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“Hope after fire,”: A free reconstructive surgery project for burn survivors: Making it possible and the lessons learned

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Abstract

Postburn deformities can cause loss of livelihood and a sense of self-worth. Though many can be corrected leading the patients to lead a productive life, tragically many of these patients who need help are not in the service loop. Causes may be the problems of affordability, reach or the lack of skill levels needed for difficult problems. “Hope after fire,” a project to offer totally free reconstructive surgery for the correction of burn deformities is a joint initiative of the Rotary Club of Coimbatore Metropolis and Ganga Hospital. In a 3-year period from 2012, 304 reconstructive procedures were done in 192 patients with a project value of Rs. 1.08 crores (US \$ 166,000). The project is guaranteed the continued support of the club and the community and pledges for a similar sum are available. We feel that this success is reproducible. A patient-centric attitude, the commitment of the people involved in the project to go for it irrespective what it takes to reach the goal, efforts at rehabilitation in addition to surgical efforts, and transparency and trust between partners are the key for success. These and the other factors which we feel are important for success are detailed in this article.

Key words:

Burn deformities, free surgery, Hope after Fire, reconstructive surgery project, Rotary and Ganga Hospital

INTRODUCTION

Burn care delivery in India continues to face challenges on three fronts — first to improve the survival of major burns, second to make the burn survivors lead a productive

life, and the third to integrate the burn survivors into the society. Developed countries have crossed the first two hurdles. The increased survival rate since the early 1970s

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has been remarkable with even children, now sustaining 85-90% total body surface area burns surviving routinely in developed countries.^[1] Early surgery and rehabilitation have prevented disabling contractures from occurring. That leaves the problems at the emotional level — Maintenance of self-esteem, psychosocial problems, and integration in the society.^[2] While that is the status in the Western world, in our country we still have to address all the three challenges. Burn survival rates are yet low; survivors are left to spend the remainder of their lives suffering from burn-related physical disabilities not because they are irreparable, but because their families cannot afford the necessary medical care. Survivors often lose the ability to be productive citizens.^[3]

Of the three challenges, the second one is perhaps the easier to address. As plastic surgeons, we have the solution to the problem. The sheer numbers, widespread distribution of the patients, logistics of reach, connecting the needy with the reconstructive surgery team, and skill and finance resource crunch are the problems to address. Is there any way to go beyond these and provide a new lease of life to these patients? A number of initiatives by voluntary, nongovernmental organizations have attempted to address these issues.

In 2012, a project called, “Hope after fire,” was started as a joint initiative of the Plastic Surgery Department of Ganga Hospital, Coimbatore and the Rotary Club of Coimbatore Metropolis to provide totally free reconstructive surgery to burn patients [Figure 1]. It has been a success story with 304 reconstructive procedures, most of them complex performed on 192 patients until October 2016. The project value stands at Rs. 1.08 crores (US \$ 166,000 approximately). The Rotary contributed to the hospital expenses and the consumables and the hospital contributed by waiving the surgeons and other professional fees. We have pledges of support for an equal sum for the continuation of the project. In this article, we discuss the genesis of the project, its growth, and the lessons that we have learned in the process so that it could serve as a model for future projects.

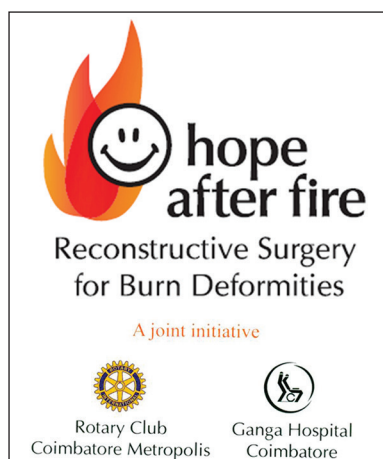


Figure 1: The popular Logo of the project, “Hope after fire”

