be one of their patients. The problem is how do you avoid being a victim of a misguided physician *before* they are caught and their licenses have been suspended, restricted, or revoked? That is a question that no one can accurately answer because it involves predicting the future. There may be some similar threads woven through those headlines from which you can draw your own conclusions.

There is one thing that may have some benefit in predicting who is less likely to be involved in unethical or illegal activity that I have thought of. I am unaware of a single physician that was involved heavily in advocacy and leadership in state and national organizations that has had their license sanctioned or restricted. It makes at least a little bit of sense in my mind that the physicians that take the time to advocate for their profession and patients are less likely to be the ones that are bending or breaking rules. Physicians in state and national leadership roles are involved in creating policies, enforcing ethical boundaries, and protecting patients. I have been actively involved in leadership of the Utah Medical Society in various positions for over 15 years. The physicians with which I work shoulder to shoulder in those positions are not the ones that have their names in headlines for misdeeds.

[Board Certification and Society Membership](#)

Once someone graduates from medical school, they can set up a clinic and claim to be a cosmetic surgeon even if they have never had formal training in plastic surgery (or recognized training in any type of surgery). They would never be allowed to perform cosmetic surgery in a hospital, but that doesn't stop them from doing it in their own office. Unfortunately, that's the law and all we can do is help educate people about the problem BEFORE they make a very costly mistake.

"I used the information in Dr. Fryer's pamphlet and found out that two of the doctors that I was getting information on aren't board certified. I am so glad that I found Dr. Fryer. He has been so helpful and professional and I absolutely LOVE my results! Thank you Dr. Fryer!

--R.S. Salt Lake City, UT

No matter what you read or hear about a surgeon's credentials, **if they are not certified by the American Board of Plastic Surgery (ABPS), they are not board-certified plastic surgeons.** There is no other board certification for plastic surgery recognized by the American Board of Medical Specialties (ABMS). If you want to find out if your doctor is a board-certified plastic surgeon you can [check here](#) to see if your plastic surgeon is board-certified. A recent review of the Westlaw legal database concluded that the majority of malpractice claims regarding cosmetic

surgery were filed against physicians who were practicing outside of the scope of their training; this typically means not board-certified plastic surgeons.²⁴⁵

There are many subtle ways that physicians will try to dance around this subject of board certification. Physicians can be board-certified in any of 24 different medical specialty boards and therefore if they are board-certified in any of those specialties they can claim to be “board-certified”. In 2014 the Utah Medical Association sponsored legislation (senate bill 137) entitled “[HEALTH CARE PROFESSIONAL TRUTH IN ADVERTISING](#)”²⁶⁰ trying to prevent physicians from using the title “board-certified” *unless* they indicated what their actual board certification was in.

That sounds super unnecessary but let me give you some real-world examples of deceptive practices and advertising. A physician that was board-certified by the American Board of Family Medicine claimed to be a board-certified cosmetic surgeon. Another physician board-certified by the American Board of Oral and Maxillofacial Surgery (*not* a part of the ABMS, but rather a separate board requiring a degree in dentistry, medicine, or both) claimed to be a board-certified cosmetic surgeon. There are *multiple* other examples that I am keenly aware of within a very small geographic area.

Two physicians sued the Utah State Plastic Surgery Society (USPSS) several years prior to this legislative effort because of a billboard campaign the society launched to help consumers understand the difference between cosmetic and plastic surgeons. The billboards depicted a tearful woman with the caption, “I didn't know my cosmetic surgeon wasn't a plastic surgeon.” The suit alleged that the ad campaign, “questioned their credentials and was part of a conspiracy to drive non-ABPS certified surgeons out of the cosmetic surgery market.”²⁶¹

The federal court dismissed the case on September 15, 2013 because the billboards were only informing the public that the two plaintiffs (and many others) were not plastic surgeons. The court also stated that the ultimate decision regarding whom to select as your surgeon is still the consumers.²⁶¹ This decision was upheld on August 31, 2015 by the 10th Circuit Court of Appeals.²⁶² I believe consumers can make educated choices about who to select as their surgeon, **but in all fairness they should have full, complete, and unadulterated facts upon which to base that decision.** (Coincidentally, the physicians that filed the antitrust suit against the USPSS have both had either actions or citations against their licenses.)

In my opinion, any random person in the public reading that a physician is a board-certified cosmetic surgeon would likely think that the person was a plastic surgeon, when in fact, they may not be. That’s what this senate bill was trying to restrict, the deceptive practice of claiming a board certification for which one was not actually board-certified. The bill faced fierce criticism from representatives of the American Board of Cosmetic Surgery and the American Academy of Cosmetic Surgery (which openly states it does **not** certify cosmetic surgeons) arguing unfair restrictions for advertising. Interestingly, neither of these organizations is recognized by the ABMS, but their titles alone seem very legitimate and appropriate. The bill passed and physician leaders within the UMA celebrated. We thought we had decreased the likelihood that the public would be fed deceiving information.

The celebrations were premature, however, because the Utah Medical Society and the legislature did not see a blaring loophole in this bill. The bill doesn’t prevent anyone from claiming certifications that extend beyond the scope of their actual ABMS training as long as somewhere on that list (and it usually

ends up being at the end of the list) they state their *actual* ABMS certification. This is incredibly difficult to understand and very difficult to explain.

Perhaps the best explanation comes from the [American Society of Plastic Surgeons \(ASPS\)](#) as to why it's important to differentiate those titles. You can check to see if your surgeon is a member of the [American Society of Plastic Surgeons \(ASPS\)](#), or the [American Society of Aesthetic Plastic Surgeons \(ASAPS\)](#) also known as "the Aesthetic Society" whose members specialize in cosmetic and aesthetic procedures). This can be confusing for everyone, so rest assured you are not alone if this seems difficult to comprehend. I am aware of a person that worked for someone claiming to be a board-certified cosmetic surgeon, and it wasn't until after they left that office that they came to realize that the physician wasn't actually a plastic surgeon. There are only two national associations dealing with plastic surgery that require their members to be board-certified: the American Society of Plastic Surgery (ASPS) and the American Society of Aesthetic Plastic Surgery (ASAPS).

Hospital Affiliation

Another way to help discern your surgeon's true training is to ask about their hospital affiliations and privileges. To maintain professional affiliations with ASPS and/or ASAPS, board-certified plastic surgeons must maintain hospital privileges. This is to ensure that if serious complications occur and the patient requires hospitalization that the

"I have worked with dozens of plastic surgeons throughout my career and Dr. Fryer is the only one I send my family and friends to."

--P.J. Holladay, UT (healthcare provider)

surgeon would be able to continue managing the patient's care. This, too, is complicated though. I am aware of a board-certified ENT doctor (yes, recognized by the ABMS) that now claims the title of "cosmetic surgeon" and performs cosmetic surgeries in areas of the body not covered by their ear, nose, & throat (ENT) training. This physician performed a tummy tuck, and the patient had significant wound complications, became septic, and required hospitalization in the intensive care unit (ICU) of the nearby hospital.

Confusingly, that surgeon had privileges at that hospital to perform surgery of the head and neck area, but not of the abdomen. The surgeon knew the operating room would not allow him to operate on a patient's abdomen, so he gathered surgical supplies together planning to debride (surgically remove) the necrotic tissue from the patient's abdomen in the ICU. A very astute nurse stopped the physician because she didn't recognize him, so she contacted her supervisors, and they quickly recognized that the surgeon didn't have hospital privileges to manage or care for abdominal wounds. That patient's care had to be transferred to the on-call plastic surgeon who rushed the patient to the operating room for the first of several additional surgeries.

Still, I know it is hard to imagine, if you have no other way of verifying your surgeon's credentials or board-certification, you need to ask if they could perform your surgery in a hospital and NOT in their office. Yes, I know they are going to say that we perform our surgeries in our own surgery center to help control the costs etc., but you must push the issue. Can they perform the surgery you are inquiring about IN a hospital. You see, hospitals will not credential a physician to perform procedures that are outside of the scope of their board-certification training because they do not want the liability. If a hospital won't accept the liability to let that surgeon perform your surgery in their facility, why would you want that surgeon to perform that surgery on you?

In addition to being able to check your surgeon's membership, the [ASPS](#) and the [ASAPS](#) have excellent websites filled with helpful and reliable information. These are excellent resources for you and when you are getting down to the real research and education (and not satisfied with entertainment alone) these should be sites that you frequently visit. The added qualifications and requirements to be a member of the "ASAPS" are outlined here: [added credentials of ASAPS](#). Check your surgeon's national memberships, you want them to be affiliated with organizations that attest to their members' credentials.

Do they specialize?

Even among surgeons that are members of the Aesthetic Society (ASAPS) and specialize in cosmetic surgery some surgeons specialize even further. There are a handful of surgeons across the nation that only perform facelifts and others that only perform rhinoplasty. Now, I can and occasionally do perform these procedures if patients request and I feel like my results are very comparable to most other surgeons that are in the Aesthetic Society. But if my family member asked me for my opinion regarding the best outcomes for a facelift or for a rhinoplasty, I would be naming those surgeons that have become ultra-specialized in those procedures.

I have ultra-specialized my practice in the "mommy makeover" procedures encompassing the breasts and trunk (tummy). Why? Because I believe that my patient outcomes are among the best that can be obtained anywhere. Surgeons that become ultra-specialized tend to be the ones that are pioneering new and better techniques. Surgeons that ultra-specialize have greater experience in those areas and may be able to maintain lower complication rates because of their experience and familiarity. I will discuss later in this planner several ideas and aspects of breast surgery that I no longer follow the way I (and everyone else) was taught because in my opinion there are better ways of doing and planning things. I also believe that my unique understanding of this anatomy helps to avoid some of the outcomes that patients do not want from their surgery.

It is reasonable to believe that someone that performs hundreds of breast augmentations a year is more experienced and more proficient than someone that has only performed a hundred breast augmentations in their career. Familiarity with and experience in surgical procedures is important in trying to avoid common complications and being able to adequately treat problems when they do occur. Having a surgeon that is a well-known expert in an area is very reassuring when you are making the decision to have surgery.

"Dr. Fryer is the best! Everyone at my gym knows that if you want your breasts or tummy worked on then he is your guy. All his results are so natural and for people that like to work out it's really important that their breasts not make them look fat. Dr. Fryer nails it every time!

--E.P. Taylorsville, UT

Before and After Galleries

Individual physician websites can be very helpful because they not only contain information, but they also usually contain before and after photos. Photo galleries seem to be a very popular place for people to browse through. I have one of the largest selections of [before and after photos](#) on the internet to help demonstrate my results. Before and after galleries are nothing more than the surgeons' resume of their work.

That is the way you should use the gallery; do you like their work in general or not? Keep in mind that your height, weight, and proportions will usually be different than other patients featured in the gallery, so avoid deciding about implant size based on before and after photo results. I will discuss my very accurate and predictable method for you to select your implant size later in this planner. Try to avoid the tendency to fall in love with a certain patient's outcome and then request "this result" from the surgeon. The gallery is just a resume and should be used to help you determine if you want to sit down with the surgeon to gather more information.

"I knew I wanted [Dr. Fryer] to do my breasts because I love his before and afters. All his patients look so natural and better than any others I've seen. My results are even better than I hoped for."

--R.L. Cody, WY

If you don't like the results in a physician's gallery, then you can safely avoid investing further time and effort investigating that surgeon. One thing I hear quite often from women seeking my advice to revise an outcome from another surgeon is, "I didn't like the before and after photos on their website, but my friend encouraged me to go with that surgeon because she liked her results". It breaks my heart when I hear this. If you don't like the before and after gallery on a surgeon's website, your chances of being satisfied (I'm not even talking about being thrilled, I'm just talking about being *satisfied*) are automatically much lower.

Another red flag for a before and after gallery is if you don't see multiple people that you "connect with", meaning that they are similar height, weight, and build and started with a similar appearance and you LOVE their results. For example, I am the only surgeon that I am aware of that has pages of before and after of women that are thin, petite, athletic, and muscular. Why am I the only one? Because my unique technique for sizing women for implants is *especially* recognizable in these body types. My technique also works for women of all sizes and shapes, but the benefits of my technique become obvious when looking at very thin, petite, and athletic looking women.

While we're on the subject of photo galleries, I have to put this comment out there: photos on Instagram, Snapchat, and social media profiles are NOT before and after galleries. With rare exception, any photos on these platforms have been photoshopped. Some photos that patients hold up as outcomes that they want to achieve have been so obviously photoshopped that I should just open a side business of photoshopping social media profile pictures; anyone can look like those photos with a little software know-how. During my consultations I review pertinent anatomy for each of my patients so that they can understand what is actually achievable, and try to help them develop realistic expectations. I believe that I can achieve the best possible breast appearance for my patients, and I help them picture that in their minds.

Review your personal motivation for breast augmentation

By the time you sit down in my office for a consultation you will almost always have a picture in your mind of what you expect from breast augmentation surgery. That picture is something that is very

personal and individual. Every woman's "mental picture" is different depending on their purposes for wanting breast augmentation. You need to determine *why* you want breast augmentation.

You may want to restore the volume back in your breasts after pregnancy. You may want to feel confident in a swimsuit or tight sweater for the first time in your life. I've had patients say they're tired of looking like a 14-year-old boy. You may just want to feel "sexier". Whatever your purpose for undergoing surgery, you need to develop realistic expectations.

Consider your hobbies and common activities

I operate on a wide variety of patients. I have operated on personal trainers, yoga and karate instructors, teachers, attorneys, dancers, business owners, professional moms, models, marathon runners, triathletes, and other physicians and nurses. Each person has their own hobbies and interests, and you need to think about how augmentation will affect those activities. My unique method for implant sizing is incredibly successful in enhancing a woman's breasts without interfering with their lifestyle.

"I totally love my results. The only thing I wish is that I had done it [breast augmentation with lift] sooner!

--L.H. Cedar City, UT

I have a unique perspective on breast augmentation and I freely admit that I depart sharply from the world-wide teaching of breast augmentation which is that if you make a breast bigger you make the entire breast, including the base, bigger. I am currently in the process of publishing my sizing technique and am very excited to share my system with other surgeons. I believe that this unique sizing system is significantly responsible for my reputation as a breast surgeon.

To help you understand why I developed my unique sizing method let me describe how a patient will imitate what they want with breast augmentation. They typically will cup their hands and place them in front of their breasts and then when they say they want bigger breasts, they will move their hands further out in front of them. I have NEVER had a patient put their hands out to the side of their breasts and then move them further out to the side when demonstrating the outcome they want. My unique measuring and sizing system allows us to push your breast tissue forward WITHOUT making the breast tissue go wider.

Does this example help you understand how my breast augmentation patients differ from other surgeons? The world-wide teaching and tendency is to make the base (width) of the breast bigger at the same time that you make the breast project more. Now, this makes beautiful looking breasts, but when you stop focusing on the breasts and look at the patient in general you discover that this makes the patient look chubby or heavy. All this does is make the breast (and therefore the chest) look very wide.

I can still remember the photos of a woman who was desperate to have me help her. She had undergone breast augmentation by another doctor along with a revision surgery and she was still not happy with how she looked. Her doctor had made her breasts look inhuman because the implants were so overly-sized (read this as overly-wide) that her breasts didn't even look like they were attached to her skinny body behind them. It is very difficult to fix a disaster like that—I'm one of the few doctors that can.

I do not agree with this world-wide tendency at all and can increase the size of my patient's breasts without making their frames look any bigger. You *can* have breast augmentation without looking heavy, fat, wide or whatever description you want to use that expresses the appearance of a toothpick hidden behind two lemons. Most of my breast augmentation patients describe themselves as "active" if not "athletic" and do not want breast implants to get in the way of their activities. My patients want to have larger breasts without looking heavier or bigger.

This is a very common outcome from breast augmentation that stems from a fundamental flaw in all our teaching: no one has ever defined what to measure when determining the breast base width. Even though no one has ever defined what we are measuring when determining the base width, most plastic surgeons agree that this measurement is the most important dimension to consider when selecting implants.²⁶³⁻²⁷¹

"Dr. Fryer fixed my breasts from another surgeon and was able to give me the result I was looking for all along. I wish I had seen Dr. Fryer in the first place. The second I told him what I didn't like about my breasts he said he knew how to fix it and he was right. Thank you Dr. Fryer!"

--M.C. Bountiful, UT

It is clear to me that indeed surgeons are measuring completely different things when I spend any time answering patient questions on RealSelf and other similar sites. Here, it is not uncommon to read a post from a patient asking "why does one surgeon tell me I have a different base width than another surgeon?". I have seen this difference span as many as 4.5 cm (almost 2 inches). This is the heart of the problem – everyone is using different techniques to come up with the most important measurement for planning breast augmentation. I have developed a technique that is reproducibly accurate to within 5 mm regardless of who is obtaining the measurement. This is something that I believe should have been developed 50 years ago.

My unique sizing system results in breasts that are larger, curvier, and very natural looking without making the patient look heavier. This is a rare outcome elsewhere in the world. The underlying tendency is towards wider, larger implants and that results in patients that look larger, more matronly, and overweight. One of the reasons that people seek out my surgical skills is to help reverse or fix the effects of these oversized implants. Fixing problems is drastically more expensive and more difficult than just planning and doing it right the first time.

Whatever your motivation for wanting breast augmentation, you can be confident that I will help you achieve results that you will be happy with. Breast augmentation surgery is a very gratifying procedure to perform because patients are so appreciative and happy with their new shape. It is wonderful to see how the procedure helps them feel different, not just look different. Breast augmentation is often more about helping my patients *feel* differently about how they look than it is making them look different.

You want to allow time to see me and my staff and get things scheduled when it will be convenient for you. If you have a timeframe in mind for surgery make sure you calculate enough time to be seen for a consultation and then enough time to schedule surgery. There are definitely some times that are more popular for surgery (spring break, before long weekends, etc.) so you need to plan in advance. Although variations occur during the year, my typical timeframe is about 6 to 12 weeks to schedule an

appointment and then an additional 4 to 10 weeks to schedule surgery. Whatever your timeframe, my staff will do everything possible to accommodate your schedule.

Breast augmentation surgery is only one hour long and so we can usually fit people into the schedule when they want, but sometimes my schedule becomes overbooked and it is not possible to fit in another breast augmentation. Please plan so that you can get your surgery done when you want. Quite often I will have people who know that they want me to perform their operation based on my reputation alone, and they will call and schedule their consultation and surgery date before they have even met me. Yes, scheduling surgery does require a 10% non-refundable deposit to reserve that time for you in the operating room, but this can help facilitate getting everything done, the consultation and the surgery, in the timeframe that suits your needs.

My office staff will be very helpful and accommodating in this process. The fact that your experience in my office was outstanding will make you feel confident that you are going to have an excellent experience with the surgery and your entire post-operative care. Patients frequently comment that they have a more positive feeling when they come in to my office compared to other experiences that they have had. If you don't feel comfortable with the people in the office that are answering your phone calls and greeting you when you enter the clinic then take note. This should be a warning sign to you. If you don't have a good experience with the office staff before the surgery, what makes you think you will have a good experience afterwards?

My office staff is very educated and professional and goes the extra mile to make sure that you have a positive experience with your visit. My staff enjoy their work and feel like a part of the team. They enjoy their work because of the positive contact they have with the patients and because it is an enjoyable place to work. It is not uncommon

"I chose Dr. Fryer after having consults with five other surgeons. He was the only one who set realistic expectations about the surgery and recovery. Great staff, great facility, and even greater results."

--J.R. Salt Lake City, UT

in some offices to find that most if not all of the people that will be helping you have been there for only a short amount of time. This is usually because of a negative work environment and therefore they don't like coming to work and have a high turnover rate. People that don't like coming to work are less likely to go out of their way to help you. This is definitely NOT the situation in my office.

Pregnancy

Women frequently ask the question, "Should I wait until I'm done having children before having breast augmentation?" This question may arise because of one of several different concerns. One concern is that pregnancy will "ruin" the results. My response to this issue would be that it doesn't change the results any more than pregnancy changes the appearance of breasts without implants. Is there an effect from pregnancy? I would have to say without a doubt. But in my opinion, I don't think that a pregnancy necessarily does anything different with the appearance of breasts than would happen anyway given additional time. In other words, pregnancy just makes the changes in breast tissue happen a little sooner. There is no scientific data I can present on this – there is no way to study it accurately. This is just based on decades of experience with breast surgery.

Sure, you may need a lift after having children – but not everyone will need that. My recommendation is to get breast augmentation done if you want to have it done. Sometimes having breast augmentation can even lead to pregnancy (that's a really poor attempt at some plastic surgery humor). We are going to suggest that you have your implants changed approximately every 10 years anyway and if you need a lift then we can always address it at that time.

Some women are concerned with implants adversely affecting their ability to breast feed. I believe that it is a personal choice of when to have breast augmentation related to having children despite some reports of women with implants having some difficulty breast feeding.^{272,273} This is a very difficult issue to study and the outcomes are blurred by several confounding factors. Women with less breast tissue are less able to exclusively breast feed. If you don't have as much glandular breast tissue you can't produce as much breast milk, therefore leading to a greater likelihood that you may need to supplement. Women with less glandular tissue (smaller breasts) are more likely to obtain breast implants; the fact that they have implants may not be affecting their ability to produce milk which may be already impaired because of the smaller amount of breast tissue. Additionally, patients that have had breast augmentation may *choose* not to breast feed, and that may further skew data interpretation.

A better way to consider this is that you have an 82% chance of being able to breast feed *if desired* after having breast implants.²⁷⁴ This data is for implants *behind* the muscle though; if the implant is on top of the muscle your chances of being able to breast feed drop precipitously based on the data in that same study to 17%.²⁷⁴ Yet another reason I rarely, if ever, recommend placing the implant on top of the muscle (subglandular). In *the Breast Journal*, Michalopoulos writes, "With good surgical technique and proper postoperative management, most of the complications associated with surgery that may result in insufficient milk production can be minimized but not always avoided."²⁷⁵ I concur with that statement. A surgeon with extensive experience and good technique can help improve your chances of being able to breast feed should you so desire after breast augmentation. Being able to breast feed and nursing exclusively (without needing to supplement with formula) are two different things.

Financial Planning or Financing

You should be able to ask how much the operation is going to cost and get a reasonable answer. There are some variables that are not clear over a telephone conversation, (like if you will need a lift at the same time or not) but you should at least know a price range. My office staff is instructed to be completely open and honest regarding prices. Beware of "hidden costs" which some offices don't tell you about until after you have scheduled surgery. Make sure your quote includes everything. My office can easily tell you how much a surgery will cost with everything included – except your prescription medications which you will get filled a week before surgery. During your initial visit you will be given a price quote in writing, so you know your full cost. Revision surgeries do require an additional fee that is outlined in your folder. I only have my patients pay for the operating room and the anesthesia for revision operations and I don't charge a surgeon's fee.

My office will help familiarize you with payment options as well. We are happy to send you information about financing if you are interested or discuss other payment methods. This is a good time to pre-qualify with those financing companies and get the process rolling or to start setting aside the necessary money. My patient coordinators have information on the different financing companies that we accept, and you can easily get in contact with them to begin the paperwork.

I started charging a consultation fee several years ago to help reduce the wait time for consultation. Without a consultation fee there are a surprising number of patients that confirm their appointment but still do not show up. Patients not showing up for their appointments caused other patients to wait considerably longer for their consultations. Other peoples' poor behavior has created the unfortunate reality that I have to charge a consultation fee. After your consultation with me you will understand better why this must be; I take the time to actually educate you about breast augmentation. Now that I charge a consultation fee my patients don't typically have to wait nearly as long. The consultation fee is applied toward the cost of surgery as long as the operation is scheduled within certain, very generous timeframes.

Free consultations are worth what you pay for. They are typically hurried, and often you meet only with the nurse and never actually meet the physician. I'm confident that you get far more information and a better education just from reading this breast augmentation planner than you can get from any other consultation that you attend. Yes, it's tempting to get a free consultation, but in reality your time is worth more than the sparse information you're likely to glean.

"Before I chose Dr. Fryer I went to other consultations and I felt the staff were not as friendly and most of the doctors were in a hurry and I didn't get my questions answered.... Overall Dr. Fryer made me feel more comfortable about my decision to have plastic surgery [augmentation and a lift]. He wasn't the cheapest but you get what you pay for."

--D.M. West Jordan, UT

Your price quote should include ALL costs and not just be the quote for the doctor's fee. Incredibly low cost surgeries are often times highly advertised in order to lure unsuspecting and uneducated patients in for a consultation. Because you are taking the time to educate yourself with this planner you won't fall into that snare only to find out later that you wound up paying more than the advertised price for a doctor that doesn't have my same credentials. You wouldn't trust your hair to the cheapest hairdresser in town, why would you make that mistake with your breasts? The cheapest is not always the best choice; I am definitely not the cheapest.

Be careful on the internet when you look at prices. Some advertised prices are "too good to be true" and they usually are. I hate it when I'm forced to pry information out of someone, so I have instructed my staff to be very upfront with my costs. I have spoken with multiple patients that tell me about being "nickel-and-dimed" when they investigate plastic surgery prices on the internet. Unfortunately, some people only find this out after they have taken off work and scheduled their life around their anticipated surgery, so it is too late to cancel even though the cost winds up being higher than anticipated. Once again, this is not the case with my office.

Some offices will add in costs that are not included in your quote. Items that are often "added in" are: 1) charging you for a bra or other operative bandages, 2) charging you to see the doctor after the surgery, 3) charging you separately for anesthesia or operating room costs. Rest assured that this does not happen in my clinic. You know exactly what you are paying for, and you will feel confident that you have made the correct decision to have me as your physician. The only additional cost that you need to prepare for is the cost of your medications and the underwire bra you purchase a week after surgery.

