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COSMETIC SURGERY: A REVIEW

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ABSTRACT

In recent years, development in science and technology has brought about significant changes to world in which we live. One such change has been the introduction of cosmetic surgery into mainstream life, having growth from being the presence of rich and famous to being an increasingly accepted option for ordinary people. Cosmetic surgery is a special branch of surgery that deals with the medical correction of person's form and structure. Peoples have a tendency to confuse plastic surgery with cosmetic surgery, but there is actually a difference between the two. Cosmetic surgery is in fact a sub-specialty of plastic surgery and refers to surgery which is carried out purely for cosmetic purposes. The most common procedures for cosmetic surgery are discussed in the following articles. In recent years, people worldwide seem to be increasingly aware of their body image and more people are in search of the perfect body. So cosmetic surgery offers solutions to people's problems if they feel that their own body falls short of perfection, and more and more people are sorting out what they feel are their bodily imperfections.

Keywords:

Cosmetic surgery,
Glycolic acids,
Alpha Hydroxy acids,
Grafting

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INTRODUCTION: Plastic surgery is a special type of surgery that can involve both a person's appearance and ability to function. Plastic surgery has two branches, cosmetic surgery and reconstructive plastic surgery. Cosmetic surgery is concerned with improving the aesthetic appearance of a person, while plastic surgery may include this, or just the reconstruction (reconstructive surgery). Reconstructive plastic surgery is concerned with improving function; however, it may also involve trying to approximate normal appearance, but that is not its primary function. Reconstructive plastic surgery is often referred as simply *reconstructive surgery*.^{1,2}

Reconstructive procedures correct defects on the face or body. These include physical birth defects like cleft lips and palates and ear deformities, traumatic injuries like those from dog bites or burns, or the aftermath of disease treatments like rebuilding a woman's breast after surgery for breast cancer. Some parts of the world completely separate cosmetic surgery and plastic surgery and term cosmetic surgery as elective surgery, non-essential surgery, surgery which the patient chooses to have; while plastic surgery is understood to mean surgery to reconstruct or improve appearance after injury or illness.

What is Cosmetic Surgery? The term "Cosmetic Surgery" means medically unnecessary surgical procedures, usually, but not limited to, plastic surgery directed toward preserving beauty. Surgery/treatment given to correct/reconstruct a defect caused from

an injury or disease. Whether removing a birthmark from a baby's face or wiping away a liver spot from an aging hand, lasers have opened up worlds where cosmetic surgeons previously dared not tread. Surgery for the restoration or reconstruction of body structures directed toward altering appearance. Cosmetic surgery is done to improve the physical appearance of your body. These surgeries are done to improve the physical look for cosmetic. Surgery (and related medical treatment) undergone to improve appearance rather than for health reasons. Surgery performed to reshape normal structures of the body to improve the patient's appearance and self-esteem³.

Cosmetic (also called **aesthetic**) procedures alter a part of the body that the person is not satisfied with. Common cosmetic procedures include making the breasts larger (augmentation mammoplasty) or smaller (reduction mammoplasty), reshaping the nose (rhinoplasty), and removing pockets of fat from specific spots on the body (liposuction). Some cosmetic procedures aren't even surgical in the way that most people think of surgery — that is, cutting and stitching. For example, the use of special lasers to remove unwanted hair and sanding skin to improve severe scarring are two such treatments⁴.

Types of cosmetic surgeries:

Hair Transplant: Male baldness is a common problem starting around the third decade of life. Baldness occurs due to permanent loss of hair roots. No

amount of oil, massage or medicines can put life back into the dead roots. Hair transplantation (HT) offers a scientific solution by implanting new hair roots. It is well known that hair on the back (occipital) region of the head almost never fall off (due to a genetic tendency to remain permanent). HT is based on the concept that if hair roots taken from the back region are transplanted to the area of baldness, they will, after a short period of effluvium, continue to grow hair in the new site for as long as they would have in their original site. Follicular micro or mini grafts are used to provide the desired density of hair. Since the new transplanted hair is from one's own body, it will grow naturally with time & one can shampoo, trim or even shave it⁵.

