

Does cosmetic surgery improve psychosocial wellbeing?

David J Castle, Roberta J Honigman and Katharine A Phillips

COSMETIC ENHANCEMENT is on the rise. More and more people report being unhappy with their appearance. In a 1997 US survey, 56% of women and 43% of men reported dissatisfaction with their overall appearance.¹ Paralleling this trend, an increasing number of both men and women are resorting to cosmetic procedures. Figures provided by the American Society for Aesthetic Plastic Surgery reveal that cosmetic procedures (surgical and non-surgical) performed by plastic surgeons, dermatologists and otolaryngologists increased 119% between 1997 and 1999.² In 1999, more than 4.6 million such procedures were performed, with the top five being chemical peels (18.3% of the total), botulinum toxin A injection (10.8%), laser hair removal (10.5%), collagen injection (10.3%), and sclerotherapy (9.0%). Rhinoplasties were performed on 102 943 people (2.2% of the total number of procedures), and there were 100 203 facelifts (2.2%), 191 583 breast augmentation procedures (4.2%) and 89 769 breast reductions (1.9%).² Systematic Australian data are not readily available, as there is no central registry or reporting requirements. Furthermore, such procedures are performed by a variety of different practitioners, including cosmetic physicians, dermatologists, and plastic surgeons.

As people generally seek cosmetic interventions to feel better about themselves, one would anticipate that cosmetically successful procedures would lead to enhanced self-esteem, mood, and social confidence. While studies spanning four decades have reported that most people undergoing cosmetic interventions are satisfied with the result,^{3,4} what has been less studied is the outcome in psychosocial terms. Clinicians and researchers have attempted over the years to evaluate whether improvement in psychosocial wellbeing following cosmetic enhancement can be objectively verified, but few methodologically robust studies have been done.

We reviewed the literature on psychosocial outcomes following cosmetic surgery, using *MEDLINE*, *PsychLit*, *PubMed*, *PsychINFO*, *Sociological Abstracts*, *Social Work*

ABSTRACT

- Both men and women are becoming increasingly concerned about their physical appearance and are seeking cosmetic enhancement.
- Most studies report that people are generally happy with the outcome of cosmetic procedures, but little rigorous evaluation has been done.
- More extensive ("type change") procedures (eg, rhinoplasty) appear to require greater psychological adjustment by the patient than "restorative" procedures (eg, face-lift).
- Patients who have unrealistic expectations of outcome are more likely to be dissatisfied with cosmetic procedures.
- Some people are never satisfied with cosmetic interventions, despite good procedural outcomes. Some of these have a psychiatric disorder called "body dysmorphic disorder".

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Abstracts, Proquest 5000, Web of Science and CINAHL. Using the search terms "cosmetic surgery", "plastic surgery", "patient assessment", "body awareness", "body image" and "body dysmorphic disorder", we identified 36 studies of varying design and quality. Most were investigations of patients undergoing a specific procedure, including rhinoplasty (12 studies), breast augmentation (7 studies), breast reduction (5 studies) and face-lift (3 studies), while other studies encompassed a variety of interventions. Follow-up intervals for testing of psychosocial outcomes ranged from immediately postoperative to 10 years after the procedure (in one study). Only 11 studies formally included a control group⁵⁻¹⁵ — these are shown in the Box. Other studies have used normative data from general population samples, which may not be appropriate as reference data.

Positive effects

Overall, the studies suggest that most patients were pleased with the outcome and felt better about themselves. This was particularly the case for women undergoing reduction mammoplasty. Domains of functioning showing improvement included "self worth", "self esteem", "distress and shyness" and "quality of life". However, many of these studies have methodological limitations, including small sample sizes and potentially biased ascertainment. Arguably, patients who agree to participate in such research, and oblige with pre- and post-intervention interviews, represent a biased group, but none of the studies estimated the extent of such potential bias. Furthermore, clinical interviews are poten-

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Controlled studies of psychosocial outcomes from plastic surgical interventions

