Complementary Surgeries for GRS

For the complete transition of a transsexual from male to female or vice versa, the construction of a penis or vagina has to be complemented by other surgeries to either feminize or masculinize the person, since the transsexual has to be able to pass of as a 'normal' female or male, possessing the necessary attributes such as lack of facial hair and breasts for a female look in the case of MtF surgery or a manly chest and jaw structure etc. for a male look in the case of FtM surgery.

In case of transsexual women, the overall reassignment procedures of counselling, hormone therapy, electrolysis to remove facial hair and GRS can be very expensive (Rs 10 lakhs) and GRS alone costs about Rs 5 lakhs (including labiaplasty). Many must spend even more than that for additional major reconstructive surgeries, such as breast augmentation and Facial Feminization Surgery (FFS) etc.

Similarly, in case of transsexual males undergoing FtM GRS, along with phalloplasty, many other 'masculinizing' surgeries, such as breast reduction, jaw augmentation, calf implants etc. are necessary in order to masculinise their looks.

Some surgeries complementing MtF and FtM GRS are as follows:

Facial Feminization Surgery (FFS)	Full Face Lift, Mini Face Lift
	Forehead Lift (Lower Hairline)
Hair Transplantation	Hair Grafting
	Hair Transplantation with Lipo and own stemcell
Eye Surgery	Lower Eyelid Surgery
	Upper Eyelid Surgery or Double Eyelid
	Brow Lift and Bony Contouring
Rhinoplasty	Total Nasal Surgery (Reduction), Nose Reconstruction

	Tip Rhinoplasty
	Augmentation Rhinoplasty (Silicone)
	Alarplasty
Ear Surgery	Ear Pinning (Otoplasty)
Cheek Bone Contouring	Cheek Reduction
	Cheek Augmentation (Silicone) / Malar Augmentation
Dimples	Dimple per size
Laugh Line	Laugh Line
Lip Surgery	Lip Reduction
	Lip Enhancement (Fat Injection)
Chin Surgery	Chin Shaving / Bone Contouring
	Chin Augmentation
Jaw Surgery	Jaw Contouring
	Jaw Augmentation
Mandibular Angle Resection	To achieve a smooth contour in the lower area of the face, a resection of the angle of the lower jaw is performed to produce a round transition at the level of the lower neck.
Adam's Apple (Tracheal shaving)	Adam's apple contouring
Breast	Breast Augmentation / Augmentation Mammoplasty
	Breast Lift / Mastopexy
	Breast Reduction for Gynecomastia
	Areolar reduction/reshaping

Gluteal implant	Gluteal implant (Silicone-gel filled smooth and textured surface)
Bone-Cement	Bone cement is used to anchor prosthesis (artificial implant). It fills the free space between the prosthesis and the bone and plays the important role of an elastic zone. This is necessary because the joint has to bear and absorb many forces acting on it to ensure that the artificial implant remains in place over the long term.
Pectoral Implant	The pectoral implant procedure is designed to increase the chest size and shape by inserting implants made of solid silicone under the real muscle.
Calf Implants	They are made of silicone and placed above the calf muscles, giving the legs more definition and shape and producing a better-balanced lower body.
Penile Enlargement	Penile Girth (widening) Enhancement with Lengthening by Phalloplasty
	Penile Lengthening
	Penile widening
Body Contouring	Fat Injection (Minor)
	Abdominoplasty (Tummy Tuck)
	Lipoplasty with Lipomatic
	Lipoplasty : Each exta point
Skin Rejuvenation	Botox Injection
	Dermal filler to smooth away wrinkles and folds

Facial Feminization Surgery (FFS)

In biological terms, the major difference between men and women may be the presence of a penis or vagina but socially, they are differentiated on the basis of facial and physical appearance. Therefore, it is essential for a transsexual to change his/her

physical appearance according to their reassigned gender. FFS and breast augmentation are the two most important surgeries which transsexual women undergo, in order to pass themselves off as women.