Speaking of cost, let's mention the disturbing trend of traveling to foreign countries to have surgical procedures performed to save money. What could go wrong? You don't speak the language, you don't have access to the surgeon or their staff after you return home, if you have a complication and become seriously ill you won't be able allowed to board an airplane to return for medical treatment.....There are so many different things that can go wrong that I can't even scratch the surface in this publication.²⁷⁶⁻²⁸¹ One scientific publication writes, "the majority of online information available to prospective and current patients regarding travelling abroad for cosmetic surgery is unregulated, distributed by commercial providers and often lacking relevant and reliable information."²⁸² Buyer beware.

Countries outside of the United States have different (frequently less stringent) regulatory bodies. A little over a decade ago there was a scandal regarding the third largest breast implant supplier outside of the United States when it was discovered that their implants were filled with industrial grade silicone.²⁸³⁻²⁸⁵ These implants were not available within the United States. Medical tourism outside the United States can result in additional risks, and costs, that were completely unexpected. Sometimes the cheapest options cost far more than you ever bargained for.²⁷⁶

Some may say, "What's the difference between me flying to Mexico to have my breast augmentation surgery and driving 5 ½ hours to Utah to have Dr. Fryer do my breast augmentation surgery?" Valid question, but you're not really comparing apples to apples. In the first scenario (flying to Mexico) you are traveling to get the cheapest price. The second scenario (driving to Utah) you are seeking out the best surgeon to perform your surgery and your motivation is not to find the cheapest possible option. Therein lies the difference – your motivation. Medical tourism can be dangerous if the motivation is purely to save money.

You may request additional information from my office staff at any time. My helpful staff and nurses are great resources for information and answering questions. One thing that I see written in almost every single one of my reviews is how helpful, kind, and welcoming my staff members are. They love what they do, and they love working in my office and you will be the beneficiary of their passion and dedication.

6-10 weeks before

This is an exciting time because this is when you get to meet with the team that is going to assist you through the whole process. This is when you're going to have the opportunity to ask questions and get a general feel for everyone involved. With all the information you have discovered this far in this planner you are ready to take the next step with a consultation.

Consultation & Clinic appointment

When you arrive for your breast augmentation appointment in my office you will be spending time with me and my assistants. My nurses help to explain the process of breast augmentation and answer your questions, but your appointment will always be with me. This may seem obvious, but when you schedule your first appointment you should meet with the doctor. Sometimes patients are not allowed to meet with the doctor until after they book their surgery—this is a big red flag. You need to feel comfortable with your surgeon before you make that decision to have an operation. At the end of your consultation, you will meet with our patient coordinator who presents you with a folder of helpful

information and a written price quote. Our patient coordinators explain everything else that you need to know about scheduling surgery and will review all your options.

Your appointment with the physician will likely get you very excited about the procedure. My knowledgeable and friendly office staff will greet you in my office. You will fill out some standard paperwork and a health questionnaire. Once the paperwork has been completed you will be taken to an exam room where one of my nurses helps gather some other basic information and gets an idea of what you expect from surgery.

This is a great opportunity to get comfortable with my assistants and clinical staff. My nurses do a great job familiarizing you with the procedure and help you feel at ease. They help give you information that you will need to make informed decisions about the type of implant that you would like (saline or silicone) and where we typically place our incision. After offering helpful information and answering your questions my nurses will have you change into a comfortable robe in preparation for your consultation. You may have a few minutes to browse through a before and after book before I come in for our visit.

“Dr. Fryer was more informative and seemed to care for his patients more. Dr. Fryer and his staff were amazing. I love the way my surgery [breast augmentation and tummy tuck] turned out. I was never scared for the procedure; I had complete confidence in Dr. Fryer the whole time. I was more anxious than anything. I had such a great experience and I would 100% do it again. I will always recommend people to Dr. Fryer.”

--R.H. St. George, UT

Our visit takes place in the privacy of my comfortable consultation rooms. I review your health questionnaire to make sure that you are a good candidate for elective surgery and allow you time to develop trust in me as your physician. You are welcome and encouraged to ask questions. It is imperative that you feel confident in my skills and are comfortable with my personality.

After reviewing your health history I perform an exam which includes measurements of your chest and breast as well as a breast exam. From the exam and measurements I am able to give you an expert opinion on the size range of implants that can be used to naturally enhance your breast size and shape. Remember I described that my measuring and sizing process is unique, and I am able to increase the size of your breasts without making you look heavier or bigger. This is a critical portion of the decision making and planning process. The exam and determination of your base width diameter establish a foundation upon which to suggest ranges of implant sizes.

Determining the correct base width is the most important measurement when planning breast augmentation.^{263,270,286-288} This is an area of keen interest for me because despite this being the most important measurement, no one has ever defined it. I have successfully defined this measurement in a way that is both teachable and reproduceable between surgeons and has become one of the most important issues that separates my clinical practice apart from other surgeons. If you start with the wrong base width diameter, it has a negative ripple affect for the outcome. Alternatively, if you start with the correct base width diameter, it helps to ensure a stable foundation upon which to build the breast.

Using my recommended base width, my nurses help position the breast implant sizers in a bra that we provide to help you get a realistic idea of what the implants will look like. This is a very fun process for most patients. This is when you get to show us what you expect as an outcome from your breast augmentation surgery. I think this is the most accurate way to ensure that I fulfill your expectations. Some doctors want to see magazine photos of what you want, and others will use fancy computer graphics to show you what you can look like. In my experience, however, the most helpful way for me to know what you expect is for you to show me in the mirror what you want.

No one in my office will try to persuade you to decide about the implant size. This is a personal choice. You will be much happier knowing that you made the decision based on how you feel and how you look. I have found that most women already have a "picture" in their mind of what they want to look like after the operation. This picture is unique for each patient. You cannot compare yourself to your friend or to a model in a magazine, because your body is different. Please keep an open mind during the sizing process and avoid the tendency to think, "I need at least a 350cc implant because that is what my friend has." Pay attention to what you see and how you FEEL when you see it. Trust this sizing process; it really works.

It is amazing how patient's faces light up when I tell them that I want them to show me what they expect and want from the surgery. So many women have been told by other surgeons which implant size to use or have been pressured into something larger than they feel comfortable with. My patients do not feel that pressure. The only expectations you need to meet in deciding on the implant size are your own.

I give you a professional opinion based on data and over a decade of experience with satisfied patients, and I leave my personal judgement out of the process. Ultimately my patients report happier and more confident because they are the ones that decided on the size that they feel comfortable with. My patients relate that they had confidence going into surgery because they knew what they would look like after.

"Dr. Fryer's sizing technique was very helpful and the results are perfect!"

--K.H. Draper, UT

Once you have narrowed down your choice of implant sizes it is sometimes helpful to put on your favorite shirt and see how things look in your clothes. Often this will help solidify your choice of size when you see yourself in your favorite top. We have a few camisoles in my office if you don't have one, but bringing your own sometimes helps you to match that image that you already have in your mind.

Looking at your appearance in the mirror is the most helpful way for you to understand the outcome that you are going to achieve with breast augmentation. This sizing is performed with the assistance of my highly experienced nurses and according to my recommendations. Ultimately you are the one that makes the decision regarding the size of your implant because only you can match what you see in the mirror with what you have already begun to imagine in your mind. Feel free to take some photos of yourself with the implants in place under the bra. This is often very helpful for you to review after you return home and continue to think about your surgery.

Some patients have asked if we offer 3-D computer images of you with your selected implant size. This 3-D image is a very nice marketing technique, but that is all it is in my opinion. Human tissue behaves very differently from patient to patient and cannot be anticipated by algorithms or software and often

leads to an unrealistic expectation of outcomes. In fact, 25% of patients that viewed 3-D images of themselves with the added volume of an implant were dissatisfied with their outcome whereas less than 5% in the control group (that did not get a 3-D image of themselves) were unhappy with their results.²⁸⁹⁻²⁹¹ In my opinion your image in the mirror wearing a light bra and shirt gives you a much better idea of what you will look like in clothing than the 3-D image of your bare breasts. My diagrams and helpful drawings during your consultation will give you a better idea of what your bare breasts will look like than the 3-D image.

It is important to understand that when you are looking in the mirror you should be concentrating on the volume or size, and you must try to ignore the “shape”. When trying implants on inside a bra the shape tends to look overly rounded and not nearly as natural as the final result tends to be. This is a difficult thing to do when you are staring at the implants in the bra, and this is when using your favorite shirt or sweater really helps. When you put another layer of clothing over the top of the implants you are suddenly able to focus more on the volume or size than the shape. After placing the implants behind the chest wall muscle, the resulting shape is always much more natural.

Try to avoid the possible tendency of trying to select the implant based on how you think it is going to affect the shape of your breast. This perspective will more frequently result in dissatisfaction with your final outcome. After over 20 years of experience, I can confidently recommend that the most important factor for you to decide is the desired volume (size or cc’s) of the implant. If you focus on the desired volume the shape tends to take care of itself.

Most frequently when patients make decisions based on the shape, they think they want they are dissatisfied with the final size and in my experience seek re-augmentation with larger implants at a higher frequency than patients that focus on the volume. In all my experience I cannot remember a single patient that has mentioned that they love the size of their breasts, but they just don’t like the shape of their breasts. Size trumps all other decisions regarding your implants in my opinion when using my unique sizing protocol. If the breast shape is going to be a significant issue because of loose or droopy skin then I may need to discuss a breast lift with you.

My patients are often shocked that the volume of the implant they select during the sizing process is “high profile” or even “ultra-high profile” (also called “extra-high profile”). Those names go against everything that most of my patients desire from their surgery. These names seem to scream “porn star” when you hear them. This is actually the furthest from the truth - when my unique sizing system is followed. When my unique sizing system is *not* followed then typically the results are far less natural and subtle and scream “breast augmentation”.

These profile names generate more confusion for my patients than anything else because the names themselves create imagery in your mind about the resulting appearance. Equally confusing is that sometimes people believe that “high profile” implants will sit higher on the chest. And conversely that “low profile” implants sit lower on the chest; who would ever want their breasts lower on their chest. These terms actually have nothing to do with where they sit vertically on the chest, or with how prominent the implants are. Think of these profile names simply as ratios.

That’s right, the profile names are simply a way to describe the ratio of the implant projection to the implant width and really shouldn’t relay any more information than that. The names unfortunately convey additional information or stereotypes. You need to completely ignore these stereotypes when

you are sized using my system. I use more high, ultra-high, and extra-high profile implants than just about any surgeon in the United States and I believe that my results look absolutely natural. Most patients that review my before and after gallery agree that my breast augmentation outcomes look more natural than other surgeons. But I have a higher percentage of patients with higher projection implants so how can that be possible.

Remember it is all about the **ratio** of projection to the base width. It is not uncommon for me to see a patient that wants me to revise her breasts after having surgery with another surgeon. They typically state that they hated the result from the moment they woke up from surgery because they made them feel too heavy, wide, “breasty”, unnatural, matronly, chunky, or just plain old “too big”. I have heard each of those terms used to describe patients’ undesirable outcomes literally hundreds of times.

The difference is that I typically size my patients into a high, extra-high, or ultra-high implants that project between 3 and 5.5 cm whereas other surgeons size patients into moderate or moderate plus implants that project between 3 and 5.5 cm. Those seem equivalent until you compare the typical base width of the implants for most of my patients is between 9 and 10.5 cm compared to somewhere between 11 and 14 cm with other surgeons.

This photograph (Figure 7) compares an implant that I removed from a patient (total volume 650 cc’s, base diameter 15.4 cm, projection 4.7 cm) with the *largest* implant that I would have allowed her to size into (total volume 350, base diameter 10.1 cm, projection 5.2 cm). This is a particularly extreme example of how differently surgeons size implants to patients. I actually used a smaller implant than the maximum I would have allowed. Both the implant I removed and the implant I replaced it with had similar projections (differing by only 0.5 cm) but the implant I removed was a moderate plus projection and the implant I replaced it with was an ultra-high projection. Which implant do you think made the patient look like a porn star? Spoiler alert: it wasn’t the implant that I sized her into. Hopefully that helps you understand that you shouldn’t worry about high, extra-high, or ultra-high projection implants if I’m the one that is sizing you. I cannot offer the same assurance if you choose a surgeon that hasn’t adopted my sizing method.



Figure 7 A particularly extreme example of the dimensions of an implant I removed from a patient compared to the maximum size I would allow her to put in.

Breast lifts

Another important part of the exam is determining if any additional procedures (lifts) may be necessary to help you achieve the optimal breast shape. This determination is often difficult without seeing the patient in person. I offer online consultations where

we can review the information and educate patients regarding breast augmentation, but an online meeting obviously doesn't allow me to inspect and feel the patients' tissue. Photographs can be misleading when you are trying to make these decisions and without an in-person exam no absolute guarantees can be made.

You may be able to get a better idea if you would be a candidate for a breast lift at home by trying the "pencil test". The pencil test is performed by placing a pencil in the crease of your breast. If you don't need to lift your breast with one hand to place the pencil in the crease you can stop at this point because you don't need a lift. After lifting the breast and placing the pencil in the crease, allow the breast tissue to relax; if the breast tissue holds the pencil in place, then you may need a lift. Now, look more carefully at your breast. If your nipple is below the level of the pencil, you almost certainly need a lift but if the nipple is above the pencil, then it is too difficult to determine in my experience. In this case I would need to perform a breast exam to better determine your need for a lift.

I know that no one wants additional scars, and for some people that's the focus of their thoughts when faced with needing a lift. I do not take this lightly and will not suggest a lift unless I am confident that it will provide a significantly improved breast shape. If I think there is a reasonable chance that my patient will be happy without a lift, I will often steer them away from a lift. We can always come back and perform a lift later if the result doesn't match the anticipated outcome. In those cases, the only thing I charge for doing the lift later is the difference between what they have already paid and what it would have cost to perform the lift at the same time. Therefore, there is no financial incentive for doing a lift at the same time.

There are many different types of lifts, each with its own benefits and drawbacks. The way I approach this decision is trying to select the lift based on the breast measurements and the amount of skin that needs to be removed instead of trying to "force" the patient's situation into your "favorite" type of lift. A local surgeon, now deceased, was well known for only performing a single type of lift. The type of lift he performed is the lift that is suited in my opinion to remove the smallest amount of skin and thereby typically reshapes things less than any other lift. This practice of "forcing" all patients into a single type of lift resulted in some horrific outcomes in my opinion.

The art of performing a breast lift is knowing the capability of the different lifts and selecting the lift that will give the best outcome. Yes, some lifts result in more scars than others, but would you rather have more scars and a beautifully shaped breast or fewer scars and a wonky shaped breast? I know what I would choose for my patients every time. Scars fade and blend over time, but the breast shape doesn't tend to get any better over time.

I break down lifts into three different categories: circum-areolar (sometimes called peri-areolar or "PA"), lollipop (sometimes called "vertical"), and anchor (sometimes called "Wise pattern" after Dr. Robert Wise who developed it). Another type of lift is referred to as the crescent lift, but I don't even offer that type of lift to my patients. In my opinion the amount of repositioning and reshaping that you can achieve with that type of lift does not warrant the scar. It also tends to create an irregular

"I was scared to have a breast lift but Dr. Fryer made me feel so much better about the process and helped me get the result I dreamed of. I always tell people to see Dr. Fryer if they want to get their breasts done."

--S.N. St. George, UT

areola shape.

The way I select the type of lift is based on the amount of vertical skin that needs to be removed to reshape the breast and reposition the nipple. The circum-areolar lift can be effective for removing up to about 1.5 or maybe 2 cm of vertical skin. The lollipop can reposition the nipple up to about 4 cm, and any breast that requires more than about 4 cm of vertical skin removal is best managed with the anchor lift in my opinion.

Although many surgeons may disagree with my algorithm, it has served my patients very well for over two decades. This is where you must let experience weigh in a little bit when you consider opinions. When a surgeon specializes in a particular area their opinion should be given more consideration than someone that performs that type of surgery more rarely. Breasts are my field of expertise, and I have made a name for myself by doing things differently than most other surgeons. I do things differently based on experience, logic, and downright common sense because I have discovered that just because ideas are popular doesn't mean that they are the best way to plan or perform things. Not infrequently I believe that some procedures are more popular because they are easier to perform, not because they are better. Last time I checked, surgeons were supposed to be able to do hard things. That's kind of the point of being a surgeon.

Most of the time patients that need a lift know it (or are a little suspicious about it) before they meet with me. The addition of a lift to an augmentation does increase the cost and complexity of the surgery, but both operations can be performed at the same time in most cases. This also increases the risks associated with the surgery, but I take a substantial amount of time to help educate you about those risks so that you feel like you are making a completely informed decision.

Sometimes patients just do not want to have a lift even when I suggest that they need one. This is totally acceptable, and people can make that choice, but then they also must accept the consequences of how their breast shape appears afterwards. If patients elect not to perform a lift when one is encouraged then the breast tissue tends to hang off the front of the implant. This has a classic shape that surgeons call a "waterfall appearance". I have also heard patients refer to this as "snoopy" breasts. A lift can be performed later to correct the shape of the breasts, but this results in another surgery, additional expense, and more time to recover.

Setting expectations

I do everything I can to help you develop realistic expectations about what your result is going to be. This is different for every woman and depends on several different factors, including: chest wall shape, breast tissue shape and amount, and skin quality of the breast itself. These all combine with your selection of implant size to determine your outcome. I have performed thousands of breast augmentations and so when I see a patient and analyze these factors I can immediately "see" their outcome in my mind. I will help you envision that same outcome so that you will be excited for your surgery and when you see your results in the mirror you will be able to say this is just what I was expecting – or better!

"I went to four consultations and none of them even mentioned risks or complications. Dr. Fryer explained everything really well including risks and outlined his plan to avoid problems. My results are amazing [augmentation and tummy tuck], the recovery was super fast, and no complications. I'm glad Dr. Fryer was so informative and thorough. I felt very safe and cared for the whole time."

--K.C. Riverton, UT

An important part of your consultation will be understanding the risks associated with breast augmentation. You need to know these risks before the surgery. Basically,

there are variables that are out of your control and out of my control once we initiate this wound healing process. Some bad things can happen; you need to be aware of these things to be fully informed. Nationally, women that undergo breast augmentation have an 10-35% chance of needing a revision surgery within the first several years.^{88,292-298} Yes, that's right, as frequently as 1 in 3 women will need a touch-up surgery relatively soon after breast augmentation (according to national data).

That's not my data, though. My data for reoperation after first-time breast augmentation is in the single digits. My revision surgeries are most commonly to correct one of two problems: mal-positioning (bottoming out), or bleeding. It is uncommon for me to reoperate for other reasons. If you do need a revision surgery then there are additional costs, but I only have you cover the costs of anesthesia and the operating room and I do not charge you a surgeon's fee. This is important information for you to know prior to surgery.

The reasons for reoperations in the national literature include: capsular contracture, bleeding, mal-positioning (bottoming out), rippling, rupture or deflation, breast tissue aging, desire to change the implant size, and infection. These are not the only reasons for re-operation, but they do encompass the majority. There are three main reasons in my mind that I keep seeing frequently in the literature and those are capsular contracture, bleeding, and mal-positioning (bottoming out). Others risks for reoperation that I discuss during our consultation include: asymmetry, rippling (palpability), animation, and capsular contracture. I don't see capsular contracture very frequently at all in my practice so that one doesn't typically worry me as much as the national literature reports it.

Combining breast augmentation with a lift can be done well and safely by experienced surgeons and I feel very comfortable doing this operation.²⁹⁹⁻³⁰³ One thing that is worthwhile noting is that despite being safe with typically very good outcomes, combining the operations does increase the risk for reoperation.³⁰⁴ This causes some surgeons to stage these as two separate operations because of the difficulty of the operation and fear of the risks.

Don't let this scare you away from this option if this is what we decide together because although the risk for reoperation is higher, it is still lower than the cumulative risks of having two separate operations. Look at it from this perspective: if you separate the two procedures you have a 100% chance of having two surgeries. Then you must consider that each of those surgeries has a risk of needing to be revised and so if you add up the cumulative risk of the two separate surgeries (that's not exactly accurate but trying to explain the statistics behind things is way too complicated) you then have as high as a 1 in 3 chance of needing a *third* surgery. On the other hand, if you combine the surgeries you only have potentially a 1 in 3 chance of needing a *second* surgery.

Once again, I am quoting national data above, not my own data. My own data for needing to revise a surgery for an augmentation combined with a lift remains in the single digits. Combining the two surgeries together in my practice results in less than 10% chance of needing to be revised with a second surgery. I would recommend those odds to anyone with only very few exceptions or caveats that are too uncommon to even mention in this information. If I offer to combine the two operations for you then I'm confident that I can achieve a result with which you will be very happy.

It is important to note that needing revision surgery does not mean that anyone has done anything wrong. I believe my patients try to follow every instruction to the best of their abilities. I use my best judgement and perform each surgery to the best of my ability. Even though both of us are doing

everything that we can to help ensure a positive outcome, sometimes complications occur, and a revision surgery is necessary. It is human nature to try to find something or someone to blame, but the reality is that neither the surgeon nor the patient is really in control of the wound healing process that we initiate by performing surgery.

Other helpful information that is nice to know during the consultation

There are a few things that set my practice apart from the rest. You'll get a smaller scar, a faster recovery, and hopefully longer lasting results. All of this contributes to my outstanding patient satisfaction reviews and testimonials. My surgical outcomes are built upon the pioneering work of John Tebbetts as described previously.

I use a smaller incision for this operation, so the scar will be smaller and less visible. My professional preference is to place the incision near the bottom of the breast so that it is hidden by the curvature of the breast. This scar is less noticeable than a scar around the nipple because the nipple is the point of focus on your breast. You are the only one that will look at your scar. Additionally, there is good evidence that using this scar has a significantly lower chance of contaminating your implants with bacteria and results in a lower revision rate.^{31,186,206,305,306} Ultimately bacterial contamination likely plays a significant role in long term capsular contracture rates for breast implants.

Despite using a smaller incision, I can perform the surgery with only a fraction of the blood loss of other doctors as I described earlier. This surgical precision results in a very rapid recovery. Think about it logically. If you don't bleed you don't bruise, and if you don't bruise you don't set up inflammation in the tissue that you must recover from. The most common statement that my patients make after surgery is "I was expecting something worse".

This minimal blood loss also helps to decrease your chances for capsular contracture. Evidence suggests very careful hemostasis during surgery to help minimize one of the most important factors in capsular contracture (which is excess blood around the implant right after the surgery).^{220,307} I lose less blood than most other surgeons and therefore, I think I do a better job of controlling for this cause of capsular contracture than anyone else that I am aware of in the intermountain west.

These unique attributes and skills in my practice, along with exceptional customer service and care makes me the plastic surgeon with the highest online patient satisfaction rating. Just pay attention to the commentary and praise my patients are posting, and you'll recognize the great effort we put in to making your experience the best value you can find. If you chose a doctor with a lower satisfaction rating can you really expect your experience to be any different? You have done your homework and have found the doctor with the highest satisfaction ratings so you can be confident that both your outcome and your experience will be outstanding.

"Everything about this process [breast augmentation] was wonderful. The surgery, the recovery, the final results. Dr. Fryer did a wonderful job and I am extremely happy with my results. My recovery time was very short and I had almost no pain. I was back to myself in days. I had no bruising. I was very impressed by Dr. Fryer and his staff. They were very easy and friendly to work with and made the whole process a great experience."

—L.P. Draper, UT

I offer online consultations to help educate patients and answer questions even before you come to my office. Online consultations are no substitute for in-person visits that include a physical exam, but they are helpful in answering questions and exploring whether a particular surgery is even something that you want to investigate further. This can sometimes facilitate a shorter time between first encounter and the actual surgery date. This is possible because I can spend the time educating patients online after my office is typically closed and then the in-person consultation doesn't have to take as long and therefore often patients are able to "fast-track" things to have surgery sooner than otherwise anticipated.

As you begin to make plans for your surgery you need to know that we recommend that you stop smoking (of any kind). Smoking decreases blood flow and prolongs wound healing and results in scars that are less than optimal. If a lift is part of your surgical plan then it is required that you stop smoking before your surgery. The best time-frame for stopping smoking is at least six weeks before your surgery and to continue abstinence for at least six weeks afterward. I cannot overemphasize this. I recommend that any type of smoking (cigarettes, cigars, vaping, e-cigarettes, bong, hookah, doobies, joints.....you get the point) be stopped.^{308,309} Failure to stop smoking (of any type) before breast augmentation is not ideal but failure to stop before a breast lift places you at extremely high risk of catastrophic complications including tissue loss and prolonged wound healing.³¹⁰⁻³¹⁴

2 weeks before surgery

Preparing for Surgery

To help minimize risks and avoid complications there are several things that we want you to be aware of. Some medications need to be avoided prior to surgery, and it is helpful to decrease your upper body exertion so that the muscle doesn't start out being sore and stiff even before the procedure. Please remember my warning regarding any type of smoking. You should have already stopped by this point prior to your surgery.

Some medications are best stopped well in advance of the surgery. Two weeks is a good time frame for most of them. Phentermine (a medication used to help promote weight loss) must be avoided for two weeks prior to surgery. This medication makes it less safe to undergo any operation with general anesthesia. Any type of aspirin or ibuprofen (Advil, Motrin) should also be avoided to help reduce the risk of bleeding.