Author(s)	Study objective	Procedure	Sex (mean age)	Study design	Control group	Scales used	Follow-up period	Outcome	Factors associated with poor outcomes
Edgerton et al ⁵	To survey patients requesting surgery to ageing face	Face-lift and blepharoplasty	8 M, 64 F (48 years)	Cross-sectional	7 patients age-matched to 7 of 8 patients selected to undergo psychological testing	Rorschach, JSC, TAT (only 8 patients had psychological testing)	2 months to 10 years	86% reported improved sense of wellbeing	Age under 40
Wright and Wright ⁶	To study personality characteristics of people seeking cosmetic surgery, and degree of change in personality traits after the procedure	Rhinoplasty	90 M and F (30 years)	Longitudinal (only 25 patients followed up)	25 non-cosmetic surgical patients	MMPI	18-24 months	No major personality change; improved self-concept; socially more self-assured	Psychosis; neurosis; decisional discrepancies with partner; personality disorder (narcissism)
Shipley et al ⁷	To examine the effect of breast augmentation on psychosocial functioning	Augmentation mammoplasty	19 F (30.5 years)	Retrospective	20 small-breasted women and 19 average-breasted women	CPI, ZSSET, DPAQ	3 months	Improved body image; no effects on personality or self-concept.	
Marcus ⁸	To examine the psychiatric status of patients having rhinoplasty	Rhinoplasty	5 M, 15 F (23 years)	Longitudinal	25 dental patients (18 M)	SJBOS, ADS, SES	3 months	90% pleased with surgical outcome; increased ability to enjoy life; increased social confidence	
Hueston et al ⁹	To construct a psychological profile of cosmetic surgery patients and make a longitudinal evaluation of effects of surgery on psychosocial functioning	Augmentation and reduction of mammoplasty, face lift, blepharoplasty, abdominoplasty	169 M and F (35 years)	Longitudinal	53 hand surgery patients	MHQ, LEQ, SAS, LCS, RSES	3 months	Psychosocial functioning of patients in both groups (aesthetic procedures, hand surgery) improved	
Beale et al ¹⁰	To determine whether it is possible to predict which women will benefit most from augmentation mammoplasty	Augmentation mammoplasty	61 F (age unspecified)	Subsample (n = 39) followed longitudinally	28 women from general population	CMPS	12 months	Personality testing is useful in predicting which women will benefit from the operation; 78% were satisfied with outcome	Psychiatric problems; unrealistic expectations; patients using surgery to "save relationship"
Hollyman et al ¹¹	To examine body perception before and after reduction mammoplasty	Reduction mammoplasty	11 F (22.4 years)	Longitudinal	19 women not seeking surgery	CCEI, body perception apparatus, visual analogue scales	At 2, 8, 16, and 26 weeks	Post-surgery relief of psychological distress; improved body image	
Meyer and Ringberg ¹²	To study preoperative personality, psychosocial and psychiatric characteristics	Augmentation mammoplasty	38 F (38.4 years)	Longitudinal	33 female surgical outpatients	CMPS, MNT	1 year	86% satisfied, and social and psychological expectations fulfilled	Unspecified personality characteristics
Robin et al ¹³	To assess the psychological status of rhinoplasty patients	Rhinoplasty	31 M and F (25.8 years)	Longitudinal	31 matched controls	FAST, GHQ, RMFS	6 months	Marked reduction in psychiatric symptom scores (controls showed no change)	
Klassen et al ¹⁴	To assess health status before and after breast reduction surgery	Reduction mammoplasty	166 F (30.5 years)	Longitudinal	General population sample	SF 36, RSES, GHQ 28	6 months	Improvement in psychological wellbeing post-operatively; 86% highly satisfied with outcome	
Klassen et al ¹⁵	To assess health status after a variety of cosmetic interventions	Various cosmetic procedures	198 M and F (32.6 years)	Longitudinal	General population sample	SF 36, GHQ 28, RSES	6 months	Majority pleased with outcome; gains in psychological, social and physical function	

ADS = Anxiety and Depression Scale. CCEI = Crown-Crisp Experimental Index. CMPS = Cesarec-Marle Personality Schedule. CPI = California Psychological Inventory. DPAQ = Dress, Popularity and Activity Questionnaire. FAST = Facial Appearance Sorting Test. GHQ = General Health Questionnaire. JSC = Johns Sentence Completion. LCS = Locus of Control Scale. LEQ = Life Events Questionnaire. MHQ = Middlesex Hospital Questionnaire. MMPI = Minnesota Multiphasic Personality Inventory. MNT = Marke-Nyman Test. RMFS = Rochford Masculinity/Femininity Scale. RSES = Rosenberg Self-Esteem Scale. SAS = Social Adjustment Scale. SES = Self-Esteem Scale. SF 36 = Short Form 36 health survey. SJBOS = Second-Jourard Body Cathexis Scale. TAT = Thematic Apperception Test. ZSSET = Ziller Social Self-Esteem Test.

tially subject to bias on the part of both the respondent and the interviewer, and very few studies employed “blind” raters. Of particular concern is that not all studies used valid assessment instruments, which hampered the interpretation of results. Finally, most studies evaluated very specific procedures, and it is unclear how generalisable their results are to other types of cosmetic intervention.

