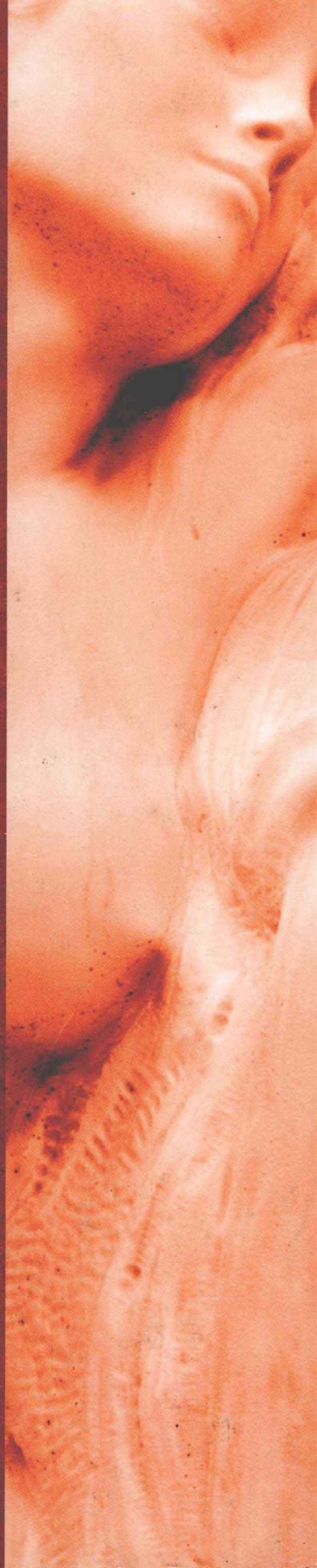
Aesthetic Breast Surgery

Louis P. **Bucky**
A. Aldo **Mottura**

Series Editor:
Mark A. **Codner**

TECHNIQUES IN **AESTHETIC PLASTIC SURGERY**



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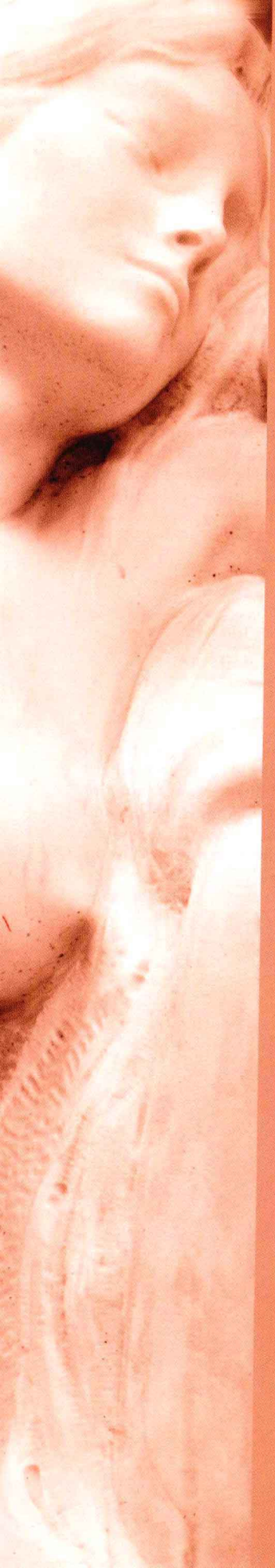

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Aesthetic Breast Surgery

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Series Foreword

As editor of the *Techniques in Aesthetic Plastic Surgery* series, I would like to take this opportunity to foremost thank the reader and hope that you find this five-volume series as interesting and informative as I. As physicians, we have a number of responsibilities, including responsibilities to care for our patients and responsibilities to educate each other. In fact these two commitments intersect at the crossroads of publishing as sharing information allows us to cumulatively take better care of our patients. The goal of the *Techniques in Aesthetic Plastic Surgery* series is to blend a variety of techniques used internationally in synergistic subspecialties such as facial plastic surgery, oculoplastic surgery, dermatologic plastic surgery, and others. With that end in mind, I am delighted that the accomplished and internationally-esteemed colleagues who have contributed to this series have freely shared their thoughts, experiences, and techniques with the reader.

The *Techniques in Aesthetic Plastic Surgery* series is a unique compilation of chapters by authors who were personally invited by the editors. We sought out the best surgeons covering a variety of subject matter in an attempt to create five unique, comprehensive volumes in an easy-to-read format. While the field of plastic surgery has grown exponentially in breadth over the past ten years, the fundamental strength of our specialty revolves around maintenance of excellence across its breadth. Unification of the diverse aspects should be emphasized rather than allowing fragmentation of our specialty to develop.