THE NEED FOR THE PROJECT

It is said that in India 6-7 million people are burned every year with 1 million severely or moderately burned. Most of the burn survivors end up with some deformity. Hands and face are involved in most major burns. The ultimate quality of life of a survivor depends on the condition of his hands and the face. While we do not have accurate statistics on the number of survivors who are left with deformities, it may not be wrong to guess that at least 300,000 patients would be added to the pool every year. So there is a huge service gap. It is worth treating them because it has been found that the return on investment in correcting post burns deformities is 13:1. This is based on using the gross national income/capita (Atlas Method, UNICEF) and the World Health Organization’s Global Burden of Disease Study statistics on productive years lost due to certain diseases (disability-adjusted life years). This is a very conservative estimate and assumes the patient has regained 25% of his/her functionality; in many cases, the patients are completely “cured,” and they go back to productive lives.^[3] So every rupee spent on reconstructive surgery for burn deformities travels a long mile.

THE GENESIS OF THE PROJECT

Like many good things, this project started as a result of a casual conversation. Dr. Raja Sabapathy and the Rtn. Venkatesh, President of the Rotary Club of Coimbatore Metropolis, were on a return flight from Kolkata, where they had gone to receive the Global Service to Humanity award of the Rotary International for the former. There was a discussion of doing some meaningful project which will make a social impact, and Dr. Raja Sabapathy suggested to Mr. Venkatesh that they could embark on a project for the correction of burn deformities. The Rotary President agreed, though he was unaware of the magnitude of the project and the resource requirements. Seeing some pictures of what is possible in the laptop which was on hand convinced him of the need and they decided to go ahead, “no matter what it takes to achieve it.” It did not take much effort to convince the friends in Rotary to proceed because of the obvious potential good that this project would do. It was decided that the surgical team would do it totally free, and the anesthesiologists would subsidize 50% of their fees. The Rotary funds would be utilized for the hospital charges and the consumables.

THE LAUNCH

Social service projects need to build awareness in the community and so we decided to have a big launch. We roped in the very popular Tamil film actor Mr. Surya, who readily agreed to voluntarily come for the launch. The program was launched in the Ganga Hospital auditorium

to a capacity crowd of 500. A power point projection was given to illustrate what the project could achieve which impressed the crowd, and the press were kind enough to give a wide coverage.

THE GAME CHANGERS

History is replete with examples of how public opinion could be swayed to make a massive social change with the publication of a single photograph or a seminal event. The picture of the running girl child at the height of bombings during the Viet Nam war, the calm look of the youth protester when the police dog attacked him during the height of Martin Luther King's civil war, the body of the refugee child washed ashore during the recent crisis in Europe are standing examples [Figure 2a-c]. Two patients and their treatment outcomes cemented the support of our Rotary club members to the project, and it is worth mentioning them in some detail. When we treated them, we did not think of the possible effect since the patients themselves posed a major surgical challenge, and we were just concerned with getting a good outcome.

The story of Nancy

Nancy is a 23-year-old girl, who after a burn developed severe fixed flexion contracture of both knees at 120° flexion [Figure 3a-c]. In addition, she had contractures in the elbow and neck. She had been like that for 2 years and suffered untold misery by her inability to walk. The tight contractures at the groin also made even personal hygiene measures difficult. Her mother suffered silently nursing her needs. The news of the launch made the members of the Rotary club of Ooty, bring her to our care. It was a great challenge to get the legs straight since there were circumferential scarring, tight vessels, and no scope for any flap cover due to the paucity of donor sites. A 4½ months of schedule with Ilizarov, series of surgical releases and grafting and painstaking rehabilitation of 8 weeks finally achieved what people thought was a miracle. The total cost of the treatment was Rs. 4.75 lakhs.