Predicting poor psychosocial outcomes

What has been even less rigorously examined is the question of what factors are associated with an unsatisfactory psychosocial outcome after cosmetic procedures. Few of the studies we reviewed formally dealt with this issue. Factors identified with unsatisfactory outcomes included being male, being young, suffering from depression or anxiety, and having a personality disorder. However, such parameters have not been studied in a rigorous manner.² Other authors have suggested that the nature and degree of surgical change is an important predictor of outcome: more extensive (“type change”) procedures (eg, rhinoplasty, breast augmentation) are more likely to result in serious body-image disturbance than “restorative” procedures (eg, face-lift, botulinum toxin A injection).¹⁶ The extent of changes in sensation following the procedure (eg, a feeling of skin tightening after a face-lift, or loss of nipple sensation after breast augmentation) may also influence psychological outcome, with greater degrees of sensory disturbance making adjustment to the procedure more difficult.¹⁷

The patient’s expectation of the outcome of the procedure also appears to be important. It has been suggested that a distinction can usefully be made between expectations regarding the self (eg, to improve body image) and expectations relating to external factors (eg, enhancement of social network, establishing a relationship, getting a job).² Some evidence points to externally directed expectations being of more concern — if the person views the procedure as a panacea for his or her life problems, the outcome is more likely to be poor.¹⁸

Cosmetic surgery and body dysmorphic disorder

There is a particular subgroup of people who appear to respond poorly to cosmetic procedures. These are people with the psychiatric disorder known as “body dysmorphic disorder” (BDD). BDD is characterised by a preoccupation with an objectively absent or minimal deformity that causes clinically significant distress or impairment in social, occupational, or other areas of functioning.² People with this disorder obsess about the perceived defect, usually for hours each day. The belief of imagined ugliness is often held with delusional conviction.¹⁹ In an attempt to alleviate their distress, sufferers may seek reassurance from others, check their appearance repeatedly in the mirror or other reflecting surfaces, pick their skin and try to conceal the “defect” through use of concealing clothing, wigs, makeup, hats, and so on.²⁰ These patients constitute 6%–15% of patients seen

in cosmetic surgery settings^{21,22} and about 12% of patients seen in dermatology settings.²³

For several reasons, it is important to recognise BDD in cosmetic surgery settings. Firstly, it appears that cosmetic procedures are rarely beneficial for these people. Most patients with BDD who have had a cosmetic procedure report that it was unsatisfactory and did not diminish concerns about their appearance.^{24,25} Some patients resort to legal redress or are even violent towards the treating physician.^{26,27} Secondly, BDD is a treatable disorder. Serotonin-reuptake inhibitors and cognitive behaviour therapy have been shown to be effective in about two-thirds of patients with BDD.²

Approach to the patient seeking cosmetic surgery

So, how is the cosmetic specialist to ascertain who will do poorly in psychosocial terms despite an objectively successful procedure? The literature is not terribly useful in guiding us, but certain commonsense assumptions can be made. First, the individual’s attitude towards the cosmetic problem, and the distress and disability associated with it, should be assessed. In particular, the cosmetic specialist needs to determine whether the patient has BDD.²⁸ This can be done by assessing whether the perceived defect is non-existent or slight and enquiring as to the amount of time spent each day worrying about the problem, how much distress thinking about it causes, and whether there is any resulting functional impairment (eg, social avoidance). If the patient reports being preoccupied with the perceived flaw (eg, thinking about it for at least an hour a day), and if the concern with the flaw causes marked distress or impaired functioning, BDD is likely to be present. Similarly, if the cosmetic specialist perceives the patient’s cosmetic problem to be much more trivial than the patient believes it to be, suspicion should be aroused. It is also illuminating to assess the patient’s expectations of the outcome of the proposed procedure in both cosmetic and psychosocial terms. Patients should be advised of what the cosmetic outcome is likely to be and fully informed of potential side effects and complications.