We have compiled an exhaustive list of medications and supplements that should be avoided for two weeks before your surgery. I'm sure that there are some supplements that we've missed but the general idea is just try to avoid anything that has a chance of interfering with blood clotting. This helps prevent bruising and bleeding issues and can help you recover faster.

Many of my patients exercise on a regular basis and I encourage them to continue being active both before and after breast augmentation surgery, but I do recommend some modifications. Try to taper your upper body exercise for the last two weeks prior to surgery. This is like tapering a running plan before you run a marathon. You want the muscles to be rested and better able to recover from the surgery. I will be more specific about the recommended post-surgery adjustments to your exercise later

in the planner, but for now just know that you need to allow the chest muscles to heal for several weeks afterward.

Pre-operative Appointment

As your date approaches it is normal to become excited in anticipation of the surgery. This should be an exciting time in a positive way because you will be confident in your decision. It should be even better than the anticipation leading up to the holidays because, unlike Christmas, this time you know exactly what you will be getting.

Part of your preparation for surgery includes a pre-operative appointment usually scheduled during the week prior to surgery. This is another opportunity to ask questions and even try on the sizers one more time to make sure that you are still confident and comfortable with the size you selected earlier. This is when we give you information sheets about your surgery and make sure you know what will take place on the day of surgery and during your close follow-up care.

If you are travelling from a distance for your surgery (which is common in my practice), we can arrange to have this appointment the day before surgery. My office staff will do everything possible to accommodate your personal needs in this regard. Please let them know what we can do to help make this time leading up to surgery as stress-free as possible. Please recognize that if you haven't already confirmed your implant size that we need time to order your implants to have them available. This may be cutting things too close in that circumstance and that is why a week before surgery is our standard timeframe.

During this visit we provide you with informed consent information so that you have ample time to read and understand everything that you are signing. These consent forms occasionally generate questions that you haven't thought of previously and we are always available for discussion. You have plenty of time to fill these out so that you can avoid feeling pressured or hurried on the day of surgery. Waiting until the day of surgery to prepare this paperwork tends to make patients more anxious than necessary. If you are travelling from out-of-town, we can supply you with these forms beforehand so that you can fill these out at your leisure and bring them in with you.

We obtain photographs during this pre-operative visit to document the wonderful transformation that you will undergo. These photographs are standardized views of the breasts and do NOT include your face, so your identity is completely confidential. Please remove any jewelry or other items that might be identifiable in the picture as well. Photographs are an important part of this process and were most likely very helpful to you in making your decision about surgery. I do not use these clinical photographs for educating other patients, publishing academic articles, marketing, or any other reason without written consent from each individual.

Prescriptions

We prescribe all your medications during this appointment electronically. For breast augmentation surgery you are prescribed six medications that will be waiting for you at the pharmacy of your choice. This helps prevent anxiety and unnecessary errands on the day of your surgery. In addition to your prescription medications there are also several over-the-counter medications that we want you to make sure you have ready. The combination of the prescription and OTC medications helps ensure that you are as comfortable as possible during your recovery. I developed this regimen of medications after long hours of research and study, and I am confident that it will help you. I published this information

specifically regarding recovery after abdominoplasty and the data confirms a dramatic improvement in patient comfort.³¹⁵

Medications

I prescribe you multiple medications to use during recovery to help make you more comfortable. I like to explain to patients that I give you a ton of pain medicines but very little narcotic. This regimen includes using Tylenol, Celebrex (celecoxib), Neurontin (gabapentin), and then if you still need something to manage your discomfort you will have a few oxycodone tablets. The reason this regimen works so well is because each of the medications targets a different portion of your brain's pain perception. This helps to improve pain control while reducing side effects and minimizing exposure to narcotics.³¹⁵⁻³²⁴ Additionally during the surgery you are given even more medications in your IV that target yet more pain perception pathways. All this culminates with you experiencing a more comfortable and rapid recovery.

Acetaminophen (Tylenol)

Acetaminophen (Tylenol) 500 mg every four hours is the foundation of your pain management. It is converted to p-aminophenol in your liver which then readily crosses the blood-brain barrier and acts on a multitude of different pain receptors in the brain and spinal cord.³²⁵ That makes it seem a lot more effective and important when you add all those fancy names and medical terms doesn't it? People will frequently say, "Tylenol doesn't do anything for me." Well, I agree that taking a single dose of Tylenol isn't going to do much for you but taking it every four hours to maintain a consistent calming of multiple different pain receptors really does help reduce your need for other medications.

This combination effect is why drug makers combined acetaminophen with narcotics (Percocet and Norco) – because they work better together than they do individually. These combination medications however create a dangerous scenario of potential toxicity if you lose track of the amount of Tylenol that you have taken. I do not prescribe combination pain medications for that reason.

I want you to take acetaminophen every four hours and I don't want you to unknowingly take acetaminophen in a Percocet or Norco tablet in addition. You must not exceed 4,000 mg of acetaminophen in 24 hours otherwise there is significant risk of liver toxicity. Using 500 mg every four hours (3,000 mg total for 24 hours) will keep you safely below the recommended maximum. Please read the labels of any other OTC medication that you want to take to ensure that you aren't unwittingly taking any additional acetaminophen.

Celecoxib (Celebrex)

Celecoxib (Celebrex) 200 mg is a powerful NSAID in the selective COX-2 inhibitor category that can be taken twice daily in the treatment of acute pain. Ibuprofen, Motrin, and Advil are non-selective inhibitors of COX-1 and COX-2. You should not take celecoxib (or any other prescription NSAID that we may substitute for it) at the same time as anything containing Ibuprofen. The COX inhibitors prevent the production of inflammatory mediators (prostaglandins, thromboxanes, and prostacyclins), thereby reducing our perception of pain.³²⁶

There is an important difference between OTC Ibuprofen products and the one we prescribe. The NSAID that we prescribe you doesn't have any effect on your platelet function or blood clotting whereas OTC NSAIDS do. We want you to avoid the OTC NSAIDS for several weeks prior to surgery to help reduce the risk of bruising and bleeding. In addition to not inhibiting your platelet function, celecoxib also has a

more powerful suppression of your pain receptors. Just the combination of celecoxib and acetaminophen creates a synergistic suppression of pain perception.³²⁷

If you have a sulfa allergy I may substitute another selective COX-2 inhibitor called meloxicam (Mobic) for the celecoxib because of a possible cross reaction. Some evidence indicates that it is likely safe,³²⁸⁻³³⁰ but others cite some continued concerns and so we try to substitute just to help prevent any untoward cross reaction. While taking these NSAIDs I want you to use OTC omeprazole (Prilosec) or famotidine (Pepcid) according to the label instructions because all NSAIDs have the potential to cause stomach irritation.

Gabapentin (Neurontin)

Gabapentin (Neurontin) 300 mg is a drug with many different effects that can be taken three times a day in the treatment of acute, postoperative pain.^{316,318,323,331,332} It is FDA approved as an anticonvulsant, muscle relaxer, and anti-spasmodic medication. The exact mechanism of action is not well understood, however we know that it readily crosses the blood-brain barrier and acts on neurotransmitters. Off-label uses include a wide range of conditions: postoperative analgesia, nausea and vomiting, neuropathic pain, essential tremors, migraine prophylaxis, headache, painful diabetic neuropathy, generalized tonic-clonic seizures, and insomnia. I am very impressed at how helpful this medication has been during my patients' recovery.

Unlike acetaminophen (Tylenol) and celecoxib (Celebrex), this medication has some side effects that you may feel and therefore need to be aware of. It can cause you to feel a little sleepy, slightly off-balance, or dizzy. It can also cause some transient water retention or swelling that you may notice. The sleepiness side effect can be beneficial because sometimes general anesthesia can cause difficulty falling asleep for several days.

Suzetrigine (Journavx)

This is the most recent addition to my multimodal pain control method. Recently approved by the FDA³³³, this is a novel new category of pain medication that simply blocks sensory nerves' ability to transmit pain signals back to the brain.³³⁴ I strongly believe this medication works synergistically with the other medications to reduce the amount of narcotic that my patients require to stay comfortable. In fact, since I began using this medication several months ago I would estimate that over 80% of my breast surgery patients do not take ANY narcotics post-operatively. Studies indicate that it is effective, non-addictive, and safe.^{335,336}

Because it is a very new medication insurance companies do not include it on their formularies (isn't covered). As long as you have commercial insurance (meaning you are insured and NOT on Medicare or Medicaid) the company has a coupon that reduces your copay to a very reasonable amount. My office automatically includes the coupon on your prescription to help you receive this benefit.

Oxycodone

Oxycodone 5 mg is the narcotic that I prescribe. Notice this is the only medication for which I haven't supplied a second name. That is because oxycodone is the generic medication. There are brand names for oxycodone but all of them typically either have acetaminophen or a time-release component, so I don't prescribe any brand names in this category. Oxycodone is a semi-synthetic opioid that binds to nerve receptors and inhibits their excitability.³³⁷ This medication is purposely last in my list because that is how you should use it – last.

Before taking oxycodone, you need to ask yourself if it is time to take any of the three previous, non-narcotic medications. If you can't take the non-narcotic then do so and wait twenty to thirty minutes to see if that has sufficiently improved your comfort. If it is not time to take any other medication, then use oxycodone as needed. The small tablet is scored so you can cut it in half to help restrict your exposure to narcotics. Start with a half tablet and see if you are comfortable enough until it is time to take one of the non-narcotic medications.

Opioids are a very useful medication in the treatment of acute pain as needed but Americans have become overly dependent on access to these drugs to treat minor discomfort and we therefore find ourselves in the midst of an opioid epidemic. These medications are not as benign as previously thought and there is an undeniable risk of persistent postoperative opioid use even following relatively minor surgical procedures.^{338,339} The opiate that I prescribe should be used for "breakthrough" pain after taking acetaminophen (Tylenol), celecoxib (Celebrex), and gabapentin (Neurontin). About half of my breast augmentation (and combined breast lift) patients do not find it necessary to take any narcotic.

If you haven't already watched the Netflix drama miniseries "*Dopesick*" then I highly recommend this to help you understand the true extent, and tragedy, of our opioid epidemic. If you absolutely need a narcotic to achieve a satisfactory level of comfort after surgery then by all means use the opiate. If you don't absolutely need it then trust me, you don't want to take the risk. Narcotics are habit forming; none of the other prescriptions that I outlined have risk for dependence.

Nausea

I prescribe ondansetron (Zofran) 4 mg for nausea. Let me begin by saying that I do everything possible to *prevent* nausea before it even begins. This includes taking gabapentin (Neurontin) before the surgery,^{340,341} and the use of medications during the surgery that are known to reduce the chance of, or prevent post-operative nausea.^{219,342} For individuals that have had significant negative experiences with postoperative nausea there are a couple of additional medications that I can prescribe.

If you do experience nausea after the surgery then you have ondansetron (Zofran) available to use. It is a small disc that dissolved under your tongue and absorbed into your bloodstream. This is more reliable than swallowing a tablet and then not knowing if you vomited the medication that is supposed to help ease your nausea. Use this medication as necessary every six hours to control nausea.

Aprepitant (Emend) 80 mg taken as a single dose can be a powerful tool for patients that have struggled previously with postoperative nausea and vomiting.³⁴³ This medication is not covered by your insurance plan and so you need to anticipate paying somewhere between \$31 and \$164 (as of today) depending on where you get your prescriptions filled. I suggest using [GoodRx](#), either online or the app, to help you reduce the amount of money you spend on your medications.

Scopolamine (Transderm Scop) 1 mg can be placed behind the ear the night before surgery to help decrease the chance of post-operative nausea. This can be especially helpful for you if you suffer from motion sickness since this is actually the motion sickness patch. This medication will make your mouth as dry as the desert and it will make your close-up reading vision blurry. Depending on your history with nausea after surgery you may or may not want to have those side effects. For best results this medication needs to be applied the night before surgery.

Antibiotic

I typically prescribe cefadroxil (Duricef) 500 mg to help prevent infections. Infections are rare (less than three percent) but are serious problems and may require repeat operation and implant removal. We take every precaution to prevent this complication and emphasize that you should complete the entire prescription. Cefadroxil (Duricef) is a tablet that is taken twice daily with food. It is a cephalosporin antibiotic and a distant relative of penicillin. Let us know if you have adverse reactions to cephalosporin antibiotics and we can prescribe something different. It is generally well tolerated and conveniently dosed twice daily so it is easy to take and complete as prescribed. I encourage you to use probiotics and yogurt with active bacterial cultures to help maintain good gut health while on prophylactic antibiotics.

OTC medications to purchase

There are some OTC medications that are very helpful to have on hand during your recovery. We have already mentioned acetaminophen (Tylenol) and famotidine (Pepcid) and omeprazole (Prilosec) in the sections above. Additionally, I encourage you to have docusate (Colace) available to prevent and or treat constipation. All the medications listed in this section can be purchased over the counter at most drug stores and pharmacies.

Make sure that you have acetaminophen (Tylenol) 500 mg at home. Double check the dosage on the bottle; sometimes the 500 mg is called “extra strength”. Acetaminophen (Tylenol) typically comes in two different doses 325 mg and 500 mg. I prefer having you use the 500 mg tablet and taking it every 4 hours which places you at 3,000 mg total dose. Taking the 325 mg every 4 hours won’t offer as much help and gets you only to 1,950 mg total dose. Alternatively taking two of the regular strength (325 mg) tablets every four hours gets you to 3,900 mg total dose; too close for my liking to the absolute 4,000 mg limit in 24 hours. Please also make sure you aren’t inadvertently getting additional acetaminophen (Tylenol) by using any other OTC medications that contain it.

I want you to use OTC omeprazole (Prilosec) or famotidine (Pepcid) according to the label instructions while you are taking the celecoxib (Celebrex). This will help to reduce the chance of stomach irritation or upset. This is especially important for patients that have had any type of surgical weight loss procedure performed. You can start this medication the day before surgery to help prevent any irritation from occurring.

Constipation can occur just because of the general anesthesia but another classic source is any type of narcotic. The pain medication regimen described above is designed to minimize your opiate consumption and therefore reduces your chances of constipation. I recommend patients use docusate (Colace) 100 mg three times daily initially. If stools become too loose, or you feel you no longer need the medication you can taper and or stop this medication. It is much easier to prevent constipation than to treat it.

Anticipate spending less than \$100 total on all your prescription and over the counter medications. If you spend more than that then you likely didn’t use GoodRx like I encouraged you to. GoodRx really will help you save money on all your prescriptions, and it is free to use.

Payment

Payment in full is required prior to your surgery date. Payments can be made in cash, or with a debit or credit card, or cashier’s check. We do not accept personal checks. Many of my patients choose to finance their surgeries through one of the convenient financing companies that we work with. All of the

financing information is provided to you at the time of your initial consultation, so you have time to get pre-approval if you want to use their services.

Day Before

This is a very exciting time for you and anticipation of the surgery could keep you up late. Adequate planning can reduce the number of distractions and will help you rest comfortably the night before. Start your preparations early in the evening and then try to get some good rest.

This is a good time to prepare an area in your home where you can return for your recovery. It is normal to feel tired after surgery and you want to have everything prepared in advance so you can rest when you return home.

Gather a few magazines or books for you to read and have some good music selected so you can relax. You will want to have some cold drinks and maybe a few snacks nearby – it helps to keep a little food in your stomach when you take your medications after surgery. Empty the contents of your ice maker into a plastic bag and put it in the freezer so your ice maker can make more ice. You will be using ice bags to help reduce swelling and discomfort after surgery. If you requested the extra medication to prevent nausea then place that small disc behind your ear before bed.

Get all these preparations done early and then plan on retiring to bed. In preparation for surgery do not have ANYTHING to eat or drink after midnight. This includes no gum, hard candy, breath mints or water. This helps avoid unnecessary problems with anesthesia. If you do not follow this instruction, you will have your surgery cancelled for that day and have to pay a rescheduling fee to reserve another day.

The surgery center will contact you in the afternoon the business day before surgery to inform you what time to arrive. They may also contact you on the day of your surgery to adjust your arrival time to prevent any unnecessary delays or long waits before your surgery.

Sometimes unanticipated or unexpected circumstances arise and may alter your exact time for surgery. I do not compromise my patient's safety or the quality of their surgery just to stay on schedule. Please be mindful that *you need to be available the entire day* for surgery because sometimes unexpected things happen that may shift your actual surgery time earlier or later than anticipated. Some real-life examples are a patient that arrives for surgery, and we discover that they are pregnant and we cancel their case; all other patients that day are going to get moved up to fill that time. Or a patient whose operation proves to be more difficult and therefore longer than anticipated; we try to move your arrival time accordingly to minimize the time spent waiting in the surgical center.

I know it can be very frustrating and we do our very best to minimize scheduling changes, but how long a surgery lasts isn't always in our control. When I'm operating I focus all my attention on the patient and achieving the best possible outcome for their surgery and time plays no role in any decisions that I make or what I do. Please know that I will give you that same level of excellent care when you are in the operating room. I appreciate your understanding in this matter.

You are supplied with a special antimicrobial soap that we want you to use in the shower three times before surgery. You should shower with this soap the day before your surgery in the morning and again in the evening and then once again the morning of your surgery. This special soap helps to decrease the

bacteria on your skin prior to the surgery. The only thing present during your surgery that can't be totally sterilized is your skin. The instruments, implants, and all the surgical drapes are sterilized through an autoclave, but we can't do that with your skin so we do the next best thing and decrease the bacterial numbers with this soap.

When you shower with the soap, we want you to use either a gentle luffa or a washcloth and put about 1/3 of the soap on it each time. After wetting your skin you should turn off the water and gently lather your skin with the soap. You do not need to scrub or rub firmly; if you are too aggressive with this soap you are more likely to get a topical rash, so all you are doing is gently spreading the soap across the skin. You want to cover the area extending from the neck to the umbilicus, shoulders and underarm areas. Do NOT wash your face with the soap. After spreading the soap across the area let it stay on your skin for about five minutes. Gently wipe the area with your hands several times each minute to help maintain a lather and ensure good coverage. After five minutes turn the water back on and rinse the soap from your skin.

Day of Surgery

Follow the above instructions on the morning of your surgery to wash your skin for the third time. Do not apply lotion or deodorant on your skin. Dress in comfortable clothes and shoes that slip on. Loose fitting elastic waist band pants and a zip up cotton sweatshirt are ideal. The zip-up sweatshirt is very convenient because the staff will help you put it on after your recovery. Shirts that must be pulled over your head are a little harder for you to negotiate.

Approximately 2 hours before your scheduled surgery you should take the following medications with a small sip of water: acetaminophen (Tylenol) 500 mg, celecoxib (Celebrex) 200 mg, and gabapentin (Neurontin) 300 mg. Using these medications before your surgery will help to improve your comfort and decrease the chance of nausea after your surgery.^{318,323,324,344-346}

When you arrive at the surgical center you are greeted by the friendly staff that will help guide you through the preparation for your surgery. There is some minor paperwork to fill out on the day of your surgery in the surgery center. We have you arrive in plenty of time so you do not feel rushed. These include consents for surgical procedures and brief health questionnaires. You may also want to bring a book or favorite magazine to help the time pass after you have checked in. You will be given a paper blouse to wear and a roomy tote bag to put your belongings in. Please plan ahead and don't bring any valuables with you or make sure that they are given to your ride before they leave. We have plush robes for you to wear so you can stay warm and comfortable.

You will also need to provide a urine sample at the surgery center so we can conduct a pregnancy test. Try not to empty your bladder at the gas station down the street before you arrive so you will have fewer problems providing the sample. We have had a few "happy announcements" at the surgery center and therefore a pregnancy test is mandatory prior to any cosmetic procedure. The surgery center staff will also obtain some baseline vital signs (blood pressure, heart rate, oxygen saturation, and temperature). These will serve as the first data points to help ensure your safety during the surgery.

There is a lot going on during this time but try to stay as relaxed and calm as possible. It is not uncommon to feel like everything is happening very quickly and then nothing is happening. The old "hurry up and wait". As previously explained, we try to minimize the wait time at the surgery center by

adjusting your arrival time, but inevitably there will be some amount of waiting. If it is helpful you can listen to some music to help you stay relaxed.

Prior to your operation I meet with you in the privacy of a consultation room where I review our surgical plan. This includes confirming the implant size and type as well as any additional plans for a lift or liposuction that we made during our consultation. I review this with every patient prior to surgery to prevent any errors. I make marks on your chest and breasts to help guide me in the operating room because when you lay down on the table everything looks different. The marks are temporary and are easily washed off in the shower.

After speaking with me you will also meet with one of our certified nurse anesthetists and they will review your plan for anesthesia. All our nurse anesthetists are excellent and have extensive experience in performing cosmetic surgery anesthesia. They are skilled in providing you with not only a safe procedure, but also a procedure with the lowest risk of nausea and discomfort. They will briefly review your health history and familiarize you with what you will experience. Part of the paperwork that you will sign is a consent for anesthesia. I have the highest level of confidence in all our nurse anesthesia providers.

The nurse anesthetist will lead you from the private holding room into one of our state-of-the-art operating rooms and will help you get comfortable. Here you are typically greeted by your operating room nurse who introduces themselves and covers you with a warmed blanket when you lie down on the operating table. The nurse anesthetist will use a small amount of numbing medicine to anesthetize the skin prior to placing an IV through which all the remaining medications will be delivered. This is usually the last memory that people have of the entire operation or recovery. You will receive an antibiotic through your IV soon after falling asleep.

Once you are safely asleep, we clean your skin with another, powerful antiseptic soap to help reduce the amount of bacteria even further from your skin. Sterile towels and drapes are then used to cover your skin to help prevent contamination of the surgical area. Your specific surgical plan including the implant size is then reviewed with the entire surgical team to ensure that the correct surgery plan is followed. Only after confirming your surgery plan with the entire surgical team do we begin the surgery.

Surgery

The technique I use for breast augmentation utilizes delicate and gentle tissue handling to minimize inflammation and swelling. This technique allows me to perform this operation with almost no blood loss (typical blood loss is less than one teaspoon for the entire operation). The blood loss during a typical breast augmentation can be 10 - 40 times more. More gentle tissue handling yields less inflammation and swelling; less bleeding means less bruising and the combination of these leads to a faster, easier, and more comfortable recuperation. Read my patient testimonials to hear about their recovery experience and help reinforce how quickly they recover.

In addition to the gentle tissue handling described above I also utilize other measures designed to help minimize complications. All patients receive IV antibiotics, have shields placed over the nipples, and the surgical pocket is irrigated with an antibiotic solution as an attempt to decrease any chance of

contamination.^{142,210,347-349} The implant itself is not exposed to the air any longer than absolutely necessary, and I use a Keller funnel to minimize the chance of skin bacteria coming in contact with the implants.^{150,350-353} I use every method that has good scientific evidence to help decrease the chance of complications occurring after your surgery.¹⁵⁰

Recovery Room

As you begin to awaken after your operation you will be in our recovery area. You are monitored carefully in the recovery area until you have met all the criteria for discharge. The nurses in our recovery area are very experienced in helping this be a very relaxing time for you. They can administer medications as needed for your comfort and safety. You will already be wearing a bra that we provide to you to help minimize implant displacement and swelling. The nurses will help you slip into your clothes in preparation for returning home. When it is time to leave you are wheeled from the recovery room to the private exit where your car will be waiting a few feet away. This helps ensure patient privacy and convenience.

You must plan on having an adult driver (18 years or older) that will pick you up AND spend the first night in the same home. Most of the time this person will also be driving you to your appointment the next day. An Uber driver (or anything similar) is NOT acceptable for your ride home. Your driver will be given specific instructions for your care by the nursing staff and so this needs to be someone that will be with you that first night. If you arrive for surgery and do not have an adult ride home arranged, you will

“The staff at the surgical center on the day of surgery was excellent. They were calming, reassuring, and kind.”

--L.A. Boise, ID

be required to pay for a nursing service that can transport you and have someone with you the first night. This obviously increases your cost and is not covered as part of your surgical quote. This has not been an issue frequently, but a few patients have made it necessary to be very specific in this instruction.

The most common sensations that people relate to me are a feeling of pressure or tightness in the chest area. The pressure and tightness results from the stretch on the tissues after having the implant placed. I am surprised at how frequently patients relate that it is not necessarily a painful sensation, but rather it feels like the day after a strong chest workout, or other people describe it like the feeling of needing to nurse. Whatever the circumstance, you have a nurse at your side initially giving you medications to help treat any discomfort you have and after you leave you have sufficient medications and measures to help you maintain your comfort.

You will be discharged from the recovery area only after you meet specific criteria. You are monitored closely to confirm that these conditions are met so that your safety is optimized. Don't be surprised if you think that you just barely woke up and now you're being wheeled out to your car. Let me assure you that does not happen. The medications you receive during the surgery impair your ability to hold on to short term memory for several hours. You will have been awake for much longer than you can actually remember. Your safety is our biggest priority at this stage of your recovery and we do not “rush” people out the door.

After you are discharged from the recovery room you can walk in your home or hotel a little bit and move around more. This movement and being up and active is actually beneficial for your recovery and helps you metabolize and process the medications better and faster. Encouraging a sleepy patient to be

discharged can be beneficial in metabolizing things, and sometimes the recovery room nurses recognize that you are safe to be discharged and that you may benefit from being on your own. This is not “rushing you out the door” as mentioned earlier, it is just trying to make progress in your recovery.