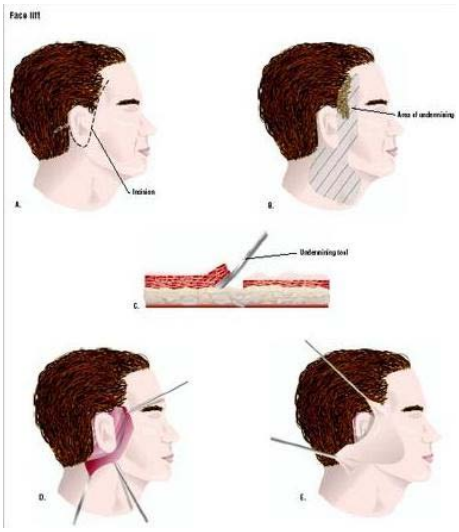
A major chunk of the transitioners also undergo surgeries that further feminize their facial and body appearance, especially by reducing masculinized facial bony structures (protruding brow-bulges, jaw bones and chins), recontouring the forehead, reducing or eliminating the browridge, smoothly re-contouring the nose-ridge down from the forehead, narrowing and reducing in size the jawbone and chin (with the chin repositioned at a new angle) and reshaping the trachea to eliminate the ‘Adam's apple’. Some of these medical procedures are often extremely painful and the TS women must steel themselves to this very traumatic aspect of gender transition.

In the case of transsexual women, surgeons focus on how to adjust the dimensional parameters of each face towards the normal female range, based on certain physical anthropological measurements. Survival requirements over evolutionary time have adapted human male faces for protection in hunting and fighting, providing them with protruding brow ridges and heavy jaws/chins. However, female faces have evolved (as have children’s' faces) for better hiding/fleeing by having better unobstructed peripheral vision (with the eyes more forward in the facial structure and with no brow ridge). These differences in secondary sex characteristics are caused by the different sex hormones present in the bodies of boys and girls after puberty.

Face-lift Surgery

Unlike normal gendered, a transsexual does not undergo such extreme surgical ordeals caused by FFS for ‘cosmetic reasons’. The FFS post-operative recovery period is painful and traumatic and many artefacts of the surgery linger long afterwards: bony swelling can take months to recede, there may be numbness in the chin area that only slowly recedes and areas of the scalp may lose feeling for a year or more and possibly permanently. Therefore the patient must be very motivated and willing to take on some very real risks of pain, suffering and complications

For a face lift, an incision is made around the ear at the base of the hairline (A). The skin is removed from underlying tissues in a procedure called undermining (B and C). The skin is pulled up to tighten it (D). The skin is stitched into place and excess is removed (E).



However, in some transsexual cases where the brow ridge and the jawbone are very large, it can mean almost the difference between a decent life and a living death, i.e., between finding easy acceptance as a normal female vs. being subjected to ongoing massive public ridicule for one's appearance. In many of the more typical cases, the surgery replaces the patient's original transsexual features with pleasing, feminine facial contours.

For example, consider the case of Sally, as seen in the following three photos. The first photo shows her when she was still a boy. The second photo shows her after two years of hormone therapy and electrolysis. Many transsexual women would feel very wonderful having made a transition from the first to the second photo and by contrast many might think they ‘look really good now’.

However, although Sally’s facial features are softened and somewhat feminine in the second photo, it can be noticed that she still has a transsexual appearance. The protruding browridge, the tall chin and the widely flared jawbone that made her handsome as a boy now spoil her looks as a woman. The third photo shows her after having undergone FFS. The problems in the second photo are noticeable and it is obvious why she ‘wasn't pretty’ there. The FFS transformation, while subtle, is really profound. She is now a strikingly beautiful woman, even without any makeup on. Sally, an American citizen, finally has facial features similar to those she might have had if she'd gone through her initial puberty as a girl: on estrogen and without testosterone.

This is an excellent outcome. However, the results are very often life-changing in their impact on passability and self-esteem and complement the GRS surgery in the final outcome.

Photos of Sally

Pretransition; after two years on hormones and electrolysis; after FFS with Dr. Ousterhout



Profile views of Sally before and after FFS:


Courtesy: http://ai.eecs.umich.edu/people/conway/TS/TS-II.html

These results also indicate how important it is for our society, especially for the parents of the transsexuals, to help transsexual girls earlier in life - so they could avoid developing heavily masculinized facial features which require such costly and painful surgery to correct.

Also, there are some limitations to the FFS and some things that cannot currently be corrected. For example, no medical procedure can transform a very tall and broad-shouldered person into a petite and slender one.

However, Lynn has never forgotten the terrifying facial masculinization effects that began occurring to her during her late teens, even though those effects were fainter in her case than with many other transsexuals. The modern FFS surgery has helped her 'run time backwards' through that horrible experience and undo most of those damaging physical effects. Thus for Lynn the FFS was done to enhance her life experience and bring her some additional psychic comfort and happiness as she grows older.

Lynn just after face-lift surgery

Lynn's FFS surgery included hairline advancement, forehead recontouring, browridge elimination, eyebrow repositioning, nose reconstruction, jaw and chin reconstruction and trachea reduction, all in one long operation. The results are both subtle and amazing. Lynn still 'looks like Lynn', especially from face-on. But there's been quite a transformation, especially when seen in profile. Lynn now looks much more like her sister would have appeared, had she had one.