The story of Babu

Babu ended up with a severe sternomental contracture and a totally useless right hand after an accident during a work break in the Nilgiris [Figure 4a-d]. People got so scared on seeing him and so he never ventured out during the daytime. A couple of visits to local hospitals for correction, postponed admissions ended his quest to venture for further treatment. On the advice of the local Rotary club, he picked up the courage to come to Ganga Hospital and reached one day at midnight. His hygiene was so poor that people could not stand near him. Only his aged mother formed the family, and it was too much for her taking care of him in this state for more than a year. A series of surgical procedures, a microsurgical free flap to the neck, groin flap to the hand followed by bone graft for



Figure 2: (a) Children running after the Napalm bomb attacks during the Vietnam War. (b) The protester being attacked by the Police dog during Martin Luther King's Civil Rights Protest in Birmingham, Alabama in 1963. (c) The body of a Syrian Refugee child being washed ashore at the Bodrum Beach in Turkey.



Figure 3: (a) 23 year-old Nancy with severe knee and pubic contracture of 2 years duration. (b) Released with distraction and series of surgical procedures to enable normal walking (c) Nancy with her mother after completion of treatment



Figure 4: (a) Severe sternomental contracture, (b and c) Severely contracted and formless right hand. (d) Reconstructed with contracture release, anterior lateral thigh flap to neck, series of procedures on the hand with 2 pedicled flaps and bone graft reconstruction to provide a functional hand

thumb reconstruction were done. Now he is employed as a security guard in a local factory. The cost of care was Rs. 4.5 lakhs and it was done entirely free to the patient.

The outcome of these two patients and so many heartrending stories heard during the beneficiaries meet made the Rotarians passionate to continue the project. We did two musical evenings for fund raising and once we got a matching grant from the Rotary for the US \$ 50000. Now the project has adequate sponsors for continuation with no strings attached. Three years, more than 300 procedures with a project value of more than a crore of rupees and with definite pledges for an equal amount for the future gives us a great sense of satisfaction. Looking back what are the lessons learned?

- 1. You need a story to move the mountain:** As in the three historical examples given, even though people were aware of the problem of war, social segregation, or refugee problem a single photograph massively changed public opinion and spurred them to action. Here also it was the stories of the two patients, and the immense impact it made on the social scene brought forth tremendous support of the Rotarians. We have been in trauma reconstructive surgery for a quarter of a century now and have been performing more challenging salvages and reconstructions following acute trauma but have never managed to bring in so much public support and financial assistance to the patients as it has happened in this project. The two major patients needed high skill levels, persistence, and staged reconstructions. We provided them what they needed irrespective of whether we would be reimbursed for the effort or not and it paid off in terms of massive support to the project. As surgeons, I think we need to make the first move.
- 2. If there is a good purpose, with passion and commitment to back it, finance will be the least of the problems:** We defined our purpose of the project: "Prevent needless suffering due to post burn deformities." We decided to go ahead with it, "no matter what it takes to achieve it." This commitment is essential both on the side of the sponsoring organization (in this instance Rotary Club of Coimbatore Metropolis) and the ultimate caregiver (Plastic Surgery Department of Ganga Hospital). Our experience with various service projects is that the initial enthusiasm is followed by a plateau stage which usually is reached by 6 months. At that stage, doubts about the sustainability of the project crops in the minds of the sponsors. In this instance that was the time we were treating Nancy, and she ended up with a whopping bill of over Rs. 4 lakhs. We decided to continue with her care no matter what it takes and finally when we succeeded there was an outpouring of support. Even if we had crossed 80% of the way, we would have failed. The project leaders must have the stamina to run the marathon.

