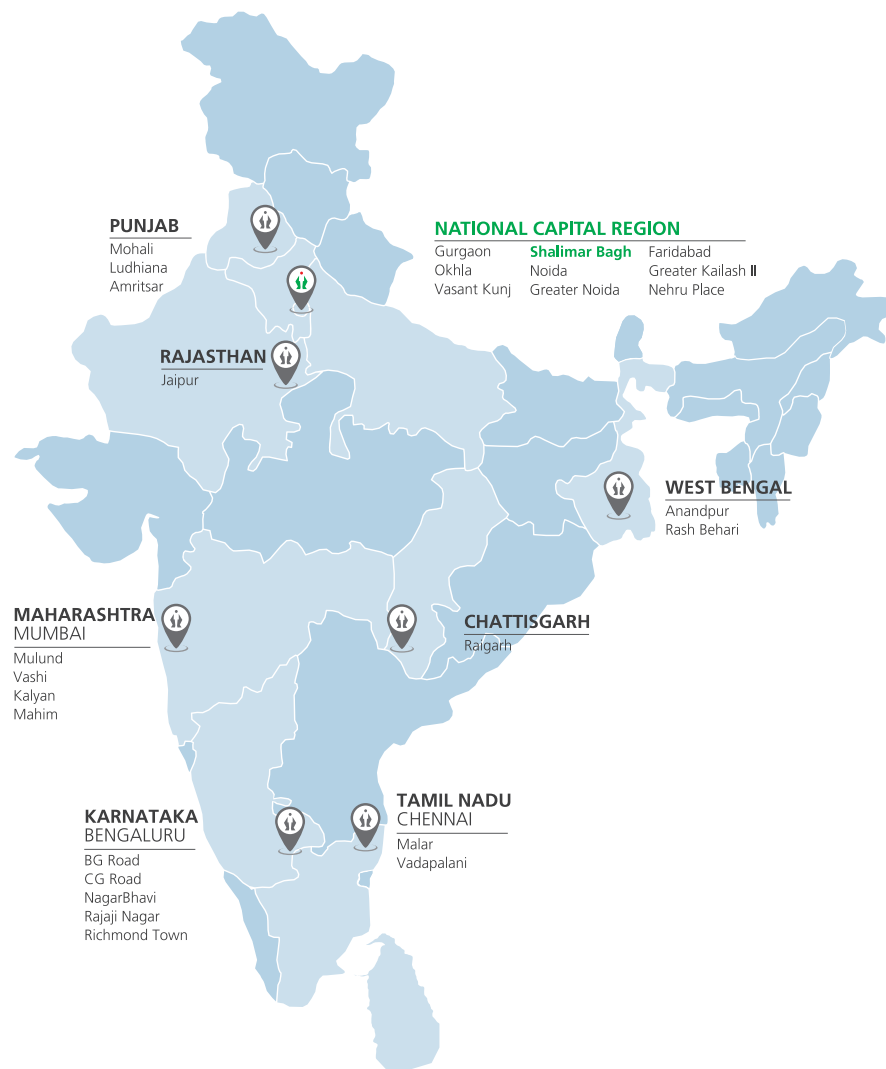
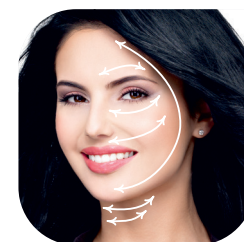


THE FORTIS HOSPITAL NETWORK



PLASTIC AND RECONSTRUCTIVE SURGERY



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PLASTIC SURGERY, INTRODUCED AND DECODED

Plastic Surgery is the speciality, which is concerned with healing of wounds, restoration, regeneration and improvement of form and function. The speciality had its origin at around 600BC when Sushruta laid down the foundations of Surgery and described a method to reconstruct the amputated nose, which is still practiced today. Unlike other surgical super specialities



(such as Cardiothoracic Surgery or Neurosurgery), Plastic Surgery is not defined by a body region or organ system. Today, a Plastic Surgeon operates from head to toe and hence, Plastic Surgery is one of the broadest specialities. The word 'Plastic' was derived from Greek word 'Plastikos' which means fit for moulding. The term was coined by Desault, a French surgeon and was likely published in 1798 by his pupil Bichat.