It is also useful to review past cosmetic interventions, including the number of previous procedures and their cosmetic and psychosocial outcome as perceived by the patient as well as family and friends. The cosmetic specialist should probably be most concerned about people who have had numerous procedures performed by many practitioners, and particularly those who report the outcome of such procedures to have been unsatisfactory. Any history of legal proceedings or threats or overt violence towards previous cosmetic specialists should obviously be considered very worrisome.

A patient’s psychiatric history and current mental state should also be examined. Merely having or having had a mental illness should not of itself preclude cosmetic procedures. However, the cosmetic specialist should be aware that certain psychiatric conditions can present with heightened concern about appearance, which might resolve with ade-

quate psychiatric treatment.² For example, cosmetic procedures should probably not be performed on people who are depressed or psychotic or who have BDD. Referral of such patients to a mental health professional is strongly recommended.

References

1. Garner DM. Body image survey. *Psychol Today* 1997; 30: 30-84.
2. Castle DJ, Phillips KA, editors. Disorders of body image. Hampshire, UK: Wrightson Biomedical, 2002.
3. Edgerton MT, Jacobsen WE, Meyer E. Surgical-psychiatric study of patients seeking plastic (cosmetic) surgery: ninety-eight consecutive patients with minimal deformity. *Br J Plast Surg* 1960; 13: 136-145.
4. Glatt BS, Sarwer DB, O'Hara DE, et al. A retrospective study of changes in physical symptoms and body image after reduction mammoplasty. *Plast Reconstr Surg* 1999; 103: 76-85.
5. Edgerton MT, Webb WL, Slaughter R, Meter E. Surgical results and psychosocial changes following rhytidectomy. *Plast Reconstr Surg* 1964; 33: 503-521.
6. Wright MR, Wright WK. A psychological study of patients undergoing cosmetic surgery. *Arch Otolaryngol* 1975; 101: 145-151.
7. Shipley RH, O'Donnel JM, Bader KF. Psychological effects of cosmetic augmentation mammoplasty. *Aesthetic Plast Surg* 1978; 2: 429-434.
8. Marcus P. Psychological aspects of cosmetic rhinoplasty. *Br J Plast Surg* 1987; 37: 313-318.
9. Hueston J, Dennerstein L, Gotts G. Psychological aspects of cosmetic surgery. *J Psychosom Obstet Gynaecol* 1985; 4: 335-346.
10. Beale S, Lambert G, Lisper H, et al. Augmentation mammoplasty: the surgical and psychological effects of the operation and prediction of the result. *Ann Plast Surg* 1985; 14: 473-493.
11. Hollyman JA, Lacey JH, Whitfield PJ, Wilson JSP. Surgery for the psyche: a longitudinal study of women undergoing reduction mammoplasty. *Br J Plast Surg* 1986; 39: 222-224.
12. Meyer L, Ringberg A. Augmentation mammoplasty: psychiatric and psychosocial characteristics and outcome in a group of Swedish women. *Scand J Plast Reconstr Surg* 1987; 21: 199-208.
13. Robin AA, Copas JB, Jack AB, et al. Reshaping the psyche: the concurrent improvement in appearance and mental state after rhinoplasty. *Br J Psychiatry* 1988; 152: 539-543.
14. Klassen A, Fitzpatrick R, Jenkinson C, Goodacre T. Should breast reduction surgery be rationed? A comparison of health status of patients before and after treatment: postal questionnaire survey. *BMJ* 1996; 313: 454-457.
15. Klassen A, Jenkinson C, Fitzpatrick R, Goodacre T. Patients' health related quality of life before and after aesthetic plastic surgery. *Br J Plast Surg* 1996; 49: 433-438.
16. Sarwer DB, Wadden TA, Pertschuk MJ, Whitaker LA. The psychology of cosmetic surgery: a review and reconceptualization. *Clin Psychol Rev* 1998; 18: 1-22.
17. Pruzinsky T, Edgerton MT. Body-image change in cosmetic plastic surgery. In: Cash TF, Pruzinsky T, editors. Body images: development, deviance, and change. New York: Guilford Press, 1990: 217-236.
18. Beale S, Lambert G, Lisper H, et al. Augmentation mammoplasty: the surgical and psychological effects of the operation and prediction of the result. *Ann Plast Surg* 1985; 14: 473-493.
19. Phillips KA, McElroy SL, Keck PE Jr, et al. Body dysmorphic disorder: 30 cases of imagined ugliness. *Am J Psychiatry* 1993; 150: 302-308.
20. Phillips KA. The broken mirror: understanding and treating body dysmorphic disorder. New York: Oxford University Press, 1996.
21. Sarwer DB, Wadden TA, Pertschuk MJ, et al. Body image dissatisfaction and body dysmorphic disorder in 100 cosmetic surgery patients. *Plast Reconstr Surg* 1998; 101: 1644-1649.
22. Ishigooka J, Iwao M, Suzuki M, et al. Demographic features of patients seeking cosmetic surgery. *Psychiatry Clin Neurosci* 1998; 52: 283-287.
23. Phillips KA, Dufresne RG Jr, Wilkel C, Vittorio C. Rate of body dysmorphic disorder in dermatology patients. *J Am Acad Dermatol* 2000; 42: 436-441.
24. Veale D. Outcome of cosmetic surgery and "DIY" surgery in patients with body dysmorphic disorder. *Psychiatr Bull* 2000; 24: 218-221.
25. Phillips KA, Grant JD, Siniscalchi J, Albertini RS. Surgical and nonpsychiatric medical treatment of patients with body dysmorphic disorder. *Psychosomatics* 2001; 42: 504-510.
26. Phillips KA, McElroy SL, Lion JR. Body dysmorphic disorder in cosmetic surgery patients [letter]. *Plast Reconstr Surg* 1999; 90: 333-334.
27. Cotterill JA. Body dysmorphic disorder. *Dermatol Clin* 1996; 14: 457-463.
28. Dufresne RG, Phillips KA, Vittorio CC, Wilkel CS. A screening questionnaire for body dysmorphic disorder in a cosmetic dermatologic surgery practice. *Dermatol Surg* 2001; 27: 457-462.

