Published in final edited form as:

Dermatol Surg. 2020 August ; 46(8): 1113–1115. doi:10.1097/DSS.0000000000002014.

Patient Expectations Influence Postoperative Facial Satisfaction Measured by the FACE-Q Skin Cancer Module: A Pilot Study

Nina R. Blank, MD^{1,2}, Cerrene N. Giordano, MD¹, Stephen Dusza, DrPH¹, Kishwer Nehal, MD^{1,2}, Erica H. Lee, MD^{1,2}

¹Memorial Sloan-Kettering Cancer Center, 16 East 60th Street, New York, NY 10022, 646-888-6001

²Weill Cornell Medical College, 1300 York Avenue, New York, NY 10021, 212-746-5454

A comprehensive, patient-centered medical model involves the patient in therapeutic decision-making and outcome evaluation. This becomes particularly salient with respect to subjective outcome measures such as cosmesis. Patients with cutaneous facial malignancies experience dual stressors of cancer diagnosis and anticipated surgery in a cosmetically-sensitive location. While tumor extirpation is principal for both patient and surgeon, aesthetic outcome remains a key patient concern¹ and is a useful measure of treatment success for low-recurrence/mortality malignancies like nonmelanoma skin cancer (NMSC) and early melanoma. The FACE-Q Skin Cancer Module, a patient-reported outcome (PRO) measure developed for patients undergoing surgery for cutaneous facial malignancies,² has been validated to assess subjective outcomes like cosmesis. In this pilot study, we administered pre-operative expectation questions to a cohort undergoing facial skin cancer surgery and then post-operative Satisfaction with Facial Appearance and Appraisal of Scars scales from the FACE-Q Skin Cancer Module. We evaluated the relationship between patients' clinical factors and pre-operative expectations and their ultimate post-operative aesthetic satisfaction.

Following Memorial Sloan-Kettering Cancer Center Institutional Review Board approval, we prospectively recruited 90 facial NMSC and early (T0, T1a) melanoma patients with Mohs surgery or excision planned. Prior to treatment, patients answered 3 “expectations” questions assessing: 1) importance of facial appearance; 2) anticipated change in facial appearance; and 3) expected scar visibility. These were created through group consensus, informed by author experience interviewing patients for a qualitative study.¹ At first post-operative visit, typically within 1 month post-operatively, patients completed 2 FACE-Q Skin Cancer Module scales. The Satisfaction with Facial Appearance scale's 9 items reference aesthetic concerns (e.g. overall symmetry, photographic appearance). The Appraisal of Scars scale's 8 items assess scar concerns (e.g. length, color, visibility). Scales' Conversion Tables generated final scores from 0–100, with higher values representing greater facial satisfaction and less scar bother.

Corresponding Author: Erica H. Lee MD, Dermatology Service, 16 East 60th Street, New York, NY 10022.

The authors have indicated no significant interest with commercial supporters.

Independent samples t-tests explored cross-sectional differences in post-operative cosmetic and scar satisfaction by gender, age, previous facial surgery, and surgical site conspicuity. Sites deemed “conspicuous” were mid-face: between lateral canthi, bounded superiorly by hairline and inferiorly by mandible lower border. Multiple linear regression assessed the relationship between pre- and post-operative satisfaction while controlling for pre-operative expectations, age, sex, surgical site visibility, and days since surgery. Separate regression models evaluated the three “expectations” questions. Model diagnostics including residual plots assessed standard regression assumptions. All analyses were performed with Stata V.14.1, Stata Corporation, College Station, TX.

Sixty-seven of 90 patients (74.4%) completed post-operative questionnaires at median 16 days after surgery. Three patients who forewent surgery did not complete follow-up questionnaires. The 20 post-operative patients without follow-up did not differ significantly from the 67 with follow-up by gender breakdown (48% vs. 51% women), average age (64.0 vs. 62.4), or type of repair (40.0% vs. 40.3% primary closure; 20.0% vs. 28.4% secondary intention; 40.0% vs. 31.3% flap/graft). Univariate analysis of patient characteristics illustrated that both lower post-operative facial satisfaction and greater scar bother were associated with female gender and conspicuity of tumor site (Table 1). Subsequent multivariate analysis of gender and site visibility illustrated that both variables independently contributed to post-operative face satisfaction and to post-operative scar bother.

Table 2 associates pre-operative expectations with post-operative aesthetic satisfaction while controlling for age, sex, site visibility, and days since surgery. The importance of one’s appearance did not associate with overall facial satisfaction. While those who rated their appearance “very important” reported more scar bother than those less cosmetically-conscious, this difference did not reach statistical significance. Only an expectation of unchanged facial appearance predicted a lower facial satisfaction score, when compared to those who anticipated some degree of scarring or disfigurement (57.7 vs. 70.7, $p=0.03$).

Previous studies have not shown gender differences in overall satisfaction with the dermatologic surgery experience;³ however, female gender has been shown to associate with worse appearance-related QOL at baseline compared with male gender.⁴ The gender difference this study illustrates in cosmetic satisfaction may reflect a higher female threshold for personal aesthetic, perhaps related to greater appearance-related sociocultural pressures upon women.

