Melvin A. Shiffman (Editor)

Mastopexy and Breast Reduction
Mastopexy and Breast Reduction

Principles and Practice
The Breast: The center of emotional attraction, the source of nourishment, and means of seduction are some of the many possible definitions of this precious feminine attribute. Since ancient times, the female breast has had an important role for women and society in general. It is up to art to glorify it and it is the artist's job to find an ideal shape for it. Works of art survive as testimony to the evolution and transformation of the breast. Since prehistoric times, the cult of the Great Mother has settled in this place. The breast thus becomes the focus of the renewal of life and its cycles. It is the symbol of fertility and abundance and symbolizes life's renewal. The breast then is the center of the magical, wonderful forces that rule the world. The numerous statuettes typically with ample bosoms and emphasizing sexual organs testify to the powerful role that women played in the Egyptian, Minoan, Syrian, and Mesopotamian cultures. When the masculine element prevailed over the feminine, the breast became the creative principle of the universe. The Great Mother became the wife or the daughter. The breast was no longer a magical place. The statuettes were certainly feminine but they were not known for their beauty. Images of a marked yet less powerful sensuality were created instead.

From the Great Mother to Isis to Juno and finally to the cult of the Christian Virgin Mary, the breast is the quality of the feminine. In art, the breast becomes a true obsession. Greek art with its soft breasted Venuses started this trend. Each historic period and each artist has given its/his own interpretation of the attribute: ephebic for Memling and Piero di Cosimo, asexual for Botticelli, solemn and porcelain-like for Cranach, appetizing and well-shaped Giorgione and Titian's Venuses of the sixteenth century that finally indulge in pleasure. They established the trend of the alluring sensual girls who give themselves. The breast is opulent in the seventeenth century, unconventional for Fragonard, uninhibited for Goya, and offered in Manet.

The shape changes, the meaning changes. The shape is not only the manifestation of the age but also of moral qualities. The matter changes, perception changes. What remains unchanged today is the centrality of this precious attribute. It is now deprived of its old symbolic meanings, yet it is still an element of great charm, power, and seduction. In our time, there is indifference towards its history and origins. There seems to be no interest in recreating the sacred relationship between breast and magical powers: only the seductive and sexual qualities remain. We are surrounded by images of curvy women building their success around their generous breasts. What used to be creation is now aggressiveness.

The objective of plastic surgery is to reconstruct a peaceful relationship between the feminine and its external shape and to reestablish body harmony. Although even today plastic surgery is not regarded as having any artistic value, it would be advisable to start thinking about its objectives. Unlike sculpture or painting, surgery does not deal with amorphous matter but with live matter. Wood or marble grain is replaced by tissues, capillaries, muscles, and flesh. Live matter is in constant transformation. As the artist fixes his unstable desire forever in a permanent shape, in the same way the contemporary surgeon moulds the flesh to satisfy women's wishes. The breast is once again the center of the feminine. Surgery, like a work of art, must follow the principles of harmony. Their instruments are the same: proportion, harmony, symmetry, and shape. The artist-surgeon has to understand the body in which a shape will be created. He creates his own sculpture: the breast as a work of art on a living body. Woman as a live sculpture representing art in progress is live art.

Giorgio Fischer
Beautifying the breast with mastopexy, and/or breast reduction are some of the goals of the aesthetic surgeon to bring a better quality of life to the female (and sometimes the male) patient. Women desire to be more attractive by having breasts that meet their own expectations. What makes the aspects of the breast attractive can be driven by the female body as portrayed in magazines, posters, advertisements, movies, and videos as well as the male’s attitude toward buxom women and women dressing in clothes that exaggerate the breast fullness. The surgeon performing mastopexy and/or breast reduction must understand the patients’ driving force to change the shape or contours of their breasts. At the same time the patients’ desires and expectations should be evaluated.

Surgical procedures in mastopexy and breast reduction are constantly changing with hopes of improving the results. The patients are looking for less scars, if possible, and safety in performance of the surgery. Breast reduction is the only aesthetic procedure of the breast (if one can call this an aesthetic procedure rather than correction of a medical problem) where patients are mainly satisfied with the reduction in volume that relieves their pain and discomfort and allows them to find clothes that fit properly without having to seek specially made sizes. These patients usually do not care about the scars. However, as aesthetic surgeons we try to reduce the scars in all patients if possible.