I would like to thank the hard work and contributions made by the volume editors who have created an excellent educational resource, which includes some of the most recent technological breakthroughs in plastic surgery. The short time to publication allows the information in this series to be current, quick and nimble rather than obsolete by the time of publication.

The volume on *Aesthetic breast surgery* edited by Drs Bucky and Mottura is a fine overview of breast surgery which covers a number of very important topics, ranging from incision choices and preoperative evaluation to some of the most refined techniques in augmentation mastopexy and breast reduction. The international perspective is outstanding, and I would like to thank each of the individual authors for their superb chapters and enviable results. The book on *Facial rejuvenation with fillers* is going to be one of the most popular in the series since there has been an exponential surge in the use of non-surgical treatments, particularly with fillers for facial rejuvenation. I would like to congratulate Drs Cohen and Born who have done a terrific job organizing this volume. This text outlines commonly and less commonly used fillers as well as updated information on future fillers that are otherwise difficult to find.

Similarly, the volume on *Lasers and non-surgical rejuvenation* by Drs DiBernardo and Pozner is an absolute gem of a resource for the most effective and current lasers and non-invasive therapies for improving both the face and the body. These procedures are all very popular in the lay press and are among the most common inquiries we receive from patients. This volume is a good source of information as patients often seem to be ahead of the curve when it comes to some of these new non-surgical treatments. I would like to thank my practice associates Drs Farzad Nahai and Foad Nahai for helping put together the volume on *Minimally invasive facial rejuvenation*. The surgical techniques and non-surgical approaches provide a quick and easy review of the most current and popular

techniques in this area. Many of the techniques have yet to be published and therefore provide the reader with new concepts that can be used to improve results and minimize complications. Lastly, I hope you will review with interest the volume on *Midface surgery* edited by myself and Drs de Castro and Boehm. I have long felt that surgery of the eyelid and peri-orbital area is the keystone to surgical rejuvenation of the face due to the challenges associated with surgery in this area. This volume is unique in that it provides a number of oculoplastic procedures in addition to some of the standard plastic-surgical procedures. It also presents a blend of oculoplastic surgery and plastic surgery, both in content and in the international spectrum of authors.

Another feature of these volumes is that the reader is able to obtain one or two of the individual books or the entire series. While this series is not meant to be an exhaustive comprehensive encyclopedia on the topics, it is designed to give an overview and description of the most useful and novel techniques. The individual volume editors are experts in their respective fields and have made sure that all of the cherry-picked chapters combine to create a complete review of the topic.

Lastly, I would like to take this time to thank the DVD editor, Dr Kristin Boehm, who is also an associate of mine from Atlanta. She has obtained, edited, and organized high quality videos to compliment each individual volume and demonstrate the techniques that are discussed in the chapters. While the video clips can be viewed without direct reference to the text, the purpose of the DVDs is to complement the text rather than act as a substitute. Since we are able to only show limited surgical techniques, the inclusion of the DVDs is to provide superior demonstration of surgical technique compared to the conventional figures included in the text. I hope you find the *Techniques in Aesthetic Surgery* series useful, whether you are a medical student, resident, fellow, or a seasoned veteran, and that the practical tools of wisdom and knowledge will serve to benefit not only you as a surgeon, but in addition your patients.

Mark A. Codner MD

Preface

It has been a pleasure to work together in the development of this very interesting and timely book on aesthetic breast surgery. Breast surgery is one of the most challenging areas of aesthetic surgery because it requires expertise in management of volume, shape, asymmetries, scars, and tissue/prosthesis interaction. Patients require an uneventful, quick recovery with high satisfaction and low revision rates. In recent years, aesthetic breast surgery has developed new short scars techniques, incorporated new anatomical planes, new implants, fat injections for breast augmentation and surgery on patients after massive weight loss.

These changes are widely publicized in the media and on the internet. Therefore, our patients are more rapidly introduced to the latest advancements. This book provides physicians with a clear, comprehensive opportunity to learn many of these new techniques and provide patients with a very thorough consultation, and advanced management.

The authors of this book are leaders in the field and provide an international experience describing a wide range of problems and techniques. The reader will find a practical view of contemporary breast augmentation, mastopexy, and breast reduction techniques. The chapters include sections on avoiding and managing their problems and complications. Each chapter was written to introduce the reader to key points, to the summary of the operative steps, to pitfalls and how to correct them. The book has nice illustrations artistically drawn and a DVD where some of the described techniques can be viewed. Although plastic surgery is another science of temporary truths, the readers will find here a 'state-of-the-art' book on breast surgery.