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book review

Be warned — this book may change your life

Decision making in health and medicine. Integrating evidence and values. M G Myriam Hunink, Paul P Glasziou, Joanna E Siegel et al. Cambridge: Cambridge University Press, 2001 (xvi + 388 pp, \$99). ISBN 0 521 77029 7.

LIKE THE PRACTICE of medicine itself, this book is not for the faint-hearted. Not because it is difficult to read or to understand, but because, unless you are already skilled in decision analysis, you will find it new, thought provoking and rigorous. The consequences of embracing its message are profound.

Its fundamental premiss is that medicine (defined in its broadest sense to cover clinical medicine, population research, policy development and health management) is about uncertainty and the need to make decisions despite this uncertainty. For example, you have just diagnosed a 58-year-old man with atrial fibrillation. If you prescribe warfarin you can reduce his risk of embolic stroke by 70%, but this benefit comes at the price of an increased risk of haemorrhage, and the need for regular blood tests and avoidance of activities that increase his risk of injury. How do you weigh up the probabilities and incorporate into the decision your patient's individual values about what is important to him?

This book presents an approach and a handful of tools for making complex, value-laden decisions such as this. The approach, PROACTIVE, is adapted from a generic approach to decision making. As the authors say, one of its greatest strengths is that it requires you to make the decision-making process transparent. By carefully outlining your decision, viewing it from other perspectives and considering what the important objectives are, the best decision may become readily apparent without having to go any further.

If you need to work quantitatively with probabilistic data, to make trade-offs between benefits and risks (or length of life versus quality of life, or costs versus benefits), and to incorporate people's values and preferences, the book provides detailed guidance on the tools that are available. It takes the novice from a definition of a probability and a proportion all the way to advanced microsimulation modelling.

Decision making in health and medicine updates the 1980 book *Clinical decision analysis*. It has a broader framework, and covers population health decision-making. It also includes more information on diagnostic testing, methods for measuring and incorporating quality-of-life measures and newer approaches to modelling. To support it, there is an accompanying CD-ROM with solutions to exercises, decision-analytic software, examples of decision-analytic models using the software, spreadsheets and references with abstracts. It is an extraordinarily ambitious book that achieves its aim.

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