

Education for Parents and Children: Healing after a Burn

Introduction

A burn can be a significant experience for a child and their family. While each child is different in how they heal, understanding the general healing process and what to expect along the way can help. This information is designed to provide an overview of the rehabilitation that accompanies the healing process after a burn.



Skin

Skin is the largest organ of the body and serves several important functions:

- Protection of the body from infection, acting as a barrier against invading organisms or bacteria
- Prevention of body fluid loss
- Regulation of the body's temperature through evaporation of sweat from sweat glands
- Sensation monitoring (i.e. pain, temperature, light-touch)
- Appearance

Burn Classification System

Burns are often described by the method which caused the burn (fire, electrical, oil, friction, hot water, etc) and by the depth to which the skin was injured.

1. **Superficial Burn** (*first degree*)- May look light pink in color, affects only the outer most layer of skin (e.g. a light sunburn) and heals within a couple of days.
2. **Mid-Dermal Burn: superficial or deep** (*second degree*)- may be deep red in color and blister, may affect underlying structures such as oil glands or hair follicles, may take more than 17 days to heal (requiring skin grafts), may scar.
3. **Deep Dermal Burn** (*third degree*)- may initially look white, involves all layers of the skin and may include muscle and bone, has decreased or absent sensation, requires skin grafting, likely to scar.

Healing and Scars



What is a scar?

A scar is part of the body's natural healing process after an injury. A scar is the regrowth of the collagen fibres that make skin.

As skin heals after a burn, new skin is very sensitive. Oil glands and hair follicles may be damaged or destroyed causing skin to look dry. Common non-prescription moisturizing lotions can help relive dryness

Will my child scar?

Each child is different, however there is a common natural healing process that occurs with burns. First the new skin must close, new skin develops and must mature. New skin will be more fragile and may take up to 1-2 years to mature after the injury.

Genetics can play a role in how the burn heals. How a child or their parents typically heal may give an indication of what to expect. People with darker pigment or color in their skin may have a greater risk of scarring and decreased pigment in healed skin (colour) may be more visible.

Pressure and positioning can also play a significant role in how new skin heals after a burn.

Hypertrophic scarring is an overgrowth of collagen fibers underneath burned skin. The scar stays red and feels firm after the new skin has healed. This type of scar is common as mid-dermal and deep-dermal burns heal.

Keloid scars describe skin that is often deep red in color, feels firm, may be raised above the rest of the skin and expands beyond the borders of the initial injury and is not very common.

Pigmentation refers to the natural color in the skin and is often different than usual (lighter or darker) as skin heals. Pigmentation may or may not be a different color after the new skin matures.

Moisture- New skin is often dry as it heals due to sweat gland damage. Moisturizing skin can help decrease discomfort due to itching. A moisturizer that does not have oil is recommended (oil breaks down garments.)

Contractures- As skin heals after a burn it naturally contracts, pulling healthy skin around it inward. If this happens over a joint (armpit, elbow, back of knee, neck, etc) it can limit movement. Pressure garments, exercises and splints can help reduce the affect of a contracture and maintain joint range of motion needed for movement.

The "itch" factor- Most skin is itchy as it heals from a burn. This is due to changes in nerves as they heal and to oil glands that normally moisturize skin. Moisturizing lotion, ice packs, gentle "tapping" or deep pressure (e.g. a hug) may help reduce the sensation.

What types of treatment is available?

Exercises- Physical and Occupational Therapists will recommend exercises to help maintain the joint and skin flexibility as the child heals.

The child and their family have a great role in doing the exercises.

Typically the only time a child should NOT move is for a short period (typically 5 days) following a graft.



Pressure garments are used to help reduce the affect of scarring and are commonly worn by children who are at risk for scarring (generally children who take longer than 2 ½ weeks to heal and/or need skin grafts). Garments are used when the medical team decides wounds have sufficiently healed and are at risk for scarring (usually within 3-6 weeks post-burn).

Pressure garment costs are the family's responsibility, however many extended health benefits will pay for garments. Social workers and occupational therapists may also be able to assist in accessing funding assistance for families who have difficulty paying for garments.

Pressure garments include Tubi Garments and Custom Pressure Garments.

Tubi garments are beige colored low-cost garments custom-made by the Occupational Therapist or their assistant. They are made from a cotton-stretch fabric. Tubi garments may be used while waiting for custom pressure garments to arrive or in stead of custom pressure garments.

Custom Pressure Garments are high-cost garments precisely measured by the Occupational Therapist and ordered from special companies. They are made from a synthetic mesh material and may come in different colors. Custom garments may be worn for a few months or for a couple of years (although each garment must be replaced after about 3 months).

Silicone Gel Inserts and Putties are used inside garments next to the skin to help soften the skin.

Splints used to support or immobilize joints and help prevent contractures.

Occupational Therapists and their assistants make splints from low-temperature thermal plastics. Families are responsible for the financial cost of splints (generally \$50-\$150) however many extended health benefits will pay for splints. Occupational Therapists may also be able to assist in accessing funding assistance for families who have difficulty paying for splints.

Funding

Pressure garments and splints are NOT funded by British Columbia's Medical Service Plan. Many extended benefit health plans will cover the cost of pressure garments and splints. The social worker and occupational therapist can help you with questions.

Common Questions:

How can I help my child?

You are your child's greatest coach through the rehabilitation process accompanying a burn. Encouraging a child to follow healthcare team directions is incredibly beneficial. Additionally, helping your child talk about concerns regarding possible or real differences in appearances is very important for both of you.

Can my child go outside?

Children should wear clothing and a strong sun block when outside for a minimum of one year post-burn. The skin remains more sensitive to sun and is at a greater risk for sun burn and permanent damage.

Can my child exercise?

Yes! Movement is very important to maintain range of motion and to maintain function. Your doctor and therapists will discuss and potential limitation in movement (e.g. post-graft).

What type of Moisturizing Lotion should I use?

Typical moisturizing lotions without perfume or oils (oils will break down pressure garments if your child uses them) are recommended.



Additional Supports:

BC Firefighters Burn Fund has a number of programs and resources for children and adults who have experienced burns.

<http://www.burnfund.org/>

Burn Camp

BC Professional Fire Fighters' Burn Fund hosts a fully funded camp for young burn survivors for one week of camp each July. Doctors, nurses, medical therapists, adult burn survivors and professional fire fighters donate their time as counselors. Campers are able to express themselves openly... they come from all areas of British Columbia to experience a week of joy, safety and freedom.

"Burn Camp ... makes me realize that it isn't just me who is a burn survivor. There are tons of others who go through what I have gone through. At Burn Camp, you can just be yourself." **BURN SURVIVOR WHITNEY, AGE 17**

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The Phoenix Society for Burn Survivors is a nonprofit organization dedicated to empowering anyone affected by a burn injury through peer support, education, and advocacy. www.phoenix-society.org

Variety: The Children's Charity provides support for some families who have financial barriers and have pressure therapy or other burn-related costs.

<http://www.variety.bc.ca/>