This book is an attempt to bring to the student, novice, and experienced breast surgeon as many of the various techniques as possible that are available in mastopexy and breast reduction including old, new, and modifications of the surgical procedures. There is a discussion of the procedures with indications, technical aspects, and possible complications. The anatomy of the breast, history of mastopexy and breast reduction, principles of mastopexy and breast reduction, preoperative care, postoperative care, avoidance and treatment of complications, and medical legal aspects are discussed.

The contributors have been carefully selected from international experts to bring to the reader a variety of ideas, new and old. It is hoped that the reader will begin to appreciate the magnitude of information that is available that will help in deciding the type of surgery that can be used in correcting the problems of ptosis, macromastia, gigantomastia, and breast asymmetries.
Contents

Part I  Breast Anatomy

1  Mammary Anatomy  ................................................................. 3
   Michael R. Davis

Part II  Preoperative

2  Preoperative Consultation ............................................................ 11
   Melvin A. Shiffman

3  The Sitting, Oblique, Supine (SOS) Marking Technique for Mastopexy
   and Breast Reduction ................................................................. 13
   Fahmy S. Fahmy

4  Prediction of Weight in Breast Reduction Surgery .......................................... 19
   Nicole Z. Sommer, Elvin G. Zook

5  Carpal Tunnel Syndrome in Women Undergoing Breast Reduction ......................... 23
   Luis R. Pernia, Genelle Pernia

6  Extent of Symptoms Preoperatively and Success of Breast Reduction
   for Symptomatic Macromastia: Personal Experiences ...................................... 29
   Judith B. Zacher

7  Mammograms in Cosmetic Breast Surgery .................................................... 37
   Melvin A. Shiffman

Part III  Mastopexy

8  History of Mastopexy .................................................................. 43
   Jorge I. de la Torre, James N. Long, Luis O. Vásconez

9  Principles of Mastopexy ................................................................. 49
   Melvin A. Shiffman

10  Treatment of Pseudoptosis ............................................................ 51
    Frank Schneider-Affeld

11  Crescent Mastopexy .................................................................. 55
    Robert A. Shumway

12  Benelli Concentric Mastopexy .......................................................... 65
    Frank Schneider-Affeld
<table>
<thead>
<tr>
<th>Section</th>
<th>Author</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>13 Short Scar Mastopexy with Flap Transposition:</td>
<td>Moshe S. Fayman</td>
<td>73</td>
</tr>
<tr>
<td>The Concept of the Biological Implant in Cosmetic Breast Surgery</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14 Double Flap Technique: An Alternative Mastopexy Approach</td>
<td>Andreas Foustanos</td>
<td>97</td>
</tr>
<tr>
<td>15 The Triple-Flap Interposition Mammaplasty</td>
<td>Alberto Magno Lott Caldeira, Georg Bernhard Roth</td>
<td>103</td>
</tr>
<tr>
<td>16 “Flip-Flap” Mastopexy and Breast Reduction</td>
<td>Robert S. Flowers, Adil Ceydeli</td>
<td>115</td>
</tr>
<tr>
<td>17 L-Wing Superior Pedicle Vertical Scar Mammaplasty</td>
<td>Norbert Pallua, Erhan Demir</td>
<td>121</td>
</tr>
<tr>
<td>18 Fascial Suspension Mastopexy</td>
<td>Ram Silfen, Morris Ritz, Graeme Southwick</td>
<td>129</td>
</tr>
<tr>
<td>19 Internal Mastopexy</td>
<td>J. Dan Metcalf</td>
<td>145</td>
</tr>
<tr>
<td>21 Breast Augmentation and Mastopexy: How to Select and Perform the</td>
<td>Lázaro Cárdenas-Camarena</td>
<td>163</td>
</tr>
<tr>
<td>Techniques Minimizing Complications</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22 Vaser*-Assisted Breast Reduction and Mastopexy</td>
<td>Maurice P. Sherman</td>
<td>179</td>
</tr>
<tr>
<td>23 Periareolar Mammaplasty for the Treatment of Gynecomastia with Breast</td>
<td>Marco Túlio Rodrigues da Cunha, José Fernando Borges Bento,</td>
<td>189</td>
</tr>
<tr>
<td>Ptosis</td>
<td>Antonio Roberto Bozola</td>
<td></td>
</tr>
<tr>
<td>24 Mastopexy Complications</td>
<td>Melvin A. Shiffman</td>
<td>195</td>
</tr>
</tbody>
</table>

