Reflections

Forget two-faced, we're infinitely faced: on facial plastic and reconstructive surgery

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"The face is a picture of the mind with the eyes as its interpreter."
- *Marcus Tullius Cicero*

"Gussie, a glutton for punishment, stared at himself in the mirror."
- *P.G. Wodehouse, Right Ho, Jeeves*

"First principles, Clarice. Simplicity. Read Marcus Aurelius. Of each particular thing, ask: What is it, in itself, what is its nature...? What does he do, this man you seek?"
- *Hannibal Lecter, The Silence of the Lambs*

The marvels of medicine are numerous and often awe-inspiring when properly appreciated. Facial anatomy and function are wildly impressive examples of the human body's intricate nature. The facial skeleton consists of fourteen bones in total, with their size and shape determining the structure on which the subsequent soft tissue rests. The elaborate nature of this soft tissue is remarkable, including more than twenty different muscles, as well as a handful of vitally important blood vessels and functionally paramount nerves. Injury to these structures can be devastating to facial function and all that relies on it.

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Cicero's quote above bundles up the importance of the face eloquently and at the same time, incompletely. Beyond a picture of the mind in any one moment, the face defines us in innumerable ways. Regardless of any state of mind, the face, for better or worse, always takes center stage. When we see the world, we do so from a space behind our face. When we view the faces of others, the tendency to react is hard-wired. Whether it be a first impression during a job interview, or the way a smile or smirk is carefully released on a first date, perceptions of facial anatomy, contour, and expression can be consequential.

As medical practitioners, we often find ourselves in the position of seeing patients at their most vulnerable. When patients suffer facial disfigurement, this vulnerability tends to invade realms far beyond the clinic or operating room. Whether at the hands of trauma or disease, the prospects of facial disfigurement can fuel feelings of uncertainty, anxiety, and anger. In these scenarios, given that the literal means by which one interfaces with the world is being jeopardized, this range of experience is both unsurprising and understandable. In these cases, the role of the surgeon to counsel patients, by providing options and advice, as well as managing expectations, is critical and must be achieved with care and precision.

In 2018, a Montréal-based team fulfilled this responsibility in a unique way after completing the first facial transplant in Canada. The case was one that I was not especially familiar with, despite the media attention it garnered at the time. As a medical student, one tends to vacillate between states of appreciable fatigue and unrelenting exhilaration, and during this maze of experience, unplanned opportunities can present themselves. During my core surgery rotation, I had the opportunity to observe a facial transplant skills session, which was organized for otolaryngology and plastic surgery residents and directed by Dr. Daniel Borsuk, the lead surgeon who orchestrated the Montréal facial transplant. Following his Grand Rounds lecture at my home university, residents made their way to the university's skills lab. The entrance to the lab was memorable. After gowning and gloving, residents entered the room and approached Dr. Borsuk, who asked their specialty and rank before dispatching them to competing tables. My turn came, and I stated, "Third year medical student, here to observe". Dr. Borsuk, almost amused, replied "No observation today, you can join team six!" As Dr. Borsuk circulated the room, observing and teaching learners about key aspects of the transplant procedure, I was able to speak with him personally. I inquired whether there had been any deviation from the stepwise plan outlined during his talk, which had been posted on the operating room wall in Montréal during the surgery. He commented that facial transplant surgery was a domain in which improvisation was not heavily relied upon, remarking that they had treated the surgery like a spacewalk. Second thoughts, it turned out, were truly a last resort during the 30-hour operation. This interaction certainly had the effect of focusing my mind when it came time to select a specialty to pursue. The intense attraction that I had been developing to surgery, and to the theatre of the *theatre* over the past 18 months, were only strengthened by this brief but meaningful interaction. The stakes were high, and the consequences associated with error were as appreciable as the meticulous planning and work required to make the procedure a success. For some reason, I felt very much drawn in by this combination of circumstances and the idea that one could build a career around the concept of surgery of this kind.

