# **TEMPORARY SKIN SUBSTITUTES**

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#### WHAT ARE THEY AND WHY DO I NEED ONE?

Your skin serves many purposes:

- + Barrier to the environment.
- + Protection from infection.
- + Protection for internal organs.
- + Prevention of water loss.
- + Helps regulate body temperature.
- + Helps regulate metabolism.

When the skin is damaged or destroyed, it may no longer serve its purposes. A burn injury can be different depths, ranging from first-degree (sunburn) to fourth-degree (damage to muscle, tendon and/or bone). Healing may be achieved with the use of skin substitutes. The steps necessary to achieve the best results are dependent on many factors, including the depth of the burn.

# **FIRST-DEGREE BURNS**

- + Affect only the top layer of skin.
- + Appear red and painful.
- + Will heal on their own with aloe, creams and lotions.

## **SECOND-DEGREE BURNS**

- + Involve the top and second layer of skin.
- + Appear red, watery, and blistered.
- + Minor second-degree burns can heal with topical antibiotic creams or ointments, which require daily aggressive washing to remove the old cream/ointment and daily dressing changes.
- + Deeper second-degree burns often require temporary skin substitutes. This often involves some type of sedation, possibly anesthesia, to allow a surgeon to properly prepare the wound and cover the burn with one of the temporary skin substitutes. The temporary skin is then covered with a slow-release antibiotic dressing, which can be left in place for 7-10 days. This helps the skin to regenerate and protect the wound, without having to perform daily cleaning and dressing changes. The temporary skin substitutes may separate from the wound (much like a scab) as your skin heals underneath.

#### **CONTINUED ON BACK**

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## **THIRD-DEGREE BURNS**

- + Involve all layers of skin.
- + Appear white, dry, leathery, and mostly painless.
- + Will not heal on their own.
- + Require the grafting of your own skin. The reason your own skin is needed is that your body is likely to reject a skin that is not your own, leading to significant itching, scarring and other open wounds.
- + Often require skin substitutes to prepare the third-degree wound for grafting and allow second-degree injuries to heal.

#### **HEALING A THIRD-DEGREE BURN**

- Any dead tissue must be removed as part of a surgical procedure. Temporary skin substitutes will be applied to the wound. This will remain in place for approximately 7-14 days (depending on the size and extent of the injury). This is performed under anesthesia.
- + For the placement of your own skin, you will need to go back under anesthesia to have the temporary skin substitutes removed. If the wound is not ready, a second application of temporary skin substitutes may be required. If the wound is ready, your own skin will be harvested and moved to cover the area of the burn. The area where the skin is harvested from is called the donor site. The donor site is traditionally uncomfortable, but the pain improves each day. The donor site will heal in approximately two weeks.

### **TEMPORARY SKIN SUBSTITUTES**

Our surgeons have several options for temporary skin substitutes, including – but not limited to:



Human skin donated for medical use post-mortem. A thin layer of skin harvested from a pig.

Membrane recovered from the placenta following birth.

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