Part IV  Combined Mastopexy and Breast Reduction

<table>
<thead>
<tr>
<th>Section</th>
<th>Author</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>25 Boustos’ Technique of Periareolar Mastopexy and Breast Reduction</td>
<td>Jacques Faivre</td>
<td>201</td>
</tr>
<tr>
<td>26 Dermal Purse String Reduction Mastopex</td>
<td>Franco Marconi, Filippo Brighetti</td>
<td>207</td>
</tr>
<tr>
<td>27 Breast Reduction/Mastopexy with Short Inverted T Scar</td>
<td>Toma T. Mugea</td>
<td>215</td>
</tr>
<tr>
<td>28 Regnault B Mastopexy: A Versatile Approach to Breast Lifting and</td>
<td>Howard A. Tobin</td>
<td>231</td>
</tr>
<tr>
<td>Reduction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>29 Mastopexy/Reduction and Augmentation without Vertical Scar</td>
<td>Sid J. Mirrafati</td>
<td>237</td>
</tr>
</tbody>
</table>
Contents

XI

30 Breast Reduction and Mastopexy with Vaser in Male Breast Hypertrophy 241
Alberto Di Giuseppe

Part V Breast Reduction

31 History of Breast Reduction 251
Melvin A. Shiffman

32 Principles of Breast Reduction Surgery 257
Melvin A. Shiffman

33 The Use of Epinephrine in Breast Surgery 259
Michael S.G. Bell

34 Choosing a Technique in Breast Reduction 263
Donald A. Hudson

35 Breast Reduction Techniques and Outcomes 267
Courtney Crombie, Irfan Ibrahim Galaria, Colette Stern, W. Bradford Rockwell

36 Breast Reduction Algorithm Using TTM Chart 275
Toma T. Mugea

37 Template-Goniometer for Marking the Wise Keyhole Pattern of Reduction Mammaplasty 291
Dirk Lazarus

38 Individualized Wise Keyhole Pattern: An Aid in Reduction Mammaplasty of the Asymmetric Breasts 293
Aycan Kayikcioğlu, Yücel Erk

39 Double Dermal Keyhole Pattern 297
Elie Frederic Harouche

40 Deepithelialization in Breast Reduction: A Simple Technique 301
Pierre F. Fournier

41 A Specially Designed Ruler and a Triangular Suture to Simplify Reduction Mammaplasty 305
Gottfried Wechselberger, Petra Pülzl

