

# Post Burn Contracture Treatment Options and Prevention

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## ABSTRACT

This is a clinical prospective study with preoperative and post operative evaluation of treatment options for post burn complications and prevention. In this clinical research 46 patients were opted even more than 200 cases had being treated. This study was over 2 years period and we kept only those patients who came for follow up for 6 months to 2 years. Most of the patients were between age 4 years and 46 years, only one was 70 years and 3 patients were less than 3 years old. 32 patients were female and 14 were male. Most the patients were flame burn only 2 were acid victim females with neck contracture. Contracture involves neck, axilla, elbow, hip joint, knee joint. Treatment options were Skin graft, Z-Plasty and local flaps. Patients who were going through treatment of burn and with risk of post burn contracture were splinted to prevent this complication.

**Keywords:** Contracture, reconstructive surgery, skin graft, Z-Platy local flap

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## INTRODUCTION

The rehabilitation of patients who have suffered burns in the large joints, in particular the shoulder, remains a difficult problem in reconstructive surgery. Spontaneous epithelialization of burn wounds and late skin grafting result in various kinds of scar deformations and contractures. This significantly restricts physical and social rehabilitation after burns. Skin scar contractures related to destruction of skin, subdermal fat, and fascia are very frequent. Secondary contractures involve muscles and tendons (shortening, serous induration, and scarring of tissues around a joint), after which joint contractures develop. Primary arthro-osseous contractures result from direct deep burns in a joint, leading to severe and irreversible processes<sup>1</sup>.

## PATIENTS AND METHODS

Treatment options we had Skin graft, Z-Plasty in leaner contracture and local flaps. Most of the cases were treated with Split skin grafts and Z-Plasty and splints were used in all cases that were treated with skin grafts. Record was collected on Performa including age sex cause of burn with percentage and site of body affected. In follow up post operative results with Patients and in case of children Parents satisfaction rate is documented.

## RESULTS

In our study most of the cases were treated with skin grafts, Z-plasty and only 2 cases with local flaps. In postoperative and follow up period. Success of

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surgical option, functional aspect and patients satisfaction were recorded. Patient's satisfaction was 70 to 100%. Five patients develop complications ,one patient who had flexion contracture of pipj had tip necrosis of right little finger,3had patial graft loss and one who had contracture of axilla and treated with z-plasty had patial loss of one of the flap which was later grafted.



Preoperative PBC Knee



4 weeks post operative PBC Knee

Preoperative



PBC local flap



Operative



Postop 5 days



## DISCUSSION

The feasibility of a particular procedure depends on a set of particular local anatomic conditions. Whatever surgical option we apply restoration of normal anatomy and prevention of recurrence always be preferred. Post-burn contractures of the hand require appropriate surgical treatment whenever conservative approaches have failed. The purpose of every surgical operation is to carry out a stable coverage of the involved area and to avoid recurrence of contracture or chronic ulcers or breakdown. Caleffi E., Bocchi A., Toschi S., Ghillani M. *Annals of the MBC - vol. 3 - n' 1 - March 1990.*

The mortality and morbidity from burns have diminished tremendously over the last six to seven decades. However, these do not truly reflect whether the victim could go back to society as a useful person or not and lead a normal life because of the inevitable post-burn scars, contractures and other deformities which collectively have aesthetic and functional considerations. This article gives an overview of the post-burn scars and scar contractures, especially their prevention, minimisation and principles of management<sup>2</sup>.

Contractures occur when the burn scar matures, thickens, and tightens, preventing movement. A contracture is a serious complication of a burn. wearing a splint: sometimes, after a child has been burned, he/she will need to wear a splint on the joint to keep it straight and to help prevent a contracture. Splints should be worn on top of the pressure garment. Sometimes, after a child has practicing range of motion exercises: range of motion (ROM) exercises help keep the muscle and joints of the burned limbs flexible. A physical therapist (PT) will teach you and your child how to do ROM, so you can help in the healing process.

**Exercising:** Do the special exercises given by your child's physical therapist with your child faithfully. Exercises are very important to keep the scar area stretched and prevent a thick, hard, tight contracture. and dress. Even if it is a little difficult for your child, let Exercises must be done even if your child.

**Promoting independence:** Have your child do daily activities for himself/ herself, as much as possible. For example, let your child eat, brush teeth, brush hair, him/her do these activities and joints of the burned limbs flexible. A physical therapist (PT) will teach you and your child how to do ROM, so you can help in the healing process.

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## CONCLUSION

Treatment options for PBC are available but it will be more beneficial and cost effective to prevent these complications when we are treating these burn patients before they develop post burn complications.

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