At Home

The mainstay of your treatment is going to be using acetaminophen (Tylenol), celecoxib (Celebrex), and gabapentin (Neurontin) as frequently as allowed for the first day or two. As a reminder, acetaminophen (Tylenol) 500 mg should be used every four hours, celecoxib (Celebrex) 200 mg twice a day, and gabapentin (Neurontin) 300 mg three times a day. These medications go a very long way to maintaining your comfort. Approximately half of my patients do not need to use narcotic pain medications after breast surgery.

In addition, I want you to move your arms gently. I show patients a gentle stretching exercise to begin immediately after surgery and repeat it at least hourly while you are awake. The stretch involves placing the fingertips near your shoulders and drawing large, slow circles in the air with your elbows. The direction of the circles doesn't matter, what does matter is that you gently move the muscle and help prevent it from tightening and spasming. The only caution that I give is to remember that it is a stretch and not an exercise; that may help you understand the purpose a little bit better.

“I was surprised by my lack of pain and quick bounce back time.”

--J.R. Salt Lake City, UT
Medical provider

If you do not have a lift as part of your surgery, then I will also give you instructions to use ice to help reduce the swelling and inflammation in the muscle. Place the refillable ice bag across the top of the breasts, leave it in place for 20-30 min and then allow an equal amount of time without ice before replacing it. The ice bag should not be in contact with the skin, your clothing and bra should be between it and your breasts. The ice and the stretches are just for your comfort so continue to use these methods of maintaining your comfort for as long as you believe they are helping.

The feeling of pressure and tightness eventually resolves over a period of several weeks. This corresponds to what some people refer to as the “drop and fluff” on the internet. I personally, and professionally, do not agree with the term “drop and fluff” because it infers that the implants move in the tissue. As described earlier we do not want the implants to move. Instead, I refer to this period as “relaxation”; the tissue becomes less stretched and tight over time and the breast tissue settles.

Most patients are tired and fatigued after surgery and it is not uncommon to take several short naps afterwards. Several times a month, however, I have patients go out to dinner or to a movie the night of their operation because they feel so good. Don't make any plans, but I don't restrict your activities if you feel up to it. I contact all my patients the night of their operation to help ensure that you are recovering as expected. Please provide the surgery center staff with a telephone number that I can use to contact you that evening.

Patients often ask about what and when they should plan on eating after surgery. The simple rule I like patients to follow is: “Listen to your stomach”. If you aren't hungry at all then don't try to force yourself to eat anything substantial. Sometimes just having a cracker or two in your stomach will help you tolerate your medications better, but you don't have to have a full meal. If your stomach tells you it wants a smoothie or French fries then eat a smoothie or French fries. On the other hand, if your stomach

is telling you it wants something more substantial like a full meal then you're probably going to do just fine having a full meal. Skipping a few meals is not a big deal at all as long as you maintain a reasonable level of hydration.

You received your first dose of antibiotic in your IV prior to surgery. Plan on taking your first antibiotic pill in the evening after your surgery. Use nausea medication if and when necessary. Remember to use your stool softener and your antacid medications as instructed.

Plan on sleeping at a gentle incline for your comfort (think of a recliner position). This is for your comfort because if you sleep flat you will tend to notice the sense of pressure against your chest more. Sleeping at a gentle incline typically reduces this sensation for most people. Additionally, sleeping in a gentle incline will help prevent you from turning onto your sides (or stomach). We do not want you to sleep on your side for usually about three weeks. Once you are comfortable being completely flat on your back, you no longer need to sleep at an incline – unless you need to be on an incline to help prevent you from turning onto your sides.

You will be wearing a soft, cotton, surgical bra with some gauze or bandages under it. You can adjust the bra if necessary for your comfort, but you are not required to do anything at all the first night. If you feel the need to adjust the bra, it clasps in the front with hook and loop fasteners. You don't have to worry about damaging or ruining anything by adjusting the bra. I put the implants in the correct position and purposely left good connective tissue to help provide support for the implants. Feel free to adjust the bra as you see fit.

It is normal to have feelings or sensations that you have never experienced before. Let's face it, you may be getting used to the fact that you have breasts for the first time either in a long time, or in your entire life. Occasional shooting pains which last for only a few seconds are commonplace during the first several weeks. You may also feel a sensation which is best described as "rice crispies" beneath your skin. This is because there is a small amount of air beneath the muscle which takes your body one or two weeks to completely absorb. You will recognize it when you feel it. It is not uncomfortable at all, but it is not a sensation that you are familiar with. You may also be able to hear the movement of air or fluid within the tissues. These sounds and sensations are temporary and usually resolve within the first several weeks.

When you are discharged home from the surgery center you typically are wearing some white compression stockings that have a giant hole in the toe area so you can ensure that your toes are getting adequate circulation. These stockings are used to help protect your skin from irritation because during the operation you have compression sleeves alternately inflating and deflating balloons on your legs. These devices are "sequential compression devices" (SCD's) and are used to help reduce the risk of blood clots associated with having surgery.

These stockings also help to reduce the amount that your feet and ankles will swell. For several days after any type of surgery your body will retain water and you will tend to swell. Once at home you can decide whether you want to continue wearing these light compression stockings or not. I typically recommend wearing them overnight and then removing them the next morning, but you can wear them shorter or longer if you would like. Unlike previously thought, these light compression stockings do not help reduce the risk of blood clots. By far the best prevention of blood clots is getting up and walking as much as you feel possible.

Day After

You will be scheduled for an office visit the day after your surgery. You typically meet with one of my office staff to ensure that we don't need to adjust or administer any medications and to make sure you're recovering as expected. This is typically a very short visit, but it gives you a chance to ask questions that have come up overnight. This also gives you the opportunity to see your breasts for the first time. It is normal to have a small amount of swelling of the skin and therefore your breasts may look slightly larger than expected. Don't worry, you were confident in the size you selected, and your breasts will decrease slightly in size to match your expectations.

There is nothing special about your initial post-surgical bra. The intent is just to have a bra that is comfortable and that offers you some gentle support. If that bra is not comfortable for any reason you can use any bra that you find comfortable. Sometimes it is the material of the bra that causes irritation and if that is the case you can put on a thin, cotton T-shirt under the bra. After recovering for a week we will instruct you on using the underwire bra. For the first week, just stay as comfortable as you can, however you can.

Muscle stiffness and ache may increase on days 2 and 3 and the gentle stretching exercise can really help with this. Some doctors prescribe muscle relaxers to help with this, but adding muscle relaxers is rarely necessary because stretches are so helpful. Sometimes patients complain of pain in their back – typically between the shoulders. For whatever reason this tends to be a very common finding and the thing that tends to be most helpful is a heating pad on the lowest heat setting. Make sure the heating pad is not in direct contact with your skin and place it wherever the pain is greatest. This tends to be very effective for pain in between the shoulder blades and lower back. Please note that we do not want heat on the breasts unless you are specifically directed to do so.

After your surgery I want you to be active. If you are not napping or sleeping, I do not want you in bed. That's right, I don't want you to recover in bed. Instead, I want you up and moving. You will find that after the general anesthesia that you may find yourself wanting to take a nap or two during the first few days of your recovery. The idea, however, of lying in bed recovering from your surgery is not only outdated, but it is wrong. This slows your recovery, increases stiffness, and places you at greater risk of complications. Get up, get moving, get better.

Now, a lot of my patients get excited when I tell them I want them to be active. They think that they will be able to just get right back into their daily routine of going to the gym every day. This is not quite my intention either. I want you to be active, but I do not want you to be doing anything strenuous. I do not limit you on walking and moving around; I do not however want you back in your Pilates class. You need to give yourself time to heal but I think being up and moving helps speed your recovery. I like to think of it as an "active recovery" – but make no mistake, your body is healing from the surgery.

"For the first time in my life I love my breasts. Dr. Fryer and his team were so helpful and patient with me and the entire recovery was way easier than I expected. I wish I found Dr. Fryer years ago because he understood all the reasons I was afraid of having breast augmentation. My results far exceeded my expectations."

--C.H. Reno, NV

1 week after surgery

You will be scheduled for an appointment one week after your surgery. By now you should be feeling much better and will already be excited about your new look. During this appointment we remove the tape covering the incision and provide you with a detailed instruction card to help you remember the instructions that we give you.

All the sutures I use are beneath the surface of the skin so you will never see them. They eventually dissolve and go away; you don't have to have any stitches removed. I always have you pay attention to the scar during this visit because it is usually barely visible even when you are looking for it. This is ultimately how the scar will look, but during the next few weeks the color of the scar will become darker, and it will begin feeling a little firm and stiff. This is a normal progression and the instructions we give you about scar massage will help that scar return to normal skin color as rapidly as possible.

Patients living out-of-state may elect not to return for this one-week appointment. We will instruct you to forward some photos to my office so that I can make sure that things are healing as anticipated. We will give you instructions on removing the tape strip over the incision and will make sure that you are given a copy of the detailed instruction card before you return home. We will make sure you understand all the instructions and how you can contact us in case you have any questions or concerns.

Scar cream should be applied twice daily once the surgical tape has been removed. We have confidence in the scar cream that we provide. There are many scar creams on the market, but not all creams are of equal efficacy. The scar cream we suggest has been selected very carefully to help provide the best outcome for your scars. There is good evidence that scar cream is beneficial when used correctly.³⁵⁴⁻³⁵⁶ You will apply a very small amount of the cream to the scar twice daily for six months. A little goes a long way and you can use it sparingly. For breast augmentation patients the scar cream we provide you with should last for almost four or five months. If you had a lift (with correspondingly more scars) it won't last as long.

Starting one week after your surgery we want you to be in a supportive underwire bra. **You should wear the bra 24/7 for an entire six months.** The bra that I have the most experience with is the Knockout bra by Victoria Secret. This is an underwire sports bra combination that offers excellent support and comfort. Although uncommon, some patients find it difficult to find the right fit in that particular bra. If that is the case, then use another similar bra by a different manufacturer. The purpose of this bra is to help ensure that the implants do not stretch through the tissue before the scar tissue has a chance to form. If you decide to use a different manufacturer's bra make sure that it *feels* very supportive.

The size of your breasts at your one-week appointment is the size you are going to be so you can accurately determine the correct bra size. Victoria Secret will measure your breasts to determine the best size of the Knockout bra for you. Do not be surprised if their suggested cup size is not the cup size you had anticipated for your result. It doesn't really matter what the tag on the bra says, it doesn't change the size of your breasts. I'm sure that you could find a bra somewhere that matches what you had previously anticipated. You were confident in the sizing before the surgery, you are going to be very happy with the size.

The shape and feel of your breasts is still going to change for many more weeks, so try to be patient. Your breasts will still feel overly firm at this point and have not had a chance to soften and relax. Sometimes people refer to this as "drop and fluff" on the internet, but I do not agree with that

terminology because we don't want the implant to "drop". I want the implant to stay right where I placed it in the tissue. At this point your breasts will have too much fullness at the top and I can understand how some people would think that this is the implant that needs to drop down. Instead, this is your own breast tissue that the tight skin envelope is holding in place and the skin needs to relax to allow the volume to redistribute itself.

Sometimes people will ask what they should do for swim wear because of an upcoming vacation. I first need to remind you that there are some activity restrictions initially after surgery, so just make sure that you comply with those recommendations. The nice thing about the Victoria Secret Knockout bra is that it comes in some really fun colors and designs and *looks* like a swim top. Just use it as a swim top and find something to match for the bottom. Many of my patients report that the Knockout bra is their favorite bra to wear when working out, and sometimes even swimming, because of how supportive and comfortable it is.

We no longer instruct people to do routine implant displacement massages. Implant massage has never been shown to be beneficial for the average breast augmentation patient, but it has definitely created some confusion among patients. In special circumstances we may instruct you to perform implant displacement massage for specific reasons with a certain goal in mind. If we instruct you to perform these targeted massage exercises you will do them 4-6 times a day for 1-2 minutes each time. This is more of the exception rather than the rule. If we don't talk to you specifically regarding implant massage then don't worry about it at all.

It is very normal to have some abnormal sensations at this point in your recovery. Both decreased, and increased sensations are common. This is a sign that there are still some nerves that are healing from the trauma of the surgery. Increased, sometimes painful, sensation to light touch typically becomes less intense as time progresses. Uncommonly the increased sensitivity to light touch may require that we prescribe a compounded cream to help calm the nerves. Diminished sensation typically reverts towards more normal feeling over several weeks or months. There is no exercise or dietary supplement that speeds this process. The main ingredient in nerves returning to normal function is: time; we have to be patient and just allow the healing process to proceed.

If you have a lift at the same time as your augmentation then I will also see you in my office three weeks after the surgery. This appointment is to help ensure proper healing of the scars from the lift. In my opinion this is an even more important visit for a lift patient than the one-week appointment. If you're going to have a wound healing issue that requires some intervention, this is the most common timeframe for that to begin .

For most patients this is the only post- operative appointment that you need. If we need to guide you in massaging one implant more aggressively in order to help it settle into place, then I may have you return at either week 2 or 3. This is the exception and not the rule. Subtle differences in how the implants are settling can usually be corrected and managed with implant massage. My nurses and I are always available if you have other questions, but usually after this visit my patients only return three months later to have photos taken.

Gradually increase your activity level

During the first two weeks I want you to keep your heart rate under 120 beats per minute. From two to four weeks after surgery your heart rate should stay under 140 beats per minute. By six weeks after surgery I no longer have any heart rate restrictions for you. Your heart rate serves as a gauge to your activity level. I want you to be active; I don't want you doing anything too strenuous. This limitation is intended to safeguard you from two potential complications: bleeding and implant malpositioning.

Bleeding can result from activity that is too intense, muscle contraction that is too forceful, or pressure against the breast that is excessive. Intense activity can lead to substantial increases in blood pressure. The healing tissue may not be able to tolerate those increases and blood vessels that were previously coagulated can begin to bleed. Your muscle is prone to further damage or tearing until it has fully healed. Intense activity that involves forceful or violent contractions of the muscle can create tears or damage that can therefore result in bleeding. Excessive force against the breast tissue or manipulation can likewise result in bleeding.

You can follow my exercise planner for ideas and instructions on performing exercises that will not interfere with your muscles' ability to heal. While the scar tissue (capsule) is forming we don't want you to do anything that is going to disrupt or stretch the scar tissue. This can lead to bottoming out (malpositioning) and would require a revision surgery to correct. Generally, I don't want you lifting anything over six to eight pounds for the first six weeks. Each time you contract your chest muscle (pectoralis) it compresses the implant which applies stress to the tissue. We don't want that. We want the scar tissue (capsule) to form right where I positioned the implant in the operating room.

After six weeks you can begin performing light upper body exercises with dumbbells up to about ten pounds. This isn't increasing the amount of weight that we are allowing you to lift by much at all. The difference is that you can now begin lifting it repeatedly with exercise. In other words, you still won't be stressing the tissue very much, but you will be stressing it over a longer duration. By three months you can begin to increase the weight of the dumbbells and even slowly begin to add in barbells.

If your level of exercise is greater than just casual workouts, then I want you to proceed even more carefully and cautiously. If you spend multiple days a week in the gym lifting heavy weights and working up a sweat then I'm talking to you. You know who you are. Crossfitters, triathletes, high intensity interval trainers (HIIT), fitness instructors, personal trainers, and people working with personal trainers fall into this category. I really don't want you to start stressing that forming scar tissue (capsule) extensively until at least three months.

Please introduce your activities with a little caution and common sense. Don't start right where you left off before surgery and expect to be able to perform at that level. Don't worry, your strength and energy will rapidly return after you get back into your routine. During the first three months any sudden or violent contractions of the chest muscles place you at risk of stretching the scar tissue (capsule) or tearing the muscle itself.

Starting two weeks after surgery, I want you to firmly massage the scar cream into the scar. It is normal for the scar to feel stiffer as you progress through the first four weeks. This is totally normal as your tissue heals and is called a healing ridge. It can feel so stiff and firm that it feels like there is a "ridge" of tissue beneath the incision, hence the name "healing ridge". Spend 15-20 seconds massaging the scar cream firmly into each scar. This is easily incorporated into your routine for the implant massage. Scar

creams are beneficial for the first six months and can substantially improve the quality and appearance of the surgical scars. The healing ridge slowly resolves and softens over the next two to three months. Actively massaging the skin scar is different from the scar forming around the implant (the capsule). It is desirable to forcefully massage the healing ridge of the skin scar, but we don't want to be too aggressive with the scar capsule around the implant.

Intimacy. There, I said it, but I know you were probably thinking about it. One would be naïve to think that your breasts' appearance had nothing to do with how confident you feel regarding personal relationships. You need to be careful and cautious as you resume intimate relationships. Follow the same guidelines already outlined on how much force you create with the muscles of your upper body. Additionally, you need to use caution with how much pressure or force is applied against your breasts during this healing phase of your recovery. This is something that needs to be communicated with your partner beforehand. It doesn't do any good for you to know the restrictions or limitations if your partner is unaware of them. Now there are two people that need to follow activity guidelines.

So, what are the restrictions regarding intimacy? Good question, but it doesn't really lend itself to a simple answer. It basically means your partner needs to be aware of the lifting restrictions for your upper body and they to be able to "imagine" the force or pressure that it would apply on the tissue of your breasts and then try to stay well within that range. I know, it's not a very specific or detailed answer, but it's the best answer I can give. You can use a little creativity to help ensure you stay safely within the intended guidelines while still engaging in gentle intimacy.

Ultimately these are conservative guidelines to follow because no one can truly anticipate how much is going to be too much for each individual. Patients will often seek for further clarification by asking a myriad of questions typically beginning with, "But what if I...". My answer is always the same. There is no way for me to know how strong your tissue is going to be and therefore I always default to the more conservative recommendation. Are my recommendations too conservative for some patients? Likely, yes. Alternatively, are my recommendations just barely conservative enough for some patients? Again, likely, yes. There is no way for either of us to know which group you are in, until it is too late, and the damage has potentially already been done. Therefore, by default I always suggest the more conservative option.

Initially I give my patients instructions to sleep on their back and avoid sleeping on their side or stomach. This is good advice for the first three weeks. I don't really want you placing more pressure or strain on one side until your body has begun to form some scar tissue around the implant to help hold things in place. After three weeks you can slowly begin to apply more sleeping pressure on the sides of your chest. I would still prefer at least six weeks before sleeping on your stomach because that applies even more pressure against your breasts.

Sometimes people tell me the hardest part about their recovery was sleeping on their back. If you aren't accustomed to sleeping on your back it can be difficult but there are some things that can help. If you experience pain in your lower back when sleeping on your back sometimes using a pillow beneath your knees can help relieve that tension. Placing a pillow beneath your knees will gently flex your hips and knees and that can help relieve back tension. If you just have a hard time staying on your back and find yourself on your side when you wake up then sleeping in a recliner or similar position helps you stay on your back. The recliner position also gently flexes your hips and knees to help relieve tension or pressure on your lower back.

Patients often ask about chiropractic adjustments and massages and when those can be started. As a general rule I don't encourage people to lie on their stomach for at least six weeks so I don't encourage any adjustment or massage that would require you to be on your stomach. Additionally, even after six weeks if they are going to add significant pressure over the upper back that would transmit more pressure to the breast area, I would likewise discourage that. Again, it is very difficult to give adequate instructions for every situation and circumstance, so the best advice that I can give is to just be as cautious and conservative as possible.

Initially I want you to shower and not bathe. Bathing to get clean can be started usually by two or three weeks after surgery. Bathing to relax and soak should be postponed until four or five weeks after surgery in most instances. This would include hot tubs and potentially saunas for relaxation as well. These are general guidelines and if you have a lift and experience any delays in wound healing these recommendations could be delayed even further until healing of the tissue has been achieved. Once again, little harm can come from being overly conservative and therefore that is usually how I advise my patients.

3 months post-surgery

It always surprises me how quickly three months seems to pass. Sometime between your last appointment and now the tissue of your breasts has softened and relaxed considerably. Your breasts should now feel soft and natural. You should be in the process of rejoining your normal activities and you should be fully and completely in love with your new breasts. If you ever have questions before this appointment, you are welcome to contact my helpful staff. They are incredibly helpful and can usually answer your questions and resolve issues or concerns over the phone. If they feel like a visit in the clinic is necessary, then we can arrange to see you at the earliest convenience.

You will be contacted either by email or text as a reminder to return for your three-month post-op exam. This exam is to ensure that your incisions are well healed, and the implants remain in their proper

"My experience with Dr. Fryer has been nothing short of amazing. I had been going back and forth on whether I would like to go through with Breast Augmentation surgery for at least ten years, and finally decided I was ready to do it....The staff was super friendly, helpful and kind. I am about two months post-op and I am so happy with the results. I'm finally feeling comfortable and confident."

--A.H. Sandy, UT
5-STAR Google review

position. My assistants will take some standardized photographs soon after you arrive to help us (and you) assess the outcome. By this time many patients have a hard time remembering what they looked like before their operation so comparing what you see in the mirror with what we have documented as your starting point can be very fun. It is always very rewarding to see how happy and satisfied my clients are at this appointment.

Things to remember at this point in your recovery are that you still have some instructions to follow and some minor restrictions. I still want you to be in the underwire sports bra 24/7 and continue using the scar cream twice daily through the end of six months. By three months the strength of the skin closure scar is nearing 100%.³⁵⁷

The healing of the scar tissue (capsule) supporting the position of the implant is similar to, but not exactly the same as the skin and the development of strength is likely lagging slightly. There are subtle

differences in the types of collagen present in the scar tissue and for how long those types of collagen are present.³⁵⁸ That is why I choose to be more conservative with how long I recommend wearing the underwire bra 24/7; keep on wearing it through 6 months.

By three months the scars are typically softer and more supple than they were several months ago. There is likely still some softening that will yet occur. Ultimately the scar should feel as soft and supple as the normal surrounding skin. The color of the scar is typically still fairly dark. This is absolutely normal and expected. It can take almost a full year for the color of the scar to fade back to its final color. For people of color the final shade of the scar is slightly darker than the surrounding skin and for others it is slightly lighter than the surrounding skin. This is a generalization and subtle differences in scar color are always possible.

Abnormal scarring results are typically noticeable by this time as well. Abnormal scar appearances to be watching for at this time are scars that are raised, excessively thickened or widened, and extremes in hyperpigmentation (dark discoloration). The scar cream that we provided you helps to prevent these types of scars but occasionally additional interventions are necessary. This may include the use of silicone tapes, steroid injections, or other medical interventions if indicated. Abnormal scarring is definitely the exception to the anticipated outcome. If this becomes an issue for you there are interventions and options that we can explore.

If you experienced decreased or abnormal sensation after the surgery this is an important timeframe for you. If you have noticed any type of improvement or change in the sensation of your breasts by this appointment, then this is a very good sign. This is a sign that the nerve has begun to heal and with even more time greater improvement is possible. If, on the other hand, you have not noticed any difference during the last three months, it is more likely that the nerve injury is permanent. There is still some slight chance that the nerve may still recover to some degree even if there hasn't been improvement within this timeframe.

Although uncommon, sometimes patients have outcomes at the 3 month visit that are not optimal. Sometimes it's as simple as needing to allow some additional time for the tissue relaxation to occur. It is not uncommon for one breast tissue to relax at a different rate, or at a different time than the other. If this is the case simply waiting for some additional time can yield the optimal result. Sometimes I recommend waiting several additional months to help ensure that we are not incorrectly diagnosing and treating something. The most common situation fitting this category is when someone is worried that they have a capsular contracture because one side is firmer than the other. Instead of a capsular contracture, however, this could be an example of one side relaxing too much, too soon and be a case of bottoming out (malpositioning) and the side previously thought to be a capsular contracture could be totally normal. Only time can tell in that situation.

If you aren't completely thrilled with your result, please talk with me. My goal is to give you the best result possible and am happy to talk with you about things that can be done to help achieve it. I think I am very reasonable and if there is anything that can be done and the risk benefit ratio is in your favor then we should consider doing it. It is frustrating when things don't turn out like we anticipated. Compounding that frustration is the fact that I know my patients are following all my instructions and doing their best to allow things to heal. I also do everything that I can to help achieve the best outcome for every patient. Despite this, occasionally patients will require revision surgery to achieve the optimum results.

My ability to achieve optimal results with a revision surgery are extremely high. A significant portion of my reputation regarding breast surgery comes from my ability to revise other surgeons' work and achieve the balanced, natural result that the patients were always looking for. Revision surgery is not easy and that is why you really want someone that knows their craft well. Revising my own work is always easier and more straightforward than revising a different surgeon's work. Regardless of the situation, I want you to have the best possible outcome from your surgery.

Longer term thoughts

I take every precaution both in preparing my patients for surgery and in the operating room to prevent and delay capsular contracture. The national literature reports most women have a repeat operation on their breasts on average every ten years. The second most common reason for these operations is capsular contracture; the tightened scar tissue is released or removed and then the implant is incidentally replaced because it is becoming old.³⁵⁹ All of the steps that I take to prevent capsular contracture will likely lead to the scar tissue staying soft and supple for much longer. I don't see capsular contracture in my patients anywhere close to this extent, so it is not something that I worry about frequently. Even if your scar tissue stays soft, **you should still think about exchanging your implants for a new set approximately every ten years.**³⁶⁰

"Dr. Fryer did my breast augmentation 6 years ago and I never posted a Google review, so here I am because he deserves it! I've referred five girls to him because he is hands down the best in Utah! I haven't had any issues in the six years I've had them and I promise you, they look FLAWLESS. Would do it all over again in a heartbeat. Do not even consider other surgeons, Fryer is THE guy!"