Aristotle, as quoted by Webster, wrote- **'Art indeed consists in the conception of the result to be produced before its realization in the material'**. This is just one of the teachings that goes into the rigorous training of a Plastic Surgeon. Sir Harold Delf Gillies, considered by many to be the Father of modern Plastic Surgery, often said- **'While Reconstructive Surgery aims to restore an individual to normal, Cosmetic Surgery attempts to surpass the normal'**. It is this dictum, which most aptly defines the difference between Cosmetic Surgery and Reconstructive Surgery, both being branches of Plastic Surgery. Though the sub-specialities of plastic surgery are mostly interlinked, these may be stated as-

COSMETIC (AESTHETIC) AND ANTIAGING SURGERY

An individual, who comes for cosmetic surgery is not suffering from any disease as defined conventionally. Rather, he aims to improve upon his appearance, which helps in restoring his self esteem and improves the body image. Similarly, an individual who wishes to reverse the effects of age on body form and appearance also opts for cosmetic surgery.

Hair restoration by means of follicular unit grafting or follicular unit extraction can be done to restore hairline and cover scalp in a case of baldness. Upper eyelid blepharoplasty can improve the appearance of tired looking and hooded eyes, while lower eyelid blepharoplasty can remove eyebags and loose lower eyelid skin leading to rejuvenation. Facelift surgery together with neck lift can restore youthfulness to a sagging face and aging neck with neck bands. Double chin correction can restore an aesthetic mento-cervical angle. There are today literally hundreds of procedures, which can lead to rejuvenation and improvement in aesthetics of various body regions.



RECONSTRUCTIVE SURGERY



Typically, the patient is an individual, who has suffered the loss or mutilation of a body part. This may be due to a birth defect, trauma, accident, excision for a tumour, burns, infection etc. Reconstructive surgery aims to restore the affected body part to normal. The examples are reconstruction of a breast in a patient, who

has undergone its removal in the treatment of breast cancer. Similarly, reconstruction of lower jaw, following its resection to treat cancer, is reconstructive surgery. In addition to post cancer resection reconstructive surgery, it is also carried out when the body part has been lost due to injury, infection, other diseases and birth defects. Reconstructive surgery

may be carried out with the help of local flaps (tissue situated near the site of defect), distant flaps (tissue situated away from the site of defect, but which can be brought near the site ie cross leg flap) or microvascular free tissue transfer (in this case, the block of tissue consisting of various structures is detached from the site of origin and transferred to the site of defect. At the same time, the blood vessels and if required, nerve are joined to the recipient site vessels and nerve with the help of microsurgery).

Besides the above-mentioned broad divisions, procedures in Plastic Surgery are also grouped together to facilitate understanding and transmission of medical knowledge, as well as better understanding by the patient. Many of these groups of procedures overlap with regional specialties and are often carried out in a teamwork with these specialists. These groups of procedures/ sub-specialties are:

Craniofacial surgery: Correction of anomalies of skull and face, for example- craniosynostosis (premature fusion of skull bones resulting in deformed shape of head and many a times increased pressure on brain). Craniofacial clefts (birth defects leading to deformed facial structures as well as extending into cranium).

Maxillofacial and Orthognathic surgery: Repair of trauma, birth defects and growth anomalies of face and jaws, removal of tumours etc. These techniques are also used for improving facial aesthetics as well as facial harmonization (facial feminization and facial masculinization surgeries).

Medical and surgical management of burns: The management of burns involves a multidisciplinary approach, including wound assessment, pain control, fluid resuscitation, infection prevention, and surgical interventions like skin grafting for optimal healing and functional outcomes.

Hand Surgery: Correction of birth defects, trauma, replantation, revascularization and various other conditions of hand and upper limb. Allotransplantation of hands.

Breast Surgery: In females, Breast augmentation with the help of implants or own body fat, breast lift to improve the appearance of sagging breasts, breast reduction surgery to allow better fitting of clothing and relieving neck and shoulder pain in those patients with heavy breasts. In males- Breast reduction surgery to correct gynecomastia (breast enlargement in a male).

Body contouring surgery: This includes procedures such as liposuction, abdominoplasty (tummy tuck), buttock lift by implant or one own body fat (Brazilian butt lift), thigh lift, correction of inner arm folds (Batwing) deformity etc.

Bariplastic surgery: with the advent of Bariatric surgery, there has been an increase in number of patients with massive weight loss. When someone undergoes a weight loss of more than 25-30 Kgs, whether by bariatric surgery or otherwise, the shrinkage capacity of overlying soft tissue and skin is exceeded. As a result, there is hanging of these structures. The typical areas are breasts, abdomen, buttock, thighs and inner arms. These can be improved with the help of techniques under Bariplastic surgery.