42 Endoscopic Mastopexy and Breast Reduction 309
Marco Aurelio Faria-Correa

43 Reduction Mammaplasty: The Use of Contact Tip ND:YAG Laser 317
Jung I. Park

44 Axillary Reduction Mammaplasty 325
Yhelda Felicio

45 Periareolar Mammaplasty with Transposition of Flaps 333
Pedro Djacir Escobar Martins, Pedro Alexandre da Motta Martins, David Ponciano de Sena, Marcelo Marafon Maino
<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>46</td>
<td>Inverted Keel Resection Breast Reduction</td>
<td>Ivo Pitanguy, Henrique N. Radwanski</td>
</tr>
<tr>
<td>47</td>
<td>Superior Vertical Dermal Pedicle for the Nipple–Areola</td>
<td>Antonio Carlos Abramo</td>
</tr>
<tr>
<td>48</td>
<td>Liposuction and Superior Pedicle</td>
<td>Felix Giebler, Eva Giebler</td>
</tr>
<tr>
<td>49</td>
<td>Superior Medial Pedicle Breast Reduction and Auto Augmentation</td>
<td>Mike Huntly, Ronald Finger</td>
</tr>
<tr>
<td>50</td>
<td>Reduction Mammoplasty with the Supero-Lateral Dermoglandular Pedicle Technique</td>
<td>Lázaro Cárdenas-Camarena</td>
</tr>
<tr>
<td>51</td>
<td>Superior–Medial Pedicle Technique for Large Breast Reduction</td>
<td>Jorge I. de la Torre, James N. Long, Luis O. Vásconez</td>
</tr>
<tr>
<td>52</td>
<td>The Central Mound Technique for Reduction Mammaplasty</td>
<td>Bret R. Baack</td>
</tr>
<tr>
<td>53</td>
<td>Central Mound Technique for Breast Reduction</td>
<td>Richard C. Hagerty, Andre Uflacker</td>
</tr>
<tr>
<td>54</td>
<td>The Robbins Inferior Pedicle Reduction Mammaplasty</td>
<td>Richard J. Restifo</td>
</tr>
<tr>
<td>55</td>
<td>Modification of the Inferior Pedicle Technique</td>
<td>Sanjay Azad</td>
</tr>
<tr>
<td>56</td>
<td>Short Scar Periareolar Inferior Pedicle Reduction Mammaplasty</td>
<td>Richard J. Restifo</td>
</tr>
<tr>
<td>57</td>
<td>Reduction Mammoplasty using Inferior Pedicle Technique Combined with Dermal Suspension</td>
<td>Hülya Aydin, Burçak Tümerdem Uluğ</td>
</tr>
<tr>
<td>58</td>
<td>McKissock Bipedicle Breast Reduction</td>
<td>Melvin A. Shiffman</td>
</tr>
<tr>
<td>59</td>
<td>Strömbeck Technique</td>
<td>Pierre F. Fournier</td>
</tr>
<tr>
<td>60</td>
<td>Medial and Inferior Bipedicle Breast Reduction for Gigantomastia and Mammary Hypertrophy</td>
<td>Nicolae Antohi, Cristina Isac, Vitalie Stan, Tiberiu Bratu</td>
</tr>
<tr>
<td>61</td>
<td>Modified Biesenberger Dual Pedicle Technique of Breast Reduction</td>
<td>Lloyd N. Carlsen</td>
</tr>
<tr>
<td>62</td>
<td>Mammaplasty with a Circular Folded Pedicle Technique</td>
<td>Waldir Teixeira Renó</td>
</tr>
<tr>
<td>63</td>
<td>The Modified Robertson Reduction Mammaplasty</td>
<td>Elvin G. Zook, Nicole Z. Sommer</td>
</tr>
<tr>
<td>Section</td>
<td>Authors</td>
<td>Page</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>64 “Owl” Incision Technique Reduction Mammaplasty</td>
<td>Oscar M. Ramirez, Sung Yoon</td>
<td>489</td>
</tr>
<tr>
<td>65 Regnault B Technique</td>
<td>Robert F. Garza, Patricio Andrades, Jorge I. de la Torre, Luis O. Vasconez</td>
<td>497</td>
</tr>
<tr>
<td>66 Vertical (Lejour) Breast Reduction</td>
<td>James E. Thornton, Paul D. McCluskey</td>
<td>503</td>
</tr>
<tr>
<td>67 Liposuction and Vertical Breast Reduction</td>
<td>Felix Giebler</td>
<td>511</td>
</tr>
<tr>
<td>68 The Circumvertical Reduction Mammaplasty</td>
<td>A. Aldo Mottura</td>
<td>515</td>
</tr>
<tr>
<td>69 Eliminating the Vertical Scar in Breast Reduction</td>
<td>Simon G. Talbot, Julian J. Pribaz</td>
<td>521</td>
</tr>
<tr>
<td>70 The Bipolar Technique: Short Inframammary Scar Mammaplasty</td>
<td>Vicente De Carolis</td>
<td>533</td>
</tr>
<tr>
<td>71 Breast Shaping by an Isolated Tissue Flap</td>
<td>Matthias Voigt, Christoph Andree</td>
<td>545</td>
</tr>
<tr>
<td>72 Free Nipple Areolar Graft Reduction Mammaplasty</td>
<td>Anthony Erian, Amal Dass</td>
<td>555</td>
</tr>
<tr>
<td>73 Liposuction Breast Reduction</td>
<td>Martin Jeffrey Moskovitz</td>
<td>563</td>
</tr>
<tr>
<td>74 Breast Reduction with Ultrasound-Assisted Liposuction</td>
<td>G. Patrick Maxwell, Allen Gabriel</td>
<td>569</td>
</tr>
<tr>
<td>75 Vaser-Assisted Breast Reduction</td>
<td>Alberto Di Giuseppe</td>
<td>575</td>
</tr>
</tbody>
</table>