--J.C. Ogden, UT
5-STAR Google review

You do not need to "be careful" with the implants; they are designed to withstand significant force. The implants' shell simply becomes weaker and more fragile with time. They wear out. The majority of these repeat operations reveal implants that are still intact. That's good, that's what we want; we want to operate before the implant has ruptured because it is a much easier, straightforward operation and has a much easier recovery than if we must remove ruptured silicone and remodel scar tissue. Plan ahead and begin thinking about a time that would be convenient for you to take a few days to recover from a simple, straightforward implant exchange. Although it is uncommon, ruptured implants are a reality and I will do everything possible to expedite your care. My office will take care of all the paperwork for warranty service and make all necessary arrangements.

The official FDA recommendations for long term screening of silicone implant integrity includes the use of either high resolution ultrasound (HRUS) or MRI beginning about five years after implantation and every two to three years thereafter.³⁶¹ Both of these screening modalities have benefits and drawbacks and it is helpful for you to understand these.³⁶²⁻³⁶⁵ The main drawback of MRI screening is the cost, but MRI is still considered by most physicians as the most reliable screening method. The drawback of high resolution ultrasound is that the predictive results of this test are highly dependent on the experience of the person performing it. The cost of high resolution ultrasound is however quite a bit less than a screening MRI.

An uncommon issue that you need to be aware of is the possibility of the implant to "flip". This means turning so that the posterior side of the implant is facing forward. Sometimes people will also use the

analogy of flipping a pancake. This is clearly reported in the literature regarding breast reconstruction patients but it is rarely mentioned in cosmetic cases although it is clear that it could, in fact, occur.³⁶⁶ Although the previous author notes about 3% occurrence of flipping, in the reconstructive literature rates of approximately 7% have been noted.³⁶⁷ In general, the higher the projection of the implant, the greater the chance of experiencing “flipping”. This is because the implant shape becomes more round as the profile increases; a low profile implant is shaped more like a “pancake” and extra- or ultra-high profile implants are more round. I use a very high percentage of higher profile implants in my practice and do see this occasionally in patients, but it is not usually anything very troubling or worrisome. Yes, the implant flipped, but that also means that it can “un-flip” or “re-flip” however you would like to think about it and become normal again. This is actually fairly simple to do and in the uncommon situation where it’s happened more than once with a patient and I just simply teach them the manual method to “un-flip” the implant and they can easily perform it at home. The most frequent comments are that they felt something “flip”, or that their breast shape is no longer as pleasing.

Epilogue

If you have reached this point in the planner, I am confident that you will agree that there is no more comprehensive review of information on this subject anywhere on the internet. You may have already been familiar with some of the topics, but I bet that I helped you understand things even better than you did previously. Some topics may have been brand new, and I hope the format and presentation helped make it understandable.

I love educated patients. That’s why I spent countless hours putting this together – to educate my patients. You should feel confident in your decision to have breast augmentation – if that is your desire. It is your body and your choice. I feel strongly that patients should have access to accurate and dependable information to help them make an informed choice. I believe this planner provides that information for you.

Most of my patients read this planner before their visit with me. Many patients relate that this planner alone made their decision to select me as their surgeon. Some patients have read it multiple times and have highlighted it on their iPad. A few may decide that breast augmentation isn’t for them. And that’s OK. The only person you are really doing this for is yourself; and it’s not right for everyone.

I am confident in my ability to give you an excellent result so that you will become one of my loyal patients. I believe I achieve the best-looking breasts for each of my patients. I am equally confident in my abilities to rescue poor results obtained from other surgeons. I do more complex revision operations than any other surgeon I’m aware of. If nothing else, I hope the information in this planner helps you avoid making very costly and traumatizing outcomes of choosing the wrong surgeon.

My practice is now focused primarily on surgeries of the breast and the tummy. These are frequently referred to as “mommy makeover” procedures in social media and on the internet. Yes, I can and do perform all other types of cosmetic procedures, but I focus on the breasts and abdomen because I think my results in these areas are exceptional. My patient comments help support that belief. I believe that I have made meaningful contributions to improve patient outcomes and safety in these areas. I believe

that I will continue making significant impacts in these areas of surgery as I continue to think outside the box.

I would be honored to be your surgeon. It is a great demonstration of trust to place yourself into someone's hands, having confidence in the outcome. Once you have experienced the VIP treatment in my clinic and the excellent clinical outcomes, I'm confident that my patients will always want to return to me for any future needs. As a way to show my appreciation for your trust I offer all my clients a loyalty discount off all full-priced future surgeries. This is another way to help you feel like you are an important part of my practice.

I build my practice on excellent results and happy patients. When you are excited about your results you will likely want to share your experience with your friends. This is also a great honor to take care of your family and friends and I will do all that I can to deliver the same level of excellent care and service. This word-of-mouth growth in my practice is greatly appreciated because these new patients automatically share your confidence and trust in my abilities. Thank you for helping my practice grow.

Please do not hesitate to contact my office with any other questions you may still have. I look forward to helping you achieve the beauty and confidence you desire.

Appendix

1. Deapen D. Breast implants and breast cancer: a review of incidence, detection, mortality, and survival. *Plast Reconstr Surg*. Dec 2007;120(7 Suppl 1):70S-80S. doi:10.1097/01.prs.0000286577.70026.5d
2. Brinton LA, Lubin JH, Burich MC, Colton T, Brown SL, Hoover RN. Breast cancer following augmentation mammoplasty (United States). *Cancer Causes Control*. Oct 2000;11(9):819-27. doi:10.1023/a:1008941110816
3. Bryant H, Brasher P. Breast implants and breast cancer--reanalysis of a linkage study. *N Engl J Med*. Jun 8 1995;332(23):1535-9. doi:10.1056/NEJM199506083322302
4. Mellemkjaer L, Kjoller K, Friis S, et al. Cancer occurrence after cosmetic breast implantation in Denmark. *Int J Cancer*. Oct 15 2000;88(2):301-6.
5. Society AC. Breast Cancer Statistics | How Common Is Breast Cancer? @cancer.org. Accessed May 31, 2023. <https://www.cancer.org/cancer/types/breast-cancer/about/how-common-is-breast-cancer.html>
6. Society AC. ACS Breast Cancer Screening Guidelines. @cancer.org. Accessed May 31, 2023. <https://www.cancer.org/cancer/types/breast-cancer/screening-tests-and-early-detection/american-cancer-society-recommendations-for-the-early-detection-of-breast-cancer.html>
7. US_FDA. Medical Device Reports of Breast Implant-Associated Anaplastic Large Cell Lymphoma. US_FDA. Accessed May 31, 2023. <https://www.fda.gov/medical-devices/breast-implants/medical-device-reports-breast-implant-associated-anaplastic-large-cell-lymphoma>
8. Ramos-Gallardo G, Carballo-Zarate AA, Cuenca-Pardo J, et al. What is the Evidence of Lymphoma in Patients with Prostheses Other Than Breast Implants? *Aesthetic Plast Surg*. 2020;44(2):286-294. doi:10.1007/s00266-019-01569-1
9. Myckatyn TM, Mehta-Shah N, Duncavage E. Breast Implant-Associated Anaplastic Large Cell Lymphoma: Real, Rare, but Avoidable. *JAMA Surg*. Jan 1 2020;155(1):3-4. doi:10.1001/jamasurg.2019.3154

10. Surgeons ASoP. Breast Implant-Associated Anaplastic Large Cell Lymphoma (BIA-ALCL). ASPS_News. Accessed June 14, 2023. <https://www.plasticsurgery.org/patient-safety/breast-implant-safety/bia-alcl-summary>
11. Vittoria L, Sala L, Summo V, et al. Breast implant associated anaplastic large cell lymphoma: Evidence for an efficient diagnostic workup. *Tumori*. Mar 20 2023;3008916231157837. doi:10.1177/03008916231157837
12. Thompson PA, Prince HM. Breast implant-associated anaplastic large cell lymphoma: a systematic review of the literature and mini-meta analysis. *Curr Hematol Malig Rep*. Sep 2013;8(3):196-210. doi:10.1007/s11899-013-0164-3
13. McKernan CD, Vorstenbosch J, Chu JJ, Nelson JA. Breast Implant Safety: an Overview of Current Regulations and Screening Guidelines. *J Gen Intern Med*. Jan 2022;37(1):212-216. doi:10.1007/s11606-021-06899-y
14. Leberfinger AN, Behar BJ, Williams NC, et al. Breast Implant-Associated Anaplastic Large Cell Lymphoma: A Systematic Review. *JAMA Surg*. Dec 1 2017;152(12):1161-1168. doi:10.1001/jamasurg.2017.4026
15. Gidengil CA, Predmore Z, Mattke S, van Busum K, Kim B. Breast implant-associated anaplastic large cell lymphoma: a systematic review. *Plast Reconstr Surg*. Mar 2015;135(3):713-720. doi:10.1097/PRS.0000000000001037
16. Co M, Chan TH, Ip KFS, et al. Breast Implant-associated Anaplastic Large Cell Lymphoma - a Systematic Review with Pooled Analysis. *Clin Oncol (R Coll Radiol)*. Oct 2020;32(10):639-646. doi:10.1016/j.clon.2020.05.019
17. Doren EL, Miranda RN, Selber JC, et al. U.S. Epidemiology of Breast Implant-Associated Anaplastic Large Cell Lymphoma. *Plast Reconstr Surg*. May 2017;139(5):1042-1050. doi:10.1097/PRS.0000000000003282
18. Loch-Wilkinson A, Beath KJ, Knight RJW, et al. Breast Implant-Associated Anaplastic Large Cell Lymphoma in Australia and New Zealand: High-Surface-Area Textured Implants Are Associated with Increased Risk. *Plast Reconstr Surg*. Oct 2017;140(4):645-654. doi:10.1097/PRS.0000000000003654
19. Collett DJ, Rakhorst H, Lennox P, Magnusson M, Cooter R, Deva AK. Current Risk Estimate of Breast Implant-Associated Anaplastic Large Cell Lymphoma in Textured Breast Implants. *Plast Reconstr Surg*. Mar 2019;143(3S A Review of Breast Implant-Associated Anaplastic Large Cell Lymphoma):30S-40S. doi:10.1097/PRS.0000000000005567
20. Magnusson M, Beath K, Cooter R, et al. The Epidemiology of Breast Implant-Associated Anaplastic Large Cell Lymphoma in Australia and New Zealand Confirms the Highest Risk for Grade 4 Surface Breast Implants. *Plast Reconstr Surg*. May 2019;143(5):1285-1292. doi:10.1097/PRS.0000000000005500
21. Cordeiro PG, Ghione P, Ni A, et al. Risk of breast implant associated anaplastic large cell lymphoma (BIA-ALCL) in a cohort of 3546 women prospectively followed long term after reconstruction with textured breast implants. *J Plast Reconstr Aesthet Surg*. May 2020;73(5):841-846. doi:10.1016/j.bjps.2019.11.064
22. Lynch EB, DeCoster RC, Vyas KS, et al. Current risk of breast implant-associated anaplastic large cell lymphoma: a systematic review of epidemiological studies. *Ann Breast Surg*. 2021;5doi:10.21037/abs-20-96
23. Sheena Y, Smith S, Dua S, Morgan M, Ramakrishnan V. Current Risk Estimate of Breast Implant-Associated Anaplastic Large Cell Lymphoma in Textured Breast Implants. *Plast Reconstr Surg*. Feb 2020;145(2):446e. doi:10.1097/PRS.0000000000006506
24. Santanelli di Pompeo F, Sorotos M, Clemens MW, Firmani G, European Association of Plastic Surgeons Committee on Device S, Development. Breast Implant-Associated Anaplastic Large Cell

Lymphoma (BIA-ALCL): Review of Epidemiology and Prevalence Assessment in Europe. *Aesthet Surg J*. Aug 13 2021;41(9):1014-1025. doi:10.1093/asj/sjaa285

25. Ionescu P, Vibert F, Ame S, Mathelin C. New Data on the Epidemiology of Breast Implant-Associated Anaplastic Large Cell Lymphoma. *Eur J Breast Health*. Oct 2021;17(4):302-307. doi:10.4274/ejbh.galenos.2021.2021-5-6

26. de Jong D, Vasmel WL, de Boer JP, et al. Anaplastic large-cell lymphoma in women with breast implants. *JAMA*. Nov 5 2008;300(17):2030-5. doi:10.1001/jama.2008.585

27. de Boer M, van Leeuwen FE, Hauptmann M, et al. Breast Implants and the Risk of Anaplastic Large-Cell Lymphoma in the Breast. *JAMA Oncol*. Mar 1 2018;4(3):335-341. doi:10.1001/jamaoncol.2017.4510

28. Leberfinger AN, Behar BJ, Williams NC, et al. Breast Implant–Associated Anaplastic Large Cell Lymphoma: A Systematic Review. *JAMA Surg*. 2017;152(12):1161-1168. doi:10.1001/jamasurg.2017.4026

29. FDA U. FDA takes action to protect patients from risk of certain textured breast implants; requests Allergan voluntarily recall certain breast implants and tissue expanders from market | FDA. FDA News Release. Updated Wed, 07/24/2019 - 00:00. <https://www.fda.gov/news-events/press-announcements/fda-takes-action-protect-patients-risk-certain-textured-breast-implants-requests-allergan>

30. Rastogi P, Riordan E, Moon D, Deva AK. Theories of Etiopathogenesis of Breast Implant-Associated Anaplastic Large Cell Lymphoma. *Plast Reconstr Surg*. Mar 2019;143(3S A Review of Breast Implant-Associated Anaplastic Large Cell Lymphoma):23S-29S. doi:10.1097/PRS.0000000000005566

31. Adams WP, Jr., Culbertson EJ, Deva AK, et al. Macrot textured Breast Implants with Defined Steps to Minimize Bacterial Contamination around the Device: Experience in 42,000 Implants. *Plast Reconstr Surg*. Sep 2017;140(3):427-431. doi:10.1097/PRS.0000000000003575

32. Swanson E, Hall-Findlay E. Banning Textured Implants Is a Rational Decision to Eliminate the Risk of Breast Implant-Associated Anaplastic Large-Cell Lymphoma (BIA-ALCL). *Aesthet Surg J*. Jul 13 2020;40(8):NP474-NP477. doi:10.1093/asj/sjaa053

33. Marques-Piubelli ML, Medeiros LJ, Stewart J, Miranda RN. Breast Implant-Associated Anaplastic Large Cell Lymphoma: Updates in Diagnosis and Specimen Handling. *Surg Pathol Clin*. Jun 2023;16(2):347-360. doi:10.1016/j.path.2023.01.003

34. US_FDA. UPDATE: Reports of Squamous Cell Carcinoma (SCC) in the Capsule Around Breast Implants - FDA Safety Communication | FDA. US_FDA. Accessed June 14, 2023. <https://www.fda.gov/medical-devices/safety-communications/update-reports-squamous-cell-carcinoma-scc-capsule-around-breast-implants-fda-safety-communication>

35. Malone KE, Stanford JL, Daling JR, Voigt LF. Implants and breast cancer. *Lancet*. May 30 1992;339(8805):1365. doi:10.1016/0140-6736(92)92021-7

36. Cahan AC, Ashikari R, Pressman P, Cody H, Hoffman S, Sherman JE. Breast cancer after breast augmentation with silicone implants. *Ann Surg Oncol*. Mar 1995;2(2):121-5. doi:10.1007/BF02303626

37. Edelman DA, Grant S, van Os WA. Breast cancer risk among women using silicone gel breast implants. *Int J Fertil Menopausal Stud*. Sep-Oct 1995;40(5):274-80.

38. Brinton LA, Malone KE, Coates RJ, et al. Breast enlargement and reduction: results from a breast cancer case-control study. *Plast Reconstr Surg*. Feb 1996;97(2):269-75. doi:10.1097/00006534-199602000-00001

39. Deapen DM, Bernstein L, Brody GS. Are breast implants anticarcinogenic? A 14-year follow-up of the Los Angeles Study. *Plast Reconstr Surg*. Apr 1997;99(5):1346-53. doi:10.1097/00006534-199704001-00022

40. Kern KA, Flannery JT, Kuehn PG. Carcinogenic potential of silicone breast implants: a Connecticut statewide study. *Plast Reconstr Surg*. Sep 1997;100(3):737-47; discussion 748-9. doi:10.1097/00006534-199709000-00032
41. Deapen D, Hamilton A, Bernstein L, Brody GS. Breast cancer stage at diagnosis and survival among patients with prior breast implants. *Plast Reconstr Surg*. Feb 2000;105(2):535-40. doi:10.1097/00006534-200002000-00009
42. Brinton LA, Lubin JH, Burich MC, Colton T, Brown SL, Hoover RN. Cancer risk at sites other than the breast following augmentation mammoplasty. *Ann Epidemiol*. May 2001;11(4):248-56. doi:10.1016/s1047-2797(00)00223-4
43. Brisson J, Holowaty EJ, Villeneuve PJ, et al. Cancer incidence in a cohort of Ontario and Quebec women having bilateral breast augmentation. *Int J Cancer*. Jun 1 2006;118(11):2854-62. doi:10.1002/ijc.21711
44. Friis S, Holmich LR, McLaughlin JK, et al. Cancer risk among Danish women with cosmetic breast implants. *Int J Cancer*. Feb 15 2006;118(4):998-1003. doi:10.1002/ijc.21433
45. McLaughlin JK, Lipworth L, Fryzek JP, Ye W, Tarone RE, Nyren O. Long-term cancer risk among Swedish women with cosmetic breast implants: an update of a nationwide study. *J Natl Cancer Inst*. Apr 19 2006;98(8):557-60. doi:10.1093/jnci/djj134
46. Deapen DM, Hirsch EM, Brody GS. Cancer risk among Los Angeles women with cosmetic breast implants. *Plast Reconstr Surg*. Jun 2007;119(7):1987-1992. doi:10.1097/01.prs.0000260582.23971.02
47. Singh N, Picha GJ, Hardas B, Schumacher A, Murphy DK. Five-Year Safety Data for More than 55,000 Subjects following Breast Implantation: Comparison of Rare Adverse Event Rates with Silicone Implants versus National Norms and Saline Implants. *Plast Reconstr Surg*. Oct 2017;140(4):666-679. doi:10.1097/PRS.00000000000003711
48. Noels EC, Lapid O, Lindeman JH, Bastiaannet E. Breast implants and the risk of breast cancer: a meta-analysis of cohort studies. *Aesthet Surg J*. Jan 2015;35(1):55-62. doi:10.1093/asj/sju006
49. team ACSmaec. ACS Breast Cancer Screening Guidelines. @cancer.org. Accessed July 8, 2023. <https://www.cancer.org/cancer/types/breast-cancer/screening-tests-and-early-detection/american-cancer-society-recommendations-for-the-early-detection-of-breast-cancer.html>
50. team ACSmaec. Breast Implants and Mammograms | Mammograms with Implants. @cancer.org. Accessed July 8, 2023. <https://www.cancer.org/cancer/types/breast-cancer/screening-tests-and-early-detection/mammograms/mammograms-for-women-with-breast-implants.html>
51. Cohen EO, Perry RE, Tso HH, et al. Breast cancer screening in women with and without implants: retrospective study comparing digital mammography to digital mammography combined with digital breast tomosynthesis. *Eur Radiol*. Dec 2021;31(12):9499-9510. doi:10.1007/s00330-021-08040-3
52. Miglioretti DL, Rutter CM, Geller BM, et al. Effect of breast augmentation on the accuracy of mammography and cancer characteristics. *JAMA*. Jan 28 2004;291(4):442-50. doi:10.1001/jama.291.4.442
53. Brinton LA, Lubin JH, Burich MC, Colton T, Brown SL, Hoover RN. Cancer Risk at Sites Other than the Breast Following Augmentation Mammoplasty. *Ann Epidemiol*. 2001;11(4):248-256. doi:10.1016/S1047-2797(00)00223-4
54. Constant E. Characteristics of women with and without breast augmentation. *Plastic and reconstructive surgery (1963)*. 1998;102(6):2281. doi:10.1097/00006534-199811000-00093
55. Cook LS, Daling JR, Voigt LF, et al. Characteristics of women with and without breast augmentation. *JAMA : the journal of the American Medical Association*. 1997;277(20):1612-1617. doi:10.1001/jama.277.20.1612
56. Brinton LA, Brown SL, Colton T, Burich MC, Lubin J. Characteristics of a population of women with breast implants compared with women seeking other types of plastic surgery. *Plast Reconstr Surg*. 2000;105(3):919-927. doi:10.1097/00006534-200003000-00014

57. Kjoller K, Holmich LR, Fryzek JP, et al. Characteristics of women with cosmetic breast implants compared with women with other types of cosmetic surgery and population-based controls in Denmark. *Ann Plast Surg.* Jan 2003;50(1):6-12. doi:10.1097/0000637-200301000-00002
58. Fryzek JP, Weiderpass E, Signorello LB, et al. Characteristics of women with cosmetic breast augmentation surgery compared with breast reduction surgery patients and women in the general population of Sweden. *Ann Plast Surg.* 2000;45(4):349-356. doi:10.1097/0000637-200045040-00001
59. Maxwell GP, Gabriel A. Breast implant design. *Gland Surg.* Apr 2017;6(2):148-153. doi:10.21037/gs.2016.11.09
60. Saline, Silicone Gel, and Alternative Breast Implants Guidance for Industry and Food and Drug Administration Staff (US FDA) (2020).
61. Polydimethylsiloxane - Wikipedia. Accessed January 27, 2023. https://en.wikipedia.org/wiki/Polydimethylsiloxane#Medicine_and_cosmetics
62. Fevola MJ. Cosmetics & Toiletries. Accessed January 27, 2023. <https://www.cosmeticsandtoiletries.com/cosmetic-ingredients/sensory/blog/21837614/ingredient-profiledimethicone>
63. W P, D S, S L. Silicon assays in women with and without silicone gel breast implants--a review - PubMed. *Annals of plastic surgery.* 1999;43(3)doi:10.1097/0000637-199909000-00020
64. Williams DF. On the mechanisms of biocompatibility. *Biomaterials.* Jul 2008;29(20):2941-53. doi:10.1016/j.biomaterials.2008.04.023
65. Bak EEF, Gudjonsdottir LR, Weltz TK, et al. D19. Silicone Breast Implant Rupture is Associated With a Higher Risk of Capsular Contracture: An Intra-patient Study of 96 Patients With Unilateral Implant Rupture. *Plastic and Reconstructive Surgery – Global Open.* 2025;13(S2)doi:10.1097/01.GOX.0001114604.38353.ea
66. FDA. Risks and Complications of Breast Implants | FDA. @US_FDA. Accessed May 31, 2023. https://www.fda.gov/medical-devices/breast-implants/risks-and-complications-breast-implants#Implant_Complications
67. FDA U. Labeling for Approved Breast Implants | FDA. @US_FDA. <https://www.fda.gov/medical-devices/breast-implants/labeling-approved-breast-implants>
68. Lieffering AS, Hommes JE, Ramerman L, et al. Prevalence of Local Postoperative Complications and Breast Implant Illness in Women With Breast Implants. *JAMA Netw Open.* Oct 3 2022;5(10):e2236519. doi:10.1001/jamanetworkopen.2022.36519
69. Rohrich RJ, Kaplan J, Dayan E. Silicone Implant Illness: Science versus Myth? *Plast Reconstr Surg.* Jul 2019;144(1):98-109. doi:10.1097/PRS.00000000000005710
70. Rohrich RJ, Kaplan J. Are Breast Implants Safe? *Plast Reconstr Surg.* Feb 2020;145(2):587-589. doi:10.1097/PRS.00000000000006717
71. Atiyeh B, Emsieh S. Breast Implant Illness (BII): Real Syndrome or a Social Media Phenomenon? A Narrative Review of the Literature. *Aesthetic Plast Surg.* Feb 2022;46(1):43-57. doi:10.1007/s00266-021-02428-8
72. Balk EM, Earley A, Avendano EA, Raman G. Long-Term Health Outcomes in Women With Silicone Gel Breast Implants: A Systematic Review. *Ann Intern Med.* Feb 2 2016;164(3):164-75. doi:10.7326/M15-1169
73. Barbosa MR, Makris UE, Mansi IA. Association of Breast Implants with Nonspecific Symptoms, Connective Tissue Diseases, and Allergic Reactions: A Retrospective Cohort Analysis. *Plast Reconstr Surg.* Jan 1 2021;147(1):42e-49e. doi:10.1097/PRS.00000000000007428
74. Huayllani MT, Boczar D, Cinotto G, Forte AJ. US Food and Drug Administration and Plastic Surgeons: The Historical Perspective of a Successful Collaboration to Protect Breast Surgery Patients. *Ann Plast Surg.* Mar 2020;84(3):249-250. doi:10.1097/SAP.0000000000002189