The societal implications of facial appearance are further typified by our cohort’s diminished post-operative facial and scar satisfaction amongst patients with scars in conspicuous versus peripherally-located facial sites. Indeed, the central face has been shown to carry critical importance with respect to a person’s identity and self-esteem. A 2015 study found that larger, more central facial tumors – compared with small, peripheral lesions – negatively impacted conversation and social interaction between casual observers and affected patients, thereby inducing a social penalty.⁵

While our analysis did not yield significant differences in facial satisfaction or scar bother with respect to age, this sphere of study warrants analysis with larger and longer-term studies. As the dermatologic surgery patient population ages, it will be essential to discern differing treatment expectations and aesthetic needs of older cohorts in order to provide tailored counseling and appropriate interventions that maximize quality of life.

Limitations of this study include relatively small sample size, population drawn from one institution, and cosmetic satisfaction assessed at the first post-operative visit, a time point at which patients may be least aesthetically pleased given limited healing time. While future studies would be well-served to evaluate long-term cosmesis after surgery, we believe satisfaction early after surgery remains relevant to patients, as this serves as their first impression of their surgical outcome.

PRO instruments empower patients to quantify treatment satisfaction and provide clinicians with an objective measure of the patient perspective. Using the FACE-Q Skin Cancer Module, we demonstrated that female gender, surgical site conspicuity, and unrealistic pre-operative aesthetic expectations were associated with decreased post-operative cosmetic satisfaction in facial skin cancer patients. Gender and anatomic site, while unmodifiable, are characteristics that can alert clinicians to patients who may need higher-level pre-operative counseling or post-operative support. Patients' preconceived ideas about treatment outcome, meanwhile, may actually be modified or reset by the clinician during pre-operative consultations. The important role of pre-operative expectations illustrated by this study highlights the unique thresholds for satisfaction held by each patient and presents a valuable area of intervention to optimize patient-centered care.

Funding:

1. Memorial Sloan Kettering Cancer Center Support Grant/Core Grant (P30 CA008748)
2. Skin Cancer Foundation Research Grant
3. Tromovitch Abstract Award, American College of Mohs Surgery Annual Meeting, 2017

References

1. Lee EH, Klassen AF, Lawson JL, Cano SJ, Scott AM, Pusic AL. Patient experiences and outcomes following facial skin cancer surgery: A qualitative study. *The Australasian journal of dermatology*. 2016;57(3):e100–104. [PubMed: 25833383]
2. Lee EH, Klassen AF, Cano SJ, Nehal KS, Pusic AL. FACE-Q Skin Cancer Module for Measuring Patient-Reported Outcomes Following Facial Skin Cancer Surgery. *British Journal of Dermatology*. 2018.
3. Asgari MM, Warton EM, Neugebauer R, Chren MM. Predictors of patient satisfaction with Mohs surgery: analysis of preoperative, intraoperative, and postoperative factors in a prospective cohort. *Archives of dermatology*. 2011;147(12):1387–1394. [PubMed: 22184760]
4. Sobanko JF, Zhang J, Margolis DJ, et al. Patient-reported quality of life and psychosocial health prior to skin cancer treatment - A cross-sectional study. *Journal of the American Academy of Dermatology*. 2016;75(1):217–218.e212. [PubMed: 27317520]
5. Dey JK, Ishii LE, Byrne PJ, Boahene KD, Ishii M. The social penalty of facial lesions: new evidence supporting high-quality reconstruction. *JAMA facial plastic surgery*. 2015;17(2):90–96. [PubMed: 25474194]

TABLE 1.

Comparison of Post-Operative Aesthetic Satisfaction Scores Between Clinical Sub-Groups

Variable		n	Satisfaction with Facial Appearance	p-value	Appraisal of Scar	p-value
Gender						
	Female	34	66.1 (25.4)	0.009 ^a	65.1 (24.1)	0.009 ^a
	Male	33	81.3 (19.9)		79.9 (21.1)	
Age						
	<65	36	70.9 (23.1)	0.33 ^a	69.6 (21.7)	0.40 ^a
	65	31	76.9 (24.9)		74.6 (25.7)	
Previous facial skin cancer surgery						
	No	47	74.6 (22.0) ^b	0.66 ^a	72.5 (22.3) ^c	0.76 ^a
	Yes	20	71.7 (28.8) ^d		70.6 (27.0)	
Site Visibility						
	Conspicuous	50	68.0 (24.5) ^e	0.001 ^a	67.3 (23.5) ^f	0.006 ^a
	Inconspicuous	17	89.5 (13.7)		85.4 (18.9)	

^a: P-value based on Student's independent samples t-test^b: N=45^c: N=46^d: N=19^e: N=47 patients^f: N=49 patients

TABLE 2.

Comparison of Post-Operative Aesthetic Satisfaction Scores Between Pre-Operative Expectation Subgroups, Controlling for Age, Sex, Site Visibility, and Days Since Surgery

Variable		n	Satisfaction with Facial Appearance	p-value	Appraisal of Scar	p-value
Q1: Importance of Appearance						
	Not most important/not important	41	77.1 ^a	--	95.6 ^b	--
	Very important	26	79.7 ^c	0.66	66.9	0.17
Q2: Expected Change in Facial Appearance						
	Unchanged	25	57.7 ^d	--	86.1	--
	Scar/disfigured	42	70.7 ^e	0.03	88.0 ^e	0.76
Q3: Expected Appearance of Scar						
	Invisible	9	82.1 ^f	--	83.6	--
	Visible to self only	42	79.9 ^g	0.80	91.5 ^h	0.34
	Visible to others	16	79.4	0.79	84.4	0.93

^a: N=39

^b: N=40

^c: N=25

^d: N=23

^e: N=41

^f: n=8

^g: n=40

^h: n=41