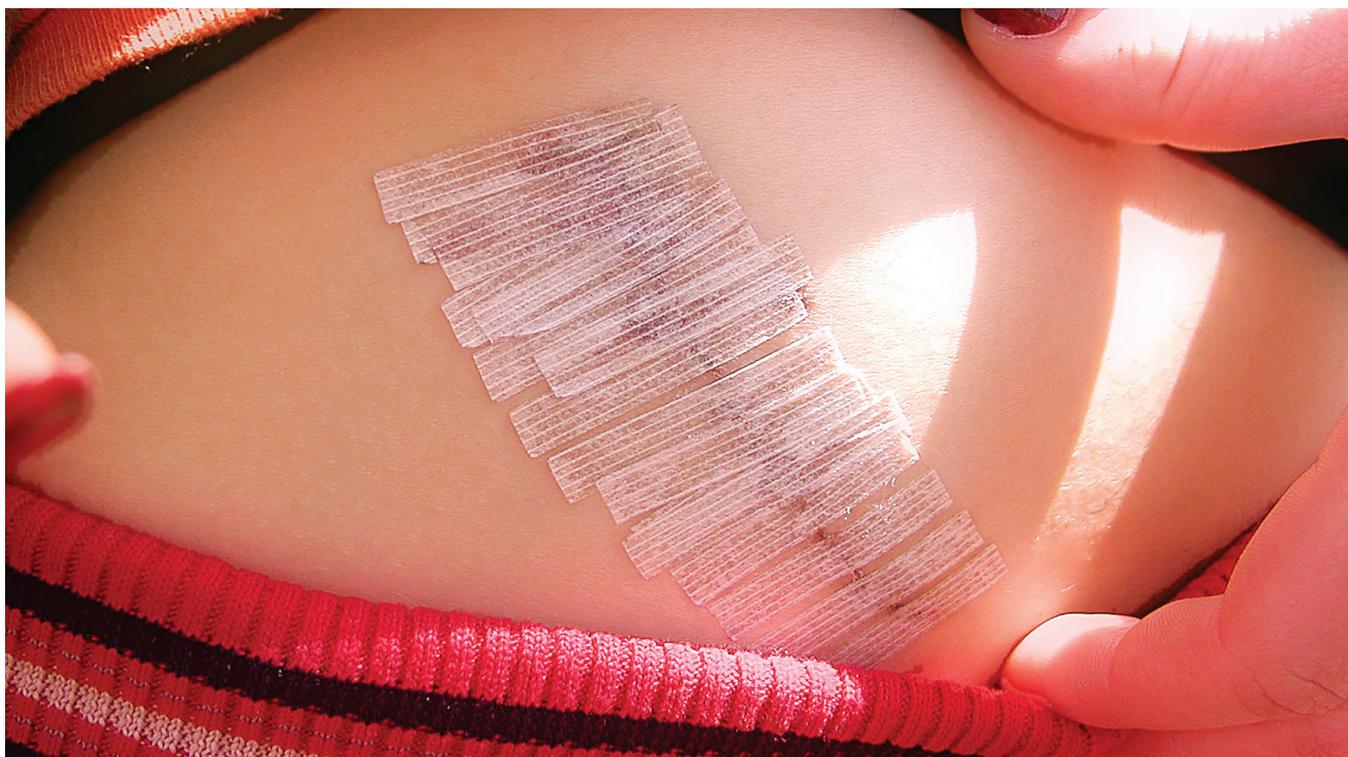


New healing technologies

In the past, a wound was allowed to heal itself and the human body was fit enough to recuperate and support the process of self-healing. The recent lifestyle changes have adversely impacted the healing process. This in turn, has given rise to new advanced wound management practices that facilitate quicker healing without any unease or trouble.



Anubhav Sharma

In the recent years, the country has witnessed boom in technological innovations. This evolution while holds good, has its certain share of drawbacks as well. With the incidences of injuries increasing, the medical world needs to get upgraded with the latest technology in wound management. Thus, the industry focus is gradually shifting to wound healing and recovery. This has called for deeper research and studies in the field of wound management.

Wound healing factors

Skin being the most accessible organ is subject to trauma. A traumatic injury does affect the metabolism balance and

immunological parameters that play a crucial role in wound recovery.

The natural healing process faces challenges due to medical conditions such as diabetes, hypertension, immune dysfunction, poor nutrition and others. These medical conditions impact the duration taken to naturally heal the wound and the organ takes more than the normal duration to come out of the trauma.

Explaining the wound healing process, Dr Sagar Galwankar, Consultant and Head of Emergency Medical Services, Global Hospitals(Mumbai) says, "Trauma has many etiologies and mechanisms that range from mechanical to chemical factors, which cause intense tissue and immunological stress in an individual. These factors play a critical role in wound healing."

