According to the American Burn Association, nearly half a million Americans suffer thermal burn injuries each year, resulting in approximately 40,000 hospitalizations and 3,400 deaths annually. Despite these alarming statistics, the survival rate is high. This is largely attributable to advances in research, medicine, and technology in the field of burn injury care.

Thermal burns can cause severe damage to the victim's skin, requiring focused wound care, infection prevention, and even excision and skin grafts. Eschar excision and skin grafting has long been the standard of care. Skin grafting can be accomplished through different methods. An autograft is where skin from a donor site on the same patient is used. One benefit to the autograft is that there is no risk of rejection. However, the donor sites are painful. Moreover, autografts may not be feasible in the case of extensive burns covering large surface areas.

Burn survivors with more extensive burns may need temporary wound coverage with an allograft, xenograft, skin substitute, or dermal analog, due to insufficient or unavailable donor sites. An allograft is where tissue is taken from a living or deceased human donor. Xenografts involve tissue taken from a different species.

In addition to grafts, there are also a number of skin substitutes and dermal analogs available. Some are designed to replace the dermis while others replace the epidermis. Various dressings for burn wounds are commercially available, as well.

However, as important and effective as these traditional approaches to burn care are, there is currently increasing excitement and interest in cell-based techniques for more permanent coverage of burn wounds.

Japanese researchers recently grew skin from the cells of a mouse using a technique that could be useful for burn victims in the future. Most importantly, the scientists were able to grow skin with hair follicles and sweat glands. The results are promising for producing a much more functional skin for burn victims.

We have also seen advances in technology that allows healthcare professionals to track wound healing over time and calculate burn sizes. For example, WoundFlow is an electronic mapping program that was developed for these reasons as an upgrade over the traditional paper diagram method (Lund-Browder) of tracking burn healing.

These new technologies were developed to enhance the care medical professionals can provide to their patients. It is important that burn survivors know what care is available to them. Burn injuries are both physically and emotionally painful. The best way to move forward after a burn injury is with as much up-to-date knowledge of treatment techniques available.