We would like to thank Dr Mark Codner for inviting us to participate in this book, which we accepted with enthusiasm. We extend our gratitude to the authors for the thorough preparation of each of the chapters and to the staff at Elsevier, especially to Devika Ponnambalam and Martin Mellor. We have learned a large amount of breast surgery from the contributors of this book and continue to be inspired by their commitment and expertise.

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Dedication

Before I dedicate this book, I would like to thank all of the volume editors and individual authors for their dedication of time, talent, and thought which has created a series of texts most exemplary of the evolution of technique culminating in the current state of the art in plastic surgery. I would also like to thank key individuals at Elsevier who captured this international synergy and brought it from vision to production in a timely fashion: Sue Hodgson, Devika Ponnambalam, and Martin Mellor.

I would like to take this honor to dedicate this five-volume series to my teachers in plastic surgery Drs Jurkiewicz, McCord, Bostwick, Nahai, Hester, Baker, Gordon, and Stuzin, to my friends who have been my teachers in life, and my family who have been my teachers in love including my parents, my wife Jane and our children Molly and Blake. I am grateful for all I have learned from each of you.

MAC

This book is dedicated to my patients who make the practice of plastic surgery interesting, challenging and – ultimately – satisfying. They provide the impetus to improve as a surgeon. I would like to thank my office staff who help care for our patients and allow me the time to continue my education. Lastly, I want to thank my family – Elizabeth, Alexandra and Caroline – who continue to support my professional and educational pursuits with love and encouragement that only a family can offer.

LPB

This book is dedicated to my staff, secretaries and residents for their help supporting my daily activities. It is also dedicated to my son Julian, to my daughters Elisa and Celina – who co-work in my clinic – and to my wife Rosa.

AAM

Contents

Contents

1

Pre-operative evaluation, preparation and education of the breast augmentation patient

Kenneth C. Shestak

Key points

- Understand what the patient wants and perform a careful pre-operative evaluation.
- Breast and torso dimensions and amount and thickness of breast tissue.
- Breast ptosis.
- Inframammary fold anatomy.
- Asymmetry (IES).
- Transmission of information to patient.
- Pre-operative management of patient expectations and informed consent.

Introduction

Consistently systematic and precise pre-operative patient evaluation, combined with informative patient teaching and pre-operative management of patient expectations is essential for the successful practice of aesthetic plastic surgery. This is especially true in breast augmentation surgery. The following pages outline an approach that has worked for me in minimizing complications and re-operation rates while producing a high level of patient satisfaction following breast augmentation. It is a methodical approach in the evaluation of the prospective patient seeking breast augmentation which includes a careful history with an emphasis on size concerns and a thorough

physical examination entailing both an anatomic and aesthetic analysis resulting in an individualized surgical plan (Bostwick 2000, Shestak 2006, Spear 2006b).

As is true in all fields of medicine, the interaction with the patient begins with a careful history and physical examination. This also applies when approaching the prospective breast augmentation patient. Careful attention must be paid to the patient's breast development, whether or not the breast development has been symmetric, the patient's age at menarche and whether there is an appreciable change in breast size or sensitivity during the course of the menstrual cycle. A history of pregnancy is elicited from every patient and if they have been pregnant it is important to inquire about the changes in the breast following such pregnancies. Many patients are concerned by the loss of volume and the change in shape which may have occurred with pregnancy or breast feeding. If a patient has been pregnant I find it helpful to ask how the large the breasts became during pregnancy and whether the patient was comfortable with or liked the size of her breasts during her pregnancy.

Carefully noting the patient's opinion regarding breast settling or ptosis is important. When appropriate, suggestions regarding breast ptosis correction in conjunction with breast augmentation can be made by the plastic surgeon. It is important for the plastic surgeon to inquire about any lumps or masses that the patient may have had in either breast during the course of her lifetime and what treatment was given for this problem. Specifically, it is important to determine exactly what the diagnosis was and how it was resolved. In patients who are older than 35 years of age, the physician must inquire whether the patient has had a mammogram, and if so, the results of the study must be known. I ask the patient whether the mammograms have been normal and will often request that the report be sent to my office for inclusion in the patient's chart. If there is any question about a previous mammogram I will request that the films be sent to my office. I find it helpful to personally review these mammograms with the help of a radiologist. If a patient has not had a mammogram by the time they have reached 35, one should be ordered and the results verified prior to a planned surgical procedure (The American Cancer Society).

