

Pioneer
In your skin

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In your skin

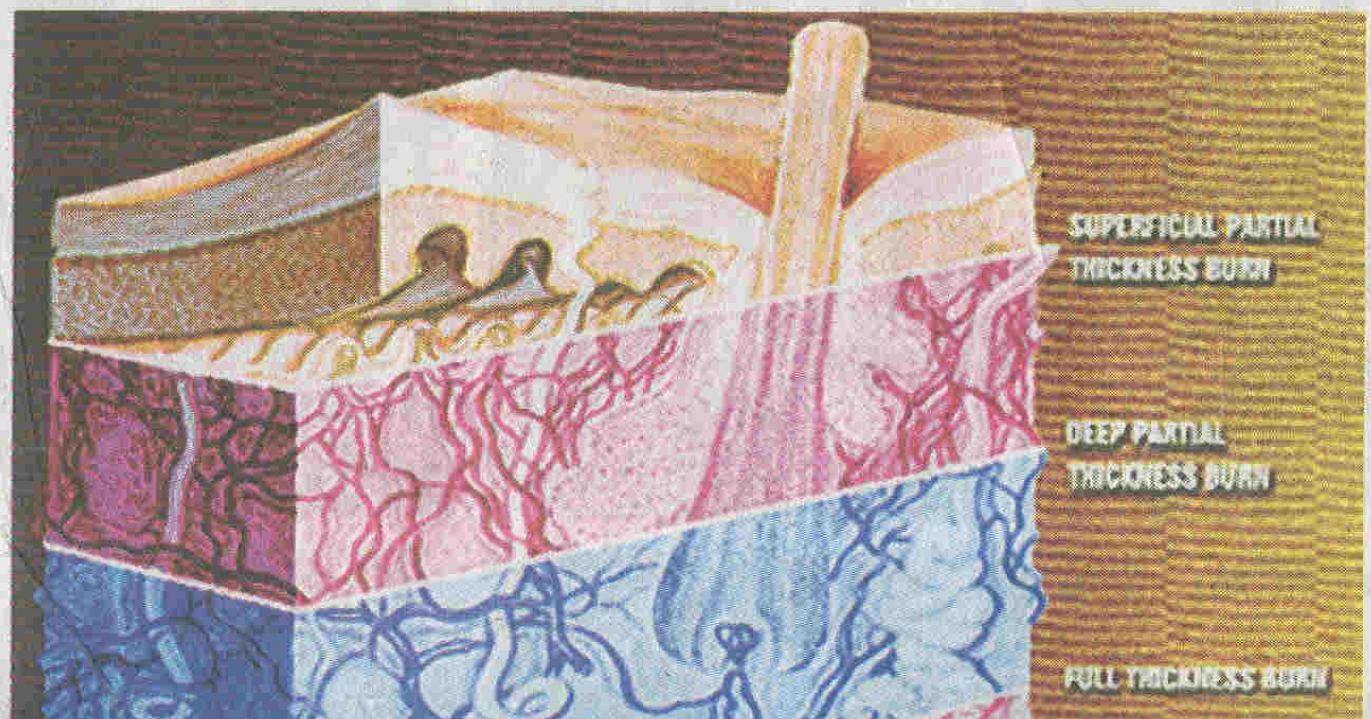
Usually, plastic surgery involves using your own skin. Now, for the first time, a technique that uses artificial skin brings a ray of hope for many. **TEAM FORAY** tells you more



The day was no different. Parijat Bora was busy making preparations for her daily *puja*. She had no idea that the events that were about to unfold would change her outlook towards life forever.

A 30-year-old customer care executive working with a multinational company, Parijat suffered 70 per cent burns from a *diya* while praying in her house in 2008. Her life fell apart and she was constantly in pain with no free movement. Her hand movement was checkered. Then she came to know of a new surgery technique called Integra which basically means skin grafting.

“Due to the severity of the burns I could not do much work. My neck, right shoulder, arms and hands were affected. After the surgery in 2009, the fact that I am able to freely move my neck and hands is such a joy,” Bora says. She was recently awarded The Patients



maintain cleanliness in the graft site, promotes the development of new blood vessels, and increases the chances of the graft successfully taking. The NPWT can also be used between graft operations to assist an infected wound in remaining clean for a period of time before new skin is applied. Skin grafting can also be seen as a skin transplant.

