

CHAPTER 2

CAREERS IN PLASTIC SURGERY

Chad M. Teven, MD and Ash Patel, MBChB, FACS

Plastic and reconstructive surgery is one of the most diverse specialties within the field of medicine. Unlike many other fields, it is not confined to a single organ system, region of the body, or patient population. The Greek term “plastikos” means to mold or to shape, and this is where our specialty derives its name and underlying principles. By reshaping, remolding, and manipulating both soft and hard tissues, plastic and reconstructive surgeons help patients with a myriad of issues. The goal of our specialty is to restore form and function, and to do so in an aesthetic fashion.

The first known plastic surgery procedures on living patients date back to 600 BCE, when the Indian surgeon Sushruta offered reconstruction to people who had had their noses surgically removed as a form of punishment. As early as 100 BCE, the Romans began performing procedures to improve self-image and cosmetic appearance. Since, plastic surgery has come a long way and now is integral to the treatment of patients with disfigurement due to trauma, burns, scarring, cancer, infection, and more. As opposed to treating specific conditions with a limited set of procedures, plastic surgeons use skills and principles based on anatomy, physiology, and tissue transfer when managing patients.

The challenge of plastic surgery is the combination of the surgeon’s judgment and problem-solving abilities with surgical technique at any given moment. Because of this approach, the plastic surgeon often acts as a “last resort” surgical consultant to surgeons and physicians in the treatment of many wound problems and is often called “the surgeon’s surgeon.”

While plastic surgeons offer life-saving procedures in many situations, an additional important theme in our specialty is the improvement in quality of life for patients. Plastic surgery not only restores body function, but helps to renew or improve a patient’s body image and sense of self-esteem. Along with psychiatrists, plastic surgeons are especially equipped to handle the patient’s problem of body image and to help the patient deal with either real or perceived problems.

Consistent with these far-reaching goals, the scope of the operations performed by plastic surgeons is broad. As outlined by The American Board of Plastic Surgery, “the specialty of plastic surgery deals with the repair, replacement, and reconstruction of physical defects of form or function involving the skin, musculoskeletal system, craniomaxillofacial structures, hand, extremities, breast and trunk, and external genitalia. It uses aesthetic surgical principles not only to improve undesirable qualities of normal structures, but in all reconstructive procedures as well. Among the problems managed by plastic surgeons are congenital anomalies of the head and neck. Clefts of the lip and palate are the most

common, but many other head and neck congenital deformities exist. In addition, the plastic surgeon treats injuries to the face, including fractures of craniofacial skeleton.

Craniofacial surgery is a discipline developed to reposition and reshape the bones of the face and skull through inconspicuous incisions. Severe deformities of the cranium and face, which previously were uncorrectable or corrected with great difficulty, can now be better reconstructed employing these new techniques. Such deformities may result from a tumor resection, congenital defect, previous surgery, or previous injury. Treatment of tumors of the head and neck and reconstruction of these regions after the removal of these tumors is also within the scope of plastic surgery.

Another area of expertise for the plastic surgeon is hand surgery, including the management of acute hand injuries, the correction of hand deformities and reconstruction of the hand. Microvascular surgery, a technique that allows the surgeon to connect blood vessels of one millimeter or less in diameter, is a necessary skill in hand surgery for re-implanting amputated parts or in moving large pieces of tissue from one part of the body to another.

Defects of the body surface resulting from burns or from injuries, previous surgical treatment, or congenital deformities may also be treated by the plastic surgeon. One of the most common of such procedures is reconstruction of the breast following mastectomy. Breasts may also be reduced in size, increased in size, or changed in shape to improve the final aesthetic appearance. Operations of this type are sometimes cosmetic in purpose, but in cases where the patient has a significant asymmetry or surgical defect, the procedure serves important therapeutic purposes.

The most highly visible area of plastic surgery is aesthetic or cosmetic surgery. Cosmetic surgery includes facelifts, breast enlargements and enhancement, nasal surgery, body sculpting, and other similar operations to enhance one's appearance.

The results of the plastic surgeon's expertise and ability are highly visible, leading to a high degree of professional and personal satisfaction. Plastic surgery is an innovative specialty. Advances such as transplantation, microvascular surgery, fat grafting, and various medical devices have been spearheaded and advanced by plastic surgeons. The discipline requires meticulous attention to detail, sound judgment and technical expertise in performing the intricate and complex procedures associated with plastic surgery. In addition, plastic surgeons must possess a flexible approach that will enable them to work daily with a tremendous variety of surgical problems. Most importantly, the plastic surgeon must have creativity, curiosity, insight, and an understanding of human psychology.

Students interested in a career in plastic and reconstructive surgery would benefit from rotating on their institution's plastic surgery service to gain experience in and exposure to the field. In addition, finding a mentor within the field to help guide in one's development, decision-making, and to answer questions is advised.

The pathway to a career in plastic surgery can follow in one of two ways. The first is through an integrated or categorical plastic surgery residency program. Programs are six years in duration; however, several programs also dedicate one or more years to research. The other route, known as the independent route, is to complete residency in general surgery, otolaryngology, urology, orthopedic surgery, or neurosurgery and then complete a three-year independent plastic surgery residency. After the completion of either the integrated or independent pathway, one is eligible to sit for the plastic surgery board examination. In addition, one can attain further training in a plastic surgery fellowship program. Fellowships are typically one year in duration and are offered for specialty training in hand surgery, craniofacial surgery, microsurgery, facial aesthetics, cosmetic surgery, body contouring surgery, and burn surgery.

Traditionally, plastic surgeons have established their practices in large urban settings. However, there is an increasing need for more plastic surgeons in the smaller communities and rural areas of this country - many metropolitan areas with populations of 65,000 to 268,000 have no plastic surgeons, leaving many areas needing plastic surgery expertise. There are approximately 7,000 board certified plastic surgeons in the United States; many of those currently certified by The American Board of Plastic Surgery received certification in the past ten years. Despite this recent rapid growth, there are opportunities for plastic surgeons in community and academic practice.

Plastic surgery is an old specialty with references that date back thousands of years. It has survived and flourished because it is a changing specialty built by imaginative, creative and innovative surgeons with a broad background and education. The future of this specialty is bright and will continue to progress because of students like you who choose to enter this special field.

Students interested in plastic surgery can find more information from the following:

- 1) Nagarkar P, Pulikkottil B, Patel A, Rohrich R. So, you want to be a plastic surgeon? What you need to do and know to get into a plastic surgery residency. *Plast Reconstr Surg.* 2013;131(2):19-22.
- 2) <http://acaplasticsurgeons.org/residency-resources/>

ADDITIONAL RESOURCES ON THE SPECIALTY OF PLASTIC SURGERY

- I. American Society of Plastic Surgeons
www.plasticsurgery.org
www.facebook.com/PlasticSurgeryASPS
- II. Plastic Surgery Research Council
www.ps-rc.org
- III. American Council of Academic Plastic Surgeons
www.acapsplasticsurgeons.org
- IV. Plastic Surgery Education Network
www.psenetwork.org