Madeleine a resident of UK - before, during and after her facial feminization surgery. The transformation is quite profound and Madeleine is a beautiful woman now.

Many transitioning MtF patients now undergo FFS just prior to the social transition into their one year Real-Life Experience (RLE). This can greatly enhance their immediate acceptance as women during the RLE, because they look ever so much more female in appearance than before FFS. Better acceptance during the RLE enables many patients now to socially transit from male to female ‘on the job’, helping them insure a continuity of income as they prepare to undergo GRS following the RLE.

Breast Augmentation

The vast majority of normal women desire breast augmentation, because they want to increase their size and/or have their breasts more proportionate to the rest of their bodies. They tend to obsess over getting the perfect size, which is completely understandable. Some women worry about going too big, while others worry about not going big enough. For transsexual women, size matters but not the most. The increase in size is primarily for their psychological satisfaction, so that they are more comfortable passing off as ‘female’. Unlike ‘normal’ women, having realistic expectations regarding size is a must. Any woman would not want to attempt to go too large, because doing so could lead to serious complications, which will result in more surgery, more recovery time, and last, but certainly not least, more money. This is highly undesirable for a transsexual woman who has already spent lakhs of rupees and years of her precious life in order to rectify her gender. A good doctor will not push the limits of the patient’s

body by trying to force a (too large) breast implant into her body. In many cases of small development, augmentation can bring a lot of satisfaction but in many other cases it may be quite unnecessary and carry unwanted risks.

However, it is important to note that many transsexual women achieve very satisfactory breast development without augmentation, especially if they started their transitions while in their teens.

It is important that if a transsexual girl knows for sure that she inevitably must become a woman, she should immediately seek medical help to stop any further masculinisation and begin her feminization as early in her life as possible - in her mid-teens if she can. Courage and decisiveness in seeking gender correction while still young will dramatically improve her chances for a full and complete life. If, for some reason, this is not possible, then the transsexual woman can opt for augmentation but with a little caution, as it is a complex one with many tradeoffs of appearance vs sensation vs risks of complications

Typically, implants do not appear as large as natural breasts do. For instance, if, after breast augmentation, a D cup bra is needed, the wearer will most likely appear more like a C cup in clothes. Implanted breasts do not look as large as natural breasts.

"Trying on size" prior to consultation with the plastic surgeon is a very good idea. If the TG woman is very flat-chested, as is usually the case, any increase in size seems large enough. They can further feminize themselves by the proper selection of a bra and its cup size. They can try the ‘Rice Test’, which is a ‘do it yourself’ sizing method. It is not 100% accurate, but it's pretty close.

Breast prostheses applicable for standard implantation are typically saline filled and those for reconstructive surgery may be cohesive silicone gel filled. Cohesive gel implants when cut on the laboratory bench maintain their shape and do not leak. Perhaps in a few years cohesive gel implants could be used without restriction.

The average expectancy of a saline filled breast prosthesis is about 16 years. However the likelihood that revisionary surgery will be performed within 5 years is about 25% across the board. The most common reasons for implant replacement are for request of size change (37%), leakage or rupture (24%), capsular contracture (18%). However, the percentage of this revisionary surgery can be reduced considerably by careful matching of the implant to the unique anatomical features of the patient explains this. Prostheses come in different profiles and some are anatomical in shape, i.e. tear dropped, being fuller in the lower pole.

Generally surgeons subscribe to the Tebbetts formula for appropriate size. Oversizing creates many problems including early drooping (pendulous weight effect) and 'double bubble.' A distortion when the base of the implant below is seen distinctly from the base of the natural breast, above, which is of lesser circumference.

Breasts as they occur naturally are not perfectly symmetrical. Some balance can be achieved by differential filling and placement. Cleavage does not occur naturally and attempts to place implants so close as to achieve this may result in synmastia, the touching of one breast prosthesis against another.

How to Perform the Rice Test?

This test is primarily used to gauge the extent of enhancement desired by a woman. A small thin plastic bag of rounded shape is filled with rice and placed under a bra that the woman is wearing. The contours of the breast that are achieved after placing these bags are indicative of the size achieved through breast enhancement surgery. The conversions below are a general indicator of the increase indicated by the 'rice test'.

- 1cup = 236cc
- 1/2cup = 118cc
- 3/4cup = 177cc
- 1/4cup = 59cc
- 1/3cup = 78cc

- 2/3cup = 156cc
- 1/8cup = 30cc

The amounts above can be used in different combinations to achieve the cc amount that is desired.