Oncoplastic Surgery: Often the oncosurgery (cancer excision surgery) carried out to remove/ control the spread of cancer leaves huge defects, which precludes normal form and function. For example, removal of lower jaw by cancer surgeon leaves a gaping hole in face, from which there is constant dribbling of saliva as well as visible oral structures such as teeth and tongue. Oncoplastic surgery restores all the layers of jaw (inner lining- the mucosa, bone as well as outer lining- the skin) by borrowing tissue from other body areas, and sometimes the implants as well thus allowing a reasonable form and function. Generally, these surgeries are carried out at the same sitting, so that when patient wakes up from anesthesia, then in addition to cancer control, he has a semblance of normalcy.

Microsurgery: This refers to all procedures, in which use of magnification with the help of loupes and microscopes to restore blood flow and innervation to the area/ transferred tissue is done. For example- in cases of amputation of fingers, hand/ foot etc, in addition to joining bone, muscles, tendons and skin, microsurgery is required to restore blood flow and prevent the part from dying. This procedure is known as replantation. When transferring tissues (flap) from one area of the body to other area, which is not adjacent, often blood vessels and nerves are required to be connected with the help of microsurgery, to restore viability. This is known as free flap surgery.

Surgery of birth defects: One in 600 children is born with a cleft of lip or palate. In addition birth defects such as craniofacial clefts, congenital hand anomalies such as syndactyly, polydactyly, congenital rings, genital defects such as hypospadias, epispadias, vaginal agenesis, disorders of sexual development etc. can be treated with Plastic Surgery.

Surgery for trauma: The commonest injuries a Plastic surgeon encounters are lacerations in various body areas, especially face, and fingertip/ hand injuries. In addition, Plastic Surgery plays a large part in cases such as road traffic injuries, crush injuries of limbs, amputations, facial fractures etc.

Improvement of pre-existing scars: Scars, which are present due to previous trauma or burns can be improved by various methods in Plastic Surgery armamentarium. These include scar revision, local flaps, tissue expansion, free flaps, composite tissue transfer and

allotransplantation such as face transplant.

Gender Affirmative Surgeries: Physical 'sex' of a person is usually assigned at birth, based on external appearance by parents and the physician. On the other hand, the word 'Gender' refers to our innate sense of being a man/ woman/ some other or someone in between. Normally, one's physical sex and 'gender' are in alignment. In a few individuals, there is a noticeable and persistent incongruence between 'sex' and 'gender identity' to an extent, that the individuals wish to get rid of their primary and/or secondary sexual characteristics and acquire the physical/ phenotypic characteristics of a gender, which is different from that of assigned (birth) sex/ gender. The inherent need by these persons to express their perceived gender, their longing for the society to accept them in this role, and their negative treatment by the society gives rise to a deep- seated distress. This phenomenon was classified as Gender Dysphoria (GD) in DSM- V and Gender Incongruence as per ICD-11. Many such individuals feel that they are trapped in the wrong sex body and wish to transition to a body congruent with their gender identity and expression. Fortis Hospital Shalimar Bagh has physicians experienced in gender affirmative care and a multispeciality gender affirmation clinic treating a large number of transitioning individuals, which has been providing gender sensitive and affirmative care to these individuals since a long time. The clinic provides mental health services, endocrine (hormone) care, and affirmative surgical care, which includes facial feminization and harmonization, affirmative voice surgery, hair transplants, rhinoplasty, body contouring, top surgery, breast augmentation, gynecological care, genital surgery including phalloplasty and vaginoplasty by various methods etc. The clinic adheres to standards of care (SOCs 7th and 8th) for transitioning individuals as published by World Professional association for Transgender health (WPATH) as well as Indian Professional Association for Transgender Health (ISOC-1) and has an excellent track record in helping thousands of gender incongruent individuals in their long journey of transition to their desired gender role.

FREQUENTLY ASKED QUESTIONS



HOW LONG IS THE RECOVERY PERIOD AFTER PLASTIC AND RECONSTRUCTIVE SURGERY?

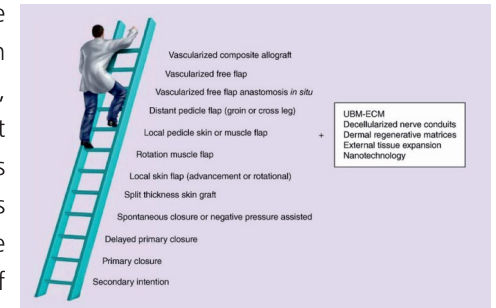
The recovery period varies as per the type of surgery performed. There are today thousands of procedures, that are carried out in Plastic Surgery. Some procedures such as suturing of lacerations or simple scar revisions, botox, fillers have no downtime and the person can resume work/ social activities in a few days, or the same day. Procedures such as free flap surgeries, phalloplasty, vaginoplasty, facial fractures fixation require bed rest for several days, and off work for several weeks.