Typically, at first the hair begins to recede (thin) at the front. At the same time, the hair usually becomes thin on the top of the head. A bald patch gradually develops in the middle of the scalp. The receding front and the bald patch on the top gradually enlarge and join together. A rim of hair is often left around the back and sides of the scalp. In some men, this rim of hair also thins and goes to leave a completely bald scalp. Hair transplantation is an outpatient procedure done under local anesthesia. Postoperative overnight bandage is used

Rhinoplasty: Rhinoplasty (cosmetic nasal surgery) can improve the shape of your nose. Alterations can be performed to shorten a long nose, narrow a wide nose, reduce a wide tip, lower a high nose, straighten a crooked nose, and improve the breathing in cases of nasal stuffiness. When surgery is performed to improve

nasal breathing, the procedure is called septorhinoplasty¹⁹. The nose should not be turned up nor the bridge lowered excessively. This concept is in keeping with the goal of reshaping the nose so that the nose is in balance with the other facial structures and has a natural, un-operated appearance.

In Rhinoplasty one or more of the following procedures are done:

- Elevation of depressed nose by adding cartilage, bone or implant
- Removal of hump
- Reduction of bulk of the tip
- Reshaping of nasal bones
- Elevation of tip of nose
- Reduction of size of nostrils

The incision is usually given from inside the nose & therefore no postoperative scars are usually visible from outside.

Rhytidectomy (Face lift surgery): A face lift can make all the difference in your daily life. Not only will it improve your relations with others but it will also instill a sense of confidence because you won't have to see those wrinkles and loose skin every day in the mirror.

The traditional plastic surgery face lift is a medical procedure requiring local anesthetic and a scalpel. Incisions are made near the ear to allow the skin and underlying tissue to be reconstructed for firmer, more youthful-looking skin. This is a one-time procedure that can dramatically change the way you look. Usually a surgical technique is best for someone who has obvious signs of aging. There is the traditional method that

requires larger incisions and an endoscopic method that uses smaller ones. Either way, there is a significant recovery period involved while your facial tissues heal. But the result can be a massive boost to your self-confidence and enthusiasm for life ⁶.

Some non-surgical techniques have evolved to provide an alternative to surgery. These techniques don't have the same kind of results as surgical techniques. They involve a variety of indirect treatment methods. Things like radio frequency emitters, lasers, and topical creams can all tighten the skin on your face without the need for incisions and tissue reconstruction. These methods have shorter recovery periods and fewer complications, but also reduced results ⁷. These non-surgical methods are better suited for younger people with initial signs of aging that can be easily smoothed out with these maintenance procedures.

Chemical Peel: Sun damaged skin, brown "age" spots, fine lines and wrinkles, dry or flaky skin; rough skin texture, uneven skin tone, adult acne, superficial facial or acne scars, excessive oil on your face are problems that face millions of people. An increasingly popular solution can be found with the use of chemical peels. Chemical peels are a category of advanced clinical skin rejuvenation treatments that assist in reversing damaged skin due to such factors as aging, sun-exposure, and acne. Chemical peels use a chemical solution to improve and smooth the texture of the skin by removing its damaged outer layers. It has proven to be extremely effective for, but not limited to, those individuals who suffer from facial

blemishes, wrinkles, and uneven skin pigmentation ⁶.

Chemical peel treatments are typically topical acidic solution such as:

- Glycolic acids
- Alpha Hydroxy acids
- Trichloroacetic acids
- Carbolic acids (Phenol)

Thousands of your skin cells die on a daily basis. They flake off, and are replaced by new cells. Chemical peels essentially help to speed up this process. The chemical peel solution is applied to the skin to trigger a "blistering" effect that loosens and effectively causes the targeted outer layer to eventually peel off. The underlying new, regenerated skin is usually smoother and less wrinkled than the old skin, which improves the texture and appearance of the skin. This treatment also stimulates considerable renewal and collagen growth in the deeper layers of the skin.