The transplant skills session was certainly interesting enough, however, a second experience also proved to be formative for a medical student with a keen eye for the face and its wonders. The setting was a plastic surgery clinic and I was the third-year clerk. I was assigned to interview and examine a post-operative re-check and then report back to the staff physician. The patient spent the previous four weeks recovering from a right-sided alar-facial basal cell carcinoma excision and reconstruction. After reading the patient's chart, I was able to gain an appreciation for the lead up to the discovery of the lesion and the details of the procedure. As I walked into the room and began talking to and examining the patient, I suddenly found myself unable to discern where the lesion had in fact been located. The healing process was indeed underway, but I had expected a more obvious presentation. As I quietly observed, my eyes wandering over his face, he soon became aware of what was happening, and he smirked almost uncontrollably. We had agreed that the outcome of the procedure was successful and left little in the way of desire. This simple and seemingly unremarkable moment had in turn left its mark on me. It was not that the affected area was difficult for my untrained eyes to see, but rather his reaction to this outcome and the satisfaction that came with it. This patient was fortunate to have a relatively small

lesion and the luxury of negative margins. Cancers of this kind virtually never undergo metastatic spread but are known to be quite locally destructive as they eat away surrounding soft tissue. He had been lucky in several ways from a medical perspective, and I had also been lucky when it came to his smirk and the interaction we shared, through the meaning it held for me. It was a moment I will not forget as it drove home just how consequential facial plastic surgery was for the undergoing patients. As doctors, all of us enter the field of medicine with the goal of improving the lives of our patients. While this specific case did not involve life and death *per se*, and the extent of the insult was relatively limited, the power of reassurance and improvement was both shared, powerful, tangible, and perhaps, habit-forming.

These experiences represent part of the fundamental privilege associated with choosing medicine as a career. This memorable interaction, along with many others I have experienced thus far, have greatly stimulated both personal reflection and clinical development by cementing my interests, establishing patient connections, and allowing me to better understand their point of view. Importantly, these interactions have also nurtured an awareness of the related philosophical and ethical facets involved at times. In considering the growing field of facial transplantation, we are beginning to place more importance on the psychological implications associated with the procedure. There are many areas of intrigue within this type of transplant ethics. Psychological screening for potential recipients is robust and for good reason. Conceptualizing what being a facial transplant recipient would be like post-operatively must be complicated, self-altering and at the same time immensely intimate and intimidating. In the case of a patient who has suffered facial trauma through a self-inflicted gunshot wound, for example, and who now wishes to become a transplant recipient, questions gauging psychological well-being and fitness as a recipient must be answered. Moreover, beyond screening for suitability, dilemmas still exist. In cases where facial organs are scarce, should victims of accidental or disease-related trauma take precedence over those who have self-inflicted wounds? Over time, other concerns have been raised regarding the intensive immunosuppressive therapy required following transplant. In some jurisdictions, the patient's ability to pay for what amounts to a lifelong and life-sustaining therapy may unfortunately become important.

Such questions meaningfully challenge physicians, ethicists, and societies who are responsible for deciding eligibility criteria and the level of investment in these procedures and their downstream management, given the staggering costs. As our transplant science and techniques advance, the ethical difficulties in these more delicate cases will be no less apparent, but as medical professionals, we must keep our eye on the ball that is bettering the lives of our patients. The advent of several facial transplants in the mid 2000's led to an increased acceptance of the procedure, its utility in appropriate cases, and a heightened interest in advancing the science and technology of transplant itself. Assuming that issues related to cost can be mitigated, and they *can* be by enhancing understanding of the procedure's importance to societies and governments, it seems that the consenting patient, with their understanding of risks and benefits firmly in hand, should be able to pursue the surgery in a more unhindered manner as time goes on. This can only be expected given the advances thus far, as well as the paradigm shift witnessed over the past two decades in respect to acceptance of the procedure in medicine and society.

More generally, these experiences have granted me a refined lens through which to view perceptions related to plastic surgery in society. The power of aesthetics in medicine can be underappreciated and, in some cases, mischaracterized outright. There does exist a certain stigma associated with reconstructive surgery in popular culture and society. This is a notion that aims to characterize plastic surgery as unnecessary or, in its worst forms, existing only as a pursuit in vanity and image rather than the more conventional and accepted medical themes of health and wellness. A fixation on physical image or aesthetic outcome can have deleterious effects in some circumstances and, of course, can be realized as pathological. However, our collective fascinations or infatuations with aesthetics, outcomes, and image are simply part of the social web in which we are tangled. Once that state of play is accepted and acknowledged, the obvious benefits associated with bettering perceived image should be as well. The importance of self-image to the individual and to their self-confidence, no matter how critical our stance is on an increasingly image-driven society, is hard to discount outright.

In cases of facial disfigurement, a spectrum of the degree of insult certainly exists, with the need for complete facial transplantation on one end, and less involved or *necessary*

procedures on the other. Nonetheless, the successful restoration to some semblance of the desired tissue structure is a meaningful and worthwhile goal in most cases. Here, success can give much to our patients in terms of their identity, confidence, interpersonal interactions, and in the best cases, overall psychological well-being. These kinds of successes, the unique relationships they engender between surgeon and patient, and the impacts they have on both are readily appreciable, and to me, worth chasing.