75. Janowsky EC, Kupper LL, Hulka BS. Meta-analyses of the relation between silicone breast implants and the risk of connective-tissue diseases. *N Engl J Med*. Mar 16 2000;342(11):781-90. doi:10.1056/NEJM200003163421105
76. Kaplan J, Rohrich R. Breast implant illness: a topic in review. *Gland Surg*. Jan 2021;10(1):430-443. doi:10.21037/gs-20-231
77. Lipworth L, Holmich LR, McLaughlin JK. Silicone breast implants and connective tissue disease: no association. *Semin Immunopathol*. May 2011;33(3):287-94. doi:10.1007/s00281-010-0238-4
78. Misere RML, Colaris MJL, Tervaert JWC, van der Hulst R. The Prevalence of Self-Reported Health Complaints and Health-Related Quality of Life in Women With Breast Implants. *Aesthet Surg J*. May 18 2021;41(6):661-668. doi:10.1093/asj/sjaa207
79. Moak TN, Tenenbaum MM. Commentary on: The Prevalence of Self-Reported Health Complaints and Health-Related Quality of Life in Women With Breast Implants. *Aesthet Surg J*. May 18 2021;41(6):669-671. doi:10.1093/asj/sjaa228
80. Ono MCC, Graf R. Commentary on: The Prevalence of Self-Reported Health Complaints and Health-Related Quality of Life in Women With Breast Implants. *Aesthet Surg J*. May 18 2021;41(6):672-673. doi:10.1093/asj/sjab166
81. Park AJ, Black RJ, Sarhadi NS, Chetty U, Watson AC. Silicone gel-filled breast implants and connective tissue diseases. *Plast Reconstr Surg*. Feb 1998;101(2):261-8. doi:10.1097/00006534-199802000-00001
82. Stafford N. FDA finds breast implants to be safe but calls for better follow-up. *BMJ*. Sep 6 2011;343:d5664. doi:10.1136/bmj.d5664
83. Suh LJ, Khan I, Kelley-Patteson C, Mohan G, Hassanein AH, Sinha M. Breast Implant-Associated Immunological Disorders. *J Immunol Res*. 2022;2022:8536149. doi:10.1155/2022/8536149
84. Tugwell P, Wells G, Peterson J, et al. Do silicone breast implants cause rheumatologic disorders? A systematic review for a court-appointed national science panel. *Arthritis Rheum*. Nov 2001;44(11):2477-84. doi:10.1002/1529-0131(200111)44:11<2477::aid-art427>3.0.co;2-q
85. Bar-Meir E, Eherenfeld M, Shoenfeld Y. Silicone gel breast implants and connective tissue disease--a comprehensive review. *Autoimmunity*. Jun 2003;36(4):193-7. doi:10.1080/08916931000148818
86. Lipworth L, Tarone RE, McLaughlin JK. Silicone breast implants and connective tissue disease: an updated review of the epidemiologic evidence. *Ann Plast Surg*. Jun 2004;52(6):598-601. doi:10.1097/01.sap.0000128087.51384.f9
87. Bondurant S, Ernster VL, Herdman R, Institute of Medicine . Committee on the Safety of Silicone Breast I. Safety of silicone breast implants. 2000;
88. Coroneos CJ, Selber JC, Offodile AC, 2nd, Butler CE, Clemens MW. US FDA Breast Implant Postapproval Studies: Long-term Outcomes in 99,993 Patients. *Ann Surg*. Jan 2019;269(1):30-36. doi:10.1097/SLA.0000000000002990
89. Colwell AS, Mehrara B. Editorial: US FDA Breast Implant Postapproval Studies-Long-term Outcomes in 99,993 Patients. *Ann Surg*. Jan 2019;269(1):39-40. doi:10.1097/SLA.0000000000003029
90. Glasberg SB, Mills DC, Jewell ML, Gabriel A. Comment on "US FDA Breast Implant Postapproval Studies: Long-term Outcomes in 99,993 Patients". *Ann Surg*. Aug 2019;270(2):e55-e57. doi:10.1097/SLA.0000000000003293
91. Nava MB, Catanuto G, Rocco N. Comment on "US FDA Breast Implant Post Approval Studies. Longterm Outcomes in 99,993 Patients". *Annals of Surgery*. 2019;270(2):e63. doi:10.1097/sla.0000000000003294
92. Swanson E. Analysis of US Food and Drug Administration Breast Implant Postapproval Studies Finding an Increased Risk of Diseases and Cancer: Why the Conclusions Are Unreliable. *Annals of Plastic Surgery*. 2019;82(3):253-254. doi:10.1097/sap.0000000000001732

93. FDA U. Risks and Complications of Breast Implants | FDA. @US_FDA. https://www.fda.gov/medical-devices/breast-implants/risks-and-complications-breast-implants#Connective_Tissue_Disease
94. Holmich LR, Kjoller K, Fryzek JP, et al. Self-reported diseases and symptoms by rupture status among unselected Danish women with cosmetic silicone breast implants. *Plast Reconstr Surg*. Feb 2003;111(2):723-32; discussion 733-4. doi:10.1097/01.PRS.0000041442.53735.F8
95. Holmich LR, Lipworth L, McLaughlin JK, Friis S. Breast implant rupture and connective tissue disease: a review of the literature. *Plast Reconstr Surg*. Dec 2007;120(7 Suppl 1):62S-69S. doi:10.1097/01.prs.0000286664.50274.f2
96. Tang S, Anderson NE, Faasse K, Adams WP, Newby JM. A Qualitative Study on the Experiences of Women With Breast Implant Illness. *Aesthet Surg J*. Mar 15 2022;42(4):381-393. doi:10.1093/asj/sjab204
97. Tang SYQ, Israel JS, Afifi AM. Breast Implant Illness: Symptoms, Patient Concerns, and the Power of Social Media. *Plast Reconstr Surg*. Nov 2017;140(5):765e-766e. doi:10.1097/PRS.00000000000003785
98. Adidharma W, Latack KR, Colohan SM, Morrison SD, Cederna PS. Breast Implant Illness: Are Social Media and the Internet Worrying Patients Sick? *Plast Reconstr Surg*. Jan 2020;145(1):225e-227e. doi:10.1097/PRS.00000000000006361
99. Dey V, Krasniak P, Nguyen M, Lee C, Ning X. A Pipeline to Understand Emerging Illness Via Social Media Data Analysis: Case Study on Breast Implant Illness. *JMIR Med Inform*. Nov 29 2021;9(11):e29768. doi:10.2196/29768
100. McGuire PA. Commentary On: En Bloc Capsulectomy for Breast Implant Illness: A Social Media Phenomenon? *Aesthet Surg J*. Mar 12 2021;41(4):460-462. doi:10.1093/asj/sjaa230
101. Keane G, Chi D, Ha AY, Myckatyn TM. En Bloc Capsulectomy for Breast Implant Illness: A Social Media Phenomenon? *Aesthet Surg J*. Mar 12 2021;41(4):448-459. doi:10.1093/asj/sjaa203
102. Azzi AJ, Almadani Y, Davison P. A National Survey to Assess the Population's Perception of Breast Implant-Associated Anaplastic Large Cell Lymphoma and Breast Implant Illness. *Plast Reconstr Surg*. Apr 1 2021;147(4):795-803. doi:10.1097/PRS.00000000000007700
103. von Soest T, Torgersen L, Kvaalem IL. Mental health and psychosocial characteristics of breast augmentation patients. *J Health Psychol*. 2020;25(9):1270-1284. doi:10.1177/1359105318754645
104. Schusterman MA, Kroll SS, Reece GP, et al. Incidence of autoimmune disease in patients after breast reconstruction with silicone gel implants versus autogenous tissue: a preliminary report. *Ann Plast Surg*. Jul 1993;31(1):1-6.
105. Edworthy SM, Martin L, Barr SG, Birdsell DC, Brant RF, Fritzler MJ. A clinical study of the relationship between silicone breast implants and connective tissue disease. *J Rheumatol*. Feb 1998;25(2):254-60.
106. Gabriel SE, O'Fallon WM, Kurland LT, Beard CM, Woods JE, Melton LJ, 3rd. Risk of connective-tissue diseases and other disorders after breast implantation. *N Engl J Med*. Jun 16 1994;330(24):1697-702. doi:10.1056/NEJM199406163302401
107. Kaiser J. Panel discounts implant disease risk. *Science*. Jun 25 1999;284(5423):2065-6.
108. Nelson N. Institute of Medicine finds no link between breast implants and disease. *J Natl Cancer Inst*. Jul 21 1999;91(14):1191. doi:10.1093/jnci/91.14.1191
109. Nyren O, Yin L, Josefsson S, et al. Risk of connective tissue disease and related disorders among women with breast implants: a nation-wide retrospective cohort study in Sweden. *BMJ*. Feb 7 1998;316(7129):417-22. doi:10.1136/bmj.316.7129.417
110. Sanchez-Guerrero J, Colditz GA, Karlson EW, Hunter DJ, Speizer FE, Liang MH. Silicone breast implants and the risk of connective-tissue diseases and symptoms. *N Engl J Med*. Jun 22 1995;332(25):1666-70. doi:10.1056/NEJM199506223322502

111. Karlson EW, Hankinson SE, Liang MH, et al. Association of silicone breast implants with immunologic abnormalities: a prospective study. *Am J Med.* Jan 1999;106(1):11-9. doi:10.1016/s0002-9343(98)00358-1
112. Lee IM, Cook NR, Shadick NA, Pereira E, Buring JE. Prospective cohort study of breast implants and the risk of connective-tissue diseases. *Int J Epidemiol.* Feb 2011;40(1):230-8. doi:10.1093/ije/dyq164
113. de Boer M, Colaris M, van der Hulst R, Cohen Tervaert JW. Is explantation of silicone breast implants useful in patients with complaints? *Immunol Res.* Feb 2017;65(1):25-36. doi:10.1007/s12026-016-8813-y
114. Newby JM, Tang S, Faasse K, Sharrock MJ, Adams WP. Commentary on: Understanding Breast Implant Illness. *Aesthet Surg J.* Nov 12 2021;41(12):1367-1379. doi:10.1093/asj/sjaa329
115. Abi-Rafeh J, Safran T, Winocour S, Dionisopoulos T, Davison P, Vorstenbosch J. Complications of Capsulectomies: An Analysis of the American College of Surgeons National Surgical Quality Improvement Program Database. *Aesthet Surg J Open Forum.* 2022;4:ojac025. doi:10.1093/asjof/ojac025
116. Abi-Rafeh J, Safran T, Winocour S, Dionisopoulos T, Davison P, Vorstenbosch J. Lack of Evidence on Complication Profile of Breast Implant Capsulectomy: A Call to Action for Plastic Surgeons. *Plast Reconstr Surg.* Jul 1 2021;148(1):157e-158e. doi:10.1097/PRS.00000000000008010
117. Afshari A, Nguyen L, Glassman GE, Perdakis G, Grotting JC, Higdon KK. Incidence and Preoperative Risk Factors for Major Complications After Capsulectomy: Analysis of 3048 Patients. *Aesthet Surg J.* May 18 2022;42(6):603-612. doi:10.1093/asj/sjac004
118. Swanson E. Breast Implant Illness, Biofilm, and the Role of Capsulectomy. *Plastic and reconstructive surgery Global open.* 2020;8(7):e2999-e2999. doi:10.1097/GOX.00000000000002999
119. Swanson E. Evaluating the Necessity of Capsulectomy in Cases of Textured Breast Implant Replacement. *Ann Plast Surg.* 2020;85(6):691-698. doi:10.1097/SAP.00000000000002301
120. Dush DM. Breast implants and illness: a model of psychological factors. *Ann Rheum Dis.* Jul 2001;60(7):653-7. doi:10.1136/ard.60.7.653
121. Jewell ML, Jewell HL. Breast Implant-Associated Illness: Medicine by Belief, So Says Dr. Google. *Aesthet Surg J.* Mar 14 2019;39(4):NP87-NP89. doi:10.1093/asj/sjz007
122. Rohrich RJ, Bellamy JL, Alleyne B. Assessing Long-Term Outcomes in Breast Implant Illness: The Missing Link? A Systematic Review. *Plast Reconstr Surg.* Apr 1 2022;149(4):638e-645e. doi:10.1097/PRS.00000000000009067
123. Yang S, Klietz ML, Harren AK, Wei Q, Hirsch T, Aitzetmuller MM. Understanding Breast Implant Illness: Etiology is the Key. *Aesthet Surg J.* Mar 15 2022;42(4):370-377. doi:10.1093/asj/sjab197
124. Danciu R, Marina CN, Ardeleanu V, Marin R, Scaunasu R-V, Raducu L. Breast implant illness: a step forward in understanding this complex entity and the impact of social media. *Journal of Mind and Medical Sciences.* 2019;6(2):351-355. doi:10.22543/7674.62.P351355
125. Tang SY, Israel JS, Afifi AM. Breast Implant Illness: Symptoms, Patient Concerns, and the Power of Social Media. *Plast Reconstr Surg.* 2017;140(5):765e-766e. doi:10.1097/PRS.00000000000003785
126. Agnihotri K. The nocebo effect in current practice. *Canadian family physician.* 2020;66(11):E295-E297.
127. Bresnick SD. Understanding Breast Implant Illness: The Important Role of Nocebo and Placebo-Like Effects. *Aesthet Surg J.* Jan 21 2023;doi:10.1093/asj/sjad015
128. Merriam-Webster. Definition of NOCEBO. @MerriamWebster; 2024.
129. Barsky AJ, Saintfort R, Rogers MP, Borus JF. Nonspecific Medication Side Effects and the Nocebo Phenomenon. *JAMA : the journal of the American Medical Association.* 2002;287(5):622-627. doi:10.1001/jama.287.5.622
130. Colloca L, Miller FG. The nocebo effect and its relevance for clinical practice. *Psychosom Med.* 2011;73(7):598-603. doi:10.1097/PSY.0b013e3182294a50

131. Enck P, Benedetti F, Schedlowski M. New Insights into the Placebo and Nocebo Responses. *Neuron*. 2008;59(2):195-206. doi:10.1016/j.neuron.2008.06.030
132. Lee M, Ponraja G, McLeod K, Chong S. Breast Implant Illness: A Biofilm Hypothesis. *Plast Reconstr Surg Glob Open*. 2020;8(4):e2755-e2755. doi:10.1097/GOX.0000000000002755
133. Vickery K. Special Issue: Microbial biofilms in healthcare: Formation, prevention and treatment. *Materials (Basel)*. 2019;12(12):2001. doi:10.3390/ma12122001
134. Khan I, Minto RE, Kelley-Patteson C, et al. QS9: Host Biofilm Interaction In Breast Implant Illness. *Plastic and reconstructive surgery Global open*. 2021;9(7S):48-49. doi:10.1097/01.GOX.0000770192.11177.ef
135. Khan Mohammed I, Minto R, Kelley-Patteson C, et al. Immunomodulatory Effects of Oxylin 10-HOME Produced by Biofilm Results in Host-Biofilm Interaction in Breast Implant Illness. *Plastic and reconstructive surgery Global open*. 2022;10(10S):155-155. doi:10.1097/01.GOX.0000899136.32205.6c
136. Khan I, Minto RE, Kelley-Patteson C, et al. Biofilm-derived oxylin 10-HOME-mediated immune response in women with breast implants. *J Clin Invest*. 2023;134(3):1-17. doi:10.1172/JCI165644
137. Bauer TM, Gallagher KA. Biofilm-derived oxylin 10-HOME mediated immune response in women with breast implants. *J Clin Invest*. 2024;134(3):1-2. doi:10.1172/JCI176547
138. Suh LJ, Khan I, Kelley-Patteson C, Mohan G, Hassanein AH, Sinha M. Breast Implant-Associated Immunological Disorders. *J Immunol Res*. 2022;2022:8536149-13. doi:10.1155/2022/8536149
139. Vinh DC, Embil JM. Device-related infections: a review. *J Long Term Eff Med Implants*. 2005;15(5):467-88. doi:10.1615/jlongtermeffmedimplants.v15.i5.20
140. Lee M, Ponraja G, McLeod K, Chong S. Breast Implant Illness: A Biofilm Hypothesis. *Plast Reconstr Surg Glob Open*. Apr 2020;8(4):e2755. doi:10.1097/GOX.0000000000002755
141. Wong VW, Martindale RG, Longaker MT, Gurtner GC. From Germ Theory to Germ Therapy: Skin Microbiota, Chronic Wounds, and Probiotics. *Plast Reconstr Surg*. 2013;132(5):854e-861e. doi:10.1097/PRS.0b013e3182a3c11e
142. Wixtrom RN, Stutman RL, Burke RM, Mahoney AK, Codner MA. Risk of breast implant bacterial contamination from endogenous breast flora, prevention with nipple shields, and implications for biofilm formation. *Aesthet Surg J*. 2012;32(8):956-963. doi:10.1177/1090820X12456841
143. Young VL, Bartell T, Destouet JM, Monsees B, Logan SE. Calcification of breast implant capsule. *South Med J*. Sep 1989;82(9):1171-3. doi:10.1097/00007611-198909000-00029
144. Peters W, Pritzker K, Smith D, et al. Capsular calcification associated with silicone breast implants: incidence, determinants, and characterization. *Ann Plast Surg*. Oct 1998;41(4):348-60. doi:10.1097/0000637-199810000-00002
145. MI Q. Cosmetic breast augmentation: A review of mammographic findings. *Applied Radiology*. Accessed August 17, 2023. <https://appliedradiology.com/articles/cosmetic-breast-augmentation-a-review-of-mammographic-findings>
146. Gundeslioglu O, Altundag O, Altundag K. Nanobacteria and breast implant capsule contracture and calcification: a hypothesis. *Aesthetic Plast Surg*. Nov-Dec 2005;29(6):582. doi:10.1007/s00266-005-0094-0
147. Fodor J, Udvarhelyi N, Gulyas G, Kasler M. Ossifying calcification of breast implant capsule. *Plast Reconstr Surg*. May 2004;113(6):1880-2. doi:10.1097/01.prs.0000119879.36610.e2
148. Raso DS, Greene WB, Kalasinsky VF, et al. Elemental analysis and clinical implications of calcification deposits associated with silicone breast implants. *Ann Plast Surg*. Feb 1999;42(2):117-23. doi:10.1097/0000637-199902000-00001
149. Allan JM, Jacombs ASW, Hu H, Merten SL, Deva AK. Detection of bacterial biofilm in double capsule surrounding mammary implants: findings in human and porcine breast augmentation. *Plast Reconstr Surg*. Mar 2012;129(3):578e-580e. doi:10.1097/PRS.0b013e3182419c82

150. Deva AK, Adams WP, Vickery K. The Role of Bacterial Biofilms in Device-Associated Infection. *Plast Reconstr Surg*. 2013;132(5):1319-1328. doi:10.1097/PRS.0b013e3182a3c105
151. Mempin M, Hu H, Chowdhury D, Deva A, Vickery K. The A, B and C's of Silicone Breast Implants: Anaplastic Large Cell Lymphoma, Biofilm and Capsular Contracture. *Materials (Basel)*. Nov 28 2018;11(12)doi:10.3390/ma11122393
152. Glicksman C, McGuire P, Kadin M, et al. Impact of Capsulectomy Type on Post-Explantation Systemic Symptom Improvement: Findings From the ASERF Systemic Symptoms in Women-Biospecimen Analysis Study: Part 1. *Aesthet Surg J*. Jun 20 2022;42(7):809-819. doi:10.1093/asj/sjab417
153. Glicksman C, McGuire P, Kadin M, et al. Longevity of Post-Explantation Systemic Symptom Improvement and Potential Etiologies: Findings From the ASERF Systemic Symptoms in Women - Biospecimen Analysis Study: Part 4. *Aesthet Surg J*. Apr 11 2023;doi:10.1093/asj/sjad098
154. Brook MA. Platinum in silicone breast implants. *Biomaterials*. Jun 2006;27(17):3274-86. doi:10.1016/j.biomaterials.2006.01.027
155. Lykissa ED, Maharaj SV. Total platinum concentration and platinum oxidation states in body fluids, tissue, and explants from women exposed to silicone and saline breast implants by IC-ICPMS. *Anal Chem*. May 1 2006;78(9):2925-33. doi:10.1021/ac0514016
156. Lykissa E, Maharaj S. Platinum concentration and platinum oxidation states in body fluids, tissue, and explants from women exposed to silicone and saline breast implants. *J Long Term Eff Med Implants*. 2006;16(6):435-9. doi:10.1615/jlongtermeffmedimplants.v16.i6.30
157. Wixtrom R, Glicksman C, Kadin M, et al. Heavy Metals in Breast Implant Capsules and Breast Tissue: Findings from the Systemic Symptoms in Women-Biospecimen Analysis Study: Part 2. *Aesthet Surg J*. Aug 24 2022;42(9):1067-1076. doi:10.1093/asj/sjac106
158. Spit KA, Azahaf S, de Blok CJM, Nanayakkara PWB. Measuring Platinum Levels in Hair in Women with Silicone Breast Implants and Systemic Symptoms. *Plast Reconstr Surg Glob Open*. Jun 2022;10(6):e4373. doi:10.1097/GOX.0000000000004373
159. Daka JN, Chawla AS. Release of chemicals from polyurethane foam in the Meme breast implant. *Biomater Artif Cells Immobilization Biotechnol*. 1993;21(1):23-46. doi:10.3109/10731199309118294
160. Batich C, Williams J, King R. Toxic hydrolysis product from a biodegradable foam implant. *J Biomed Mater Res*. Dec 1989;23(A3 Suppl):311-9. doi:10.1002/jbm.820231406
161. Kulig K. Lifetime Risk from Polyurethane Covered Breast Implants. Environmental Health Perspectives. June 21, 2023. Accessed June 21, 2023. <https://ehp.niehs.nih.gov/doi/pdf/10.1289/ehp.106-1533489>
162. Surgeons ASoAP. Patient Safety Advisory - Breast Implant Removal and Capsulectomy. Accessed Feb 27, 2024. <https://www.theaestheticsociety.org/medical-professionals/patient-safety/patient-safety-advisory-breast-implant-removal-and-capsulectomy>
163. Gerzenshtein J. The Dishonesty of Referring to Total Intact Capsulectomy as “En Bloc” Resection or Capsulectomy. *Plast Reconstr Surg*. 2020;145(1):227e-228e. doi:10.1097/PRS.0000000000006362
164. Glicksman C, McGuire P, Kadin M, et al. Impact of Capsulectomy Type on Post-Explantation Systemic Symptom Improvement: Findings From the ASERF Systemic Symptoms in Women-Biospecimen Analysis Study: Part 1. *Aesthetic surgery journal*. 2022;42(7):809-819. doi:10.1093/asj/sjab417
165. Bird GR, Niessen FB. The effect of explantation on systemic disease symptoms and quality of life in patients with breast implant illness: a prospective cohort study. *Sci Rep*. 2022;12(1):21073-21073. doi:10.1038/s41598-022-25300-4
166. McGuire P, Glicksman C, Wixtrom R, et al. Microbes, Histology, Blood Analysis, Enterotoxins, and Cytokines: Findings From the ASERF Systemic Symptoms in Women-Biospecimen Analysis Study: Part 3. *Aesthet Surg J*. 2023;43(2):230-244. doi:10.1093/asj/sjac225

167. Brandon HJ, Young VL, Jerina KL, Wolf CJ, Adams WP, Watson ME. Mechanical Analysis of Explanted Saline-filled Breast Implants Exposed to Betadine Pocket Irrigation. *Aesthetic Surgery Journal*. 2002;22(5)doi:10.1067/maj.2002.128626
168. McGuire P, Glicksman C, Wixtrom R, et al. Microbes, Histology, Blood Analysis, Enterotoxins, and Cytokines: Findings From the ASERF Systemic Symptoms in Women–Biospecimen Analysis Study: Part 3. *Aesthetic Surgery Journal*. 2023;43(2)doi:10.1093/asj/sjac225
169. Chang EI, Hammond DC. Clinical Results on Innovation in Breast Implant Design. *Plast Reconstr Surg*. Oct 2018;142(4S The Science of Breast Implants):31S-38S. doi:10.1097/PRS.00000000000005000
170. Fisher J. Breast augmentation using silicone gel-filled implants. *Aesthet Surg J*. Sep-Oct 2007;27(5):551-7. doi:10.1016/j.asj.2007.08.001
171. Macadam SA, Ho AL, Cook EF, Jr., Lennox PA, Pusic AL. Patient satisfaction and health-related quality of life following breast reconstruction: patient-reported outcomes among saline and silicone implant recipients. *Plast Reconstr Surg*. Mar 2010;125(3):761-71. doi:10.1097/PRS.0b013e3181cb5cf8
172. McCarthy CM, Klassen AF, Cano SJ, et al. Patient satisfaction with postmastectomy breast reconstruction: a comparison of saline and silicone implants. *Cancer*. Dec 15 2010;116(24):5584-91. doi:10.1002/cncr.25552
173. Al-Ajam Y, Marsh DJ, Mohan AT, Hamilton S. Assessing the augmented breast: a blinded study comparing round and anatomical form-stable implants. *Aesthet Surg J*. Mar 2015;35(3):273-8. doi:10.1093/asj/sju053
174. Cheng F, Cen Y, Liu C, Liu R, Pan C, Dai S. Round versus Anatomical Implants in Primary Cosmetic Breast Augmentation: A Meta-Analysis and Systematic Review. *Plast Reconstr Surg*. Mar 2019;143(3):711-721. doi:10.1097/PRS.00000000000005371
175. Hidalgo DA, Weinstein AL. Intraoperative Comparison of Anatomical versus Round Implants in Breast Augmentation: A Randomized Controlled Trial. *Plast Reconstr Surg*. Mar 2017;139(3):587-596. doi:10.1097/PRS.00000000000003114
176. Hamas RS. The comparative dimensions of round and anatomical saline-filled breast implants. *Aesthetic surgery journal*. 2000;20(4):281-290. doi:10.1067/maj.2000.109554
177. Macadam SA, Ho AL, Lennox PA, Pusic AL. Patient-reported satisfaction and health-related quality of life following breast reconstruction: a comparison of shaped cohesive gel and round cohesive gel implant recipients. *Plast Reconstr Surg*. Mar 2013;131(3):431-441. doi:10.1097/PRS.0b013e31827c6d55
178. Baeke JL. Warning about anatomical breast implants. *Plastic and reconstructive surgery (1963)*. 2000;106(3):740-740. doi:10.1097/00006534-200009030-00050
179. Tebbetts JB. WARNING ABOUT A WARNING ABOUT ANATOMICAL BREAST IMPLANTS. *Plast Reconstr Surg*. 2001;107(7):1912-1914. doi:10.1097/00006534-200106000-00053
180. Ashley FL. A new type of breast prosthesis. Preliminary report. *Plast Reconstr Surg*. 1970;45(5):421-424. doi:10.1097/00006534-197005000-00001
181. Barr S, Bayat A. Breast Implant Surface Development: Perspectives on Development and Manufacture. *Aesthet Surg J*. 2011;31(1):56-67. doi:10.1177/1090820X10390921
182. Barnsley GP, Sigurdson LJ, Barnsley SE. Textured surface breast implants in the prevention of capsular contracture among breast augmentation patients: A meta-analysis of randomized controlled trials. *Plast Reconstr Surg*. 2006;117(7):2182-2190. doi:10.1097/01.prs.0000218184.47372.d5
183. Wong C-H, Samuel M, Tan B-K, Song C. Capsular contracture in subglandular breast augmentation with textured versus smooth breast implants: A systematic review. *Plast Reconstr Surg*. 2006;118(5):1224-1236. doi:10.1097/01.prs.0000237013.50283.d2
184. Chiemi JA, Kelishadi SS. A Rationale for Micro-textured Breast Implant Augmentation. *Aesthet Surg J Open Forum*. 2022;4:ojac020-0jac020. doi:10.1093/asjof/ojac020