Post Burn Surgery: Burns are devastating injuries that have the potential to kill, maim, and cause great pain. First and superficial second degree burns are partial thickness burns which may heal without skin grafting as there is still healthy skin at the bottom of the burn to heal the skin from the bottom up. Full thickness or 3rd degree burns and deep 2nd degree burns most often require surgery in the form of skin graft to restore skin coverage. Patients who burn large parts of their body will often need more than one trip to the operating room for the plastic surgeon to remove the nonviable skin and replace it with skin

grafts. When people are burned across joints, the burns may heal by tightening the skin and restricting joint movement. This is called joint contracture. Joint contracture occurs quite frequently in poorer countries¹⁹. Plastic surgeons are often called upon to provide reconstruction after burn injuries even when skin grafting is available and performed. Combinations of skin flaps and grafts are used to provide additional skin when it is required, where skin grafting is not availability.

Deformity Correction: Any deformity, whether congenital or acquired, creates not only an unacceptable physical disfigurement but also a deep emotional & mental scar. This can only be understood by a person who has been actually affected or the near & dear ones. Most such people gradually learn to live with it, resigning to their fate with a sigh of resentful defeat. It is so ironical & unfortunate that they are unaware of a possible end to all their miseries - both physical & emotional¹⁰.

Plastic surgeons had only 'Grafting' to offer to such people as a possible way of reducing their disfigurement. This technique involves transferring an area of skin from a healthy region to the affected region. The major flaw with this is that there would be an obvious mismatch in color & texture from the surrounding skin. Leave aside the general population; even most doctors still equate Plastic surgery to Grafting. But there are more refined techniques now available in the armamentarium of Plastic surgeons. Dr. Charu Sharma specifically has a vast experience & expertise in such

techniques, especially Tissue Expansion, which gives one of the best results. It does away with most of the drawbacks of Grafting. There is a complete match with the surrounding skin. There are no or minimal tell tale signs of any procedure having been done. Its usually done in 2 to 3 stages, each of them being performed as a day care procedure. The person can go back home the same day without any requirement of prolonged hospitalization.

Surgeries for Aging Face:



As we grow older, different parts of our body and face start to sag. But, gravity alone is not the only factor for sagging, the other culprit being loss of the 'elasticity' and the 'tone' of the skin.

- a) Surgical Face Lift : This is done to remove the excess of loose, sagging skin from the cheeks and neck. The incisions are made around, above and behind the ears. Skin is lifted from the cheeks and neck. The fascia over the muscles is tightened.
- b) Excess of the skin is removed and sutured in such a way that the stitch line is hidden within the hairline.

The surgery involves either a local or a general anesthetic, and takes up to three hours. During the surgery, a cut is made from within the hairline at the temple to the top of the ear, round the front of the ear to the earlobe, and into the hairline round the back of the ear. Sometimes, a small cut is made under the chin to remove a double chin. The skin is gently separated from the underlying muscles of the face and any excess fat is removed. The skin is then lifted up and pulled back, with the excess trimmed off^{5, 12}. The cut is then stitched closed. The face is dressed with bandages going all the way around the head, and a small plastic tube may be left in the wound for 24 hours for fluid drainage.

Non Surgical face lift : Wrinkle lines are infiltrated with dermal fillers to smoothen up the line & give a younger look.

Obesity Surgeries (Bariatric): Morbid obesity, defined as Body Mass Index more than 35, is on the rise all over the world. Obesity has very definite health implications and predisposes to diabetes, high blood pressure, heart problems and breathing difficulty. And there is the obvious disfigurement to deal with. Morbid obesity requires a two pronged approach in most cases.

Diet and regular exercises are a must. Additional, bariatric surgery will help to cut down a lot of weight in a short period of time. Any coexisting or contributing medical problems also needs to be attended to, hormonal imbalance in particular.

The most popular options in bariatric surgery include:

- Gastric Banding
- Gastric Bypass
- Sleeve Gartrectomy
- Intra Gastric Ballon

Arm- lift Surgery (Brachioplasty):

Brachioplasty is the medical term for an upper arm lift procedure. During **brachioplasty surgery** excess fat and skin is removed from the upper arm area in order to create a firmer more youthful looking arm contour. A brachioplasty can enhance the appearance of arms that, with age or weight loss, have lost their natural firmness and shape. Patients who have had mastectomy surgery may not be able to have a brachioplasty because of the increased risks repeated of armpit infections also people with excess sweat production may also not be good candidates for brachioplasty cosmetic surgery.

