

Post Burn Reconstruction: Scope and Limitations.

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Plastic surgery is quite often mistakenly perceived as the vain surgical discipline focused on enhancing aesthetics of an affluent population. But, the fact is that the specialty developed from efforts to restore form and function to soldiers devastated in the world wars, and then it extended to reconstruction of post burn deformities. Gradually this discipline of surgery was established which crept into all other surgical specialties providing nuanced techniques which were enigmatic and esoteric because they brought 'art to amalgamate with science'.

A severe burn injury is the most devastating of all mishaps because even if the individual survives he/she is physically scarred for life! Human form, of any hue or structure, is infinitely more 'attractive' compared to the grotesque deformities as an aftermath of burn injury. Quite apart from the physical appearance, the loss of function can be so incapacitating that the victim reels under despair. It is here that reconstructive surgery strives to restore shape and function, to provide social, physical and occupational rehabilitation.

Ninety five percent of burns occur in the developing world¹. If territories are sized in proportion to the absolute number of people who died from fires in one year then India could easily be declared the 'burn capital of the world'²! Not a very inspiring epithet but it underscores the burn burden of India and the extent of mortality as well as post burn deformity that must be existing to require surgical correction. Burns are a leading cause of disability and disfigurement. It is estimated that fire-related burns account for 10 million disability adjusted life years (DALYs) lost globally each year³. WHO factsheet on burns estimates that in Bangladesh, Colombia, Egypt and Pakistan, 17% of children with burns have a temporary disability, and 18% have a permanent disability⁴. In the same factsheet it is stated that burns are the second most common injury in rural Nepal, accounting for 5% of disabilities⁴. The Indian estimates should closely match these figures, and therefore, the absolute disability from burns in India would be massive. There are insufficient plastic surgeons in India to deal with post burn deformities.

Post burn reconstruction can range from a simple solitary procedure to an array of complex, prolonged and technically challenging procedures. The burn team and the patient jointly participate in surgical planning to decide the sequence of procedures, and to set a time frame with realistic goals. Patient participation is fundamental to optimizing the results by exercises, splinting, pressure garments and massage.

It is not possible to list the entire spectrum of post burn disability

but suffice to mention that the correction of functional disability takes precedence over restoration of aesthetics. Each individual region of the body poses unique challenges to functional and aesthetic restoration. The timing of reconstructive procedures also depends on the patient's age and the ability to cope with post surgical instructions. Generally a moratorium of 1-2 years is recommended before the start of any reconstructive procedure following burns. In extensive and multiple deformities a blue print is drawn right at initiation delineating all the procedures required and the source of required autogenous tissue. A fall back plan for each step is also laid out in case of a failure. In plastic surgery there are always several options of dealing with a deformity and the best plan is executed keeping in view the patient's desires, coping ability and the time period involved.

Patient's often desire restoration of facial and body aesthetics to pre burn levels little realizing that post burn scars are indelible. However, having said this, it can be stated that even in severe burns the aesthetics and contours can be improved to a large extent to make the individual intermingle in society with less embarrassment. Confidence in social interactions is gained over a period of time, and with psychological support. With camouflage techniques using 'make up', and by using 'prosthetics' there can be considerable aesthetic enhancement (fig.1).



Fig 1a : A 28 year female epileptic patient sustained severe facial burns when she fell on the stove during an epileptic episode. The entire face is severely burned and has many deformities and loss of parts.



Fig. 1b & c: Showing the final result after several surgical procedures over 3-4 years.

Very often plastic surgeons marvel at their 'reconstructed creations' having painstakingly planned and executed difficult procedures, but the perceived 'normal' of God's creation still remains elusive to achieve. The patient and the society dreams of a miracle but reality at its best may not match expectations as the goals need to be realistic.

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