Patient evaluation

Important aspects of the pre-operative physical examination

The plastic surgeon performing breast augmentation must perform a systematic examination of the breasts on each patient. The visual, tactile and artistic senses as well as communication skills of the plastic surgeon all come into play during this essential part of the pre-operative evaluation process (Bostwick 2000, Shestak 2006, Spear 2006b). The surgeon must note the general appearance of the breasts, scanning them for symmetry in terms of contour, fullness, nipple areola position, position of the areola complex relative to the infra-mammary fold and the amount of 'skin show' peripheral to the nipple in all directions (Figure 1.1). The relationship of the breast to the mid-sternal area (cleavage) and the position of the breast relative to chest wall structures is also noted. Examine the anterior and posterior aspect of the patient's torso looking for musculoskeletal abnormalities such as scoliosis and soft tissue abnormalities that can produce asymmetry(ies). Both obvious and subtle asymmetries are noted.

As alluded to previously, I find it helpful to measure the dimensions of the breast including the base width (Tebbetts 2002), height (i.e., the extent of upper pole fullness when the breast is gently compressed against the chest wall) and various distances of the breast architectural features from a fixed point on the torso (Figure 1.2). Most frequently, I measure the distance from the nipple to the supra-sternal notch on each side followed by the distance of nipple to the IM fold

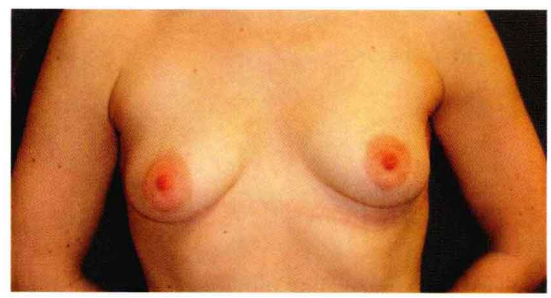


Figure 1.1 AP view of breasts in prospective breast augmentation patient. Note differences in nipple position, lateral contours and skin show peripheral to the nipple–areola complex.

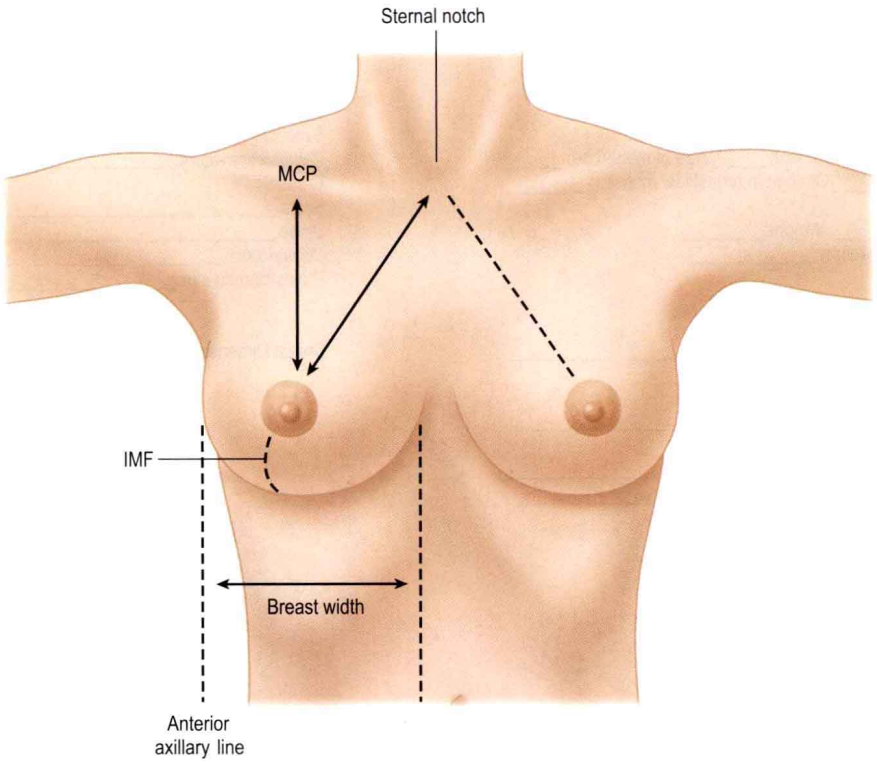


Figure 1.2 Diagram of breasts illustrating important topographical dimensions of base width, supra-sternal notch to nipple (SSN-nipple), nipple to infra-mammary fold (IMF) distances which are important in planning.

in the mid-meridian of the breast and also the distance from the inferior aspect of the areola complex to the IM fold. I record all these measurements on a breast diagram (Figure 1.2) and incorporate the information on a worksheet (Shestak 2006) compiled for use in breast augmentation and kept in the patient's chart (Figure 1.3).