Face Sculpting: A sharp jaw line, prominent cheeks and a chiseled look are highly desired facial features today. Fat deposits on the face tend to accumulate below the chin, on the cheeks and over the jaw line creating a chubby look. Delineation of facial features and enhancing them can be safely done through minimal access surgery¹⁸.

Although each case is different and a thorough assessment would be required for creating a treatment plan, most cases do well with the following procedures:

1. **Cheek fat removal:** Fat bulge below the cheeks can be removed from the inside of the mouth without external scars.
2. **Liposuction:** Fat deposits over the lower jaw and below the chin can very well be removed by liposculpting. Injection lipolysis is also an alternate option for removing fat from the jaw line and under chin area. However, multiple treatments may be required with injection lipolysis⁷.

In addition, if the chin is weak, a chin implant will augment this area and make the face look more defined. These three procedures together create a powerful change in the facial profile. All this can be done as a day care surgery without hospitalization.

Gynaecomastia: Gynaecomastia, or excess development of breast tissue, occurs in as many as 40-60% of men. This condition can cause extreme embarrassment, social inhibition and self-consciousness for boys and men who suffer from it⁸. The cosmetic surgeon will cut around the dark skin surrounding the nipple (the areola) or under your arm, and the excess fat, skin and breast tissue will be removed. Liposuction can also be performed at the same time to remove excess fat in the area⁷.

Mastopexy: A breast lift (mastopexy) is indicated when the breasts have lost their youthful volume, the skin has become stretched and saggy, and the nipples have drooped. This is quite frequently the case after pregnancies or significant weight

loss¹⁶. During mastopexy, excessive skin is removed, the breast gland is lifted and the breast is newly shaped in order to harmonize the appearance of the whole body.

Mammoplasty: Breast reduction surgery, technically called mammoplasty, is usually performed for physical relief rather than for cosmetic reasons. This procedure involves removal of excess breast tissue to reshape and lift the breasts. Benefits of the surgery include increased comfort in your upper back, neck and shoulders; less shoulder pressure from bra straps; increased ability to exercise and participate in physical activities; and a more positive self-image²⁰. The surgery may also help you breathe and sleep easier. The surgery results in a high satisfaction rate among women, the surgeon removes fat, glandular tissue, and skin from the lower part of the breast. The nipple is then moved upwards and the tissues closed to form a smaller breast.

Aesthetic Genital Surgery: Self esteem is intimately related to a person's perceived image of his or her genitalia. Self esteem may be impaired if a person feels inadequate compared with a perceived ideal. Considerable aesthetic improvement is now possible in genital appearance.

The following services are available for genital enhancement:

1. Male genital cosmetic surgery;

- Penile lengthening
- Penile girth increase.

2. Female genital cosmetic surgery;

- Labia minora reduction.
- Labia majora enhancement.
- Pubic fat liposuction.
- Pubic lift.
- Vaginal tightening (VAGINOPLASTY).

Vaginoplasty: For women who've experienced multiple childbirths, vaginal muscles tend to experience enlargement due to stressful expansion during the delivery. The result can often be loose, weak, vaginal muscles. Even after exercise, the condition of the vaginal muscles may not improve. Many women find that while the experience of childbirth may be the most rewarding of their lives, sometimes the after effects for both their sexual partner and themselves is not as satisfying as it once was.

Vaginoplasty, sometimes referred to as rejuvenation of the vagina, is a procedure that can usually correct the problem of stretched vaginal muscles resulting from childbirth(s), and is a direct means of enhancing one's sexual life once again¹³. The procedure typically tones vaginal muscle, resulting in greater contraction strength and control, thereby permitting greater sensation during sexual experiences. Vaginoplasty is a standard gynecologic surgical procedure. It tightens vaginal muscles and surrounding soft tissues, by reducing excess vaginal mucosa (vaginal lining).