- 3. In order to jump to a "mega," project category, the project must have some inherent unique strengths:** The unique selling point of this project was its ability to take up extremely complex cases, which need high skill levels, multiple staged procedures, and long duration of treatment. We took up the cases which fell outside the radar of the available health care systems [Figure 5a-c]. The release of simple contractures or syndactyly separation alone is unlikely to stir the heart of a nonmedical person to pledge support to a project. They need to see that this project creates a significant impact in the society. If one were to do simple releases and skin grafting in a minor way as is possible in camps it is unlikely to get continued support.
- 4. "Free surgery is not really free," to the patient:** During our project's core committee meetings, a frequent question raised by Rotarians was whether we would be flooded with patients once we say that quality care is available free. My colleagues in the department would also raise the same issue. I was sure it would not happen. This was due to reading the wonderful book, 'Infinite Vision' on Dr. Venkataswami, the founder of Aravind Eye Hospitals, Madurai.^[4] In their initial days, the doctors of Aravind used to screen patients in village camps, identify the ones who will benefit from cataract surgery and advise them to come for free surgery. They found that the turn-up rate was very poor. A research was done, and it found that transport and sustenance costs, along with lost wages for oneself and an accompanying family member were daunting considerations for a patient. "The valuable lesson is that just because people need something that you are offering for free, it does not mean they will take you up on it. You have to make it viable for them to access your service in the context of their realities." When they addressed this issue, the acceptance rate for surgery rose. We have found this true.

Successful charities have understood this and taken steps to address this issue. A great example is the Smile Train project, where provisions exist to provide transport cost and food for the parents of the child with the cleft lip and palate. We now are moving from a stage where we got patients on a word of mouth basis to a larger scale, and I believe that this issue has to be addressed. The project must also fund compression garments and scar control measures so that a full comprehensive care is available.

- 5. Total patient-centric attitude is needed in a charity project:** Many charity projects get bogged down by paperwork, rules, and regulations. That needs to be kept at a minimum. This is particularly important while deciding the eligibility criteria for free surgery. Ours is a private institution, and we did not want any ambiguity in the choice of the patient. We simply solved it by again following the Aravind eye care model, where they let the patient make the choice. The patient decides if he wants to get under the project or choose the payment category. No questions asked, and no proof of poverty is demanded.

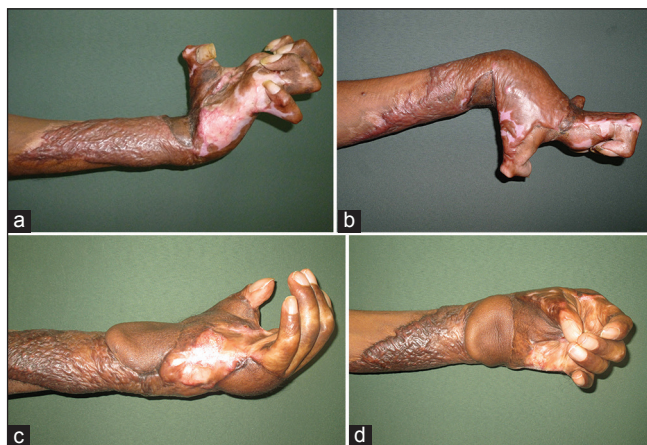


Figure 5: (a and b) Severely contracted and deformed hands which continued to be useless after, “multiple procedures,” in many places. (c and d) Functional hand after reconstruction



Figure 6: (a-c) He sustained burns when he was an infant and developed contractures resulting in the arm stuck to the chest and the hand to the dorsum of the forearm. He never wore a shirt in his life. (d) Deformities corrected after series of procedures, and he now can perform bimanual work



Figure 7: (a) The lady with severe multiple facial contractures. She also had bilateral axillary contractures. (b) After reconstruction. (c) Now an entrepreneur providing employment to 6 people. We taught her tailoring and helped in securing tailoring machines through nongovernmental organizations

There is a definite advantage of the project being patient-oriented. Patients are admitted on any day they come. We have made it possible for patients to choose the date of their surgery, realizing the amount of effort they have to muster to come. Instances have time and again has given this insight to me. Chandrasekar got burnt while he was a child and has grown up with the arms stuck to the chest and the dorsum of the hand stuck to the forearm. He was 21 years when we met him [Figure 6a-d]. He just lived 50 km away from our center, but healthcare system just failed to take him in. For them, we need to adjust.