185. Bengtson BP, Van Natta BW, Murphy DK, Slicton A, Maxwell GP. Style 410 highly cohesive silicone breast implant core study results at 3 years. *Plast Reconstr Surg*. 2007;120(7):40S-48S. doi:10.1097/01.prs.0000286666.29101.11
186. McGuire P, Reisman NR, Murphy DK. Risk Factor Analysis for Capsular Contracture, Malposition, and Late Seroma in Subjects Receiving Natrelle 410 Form-Stable Silicone Breast Implants. *Plast Reconstr Surg*. 2016;139(1):1-9. doi:10.1097/PRS.0000000000002837
187. Namnoum JD, Largent J, Kaplan HM, Oefelein MG, Brown MH. Primary breast augmentation clinical trial outcomes stratified by surgical incision, anatomical placement and implant device type. *J Plast Reconstr Aesthet Surg*. 2013;66(9):1165-1172. doi:10.1016/j.bjps.2013.04.046
188. Fracol M, Qiu CS, Chiu W-K, Feld LN, Shah N, Kim JYS. Lateral and Inferior Implant Malposition in Prosthetic Breast Reconstruction: Incidence and Risk Factors. *Plast Reconstr Surg Glob Open*. 2020;8(5):e2752-e2752. doi:10.1097/GOX.0000000000002752
189. Hall-Findlay EJ. Breast implant complication review: Double capsules and late seromas. *Plast Reconstr Surg*. 2011;127(1):56-66. doi:10.1097/PRS.0b013e3181fad34d
190. Sieber DA, Stark RY, Chase S, Schafer M, Adams WP. Clinical Evaluation of Shaped Gel Breast Implant Rotation Using High-Resolution Ultrasound. *Aesthet Surg J*. 2017;37(3):290-296. doi:10.1093/asj/sjw179
191. Van Slyke AC, Carr M, Carr NJ. Not all breast implants are equal: a 13-year review of implant longevity and reasons for explantation. *Plast Reconstr Surg*. 2018;142(3):281e-289e. doi:10.1097/PRS.0000000000004678
192. Swanson E. Plastic Surgeons Defend Textured Breast Implants at 2019 U.S. Food and Drug Administration Hearing: Why It Is Time to Reconsider. *Plastic and reconstructive surgery Global open*. 2019;7(8):e2410-e2410. doi:10.1097/GOX.0000000000002410
193. General and Plastic Surgery Devices Panel Meeting Day 1. <https://fda.yorkcast.com/webcast/Play/a6baa43b37004ecab288779ac3a263bd1d>
194. FDA takes action to protect patients from risk of certain textured breast implants; requests Allergan voluntarily recall certain breast implants and tissue expanders from market | FDA. US FDA; Wed, 07/24/2019 - 00:00, 2019. <https://www.fda.gov/news-events/press-announcements/fda-takes-action-protect-patients-risk-certain-textured-breast-implants-requests-allergan>
195. *National Breast Implant Registry Annual Report 2021*. 2021. <https://www.theptf.org/documents/Research/Registries/NBIR/NBIR-Annual-Report-2021.pdf>
196. Weck Roxo AC, Nahas FX, Salin R, de Castro CC, Aboudib JH, Marques RG. Volumetric Evaluation of the Mammary Gland and Pectoralis Major Muscle following Subglandular and Submuscular Breast Augmentation. *Plast Reconstr Surg*. 2016;137(1):62-69. doi:10.1097/PRS.0000000000001874
197. Roxo AC, Nahas FX, Pinheiro Rodrigues NC, et al. Functional and volumetric analysis of the pectoralis major muscle after submuscular breast augmentation. *Aesthet Surg J*. 2017;37(6):654-661. doi:10.1093/asj/sjw239
198. Basile FV, Oliveira TS. Exercise after Breast Augmentation: A Randomized Controlled Trial. *Plast Reconstr Surg*. Jan 1 2022;149(1):18e-24e. doi:10.1097/PRS.0000000000008676
199. Beals SP, Golden KA, Basten M, Kelly KM. Strength performance of the pectoralis major muscle after subpectoral breast augmentation surgery. *Aesthet Surg J*. Mar 2003;23(2):92-7. doi:10.1067/maj.2003.24
200. Sarbak JM, Baker JL, Jr. Effects of breast augmentation on pectoralis major muscle function in the athletic woman. *Aesthet Surg J*. May-Jun 2004;24(3):224-8. doi:10.1016/j.asj.2004.02.005
201. Beals SP, Golden KA, Basten M, Kelly KM. Strength performance of the pectoralis major muscle after subpectoral breast augmentation surgery. *Aesthet Surg J*. 2003;23(2):92-97. doi:10.1067/maj.2003.24

202. Hendricks H. Complete submuscular breast augmentation: 650 Cases managed using an alternative surgical technique. *Aesthetic Plast Surg.* 2007;31(2):147-153. doi:10.1007/s00266-006-0128-2
203. Tebbetts JB. Dual Plane Breast Augmentation: Optimizing Implant-Soft-Tissue Relationships in a Wide Range of Breast Types. *Plast Reconstr Surg.* 2001;107(5):1255-1272. doi:10.1097/00006534-200104150-00027
204. Graf RM, Bernardes A, Rippel R, Araujo LRR, Damasio RCC, Auersvald A. Subfascial Breast Implant: A New Procedure. *Plast Reconstr Surg.* 2003;111(2):904-908. doi:10.1097/01.PRS.0000041601.59651.15
205. Calobrace MB. Discussion: Subfascial versus Subglandular Breast Augmentation: A Randomized Prospective Evaluation Considering a 5-Year Follow-Up. *Plast Reconstr Surg.* 2021;148(4):771-773. doi:10.1097/PRS.00000000000008395
206. Wiener TC. Relationship of incision choice to capsular contracture. *Aesthetic Plast Surg.* Mar 2008;32(2):303-6. doi:10.1007/s00266-007-9061-2
207. Wiener TC. Minimizing capsular contracture in a "clean-contaminated site". *Aesthet Surg J.* Mar 2012;32(3):352-3; author reply 354. doi:10.1177/1090820X11433819
208. Jacobson JM, Gatti ME, Schaffner AD, Hill LM, Spear SL. Effect of incision choice on outcomes in primary breast augmentation. *Aesthet Surg J.* 2012;32(4):456-462. doi:10.1177/1090820X12444267
209. Stutman RL, Codner M, Mahoney A, Amei A. Comparison of Breast Augmentation Incisions and Common Complications. *Aesthetic Plast Surg.* 2012;36(5):1096-1104. doi:10.1007/s00266-012-9918-x
210. Bartsich S, Ascherman JA, Whittier S, Yao CA, Rohde C. The breast: a clean-contaminated surgical site. *Aesthet Surg J.* Sep 2011;31(7):802-6. doi:10.1177/1090820X11417428
211. Graham WP, 3rd. Anesthesia in cosmetic surgery. *Clin Plast Surg.* Apr 1983;10(2):285-7.
212. Desai MS. Office-based anesthesia: new frontiers, better outcomes, and emphasis on safety. *Curr Opin Anaesthesiol.* Dec 2008;21(6):699-703. doi:10.1097/ACO.0b013e328313e879
213. Shapiro FE. Anesthesia for outpatient cosmetic surgery. *Curr Opin Anaesthesiol.* Dec 2008;21(6):704-10. doi:10.1097/ACO.0b013e328318694f
214. Taub PJ, Bashey S, Hausman LM. Anesthesia for cosmetic surgery. *Plast Reconstr Surg.* Jan 2010;125(1):1e-7e. doi:10.1097/PRS.0b013e3181c2a268
215. Shapiro FE, Punwani N, Rosenberg NM, Valedon A, Twersky R, Urman RD. Office-based anesthesia: safety and outcomes. *Anesth Analg.* Aug 2014;119(2):276-285. doi:10.1213/ANE.0000000000000313
216. Gupta V, Parikh R, Nguyen L, et al. Is Office-Based Surgery Safe? Comparing Outcomes of 183,914 Aesthetic Surgical Procedures Across Different Types of Accredited Facilities. *Aesthet Surg J.* Feb 2017;37(2):226-235. doi:10.1093/asj/sjw138
217. Rohrich RJ, Mendez BM, Afrooz PN. An Update on the Safety and Efficacy of Outpatient Plastic Surgery: A Review of 26,032 Consecutive Cases. *Plast Reconstr Surg.* Apr 2018;141(4):902-908. doi:10.1097/PRS.00000000000004213
218. Seligson E, Beutler SS, Urman RD. Office-based anesthesia: an update on safety and outcomes (2017-2019). *Curr Opin Anaesthesiol.* Dec 2019;32(6):756-761. doi:10.1097/ACO.0000000000000789
219. Manahan MA, Johnson DJ, Gutowski KA, et al. Postoperative Nausea and Vomiting with Plastic Surgery: A Practical Advisory to Etiology, Impact, and Treatment. *Plast Reconstr Surg.* Jan 2018;141(1):214-222. doi:10.1097/PRS.00000000000003924
220. Tebbetts JB, Spear SL. Achieving a predictable 24-hour return to normal activities after breast augmentation: Part II. Patient preparation, refined surgical techniques, and instrumentation. *Plast Reconstr Surg.* 2002;109(1):293-305. doi:10.1097/00006534-200201000-00046

221. Atiyeh B, Ghieh F, Chahine F, Oneisi A. Ptosis and Bottoming out Following Mastopexy and Reduction Mammoplasty. Is Synthetic Mesh Internal Breast Support the Solution? A Systematic Review of the Literature. *Aesthetic Plast Surg*. Feb 2022;46(1):25-34. doi:10.1007/s00266-021-02398-x
222. "A systematic review of mesh support of the breast in aesthetic breast surgery". *JPRAS Open*. 2025/09/01;45doi:10.1016/j.jpra.2025.06.001
223. Chiemi JA, Kelishadi SS. Polydioxanone Internal Support Matrix: A Rationale for Prophylactic Internal Bra Support in Breast Augmentation. *Aesthet Surg J Open Forum*. 2022;4:ojac021. doi:10.1093/asjof/ojac021
224. Nair NM, Mills DC. Poly-4-Hydroxybutyrate (P4HB) Scaffold Internal Support: Preliminary Experience with Direct Implant Opposition During Complex Breast Revisions. *Aesthet Surg J*. Oct 15 2019;39(11):1203-1213. doi:10.1093/asj/sjy276
225. Atiyeh B, Ghieh F, Chahine F, Oneisi A. Ptosis and Bottoming out Following Mastopexy and Reduction Mammoplasty. Is Synthetic Mesh Internal Breast Support the Solution? A Systematic Review of the Literature. *Aesthetic plastic surgery*. February 2022
2024-02-08 2022;46(1):25-34. doi:<https://doi.org/10.1007/s00266-021-02398-x>
226. Wallace L, Wokes JET. Internal Bra: A literature Review and Sub-Classification of Definitions. *Aesthetic plastic surgery*. 2024 Jan 08
2024-02-21 2024;doi:<https://doi.org/10.1007/s00266-023-03802-4>
227. Williams S, Menon A, Shauly O, Van Natta B, Gould D, Losken A. Reviewing Outcomes and Complications with the Use of Mesh in Breast Reduction Surgery. *Aesthetic plastic surgery*. 2024 Mar 06
2024-03-08 2024;doi:<https://doi.org/10.1007/s00266-024-03896-4>
228. Taylor NP. FDA warns providers about using surgical mesh for breast surgery after BD label update. *MedTech Dive*. 2023 Nov 13
2023-11-28 2023;
229. (FDA) FaDA. Labeling Updates for BD Mesh Products - Letter to Health Care Providers. FDA. Accessed July 29, 2024. <https://www.fda.gov/medical-devices/letters-health-care-providers/labeling-updates-bd-mesh-products-letter-health-care-providers>
230. Brooke S, Mesa J, Uluer M, et al. Complications in tissue expander breast reconstruction: a comparison of AlloDerm, DermaMatrix, and FlexHD acellular inferior pole dermal slings. *Ann Plast Surg*. Oct 2012;69(4):347-9. doi:10.1097/SAP.0b013e31824b3d97
231. Collis GN, TerKonda SP, Waldorf JC, Perdakis G. Acellular dermal matrix slings in tissue expander breast reconstruction: are there substantial benefits? *Ann Plast Surg*. May 2012;68(5):425-8. doi:10.1097/SAP.0b013e318225833f
232. Hill JL, Wong L, Kemper P, Buseman J, Davenport DL, Vasconez HC. Infectious complications associated with the use of acellular dermal matrix in implant-based bilateral breast reconstruction. *Ann Plast Surg*. May 2012;68(5):432-4. doi:10.1097/SAP.0b013e31823b6ac6
233. Wang E, Lanier S, Phillips B, et al. 29: RISKS AND REWARDS OF ACELLULAR DERMAL MATRIX IN TISSUE EXPANDER/IMPLANT BREAST RECONSTRUCTION. *Plastic and Reconstructive Surgery*. 2010;125(6):27. doi:10.1097/01.prs.0000371765.30020.4a
234. Wang ED, Lanier ST, Yilmaz T, et al. Acellular Dermal Matrix in Tissue Expander Breast Reconstruction Predicts Increased Infection and Seroma in a Multivariate Regression Model. *Plastic and Reconstructive Surgery*. 2010;126:111. doi:10.1097/01.prs.0000388832.98327.24
235. Ricci JA, Treiser MD, Tao R, et al. Predictors of Complications and Comparison of Outcomes Using SurgiMend Fetal Bovine and AlloDerm Human Cadaveric Acellular Dermal Matrices in Implant-

Based Breast Reconstruction. *Plast Reconstr Surg*. Oct 2016;138(4):583e-591e.
doi:10.1097/PRS.0000000000002535

236. Israeli R. Complications of acellular dermal matrices in breast surgery. *Plast Reconstr Surg*. Nov 2012;130(5 Suppl 2):159S-172S. doi:10.1097/PRS.0b013e3182634e62

237. Ho G, Nguyen TJ, Shahabi A, Hwang BH, Chan LS, Wong AK. A systematic review and meta-analysis of complications associated with acellular dermal matrix-assisted breast reconstruction. *Ann Plast Surg*. Apr 2012;68(4):346-56. doi:10.1097/SAP.0b013e31823f3cd9

238. Lanier ST, Wang ED, Chen JJ, et al. The effect of acellular dermal matrix use on complication rates in tissue expander/implant breast reconstruction. *Ann Plast Surg*. May 2010;64(5):674-8. doi:10.1097/SAP.0b013e3181dba892

239. King NM, Lovric V, Parr WCH, Walsh WR, Moradi P. What Is the Standard Volume to Increase a Cup Size for Breast Augmentation Surgery? A Novel Three-Dimensional Computed Tomographic Approach. *Plast Reconstr Surg*. May 2017;139(5):1084-1089. doi:10.1097/PRS.0000000000003247

240. Shin DJ. A Study on Breast Augmentation Using Fat Grafting With Stromal Vascular Fraction. *Ann Plast Surg*. Apr 1 2023;90(4):380-384. doi:10.1097/SAP.0000000000003506

241. Seth I, Bulloch G, Gibson D, et al. Autologous fat grafting in breast augmentation: A systematic review highlighting the need for clinical caution. *Plast Reconstr Surg*. May 2 2023;doi:10.1097/PRS.0000000000010614

242. Bassig M. Healthcare Brands Should Claim Their Listings on These Doctor Review Sites.

ReviewTrackers Blog blog. June 21, 2023. <https://www.reviewtrackers.com/blog/doctor-review-sites/>

243. Surgeons ASOP. Code of Ethics. Accessed June 21, 2023.

244. Plastic surgeon must pay \$5 million for illegally manipulating consumer ratings. 2024. July 14, 2025. Accessed July 14, 2025. <https://www.atg.wa.gov/news/news-releases/ag-ferguson-plastic-surgeon-must-pay-5-million-illegally-manipulating-consumer#:~:text=SEATTLE%20%E2%80%94%20Allure%20Esthetic%20and%20Dr.%20Javad,reviews%20to%20inflate%20the%20plastic%20surgeon's%20reputation.>

245. Moura SP, Shaffrey EC, Lam CS, Wirth PJ, Attaluri PK, Rao VK. Out-of-scope Cosmetic Surgery: A Review of Malpractice Lawsuits against Nonplastic Surgeons. *Plastic and Reconstructive Surgery Global Open*. 2023;11(3)doi:10.1097/GOX.0000000000004873

246. Gibstein AR, Jabori SK, Watane A, Slavin BR, Elabd R, Singh D. Do Plastic Surgery Residents Get Sued? An Analysis of Malpractice Lawsuits. *Plastic and Reconstructive Surgery Global Open*. 2023;11(1)doi:10.1097/GOX.0000000000004721

247. Boyd JB, Moon HK, Martin S, Mastrogiorganni DB. Plastic Surgery and the Malpractice Industry. *Plastic and Reconstructive Surgery*. 2021;147(1)doi:10.1097/PRS.0000000000007497

248. theDoctorsCompany. Plastic Surgery Closed Claims Study Reveals Most Common Case Types. @doctorscompany. Accessed June 21, 2023. <https://www.thedoctors.com/articles/plastic-surgery-closed-claims-study-reveals-most-common-case-types-abstract/>

249. Studdert DM, Bismark MM, Mello MM, Singh H, Spittal MJ. Prevalence and Characteristics of Physicians Prone to Malpractice Claims. *New England Journal of Medicine*. 2016;374(4)doi:10.1056/NEJMSa1506137

250. Pelisek C. Plastic Surgeon Convicted of Attempted Manslaughter over Death of Teen During Botched Breast Augmentation. People: @people; 2023.

251. Kato B. TikTok-famous plastic surgeon has medical license suspended. *New York Post*. 2022-12-12. <https://nypost.com/2022/12/12/tiktok-famous-plastic-surgeon-has-medical-license-suspended/>

252. @headtopicscom. 'Dangerous to the public': Celebrity cosmetic surgeon suspended amid probe. *Head Topics Australia*. 2022-07-09 2022;

253. Ralph Ellis JL. 'Dancing Doctor' agrees to two-and-a-half-year suspension of medical license, records show | CNN. 2018. 2018-06-30. <https://www.cnn.com/2018/06/29/us/dancing-doctor-medical-license/index.html>
254. @nbcсандiego. New Accusations Against Plastic Surgeon Charged With Murder. @nbcсандiego. Updated 2023-04-14T16:11:37+00:00. Accessed June 22, 2023. <https://www.nbcсандiego.com/videos/new-accusations-against-plastic-surgeon-charged-with-murder/3208735/>
255. Marshall S. TikTok plastic surgeon banned from performing cosmetic procedures. Accessed June 22, 2023. //9now.nine.com.au/a-current-affair/dr-daniel-aronov-banned-plastic-surgeon/f64e173d-c338-4a93-a9d7-bc76394c57be
256. Lyon J. Orem plastic surgeon who kidnapped girlfriend gives up med license. @sltrib. Accessed June 23, 2023. <https://archive.sltrib.com/article.php?id=53246924&itype=CMSID>
257. Investigator SBC. Indianapolis surgeon's medical license suspended for 90 days. Updated 2023-01-27. Accessed June 21, 2023. <https://fox59.com/indiana-news/indianapolis-surgeons-medical-license-suspended-for-90-days/>
258. Holpuch A. Ohio Plastic Surgeon Loses Medical License After TikTok Livestreams. *The New York Times*. 2023-07-12. <https://www.nytimes.com/2023/07/12/us/dr-roxy-tiktok-operations-livestream.html>
259. unknown a. Malpractice suits mount against Utah surgeon amid board-certification concerns. MDlinx. Accessed July 14, 2025. <https://www.mdlinx.com/article/malpractice-suits-mount-against-utah-surgeon-amid-board-certification-concerns/6bGEvtvgwvfRTnlewVPfsq>
260. Legislature US. SB0137 Health Care Professional Truth in Advertising. May 30, 2023. 2023. <https://le.utah.gov/~2014/bills/static/sb0137.html>
261. Surgery ASfAP. Federal court upholds the right of plastic surgeons to promote ABPS board certification. @PRNewswire. Accessed June 22, 2023. <https://www.prnewswire.com/news-releases/federal-court-upholds-the-right-of-plastic-surgeons-to-promote-abps-board-certification-228371301.html>
262. UNITED STATES COURT OF APPEALS
TENTH CIRCUIT Order and Judgement. 2015;
263. Adams WP, Jr., McKee D. Matching the Implant to the Breast: A Systematic Review of Implant Size Selection Systems for Breast Augmentation. *Plast Reconstr Surg*. Nov 2016;138(5):987-994. doi:10.1097/PRS.0000000000002623
264. Adams WP, Jr., Spear SL. Augmentation mammoplasty. *Plast Reconstr Surg*. Dec 2006;118(7 Suppl):5S-6S. doi:10.1097/01.prs.0000247285.59138.de
265. Atiye B, Chahine F. Metrics of the Aesthetically Perfect Breast. *Aesthetic Plast Surg*. 2018;42(5):1187-1194. doi:10.1007/s00266-018-1154-6
266. Broer PN, Juran S, Walker ME, et al. Aesthetic Breast Shape Preferences Among Plastic Surgeons. *Ann Plast Surg*. 2015;74(6):639-644. doi:10.1097/SAP.0000000000000001
267. Mallucci P, Branford OA. Design for Natural Breast Augmentation: The ICE Principle. *Plast Reconstr Surg*. Jun 2016;137(6):1728-1737. doi:10.1097/PRS.0000000000002230
268. Tebbetts JB. Patient evaluation, operative planning, and surgical techniques to increase control and reduce morbidity and reoperations in breast augmentation. *Clin Plast Surg*. Jul 2001;28(3):501-21.
269. Tebbetts JB. A process for quantifying aesthetic and functional breast surgery: I. Quantifying optimal nipple position and vertical and horizontal skin excess for mastopexy and breast reduction. *Plast Reconstr Surg*. Jul 2013;132(1):65-73. doi:10.1097/PRS.0b013e3182910b0a
270. Tebbetts JB, Adams WP. Five critical decisions in breast augmentation using five measurements in 5 minutes: the high five decision support process. *Plast Reconstr Surg*. Dec 2005;116(7):2005-16.