**Part VI Complications of Breast Reduction and Mastopexy**

<table>
<thead>
<tr>
<th>Section</th>
<th>Authors</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>76 Complications of Breast Reduction</td>
<td>Melvin A. Shiffman</td>
<td>593</td>
</tr>
<tr>
<td>77 Late Sequelae of Breast Reduction</td>
<td>Nicholas G. Economides</td>
<td>601</td>
</tr>
<tr>
<td>78 Breast Feeding After Breast Reduction</td>
<td>Arnis Freiberg</td>
<td>609</td>
</tr>
<tr>
<td>79 Alteration of Nipple and Areola Sensitivity by Reduction Mammaplasty</td>
<td>Schlenz Ingrid, Rigel Sandra, Schemper Michael, and Kazbari Rafic</td>
<td>613</td>
</tr>
<tr>
<td>80 Prevention of the Inverted Teardrop Areola Following Mammaplasty</td>
<td>Geoffrey G. Hallock, John A. Altobelli</td>
<td>621</td>
</tr>
</tbody>
</table>
81 Prevention of Teardrop Areola and Increasing Areola Projection in Inferior Pedicle Reduction Mammoplasty .................. 625
   Meltem Ayhan, Metin Görgü, Bulent Erdoğan, Zeynep Sevým

82 Correction of the High-Riding Nipple After Breast Reduction ................... 629
   Greg Chernoff

83 Zigzag Glanduloplasty to Reduce Flatness of Lower Pole of Breast Following Breast Reduction .................................. 631
   Felix Giebler

84 Recurrent Deformities After Breast Reduction and Mastopexy ........................................ 635
   Saul Hoffman

85 Recurrent Mammary Hyperplasia .................................................. 639
   James F. Thornton, Paul D. McCluskey

86 Repeat Reduction Mammaplasty .................................................. 645
   Donald A. Hudson

87 Breast Reduction and Cancer in the Gland Remnant .................. 647
   Beniamino Palmieri, Giorgia Benuzzi, Alberto Costa

88 Breast Cancer and Reduction Mammaplasty ................................. 657
   David A. Jansen, Mary Catherine Ghere, Mark Lee, Madeline O. Jansen

89 Skin Circulation in the Nipple After Bipedicle Dermal Flap Reduction ........................................... 671
   Leif Perbeck

90 Complications in Augmentation Mastopexy ................................ 675
   Mervin Low

Part VII  Miscellaneous

91 Medical Legal Aspects .................................................. 681
   Melvin A. Shiffman

92 Editor’s Commentary .................................................. 687
   Melvin A. Shiffman

Subject Index .................................................. 689
List of Contributors

Antonio Carlos Abramo, MD, Ph.D.
Head Professor of the Post-Graduate Course of ACA
Institute of Assistance in Plastic Surgery of São Paulo
sponsored by Brazilian Society of Plastic Surgery
and Brazilian Medical Association at the General Hospital São Luiz - Unit Morumbi
Rua Afonso de Freitas, 41
641 04006-052, Sao Paulo SP
Brazil
E-mail: acabramo@abramo.com.br

John A. Altobelli, MD
The Lehigh Valley Hospitals
1230 S. Cedar Crest Blvd., Suite 202
Allentown, PA 18103
USA
E-mail: jaaltobelli@aol.com