WHAT TECHNIQUES ARE USED FOR RECONSTRUCTIVE SURGERY?

Techniques in reconstructive surgery can be classified in ascending order of complexity, depending on the type of defect and desired result. This classification/ list is known as reconstructive ladder. The simplest procedures is dressing of a wound and allowing it to heal

over a period of time. This is known as healing by secondary intention, and is usually done in small wounds in non- aesthetic and non- joint areas of body. Wound suturing, skin grafting, dermal substitutes, vacuum assisted closure of wounds, 3D printed scaffolds, use of adjacent flaps, distant flaps, prefabricated flaps, free flaps, composite tissue transfer and tissue allotransplantation are deployed in increasingly complex situations.



? 3 ARE THERE ANY RISKS OR COMPLICATIONS ASSOCIATED WITH PLASTIC AND RECONSTRUCTIVE SURGERY?

Yes. Plastic Surgery is still surgery, and not a magic wand. Hence there may be risks and complications associated with these procedures. Bleeding and infection can occur with any surgical intervention, in addition depending on local area, nerve damage, vessel damage etc. can occur, though all interventions



in any surgical procedure are designed to minimize and reduce the chances of complications. An important concept in Plastic Surgery is the risk- benefit ratio. Unless a fairly good benefit in form or function is anticipated/ visualized, the procedure is not carried out. For example, patient already has a fine scar, removing this scar tissue and closing the wound will induce the body to form a fresh scar. Scarring is the only way, that a human body knows, to heal the wound. Since the original scar was already fine, not much benefit will occur by performing the surgery, as risk- benefit ratio is not favourable. Hence the surgery is not carried out.

? 4 WILL I HAVE VISIBLE SCARS AFTER PLASTIC AND RECONSTRUCTIVE SURGERY?

Yes. Once the full thickness of skin is cut through, a scar will always result. This is the only way human body knows how to heal the wound. Some animals such as salamanders have property of scarless healing. Since Plastic Surgeons know that scar will always occur, they employ often difficult and surgically complex approaches in which scar will remain well hidden. For example, rhinoplasty is carried out from within the nose, and not by external incisions, to hide the scar. Many forehead surgeries are carried out from within the hairline, and not directly on forehead. Many procedures on upper and lower jaw are carried out from within the mouth. However, in instances, where injuries have already caused an external wound/ scar, it's position can't be changed. It can later be revised if possible or improved with scar reducing medication and fractional lasers.

? 5 HOW LONG DO THE RESULTS OF PLASTIC AND RECONSTRUCTIVE SURGERY LAST?

Effects of aging on the body are relentless, and so is the effect of gravity as well as environment and oxidants. Therefore, even the greatest surgical results with begin to fade after some time. However the result is likely to be always better than if the aging were to occur from starting point. As nothing in life is permanent, there is no guarantee that results will last a lifetime. Though cosmetic (aesthetic) surgery can improve your body image, it may not change your life, career and marriage prospects. Also no person can transform into another person, a myth often propagated by films and serials, though results can often be dramatic.

? 6 CAN PLASTIC AND RECONSTRUCTIVE SURGERY IMPROVE BOTH FUNCTION AND APPEARANCE?

Not always, but in many instances. Surgery for cleft lip and palate will improve the looks as well as competence of oral cavity and speech. Surgery for removal of neck contracture will improve the appearance as well as neck movements etc.

? 7 IS THERE AN IDEAL AGE FOR PLASTIC AND RECONSTRUCTIVE SURGERY?

For many procedures, there is an ideal age. Cleft lip surgery is often carried out at age 3 months, Cleft palate at age 9-18 months. If surgery is done earlier than this age, there may be more growth retardation of upper jaw. Doing surgery later than this age range often results in poor speech development. Reconstruction of ear is best done around age 7 years, etc.

? 8 ARE THERE NON-SURGICAL ALTERNATIVES FOR CERTAIN PLASTIC AND RECONSTRUCTIVE PROCEDURES?

Yes, there may be some non-surgical alternatives to surgical procedures. In many cases, these alternatives are complementary to the surgical procedure. For example, in mild sagging of face, a thread lift may be carried out. The downtime is less, even though effects may be less profound than a surgical facelift. Procedures such as botox and fillers may enhance the results of a surgical facelift and are often carried out before or after a facelift. Some fat reducing methods such as cool sculpting may be carried out for minor degrees of fat accumulation. Deoxycholate injections may be employed to reduce submental (double chin) fat etc.

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