The result is an immediate decrease in the size of vaginal muscles, resulting in more friction during sexual experiences. After surgery, the patient is usually able to walk comfortably within a

few days and may return to sexual activities within 4-6 weeks.

Cleft Lip and Cleft Palate: Cleft lip and cleft palate are among the most frequent birth defects in newborns. About one in 700 infants a year in the United States and one in 600 in the United Kingdom are affected. A cleft is characterized as an opening or a split in the upper lip, the roof of the mouth (palate) or sometimes both.

Cleft can have an effect on one side of the lip (unilateral cleft) or both sides of the upper lip (bilateral cleft). Most of the time, they come about as isolated birth defects, but they can also be coupled with several genetic and environmental factors which will be later explained. The look of a cleft lip can be shocking due to the disfiguration on the newborns' face. However, as surgical techniques have advanced, cleft lip and cleft palate are both correctable these days. In the majority of cases surgeons can bring back normal function with minimal scarring on the child.

Cleft birth defects are more frequent in children from northern European and Asian origin, and less common in children of African ancestry. Cleft lip and a combination of a cleft lip and palate are more common in boys, as opposed to cleft palate on its own, which is more common in girls. Roughly 25% of affected children will be born with a cleft lip, 50% will be born with a cleft lip and a cleft palate, and 25% will be born with a cleft palate^{14,15}.

Signs and Symptoms of Cleft Lip and Cleft Palate: A cleft (split) in the lip or palate is

immediately identifiable at birth due to the unusual physical appearance on the lip. Clefts are characterized as only a small slash in the lip. In some severe cases it can extend from the lip through the upper gum and palate, and even all the way into the nose. In less common cases, a cleft can also occur in the muscles of the soft palate (referred to as submucous cleft), which is at the back of the mouth. Since it is hidden by the mouth's lining, this type of cleft is sometimes not diagnosed straight away.

Several important signs and symptoms can be associated with cleft lip and palate:

- **Atypical appearance-** The appearance of the face is noticeably unusual and deformed.
- **Feeding problems-** Since a newborn baby is usually breastfed, a baby with a cleft lip and/or palate may have trouble suckling, or swallowing milk. This is because they cannot generate a vacuum in their mouths.

As a result, they take in too much air during feeding. In cases where a cleft is very large, it may be even necessary to feed the baby through a tube that goes into the nose (a nasogastric tube) until the reconstructive surgery has been scheduled and completed.

- **Ear infections and hearing impairments-** Children with cleft palates are especially vulnerable to middle ear infections. Over time this can cause damage to their hearing.

This is because children with a cleft develop glue ear; a sticky fluid builds up behind the eardrum. Usually, this sticky fluid can drain away in the Eustachian tube that links the ear and the throat. However, this tube can become distorted by a cleft palate. During surgery surgeons often put a tiny plastic tube (a grommet) into the eardrum so that the fluid can drain out.

- **Speech and language problems -** our lips and palate are vital components for the utterance of proper sounds for clear speech. Children with a cleft lip and palate commonly have speech development problems. Their voices may often have a nasal sound, and problems uttering consonants properly are common.
- **Dental health -** A cleft lip and palate cause alterations to the formation of the mouth and can lead to problems with the development of teeth, making children more susceptible to tooth decay. Teeth near the cleft may be missing, or they may grow out at different angles.

Extra teeth may grow where they shouldn't result in problems with the development of child jaw. Most patients will require orthodontic treatment to make sure their teeth grow straight and in the right places. This usually involves wearing braces or brackets when the second teeth are coming through and during their early teens. The child may also need to have some teeth removed to avoid

overcrowding, or even have implants to replace missing teeth.

Diagnosis: Cleft and lip palate starts as early as between five and twelve weeks of pregnancy when the development of the skull, the palate, and tissue of the tongue takes place in the embryo. In this phase the skull begins as two separate plates of bone and tissue that increasingly move together and fuse around the mouth and nose to form into one piece. In children with clefts, the cycle of the fusion between the bone and tissue that form the skull remains unfinished, resulting in a gap, or cleft.