Determining Bra and Cup Size

Studies conducted by leading bra manufacturers and cosmetologists show that the vast majority of women wear the wrong bra size. Bra sizes run differently according to style and manufacturer. For example, a 34D bra of one manufacturer does not mean that the size is the same for all styles of the same manufacturer or for other manufacturers.

Implants tend to be wider than a ‘natural breast, which is generally more rounded. Therefore, many patients need to wear a D cup, simply because the width of a C cup bra will not be enough.

The chart below is a rough estimator of bra size. To use the chart, measure each breast. Start where the breast starts at (near the side/armpit), and measure all the way across the fullest part of the breast. The fullest part of the breast is usually the nipple, but not always.

If the ribcage measurement is an odd no., add 5" to get the band width. Example: 29" ribcage + 5" = 34" band.

If your ribcage measurement is an even no., add 4" to get your band width. Example: 28" ribcage + 4" = 32" band.

Bra Size Chart

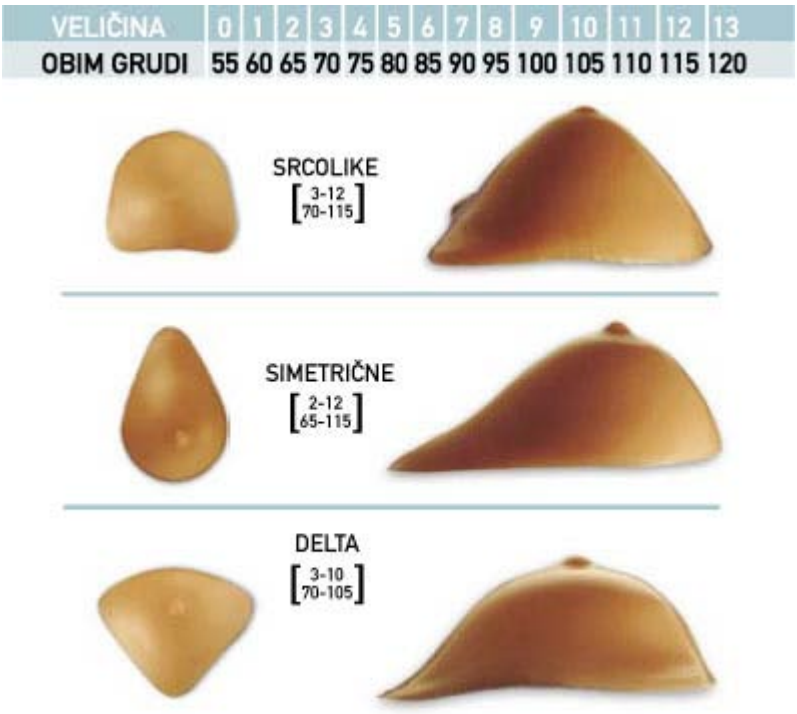
32" band (27-28" ribcage)	34" band (29-30" ribcage)	36" band (31-32" ribcage)	38" band (33-34" ribcage)
6"=A	7"=A	8"=A	9"=A
6.5"=Full A	7.5"=Full A	8.5"=Full A	9.5"=Full A
7"=B	8"=B	9"=B	10"=B
7.5"=Full B	8.5"=Full B	9.5"=Full B	10.5"=Full B
8"=C	9"=C	10"=C	11"=C
8.5"=Full C	9.5"=Full C	10.5"=Full C	11.5"=Full C
9"=D	10"=D	11"=D	12"=D
9.5"=Full D	10.5"=Full D	11.5"=Full D	12.5"=Full D
10"=DD	11"=DD	12"=DD	13"=DD
10.5"=Full DD	11.5"=Full DD	12.5"=Full DD	13.5"=Full DD
11"=E	12"=E	13"=E	
11.5"=Full E	12.5"=Full E	13.5"=Full E	