271. Tepper OM, Unger JG, Small KH, et al. Mammometrics: the standardization of aesthetic and reconstructive breast surgery. *Plast Reconstr Surg*. Jan 2010;125(1):393-400. doi:10.1097/PRS.0b013e3181c4966e
272. Roberts CL, Ampt AJ, Algert CS, Sywak MS, Chen JS. Reduced breast milk feeding subsequent to cosmetic breast augmentation surgery. *Med J Aust*. Apr 6 2015;202(6):324-8. doi:10.5694/mja14.01386
273. Cheng F, Dai S, Wang C, Zeng S, Chen J, Cen Y. Do Breast Implants Influence Breastfeeding? A Meta-Analysis of Comparative Studies. *J Hum Lact*. Aug 2018;34(3):424-432. doi:10.1177/0890334418776654
274. Bompoy L, Gerenton B, Cristofari S, et al. Impact on Breastfeeding According to Implant Features in Breast Augmentation: A Multicentric Retrospective Study. *Ann Plast Surg*. Jan 2019;82(1):11-14. doi:10.1097/SAP.0000000000001651
275. Michalopoulos K. The effects of breast augmentation surgery on future ability to lactate. *Breast J*. Jan-Feb 2007;13(1):62-7. doi:10.1111/j.1524-4741.2006.00364.x
276. Venditto C, Gallagher M, Hettinger P, et al. Complications of Cosmetic Surgery Tourism: Case Series and Cost Analysis. *Aesthet Surg J*. Apr 12 2021;41(5):627-634. doi:10.1093/asj/sjaa092
277. Shrestha S, Lue M, Wang HT. Necrotizing Soft Tissue Infection of Abdominal Wall after Lipoabdominoplasty: Complication following Medical Tourism. *Plast Reconstr Surg Glob Open*. Jul 2022;10(7):e4416. doi:10.1097/GOX.0000000000004416
278. McAuliffe PB, Muss TEL, Desai AA, Talwar AA, Broach RB, Fischer JP. Complications of Aesthetic Surgical Tourism Treated in the USA: A Systematic Review. *Aesthetic Plast Surg*. Feb 2023;47(1):455-464. doi:10.1007/s00266-022-03041-z
279. Gilardi R, Galassi L, Del Bene M, Firmani G, Parisi P. Infective complications of cosmetic tourism: A systematic literature review. *J Plast Reconstr Aesthet Surg*. May 19 2023;84:9-29. doi:10.1016/j.bjps.2023.05.021
280. Pavli A, Maltezou HC. Infectious complications related to medical tourism. *J Travel Med*. Jan 6 2021;28(1)doi:10.1093/jtm/taaa210
281. McCrossan S, Martin S, Hill C. Medical Tourism in Aesthetic Breast Surgery: A Systematic Review. *Aesthetic Plast Surg*. Aug 2021;45(4):1895-1909. doi:10.1007/s00266-021-02251-1
282. McMahon ME, Gressmann K, Martin-Smith JD. An Objective Analysis of Quality and Readability of Online Information for Patients seeking Cosmetic Surgery Abroad. *J Plast Reconstr Aesthet Surg*. Jun 2023;81:88-90. doi:10.1016/j.bjps.2023.04.051
283. Jones B. Breast implant scandal: What went wrong? | CNN. @CNN. Updated 2012-01-27. Accessed June 26, 2023. <https://www.cnn.com/2012/01/27/world/europe/pip-breast-implant-scandal-explained/index.html>
284. Lampert FM, Schwarz M, Grabin S, Stark GB. The "PIP scandal" - Complications in Breast Implants of Inferior Quality: State of Knowledge, Official Recommendations and Case Report. *Geburtshilfe Frauenheilkd*. Mar 2012;72(3):243-246. doi:10.1055/s-0031-1298323
285. Martindale V, Menache A. The PIP scandal: an analysis of the process of quality control that failed to safeguard women from the health risks. *J R Soc Med*. May 2013;106(5):173-7. doi:10.1177/0141076813480994
286. Adams JWP, Mallucci P. Breast augmentation. *Plast Reconstr Surg*. 2012;130(4):597e-611e. doi:10.1097/PRS.0b013e318262f607
287. Adams WP. The Process of Breast Augmentation : Four Sequential Steps for Optimizing Outcomes for Patients. *Plast Reconstr Surg*. 2008;122(6):1892-1900. doi:10.1097/PRS.0b013e31818d20ec
288. Choudry U, Kim N. Preoperative assessment preferences and reported reoperation rates for size change in primary breast augmentation: a survey of ASPS members. *Plast Reconstr Surg*. Dec 2012;130(6):1352-1359. doi:10.1097/PRS.0b013e31826d9f66

289. Cruz NI. Breast Augmentation: Patient Satisfaction with 3D Simulation of Surgical Outcomes. *Plastic and Reconstructive Surgery*. 2015;136(4S):161. doi:10.1097/01.prs.0000472486.29688.27
290. Patients opt for 3D simulation for breast augmentation -- but it doesn't improve outcomes. Wolters Kluwer; 2018. Accessed July 8, 2023.
291. Overschmidt B, Qureshi AA, Parikh RP, Yan Y, Tenenbaum MM, Myckatyn TM. A Prospective Evaluation of Three-Dimensional Image Simulation: Patient-Reported Outcomes and Mammometrics in Primary Breast Augmentation. *Plast Reconstr Surg*. Aug 2018;142(2):133e-144e. doi:10.1097/PRS.00000000000004601
292. Codner MA, Mejia JD, Locke MB, et al. A 15-year experience with primary breast augmentation. *Plast Reconstr Surg*. Mar 2011;127(3):1300-1310. doi:10.1097/PRS.0b013e318205f41b
293. Khanna J, Mosher M, Whidden P, Nguyen S, Garzon D, Bhogal M. Reoperation Rate After Primary Augmentation With Smooth, Textured, High Fill, Cohesive, Round Breast Implants (RANBI-I Study). *Aesthet Surg J*. Nov 13 2019;39(12):1342-1349. doi:10.1093/asj/sjy289
294. Cunningham B. The Mentor Study on Contour Profile Gel Silicone MemoryGel Breast Implants. *Plast Reconstr Surg*. Dec 2007;120(7 Suppl 1):33S-39S. doi:10.1097/01.prs.0000286665.91043.bc
295. Stevens WG, Harrington J, Alizadeh K, et al. Five-year follow-up data from the U.S. clinical trial for Sientra's U.S. Food and Drug Administration-approved Silimed(R) brand round and shaped implants with high-strength silicone gel. *Plast Reconstr Surg*. Nov 2012;130(5):973-981. doi:10.1097/PRS.0b013e31826b7d2f
296. Handel N, Cordray T, Gutierrez J, Jensen JA. A long-term study of outcomes, complications, and patient satisfaction with breast implants. *Plast Reconstr Surg*. Mar 2006;117(3):757-67; discussion 768-72. doi:10.1097/01.prs.0000201457.00772.1d
297. Forster NA, Kunzi W, Giovanoli P. The reoperation cascade after breast augmentation with implants: what the patient needs to know. *J Plast Reconstr Aesthet Surg*. Mar 2013;66(3):313-22. doi:10.1016/j.bjps.2012.09.033
298. Denney BD, Cohn AB, Bosworth JW, Kumbula PA. Revision Breast Augmentation. *Semin Plast Surg*. May 2021;35(2):98-109. doi:10.1055/s-0041-1727272
299. Is one-stage breast augmentation with mastopexy safe and effective? a review of 186 primary cases. *Aesthetic Surgery Journal*. 2006;26(6)doi:10.1016/j.asj.2006.10.003
300. Spear SL, Boehmle JHI, Clemens MW. Augmentation/Mastopexy: A 3-Year Review of a Single Surgeon's Practice. *Plastic and Reconstructive Surgery*. 2006;118(7S)doi:10.1097/01.prs.0000247311.12506.d7
301. Stevens WG, Freeman ME, Stoker DA, Quardt SM, Cohen R, Hirsch EM. One-Stage Mastopexy with Breast Augmentation: A Review of 321 Patients. *Plastic and Reconstructive Surgery*. 2007;120(6)doi:10.1097/01.prs.0000282726.29350.ba
302. Calobrace MB, Herdt DR, Cothron KJ. Simultaneous Augmentation/Mastopexy: A Retrospective 5-Year Review of 332 Consecutive Cases. *Plastic and Reconstructive Surgery*. 2013;131(1)doi:10.1097/PRS.0b013e318272bf86
303. Swanson E. Prospective Comparative Clinical Evaluation of 784 Consecutive Cases of Breast Augmentation and Vertical Mammoplasty, Performed Individually and in Combination. *Plastic and Reconstructive Surgery*. 2013;132(1)doi:10.1097/PRS.0b013e3182910b2e
304. Spear SL, Pelletiere CV, Menon N. One-stage augmentation combined with mastopexy: aesthetic results and patient satisfaction. *Aesthetic Plast Surg*. Sep-Oct 2004;28(5):259-67. doi:10.1007/s00266-004-0032-6
305. Somogyi RB, Brown MH. Outcomes in primary breast augmentation: a single surgeon's review of 1539 consecutive cases. *Plast Reconstr Surg*. Jan 2015;135(1):87-97. doi:10.1097/PRS.0000000000000773

306. Namnoum JD, Largent J, Kaplan HM, Oefelein MG, Brown MH. Primary breast augmentation clinical trial outcomes stratified by surgical incision, anatomical placement and implant device type. *J Plast Reconstr Aesthet Surg*. Sep 2013;66(9):1165-72. doi:10.1016/j.bjps.2013.04.046
307. Rohrich RJ, Kenkel JM, Adams WP. Preventing capsular contracture in breast augmentation: in search of the Holy Grail. *Plast Reconstr Surg*. May 1999;103(6):1759-60. doi:10.1097/00006534-199905060-00033
308. Grasbeck HL, Reito ARP, Ekroos HJ, Aakko JA, Holsa O, Vasankari TM. Smoking is a predictor of complications in all types of surgery: a machine learning-based big data study. *BJS Open*. Mar 7 2023;7(2)doi:10.1093/bjsopen/zrad016
309. Wang YC, Wang CW, Wu HL, et al. Cigarette smoking, opioid consumption, and pain intensity after major surgery: An observational study. *J Chin Med Assoc*. Apr 1 2023;86(4):440-448. doi:10.1097/JCMA.0000000000000895
310. Hanemann MS, Jr., Grotting JC. Evaluation of preoperative risk factors and complication rates in cosmetic breast surgery. *Ann Plast Surg*. May 2010;64(5):537-40. doi:10.1097/SAP.0b013e3181cdabf8
311. Knoedler S, Kauke-Navarro M, Haug V, et al. Perioperative Outcomes and Risk Profile of 4730 Cosmetic Breast Surgery Cases in Academic Institutions: An ACS-NSQIP Analysis. *Aesthet Surg J*. Mar 15 2023;43(4):433-451. doi:10.1093/asj/sjac320
312. Messa CA, Messa CA. One-Stage Augmentation Mastopexy: A Retrospective Ten-Year Review of 2183 Consecutive Procedures. *Aesthet Surg J*. Nov 13 2019;39(12):1352-1367. doi:10.1093/asj/sjz143
313. Valente DS, Zanella RK, Doncatto LF, Padoin AV. Incidence and risk factors of Striae Distensae following breast augmentation surgery: a cohort study. *PLoS One*. 2014;9(5):e97493. doi:10.1371/journal.pone.0097493
314. Zucker I, Bouz A, Castro G, Rodriguez de la Vega P, Barengo NC. Smoking as a Risk Factor for Surgical Site Complications in Implant-Based Breast Surgery. *Cureus*. Oct 2021;13(10):e18876. doi:10.7759/cureus.18876
315. Price MS, Fryer RH. Multimodal Pain Control Reduces Narcotic Use after Outpatient Abdominoplasty: Retrospective Analysis in an Ambulatory Surgery Practice. *Plast Reconstr Surg Glob Open*. Jan 2023;11(1):e4777. doi:10.1097/GOX.0000000000004777
316. Hurley RW, Cohen SP, Williams KA, Rowlingson AJ, Wu CL. The analgesic effects of perioperative gabapentin on postoperative pain: a meta-analysis. *Reg Anesth Pain Med*. May-Jun 2006;31(3):237-47. doi:10.1016/j.rapm.2006.01.005
317. Nguyen T-HC, Lombana NF, Zavlin D, Moliver CL. Transition to Nonopioid Analgesia Does Not Impair Pain Control After Major Aesthetic Plastic Surgery. *Aesthet Surg J*. 2018;38(10):1139-1144. doi:10.1093/asj/sjy050
318. Barker JC, DiBartola K, Wee C, et al. Preoperative Multimodal Analgesia Decreases Postanesthesia Care Unit Narcotic Use and Pain Scores in Outpatient Breast Surgery. *Plast Reconstr Surg*. 2018;142(4):443e-450e. doi:10.1097/PRS.0000000000004804
319. Bartlett EL, Zavlin D, Friedman JD, Abdollahi A, Rappaport NH. Enhanced Recovery After Surgery: The Plastic Surgery Paradigm Shift. *Aesthet Surg J*. 2018;38(6):676-685. doi:10.1093/asj/sjx217
320. Beverly A, Kaye AD, Ljungqvist O, Urman RD. Essential Elements of Multimodal Analgesia in Enhanced Recovery After Surgery (ERAS) Guidelines. *Anesthesiol Clin*. 2017;35(2):e115-e143. doi:10.1016/j.anclin.2017.01.018
321. Kaye A, Urman R, Rappaport Y, et al. Multimodal analgesia as an essential part of enhanced recovery protocols in the ambulatory settings. *J Anaesthesiol Clin Pharmacol*. 2019;35(5):40-45. doi:10.4103/joacp.JOACP_51_18
322. Murphy AM, Haykal S, Lalonde DH, Zhong T. Contemporary Approaches to Postoperative Pain Management. *Plast Reconstr Surg*. 2019;144(6):1080e-1094e. doi:10.1097/PRS.0000000000006268

323. Penprase BPRNCNEA, Brunetto EMSNC, Dahmani EMSNC, Forthoffer JJMSNBSNC, Kapoor SMSNRNC. The Efficacy of Preemptive Analgesia for Postoperative Pain Control: A Systematic Review of the Literature. *AORN J*. 2015;101(1):94-105.e8. doi:10.1016/j.aorn.2014.01.030
324. Barker JC, Joshi GP, Janis JE. Basics and Best Practices of Multimodal Pain Management for the Plastic Surgeon. *Plast Reconstr Surg Glob Open*. May 2020;8(5):e2833. doi:10.1097/GOX.0000000000002833
325. Ohashi N, Kohno T. Analgesic Effect of Acetaminophen: A Review of Known and Novel Mechanisms of Action. *Front Pharmacol*. 2020;11:580289. doi:10.3389/fphar.2020.580289
326. Ghlichloo I, Gerriets V. Nonsteroidal Anti-inflammatory Drugs (NSAIDs). Text. *National Library of Medicine*. 2023/05/01 2023;doi:<https://www.ncbi.nlm.nih.gov/books/NBK547742/>
327. Ong CK, Seymour RA, Lirk P, Merry AF. Combining paracetamol (acetaminophen) with nonsteroidal antiinflammatory drugs: a qualitative systematic review of analgesic efficacy for acute postoperative pain. *Anesth Analg*. Apr 1 2010;110(4):1170-9. doi:10.1213/ANE.0b013e3181cf9281
328. Shapiro LE, Knowles SR, Weber E, Neuman MG, Shear NH. Safety of celecoxib in individuals allergic to sulfonamide: a pilot study. *Drug Saf*. 2003;26(3):187-95. doi:10.2165/00002018-200326030-00004
329. Knowles S, Shapiro L, Shear NH. Should celecoxib be contraindicated in patients who are allergic to sulfonamides? Revisiting the meaning of 'sulfa' allergy. *Drug Saf*. 2001;24(4):239-47. doi:10.2165/00002018-200124040-00001
330. Johnson KK, Green DL, Rife JP, Limon L. Sulfonamide cross-reactivity: fact or fiction? *Ann Pharmacother*. Feb 2005;39(2):290-301. doi:10.1345/aph.1E350
331. Ashburn MA, Fleisher LA. The Role of Gabapentin in Multimodal Postoperative Pain Management. *JAMA Surg*. Apr 1 2018;153(4):312. doi:10.1001/jamasurg.2017.4944
332. Sarac BA, Schoenbrunner AR, Brower KI, Joshi GP, Janis JE. Analysis of Adverse Effects of Multimodal Gabapentin in Abdominal Wall Reconstruction. *Plast Reconstr Surg*. Mar 01 2022;149(3):733-739. doi:10.1097/PRS.00000000000008836
333. FDA Approves Novel Non-Opioid Treatment for Moderate to Severe Acute Pain. Jan 30, 2025. <https://www.fda.gov/news-events/press-announcements/fda-approves-novel-non-opioid-treatment-moderate-severe-acute-pain>
334. JD O, S I, TL T, et al. Pharmacology and Mechanism of Action of Suzetrigine, a Potent and Selective NaV1.8 Pain Signal Inhibitor for the Treatment of Moderate to Severe Pain - PubMed. *Pain and therapy*. 2025 Apr;14(2)doi:10.1007/s40122-024-00697-0
335. McCoun J, Winkle P, Solanki D, et al. Suzetrigine, a Non-Opioid NaV1.8 Inhibitor With Broad Applicability for Moderate-to-Severe Acute Pain: A Phase 3 Single-Arm Study for Surgical or Non-Surgical Acute Pain. *Journal of Pain Research*. 2025 Mar 25;18doi:10.2147/JPR.S509144
336. Jones J, Correll DJ, Lechner SM, et al. Selective Inhibition of NaV1.8 with VX-548 for Acute Pain. *New England Journal of Medicine*. 2023-08-03;389(5)doi:10.1056/NEJMoa2209870
337. Ordonez Gallego A, Gonzalez Baron M, Espinosa Arranz E. Oxycodone: a pharmacological and clinical review. *Clin Transl Oncol*. May 2007;9(5):298-307. doi:10.1007/s12094-007-0057-9
338. Jivraj NK, Raghavji F, Bethell J, et al. Persistent Postoperative Opioid Use: A Systematic Literature Search of Definitions and Population-based Cohort Study. *Anesthesiology*. Jun 2020;132(6):1528-1539. doi:10.1097/ALN.0000000000003265
339. Brummett CM, Waljee JF, Goesling J, et al. New Persistent Opioid Use After Minor and Major Surgical Procedures in US Adults. *JAMA Surg*. Jun 21 2017;152(6):e170504. doi:10.1001/jamasurg.2017.0504
340. Guttuso T, Jr. Gabapentin's anti-nausea and anti-emetic effects: a review. *Exp Brain Res*. Aug 2014;232(8):2535-9. doi:10.1007/s00221-014-3905-1

341. Hu J, Huang D, Li M, Wu C, Zhang J. Effects of a single dose of preoperative pregabalin and gabapentin for acute postoperative pain: a network meta-analysis of randomized controlled trials. *J Pain Res.* 2018;11:2633-2643. doi:10.2147/JPR.S170810
342. Weibel S, Schaefer MS, Raj D, et al. Drugs for preventing postoperative nausea and vomiting in adults after general anaesthesia: an abridged Cochrane network meta-analysis. *Anaesthesia.* Jul 2021;76(7):962-973. doi:10.1111/anae.15295
343. Diemunsch P, Gan TJ, Philip BK, et al. Single-dose aprepitant vs ondansetron for the prevention of postoperative nausea and vomiting: a randomized, double-blind phase III trial in patients undergoing open abdominal surgery. *Br J Anaesth.* Aug 2007;99(2):202-11. doi:10.1093/bja/aem133
344. Gupta R, Soto R. Prophylaxis and management of postoperative nausea and vomiting in enhanced recovery protocols: Expert Opinion statement from the American Society for Enhanced Recovery (ASER). *Perioper Med (Lond).* 2016;5(5):4-4. doi:10.1186/s13741-016-0029-0
345. Rosero EB, Joshi GP. Preemptive, Preventive, Multimodal Analgesia: What Do They Really Mean? *Plast Reconstr Surg.* 2014;134(4S-2 Current Concepts in Pain Management in Plastic Surgery):85S-93S. doi:10.1097/PRS.0000000000000671
346. Temple-Oberle C, Shea-Budgell MA, Tan M, et al. Consensus Review of Optimal Perioperative Care in Breast Reconstruction: Enhanced Recovery after Surgery (ERAS) Society Recommendations. *Plast Reconstr Surg.* May 2017;139(5):1056e-1071e. doi:10.1097/PRS.0000000000003242
347. Adams WP, Jr., Rios JL, Smith SJ. Enhancing patient outcomes in aesthetic and reconstructive breast surgery using triple antibiotic breast irrigation: six-year prospective clinical study. *Plast Reconstr Surg.* Jan 2006;117(1):30-6.
348. Adams WP, Jr., Conner WC, Barton FE, Jr., Rohrich RJ. Optimizing breast-pocket irrigation: the post-betadine era. *Plast Reconstr Surg.* May 2001;107(6):1596-1601. doi:10.1097/00006534-200105000-00049
349. Collis N, Mirza S, Stanley PR, Campbell L, Sharpe DT. Reduction of potential contamination of breast implants by the use of 'nipple shields'. *Br J Plast Surg.* Sep 1999;52(6):445-7. doi:10.1054/bjps.1999.3153
350. Tebbetts JB. Achieving a zero percent reoperation rate at 3 years in a 50-consecutive-case augmentation mammoplasty premarket approval study. *Plast Reconstr Surg.* Nov 2006;118(6):1453-1457. doi:10.1097/01.prs.0000239602.99867.07
351. Montemurro P, Fischer S, Schyllander S, Mallucci P, Heden P. Implant Insertion Time and Incision Length in Breast Augmentation Surgery with the Keller Funnel: Results from a Comparative Study. *Aesthetic Plast Surg.* Aug 2019;43(4):881-889. doi:10.1007/s00266-019-01401-w
352. Morkuzu S, Ozdemir M, Leach GA, Kanapathy M, Mosahebi A, Reid CM. Keller Funnel Efficacy in "No Touch" Breast Augmentation and Reconstruction: A Systematic Review. *Plast Reconstr Surg Glob Open.* Nov 2022;10(11):e4676. doi:10.1097/GOX.0000000000004676
353. Newman AN, Davison SP. Effect of Keller Funnel on the Rate of Capsular Contracture in Periareolar Breast Augmentation. *Plast Reconstr Surg Glob Open.* Jun 2018;6(6):e1834. doi:10.1097/GOX.0000000000001834
354. Goldberg DJ. Efficacy and Safety of a Novel 100% Silicone Scar Gel Treatment for Early Intervention in Scar Management. *J Clin Aesthet Dermatol.* Dec 2016;9(12):13-20.
355. De Decker I, Hoeksema H, Verbelen J, et al. The use of fluid silicone gels in the prevention and treatment of hypertrophic scars: a systematic review and meta-analysis. *Burns.* May 2022;48(3):491-509. doi:10.1016/j.burns.2022.03.004
356. Wang F, Li X, Wang X, Jiang X. Efficacy of topical silicone gel in scar management: A systematic review and meta-analysis of randomised controlled trials. *Int Wound J.* Jun 2020;17(3):765-773. doi:10.1111/iwj.13337

357. Ireton JE, Unger JG, Rohrich RJ. The role of wound healing and its everyday application in plastic surgery: a practical perspective and systematic review. *Plast Reconstr Surg Glob Open*. Apr 2013;1(1)doi:10.1097/GOX.0b013e31828ff9f4
358. Akilbekova D, Bratlie KM. Quantitative Characterization of Collagen in the Fibrotic Capsule Surrounding Implanted Polymeric Microparticles through Second Harmonic Generation Imaging. *PLoS One*. 2015;10(6):e0130386. doi:10.1371/journal.pone.0130386
359. Guimier E, Carson L, David B, Lambert JM, Heery E, Malcolm RK. Pharmacological Approaches for the Prevention of Breast Implant Capsular Contracture. *J Surg Res*. Dec 2022;280:129-150. doi:10.1016/j.jss.2022.06.073
360. Hillard C, Fowler JD, Barta R, Cunningham B. Silicone breast implant rupture: a review. *Gland Surg*. Apr 2017;6(2):163-168. doi:10.21037/gs.2016.09.12
361. Le-Petross HT, Scoggins ME, Clemens MW. Assessment, Complications, and Surveillance of Breast Implants: Making Sense of 2022 FDA Breast Implant Guidance. *Journal of breast imaging*. 2023;5(3):360-372. doi:10.1093/jbi/wbad029
362. Vestito A, Mangieri FF, Ancona A, Minervini C, Perchinunno V, Rinaldi S. Study of breast implant rupture: MRI versus surgical findings. *Radiol Med*. Sep 2012;117(6):1004-18. doi:10.1007/s11547-012-0807-z
363. Rietjens M, Villa G, Toesca A, et al. Appropriate use of magnetic resonance imaging and ultrasound to detect early silicone gel breast implant rupture in postmastectomy reconstruction. *Plast Reconstr Surg*. Jul 2014;134(1):13e-20e. doi:10.1097/PRS.0000000000000291
364. Maijers MC, Niessen FB, Veldhuizen JF, Ritt MJ, Manoliu RA. MRI screening for silicone breast implant rupture: accuracy, inter- and intraobserver variability using explantation results as reference standard. *Eur Radiol*. Jun 2014;24(6):1167-75. doi:10.1007/s00330-014-3119-8
365. Salzman MJ. Silent Rupture of Silicone Gel Breast Implants: High-Resolution Ultrasound Scans and Surveys of 584 Women. *Plast Reconstr Surg*. Jan 1 2022;149(1):7-14. doi:10.1097/PRS.00000000000008632
366. Khan UD. Back-to-Front Flipping of Implants Following Augmentation Mammoplasty and the Role of Physical Characteristics in a Round Cohesive Gel Silicone Breast Implant: Retrospective Analysis of 3458 Breast Implants by a Single Surgeon. *Aesthetic Plastic Surgery*. Feb 2011 2023-09-01 2011;35(1):125-8. doi:<https://doi.org/10.1007/s00266-010-9557-z>
367. Jong J, Gabriel A, Trekel M, et al. Cohesive Round Implants and the Risk of Implant Flipping. *Plastic and Reconstructive Surgery – Global Open*. 2020;8(12):e3321. doi:10.1097/gox.00000000000003321

Author Biography

Richard Fryer is a native of the Salt Lake valley where he completed his undergraduate education and graduated medical school at the University of Utah. He completed a full general surgery residency at the University of Arizona in Tucson and then returned to the University of Utah for training in plastic surgery. After his training he became an Assistant Professor of Plastic Surgery in the Department of Surgery where he remained for over four years.

He entered private practice in 2008 and remains an Adjunct Assistant Professor of Plastic Surgery. Dr. Fryer has created a center of excellence in plastic surgery focusing on cosmetic surgery of the breast and

abdomen, often referred to as “mommy makeovers”. He developed a unique sizing system for breast augmentation that results in a very natural appearance. He has championed the use of adjunctive techniques to minimize the use of narcotics in cosmetic surgery and has published his pain management protocol regarding abdominoplasty procedures showing a drastic reduction in opiates required after surgery. Dr. Fryer actively advocates for patient care and physicians’ rights as a member of the Utah Medical Association and has served as the President of the Salt Lake County Medical Society.

Dr. Fryer lives at the base of the Wasatch Mountains with his wife and four adult children. He loves spending time outdoors in activities with the people he loves.