6. **Need to move it from a “Club” to “Community” project:** Mr. Rajendra Saboo, Past President of the Rotary International, visited our hospital, and we used the opportunity to present him the project. He lauded the efforts and wished for it to grow to greater heights. When I specifically questioned him about what makes massive projects survive, he said that we need to move it from a club project to a community project. He said that when that did not happen, projects did not survive in the long run because they need continuous supply of resources. Presidents and boards change every year, and if it does not interest a team at some stage, it risks the loss of support.

Our friends in the Rotary just did that. Apart from conducting two fund raising musical evenings, the key thing is that all of them spoke about the project to their family and friends. They took it to the community. Rtn. Ramesh said that he is never shy to ask anyone for this project and says that he never returns empty handed, People have always given something. An industrialist said that he would give Rs. 5000 for every procedure that we do irrespective of any other support that we receive. Chief Guest invitee for a Rotary installation saw the video and spontaneously gave Rs. 5 lakhs. Now a benevolent person has undertaken to fund it fully until he can and has supported the last 22 surgeries. Getting the interest of the community is the key step and that can only be done under the banner of a reputed organization like Rotary. The Rotarians serve as catalysts for change.

7. **Need to go beyond medicine:** The ultimate victory is when the burn victims lead a productive life. They may need help to pursue studies, undergo vocational training, or financial help to start a business. One thing we realized was that none of the burns victims knew what and where help is available. Our social welfare officers looked into the needs of every patient and found avenues to help. Relieving them of deformity, providing them hope for the future works wonders. The tenacity of these patients could be very inspiring even to us [Figure 7a and b]. Going beyond medical care, by providing help in education and employment makes the loop complete. It makes the project look meaningful to the donors. This is the stated purpose of the project and going beyond medicine adds value to the cause. Surprisingly, we found that this aspect was the easiest to achieve.

8. Transparency and trust between partners: Though the values of transparency, integrity, and trust between partners are integral for the success of any venture, it is more important in a major charity project. A system needs to be organized, and it has to be followed with discipline all the time. When we examine a patient, who would benefit from this project we request them to meet Rtn. Mr. Tarun Shah, who has taken the onerous job of meeting every one of them, goes into the history and gives the nod from the side of the Rotary. This also helps to give the project the Rotary identification which it richly deserves. The progress is conveyed periodically, and the financial commitments are reported on the stipulated dates. This fanatical discipline in record keeping and accounting is important for the building of trust capital between partners.

We also realize that ultimately the project gets value when the outcome of our reconstructions are good. We take every effort to guarantee that by usually the senior people operating on these patients. The level of expertise needed by every patient is provided. We fully realize that when we are doing a charity project we cannot afford to have complications. Complex cases need to be operated by the experienced and not to get experience.

9. Attitude: The singular feature which I personally feel that has generated more than a crore of rupees for this project is the attitude of all the Rotarians. Everyone believed in the cause and had empathy for the suffering patients. Time and again it was so moving to note that everyone thanked for the opportunity given for them to serve and none felt exalted in doing it. When Rtn. Rathan Chand decided to donate Rs. 5 lakhs for the project and discussed it over the dining table with his family, his grown up sons asked him if that was adequate. It could have never happened but for the total belief in the project the father had which rubs on the children. Such was the power of the project and the attitude of the team.

10. The future: What do I think of this moment, and how the future will be. We need to reach the people who need help but who are outside the service loop. Social marketing is a term used for this, but whatever it is we need to reach out. It is possible. We have major projects like Operation

Restore piloted by Dr. Sunil Keswani at the National Burns Centre, Mumbai^[5] and significant progress made by Resurge International in Nepal, Dehra Dun and now at the KEM Hospital, Mumbai as shining examples as to what could be achieved. While these projects targeted correction of physical disabilities, Dr. Puri and their team have conducted the Camp Karma, a pediatric burn survivor camp for the psychological upliftment of the burn-scarred children and to improve their self-esteem.^[6,7] That again will become the need of the country as we move on. These projects stand as beacons of light, and we sincerely hope there will be much more of them throughout the country providing hope for the burn survivors.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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