Cleft in a fetus will often be detected with simple routine ultrasound examinations taken between 18 to 20 weeks of pregnancy. If the scan reveals that the unborn baby has a cleft lip or palate, further studies will have to be conducted in specialized treatment centers.

Genetic and Environmental Risk Factors:

Genetic risk factors: Studies indicate that the genes children inherit from their parents can determine the risk of developing a cleft lip, or palate. Exactly how the pattern of genetic inheritance operates is still not completely understood. We can, however, estimate what the risks are;

- A father with a unilateral cleft (on one side of the lip) has about a 5% chance of fathering a boy with a cleft, and just over a 2% chance of fathering a girl with a cleft.
- A father with a bilateral cleft (on both sides of the lip) has an 11.5% chance

of fathering a boy with a cleft, and about a 5% chance of fathering a girl with a cleft.

- A mother with a unilateral cleft has a 4.5% chance of giving birth to a boy with a cleft, and about a 3% chance of giving birth to a girl with a cleft.
- A mother with a bilateral cleft has about a 17% chance of giving birth to a boy with a cleft, and just over a 7.5% chance of giving birth to a girl with a cleft.

Environmental risk factors: Doctors cannot yet reliably predict which pregnancies will be affected. But the following environmental risk factors may increase the risks:

- Maternal smoking- A mother who smokes during pregnancy doubles the chances that her child will be born with a cleft.
- Maternal alcohol consumption- A mother who drinks more than 10 units of alcohol a month increases the chances that her child will be born with a cleft by a factor of four.
- Maternal obesity- Mothers who are obese have a slightly higher chance of giving birth to a child with a cleft.
- Lack of folic acid during pregnancy- All pregnant women are recommended to take a daily supplement of folic acid during the first four months of pregnancy. If folic acid supplements are not taken, women are twice as likely to give birth to a baby with a cleft compared to other women.

Surgeries of Cleft Lip and Palate: Surgery is done when the baby is aged between three to twelve months. The specialty

center where the operation occurs will set up a team of various specialists who will be involved in the health and development of the child until he/she is 18 years old. The team typically consists of cleft nurses, surgeons, speech and language therapists, hearing experts (audiologists), dentists, orthodontists, psychologists and geneticists. The type of surgery depends on the severity of the cleft. All the operations are done under general anesthesia, and the baby will need to stay in hospital for three to five days after the procedure.

The child might need follow up surgeries later on in life to improve the appearance of his lip and nose and the function of his palate, as well as to improve speech. If there is a gap in the child's gum, the infant will usually have a bone implant when he/she is about 9 or 10 years old. This will help the adult teeth anchor into the gum properly.

Lip- repair surgery: Lip-repair surgery is usually carried out when the newborn is three months old¹⁵. The Millard repair procedure is usually used. It is named after the pioneering plastic surgeon, Ralph Millard (born 1919, St. Louis, Missouri, USA), who first performed it. In the April 2000 issue of Plastic Surgery News, Dr. Millard is described as "the most brilliant and creative plastic surgeon we have alive".

During this procedure, the surgeon will make a slit on either side of the cleft lip. The cleft lip is pulled down and rotated to make a more natural-looking appearance. It is then stitched into place. The operation leaves a slight scar, but the

surgeon will always attempt to line up the scar with the natural lines of the lip in order to make it less apparent. Speech is normally recovered after surgery has been performed successfully.

Palate-repair surgery: Palate-repair surgery is typically performed when the child is aged between 6 to 12 months. During this surgery, the surgeon will take tissue from either side of the mouth and use it to rebuild the palate and join the muscles together. In this case, the child will find it harder to pronounce some sounds clearly.

Approximately 20% of the children will have to take speech therapy to gain proper speech. Some might even require other surgeries to reduce the amount of air going through their nose in order to improve the quality of their utterances.

CONCLUSION: At present many peoples are not still be able to understand the difference between plastic and cosmetic surgery but, since recently researches are going on this field providing great advancement in treatment of many disorder related to skin, body contour, several inborn deformities etc.

Thus we hope that in future also more researches should be done on this site and provide a good mode of treatment for many deformities also improve the body contour and develop a good level of confidence in people.

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