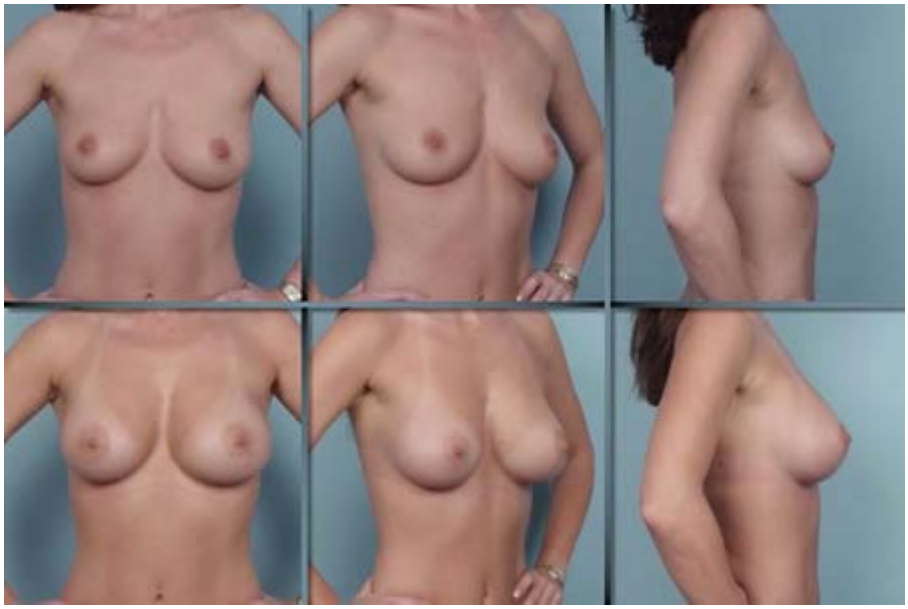
Breast Implants

Initially they were mainly used by actors and models to enhance their looks and desirability. However today, even regular women are increasingly opting for breast enhancement surgery. There are many different types of breast implants in the market. They are silicone or saline in composition, smooth or textured and round or anatomically shaped with various profiles, such as moderate, high and low. TG women will want to

familiarize themselves with the options available so that they can get an idea of the necessary implant.

Some surgeons have a preference for a certain type of breast implant, such as smooth round breast implants, for example. Other surgeons don't have a particular preference. It is desirable to know the advantages and disadvantages to all of the breast implants currently available, so that the TG woman can decide which particular breast implant is right.





Breast Augmentation Incisions

There are four incisions your surgeon can use when placing your breast implants. They are:

Areola - with this method, the surgeon makes the incision around the bottom half of the areola.

Transaxillary or "transax" - this incision is placed in the armpit.

Inframmary - also known as a "crease incision". A small incision is made in the crease of the breast.

TUBA - also known as transumbilical breast augmentation. A small incision is made in the belly button through which the implants are inserted. Not common.

There are pros and cons to each incision site. The vast majority of surgeons have a particular incision that they favor, so you must find a surgeon who is skilled in using whichever incision site you prefer. Most surgeons are skilled at placing implants via the inframammary crease and areola incisions, as these are the most common incisions currently used. However, if you're interested in having the transaxillary incision (armpit incision), or TUBA (navel incision), you need to locate a surgeon who is skilled and experienced in using that particular incision. Otherwise, you could end up with breasts that are uneven. The nipple and crease incisions are the most popular. The transaxillary method is gaining in popularity, as is TUBA. Unfortunately, there isn't an over-

abundance of surgeons performing these two particular procedures, especially the TUBA procedure.

Incisions for pre-filled implants, such as silicone gel breast implants, or prefilled saline breast implants, are a little longer than those of their counterparts, the inflatable saline implants. However, a skilled surgeon can place a pre-filled implant via a fairly small incision, depending upon the size of the implant. Inserting textured pre-filled implants will require a longer incision. This is due to the rough nature of the shell. Also, textured implants are not as soft and pliable as smooth implants, therefore, it is not "manipulated" through the incision as easily.

Inflatable saline implants will have a smaller incision. The implant is rolled up into a "cigar-like" shape, then inserted, and finally, filled with saline solution. These implants can be placed via any incision.

Rhinoplasty

Rhinoplasty is a type of cosmetic surgery that is performed in order to reshape the nose. Although rhinoplasty is most often sought for cosmetic reasons, it can also help correct structural defects that may cause breathing problems.

Rhinoplasty can be performed under a general anesthetic, sedation, or with local anesthetic. Initially, local anesthesia, which is a mixture of lidocaine and epinephrine, is injected to numb the area and temporarily reduce vascularity. There are two possible approaches to the nose: closed approach and open approach. In closed rhinoplasty,

incisions are made inside the nostrils. In open rhinoplasty, an additional inconspicuous incision is made across the columella (the bit of skin that separates the nostrils).

Rhinoplasty carries the same risks as any other surgery. Bleeding, infection, and reactions to medications or anesthesia are possible side effects of rhinoplasty surgery. In addition, there are several risks that are unique to plastic surgery of the nose. These include burst blood vessels that can lead to red spots and small scars on the underside of the nose. A revisionary second procedure at some point in the future to remove or correct tissue may also be required.