The inframammary fold (IMF) is perhaps THE critical structure in determining breast shape and lower breast pole aesthetics. It is also a key indicator of breast abnormalities, developmental problems and asymmetries. The inframammary fold is formed by a condensation of connective tissue arising as a coalecence of anterior and posterior leaves of the superficial fascia which is an extension of Scarpa's fascia in the abdomen which inserts into the dermis at the lowest aspect of the inferior pole of the breast. There have been many anatomic studies on the anatomy of this structure and I believe the most informative is that published by Muntan et al (2000). The inframammary fold outlines an arc beginning near midline and continuing laterally where it extends to the lateral aspect of the breast and its juncture with the lateral chest wall at the anterior axillary line (Bostwick 2000, Shestak 2006, Spear 2006b).

The surgeon should evaluate the fold for its degree of tightness, position on one side of the chest relative to the opposite breast and for any degree of asymmetry. Normally the fold is roughly symmetric when comparing both breasts. Asymmetries in the fold are not uncommon (Figure 1.4) and must be noted by the surgeon and pointed out to the patient pre-operatively. Any flattening or straightness in the curve at any point of this arc may indicate a form of a constricted breast (Figure 1.4A). It may be unilateral or bilateral. When it occurs unilaterally it may not be possible for the breast plastic surgeon to correct this and thus the asymmetry noted pre-operatively will be present post-operatively. A fold that is high and 'tight' (Figure 1.4C) presents potential difficulties when the operative plan entails lowering the fold to accommodate a large implant and in my experience is a

Breast Augmentation Worksheet

Chief complaint: _____

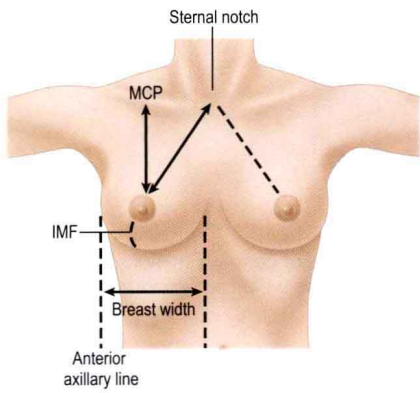
Breast history
Age breast development:_____ Age at menarche: _____
Menses:_____ Change in breasts w/ menses:_____

Height:_____ Weight:_____
Changes in weight:_____

Bra size:_____

Pregnancy history:_____
Size of breasts w/ pregnancy:_____
Did patient like size:_____
Changes after pregnancy:_____

Surgeries on breast:_____
Pathology report:_____



Mammogram reports: _____

Medications: _____

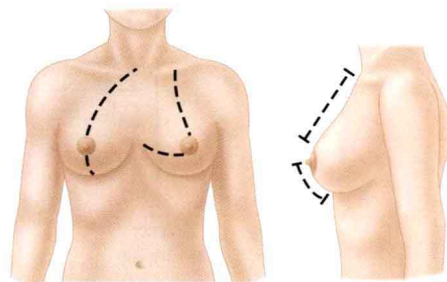
Allergies: _____

Smoking history: _____

Information: Packets:_____ Consent: _____
Silicone information:_____
Questions: Answered:_____
Consent: Signed:_____

Nipple sensation:_____
Chest wall
Scoliosis:_____
Pectus excavatum:_____
Breasts
Scars:_____
Striae:_____
Constriction:_____
Ptosis/clamifuatim:_____

Breast Dimensions



Analysis:_____

Recommendations:_____
_____
_____

Plan
Incision:_____
Implant position:_____
Implant characteristics:_____

Figure 1.3 Breast augmentation worksheet containing important pre-operative information and diagrams used for planning the procedure.

predictor of an increased chance for re-operation following breast augmentation (Shestak 2006).

The surgeon should note the thickness, distribution and elasticity of the breast parenchyma (Tebbetts & Adams 2006). The upper pole breast thickness can be determined by grasping the parenchyma 4 cm above the areola in a maneuver described by Tebbets as the 'pinch test' (Figure 1.5) (Tebbetts & Adams 2006). A thickness of at least 2 cm is necessary for the draping the implant if sub-glandular placement of the implant is contemplated. Distances from the nipple to IMF are measured (Figure 1.6A). Other maneuvers to stretch