Risks abound after this surgery like loss of grafted skin, nerve damage, graft versus host disease, bleeding and infection. Rejection might also occur in some cases, to prevent which the patient is usually treated with long-term immunosuppressant drugs.

Most skin grafts are successful, but in some cases they do not heal properly and require another grafting. The graft should also be monitored for good circulation and must be protected from trauma or significant stretching for two to

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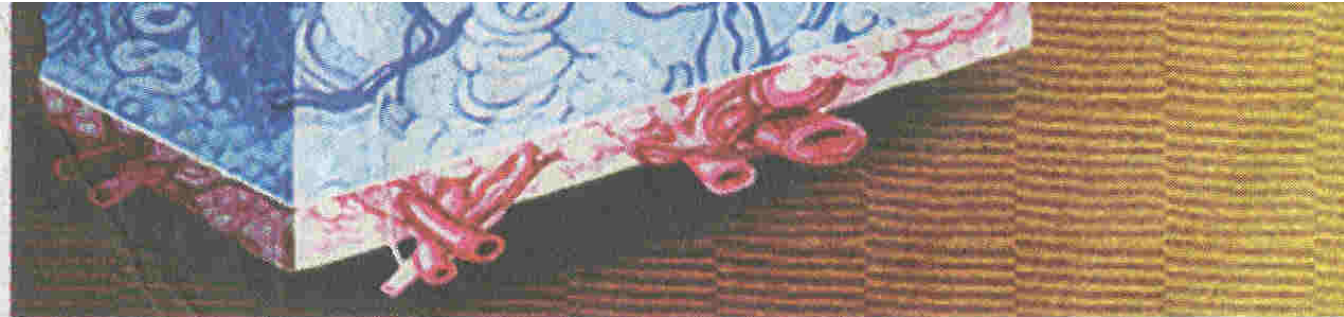
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was recently awarded The Patients of Courage award, 2010, by Max Healthcare hospital. The procedure involved surgical removal of the damaged skin followed by skin grafting, — transplanting artificial skin. The surgery (the first of its kind to be performed in the country) cost Rs 7 lakh and was done in two stages.

In order to remove the thin and well preserved skin slices and stripes from the donor, surgeons used a special surgical instrument called a dermatome. This usually produces a split-thickness skin graft, which contains the epidermis with only a portion of the dermis.

The dermis left behind at the donor site contains hair follicles and sebaceous glands, both of which contain epidermal cells which gradually proliferate to form a new layer of epidermis. The donor spot can be extremely painful and vulnerable to infection.

The graft is spread on the bare area to be covered. It is held in place by a few small stitches or



surgical staples. It is nourished by a process called plasmatic imbibitions in which the graft literally 'drinks plasma'. New blood vessels begin growing from the recipient area into the transplanted skin within 36 hours in a process called capillary inosculation.

The graft is meshed by making lengthwise rows of short, interrupted cuts, each a few millimeters long, with each row offset by half a cut length like bricks in a wall. In addition to allowing for drainage, this allows the graft to stretch and cover a larger area as well as to closely



Parijat Bora after her surgery

approximate the contours of the recipient area.

An increasingly common aid to both pre-operative wound maintenance and post-operative graft healing is the use of negative pressure wound therapy (NPWT). Under this, a section of foam is cut to size over the wound, then laying a perforated tube onto the foam. The arrangement is then secured with bandages. A vacuum unit then creates negative pressure, sealing the edges of the wound to the foam that draws out excess blood and fluids.

This process typically helps to

significant stretching for two to three weeks.

Depending where the graft is, a dressing is necessary for a week or two. Exercise that might stretch or injure the graft should be avoided for a month or so. The recovery from surgery is usually rapid if the dos and don'ts are followed the way they should be.

Doctor Sunil Chaudhary, director, Max Healthcare said, "Reconstructive plastic surgery with its wonderful innovations of microsurgery, tissue expansion, tongue reconstruction, advanced wound healing techniques and technology has revolutionized management of cancer, burns trauma and birth defects. This is a craft of molding human body."

Similarly, Nitin Pandey, a pediatrician, was diagnosed with mouth cancer. He underwent a microsurgery under Integra where his tongue was reconstructed. He is now able to swallow and eat. Most importantly, he can speak which he thought he wouldn't ever be able to.