Examining problems

In the past, examination and cleaning of the wound using aseptic and anaesthetic techniques will stop the bleeding, while removing all contamination through mechanical cleansing and hair removal. The hair removal is done by clipping and not shaving with needed antibiotics, drains and, if needed, open wound care are emphasised as primary steps to heal the wound better with appropriate care.

With an increase in injury rate in the recent times, changing lifestyles present a set of challenges for the healing processes. Various researches and study are being carried out in this direction. Hormonal stress is considered as an important factor in wound healing. Hence, many hormonal agents are being researched for local application to enhance wound healing.



“Researches in bioengineering has led to the development of Bioengineered Skin Substitute (BSS) tissues which will replace the injured skin and take over the healing process.”

Dr Sagar Galwankar
Consultant and Head of Emergency Medical Services, Global Hospitals (Mumbai)



“There are few techniques available in India for wound management as in new topical antiseptics, the concept of TIME, the use of Biofilms and Negative Pressure Wound Therapy (NPWT).”

Dr Shweta Tyagi
Consultant and Head of Emergency Care Department, Seven Hills Hospital

There are different types of new dressings being used, wherein they are coated with antibiotics for local applications and additionally, they also act as absorbents of excess fluid generated from the injured skin tissue.

Besides the normal research and study involved into the area of wound management, there are many other researches carried out as well. “There is also a lot of research going on in the arena of bioengineering leading to the creative work on making Bioengineered Skin Substitute (BSS) tissues which will replace the injured skin and take over the healing process. Skin grafts from skin banks are already known therapeutic options,” adds Dr Galwankar.

Some of the research and innovation efforts in areas of skin bioengineering are skin and tissue artificial and natural regeneration technologies, acute, chronic and complex wound dressing techniques and technology, anti-scar strategies, inflammation biology, burns and healing, Biofilm control, tissue oxygen, tissue blood supply, new devices and technologies and others. These advancements are improving the wound care processes by using a 360 degree approach. For faster healing, the cooperation of the patient to diligently follow wound care instructions helps achieve successful wound healing results.

Innovations in wound-healing

Wound dressings should eliminate dead space, control exudates, prevent bacterial overgrowth, ensure proper fluid balance, and be cost-efficient and manageable for the patient and/or nursing staff. Wounds that demonstrate progressive healing as evidenced by granulation tissue and epithelialisation can undergo closure or

coverage. Dr Amit A Saraf, Managing Director, FCPS Consultant Physician (Internal Medicine), DNB Medicine Coordinator says, “An acute wound has normal wound physiology and healing is anticipated to progress through the normal stages of wound healing, whereas a chronic wound is defined as one that is physiologically impaired. To ensure proper healing, the wound bed needs to be well vascularised, free of devitalised tissue, clear of infection and moist.”

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There are various factors that delay wound healing. To name a few, malnutrition, reduced blood supply, medication such as non-steroidal anti-inflammatory drugs and corticosteroids, chemotherapy, radiotherapy, psychological stress and lack of sleep, obesity, infection, reduced wound, underlying disease-diabetes and many more. Talking about the global position of India in wound management, Dr Saraf says, “Moist wound care is not a well-known concept in India. The few doctors, who are aware about it, know it either by virtue of travelling abroad or by updating themselves with the latest.”

Advanced wound care products normally carry a perception of high cost-low benefit products. Hence, the use of traditional

products like cotton and gauze is rampant. Counterfeit and local substitutes are easily available and there is a continuous downward pressure on pricing. This further drives down the usage of advanced wound care products towards traditional wound care.

Innovations from India

There are various innovations currently springing up in India and especially, in the areas of wound management. Explaining about the few innovative techniques, Dr Shweta Tyagi, Consultant and Head Emergency Care Department, Seven Hills Hospital says, “There are few techniques available in India for wound management as in new topical antiseptics, the concept of TIME (Tissue management, Inflammation and infection control, Moisture balance, Epithelial (edge) advancement), the use of Biofilms and Negative Pressure Wound Therapy (NPWT), pulsed radio-frequency electromagnetic field, coblation and others.”

The need for better wound management is increasing, and various innovations can be expected in the years to come. Explaining India’s dominant position in the global market, Dr Saraf says, “Constant upgradation of knowledge by attending Continuing Medical Education (CMEs) or journals, will educate doctors about new concepts in wound management. Infrastructural improvements will also help.”

While every organ needs time to recoup at its own pace, the changing lifestyle trends make the natural healing process difficult. In such cases, innovation in technology can only help in wound healing. This will lead to better wound management processes and innovations. **MM**

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