Patricio Andrades, MD
Research and Clinical Fellow
Plastic and Reconstructive Surgery
Division of Plastic Surgery
The University of Alabama at Birmingham
510 20th Street South
1164 Faculty Office Tower
Birmingham, AL 35294-3411
USA
E-mail: patomed@tutopia.com

Christoph Andree, MD
Klinik für Plastische und Ästhetische Chirurgie
und Interdisziplinäres Brustzentrum
Bismarckallee 17
79098 Freiburg im Breisgau
Germany

Nicolae Antohi, MD
Associate Professor of Plastic Surgery
Head of the Department of Plastic Surgery
Hospital for Plastic Surgery and Burns
Esther Medical Centre
University for Medicine and Pharmacy “Carol Davila”
Washington Str., 48A, Sector 1
Bucharest, Romania
E-mail: nantohi@hotmail.com
Hülya Aydin, MD  
Professor, Department of Plastic, Reconstructive and Aesthetic Surgery  
Faculty of Medicine  
Istanbul University  
Valikonagý cad, Kucukpamuk apt., 135/9  
Nisantasý, Istanbul  
Turkey  
E-mail: drhulyaaydin@yahoo.com

Meltem Ayhan, MD  
Talatpasa bulvari 7/2 Alayunt apt.  
Alsancak, Izmir  
Turkey  
E-mail: meltem_2002@yahoo.com

Zeynep Aytug, MD  
Ziya Gokalp blv. No: 10/14  
Alsancak Izmir  
Turkey  
E-mail: zaytug@yahoo.com

Sanjay Azad, MD  
7 Sibton Lane, Oadby,  
Leister LE2 5UA  
UK  
E-mail: sanjay_azad@hotmail.com

Bret Baack, MD  
Chair, Division of Plastic and Reconstructive Surgery  
UNM Health Sciences Centre, 2211 Lomas Blvd.  
NE Albuquerque, NM 87131  
USA  
E-mail: bbaack@salud.unm.edu

Michael S.G. Bell, MD  
1919 Riverside Drive, Ottawa, ON  
Canada KIH 1A2  
E-mail: msgbell@cyberus.ca

José Fernando Borges Bento, MD  
Avenida Santos Dumont  
2312 Uberaba, MG- 38.050-400  
Brazil  
E-mail: jfb@uberabafactoring.com.br

Georgia Benuzzi, BSc  
Department of General Surgery  
University of Modena Medical School  
Policlinico Di Modena, via Del Pozzo 71  
41100, Modena  
Italy

Antonio R. Bozola, MD, PhD  
Avenida Jose Munia, 7075 São Jose do Rio Preto  
SP- 15.085-350  
Brazil  
E-mail: bozola@bozola.com.br
Tiberiu Bratu, MD, PhD
Professor of Plastic Surgery
University of Medicine and Pharmacy “Victor Babes”
County Hospital Timisoara
Casa Austria, Str. I. Bulbuca 10
Romania

Filippo Brighetti, MD
Via Croara 7/F,
40068 San Lazzaro di Savena (BO)
Italy
E-mail: umcplast@yahoo.it

Alberto Mango Lott Caldeira, MD
Rua Visconde de Pirajá
414 Grupo 1012, 22410-002 Ipanema
Rio de Janeiro, RJ
Brazil
E-mail: albertocaldeira@uol.com.br

Lázaro Cárdenas-Camarena, MD
Professor, Unit of Plastic Surgery
Guadalajara University
Guadalajara, Mexico
Av. Chapalita 1300 Col. Chapalita
CP 45050 Guadalajara
Jalisco
México
E-mail: plassurg@mail.udg.mx

Lloyd N. Carlsen, MD
Assistant Clinical Professor
Department of Surgery
The Cosmetic Surgery Hospital
McMaster University
4650 Highway #7
Woodbridge, ON
Canada L4L 1S7
E-mail: josie@cosmeticsurgeryhospital.com

Adil Ceydeli, MD
Bay Medical Centre
Division of Plastic Surgery
801 E. 6th St, Suite 302
Panama City, FL 32401
USA
E-mail: adilc@excite.com

Greg Chernoff, MD
9002 N. Meridian St.
Suite 205
Indianapolis, IN 46260
USA
E-mail: greg@drchernoff.com