
UW MEDICINE REGIONAL BURN CENTER



PATIENT RESOURCES

Table of Contents

Introduction

Welcome 3

Patient Care

Burn ICU 4

Acute Care Unit 6

Discharge Planning..... 11

Burn Clinic 12

Education and Healing

Nutrition..... 14

Physical and Occupational Therapy 15

Burn Reconstruction..... 17

Late Burn Effects 18

Common Terms..... 21

Your Team

Multidisciplinary Team 24

Burn Center History

Our History..... 27

Patient Notes

Your Notes and Questions..... 30

WELCOME TO THE UW MEDICINE REGIONAL BURN CENTER at Harborview Medical Center. We understand that you are with us because an unfortunate event led to an injury. While you are our patient, we will strive to make your stay as comfortable as possible and always provide excellent and compassionate care.

At UW Medicine, we believe in always putting the patient first by providing the safest care and focusing on serving the patient and family. You are an essential part of your health-care team, and we look forward to partnering with you in your recovery.

We recognize that the patient's support system is an integral part of a patient's well-being and healing. We encourage families to take an active role in many day-to-day activities and learn to provide care that their loved one will need after discharge. Please let us know how we can help you and your loved ones make the most of this process.

At the Burn Center, we are proud to offer the latest approved technologies to treat burns, including artificial skin, vacuum-assisted closure techniques and reconstructive procedures.

Your health-care team is made up of experts from many different specialties. This unique collaborative strategy highlights our commitment to helping you achieve the best possible recovery. Together, we are working to choose options that will provide you with the best functional and aesthetic outcomes.

In addition to providing excellent patient care, our burn center mission includes education and medical discovery. We believe that we must work constantly to improve patient care by studying new approaches that might improve patient outcomes. You may be approached by one of our research coordinators to discuss participation in one of the many clinical trials that we have.

We would be delighted to have you participate, but there is no obligation. You will receive identical care if you decide that you do not want to participate in medical discovery.

In addition to providing world renowned patient care, the Burn Center also educates the community about burn prevention and treatment. To learn more about our outreach and community service, as well as our rich history, visit www.uwmedicine.org/burn.

On behalf of our entire burn team, we wish you a speedy and full recovery from your injuries. We appreciate any feedback you may have.

Sincerely,

Your health-care team at the UW Medicine Regional Burn Center

Burn Intensive Care Unit (BICU)

Location: East Hospital wing, Ninth Floor

What to expect

Patients receive care around the clock while in the BICU and may not remember much about this time.



For family and friends

When a patient arrives, family members will be asked to wait in the waiting room located on the ninth floor outside the Burn/Pediatric Intensive Care Unit while our team assesses your loved one and tends to the burn wounds.

This initial evaluation may take several hours, but the team will update you and will allow you to visit as soon as possible.

During this evaluation, your loved one may have some of the following treatments or interventions:

- **Intubation**

Your loved one may have a breathing tube in place to give him or her oxygen and help with breathing. This is called intubation. A breathing tube is a long plastic tube that is placed through the mouth and down the throat to provide oxygen directly to the lungs. It is connected to a machine called a ventilator.

Your loved one will have the breathing tube in until he or she is able to breathe without help. This can take days to weeks, depending on the patient's condition.

We encourage you to talk to your loved one. He or she will not be able to talk to you with the breathing tube in but will be able to hear you. If your loved one is awake, he or she may be able to nod yes or no. Try to use a calm and soothing voice. Many patients do better when they hear familiar voices at the bedside several times a day.

- **Sedation**

Your loved one's comfort is very important. The health-care team will provide medicine for pain and anxiety. Some medicines will keep your loved one asleep so that he or she can rest and recover.

- **Dressings**

When you first see your loved one, he or she may have dressings, or bandages, covering large portions of their body. These dressings are important to promote healing and prevent infection.

Your loved one usually will need dressing changes once a day. These dressing changes can take from one hour to three hours. The dressing changes will continue throughout the hospital stay.

Confusion

Confusion is common after a burn. Your loved one may have trouble remembering what happened or what he or she was told. This is normal. Family members may need to tell their loved one something again and again. It can take several days or weeks for the confusion to go away. This is usually temporary and usually will clear with time.

Confusion could be caused by:

- Sedation
- Pain medications
- Older age
- Pre-existing difficulties with memory
- A head injury
- Inhalation injury and lack of oxygen
- Heavy alcohol or drug use
- Infections

Visiting

Visiting is encouraged in the afternoon. Mornings are busy with dressing changes, which can take a very long time. Family members should call the Burn ICU (206.744.3127) to plan the best time to visit.

Precautions

During the initial phase of burn treatment, you will be asked to wear a gown and gloves in the unit while visiting your loved one. These will help keep your loved one safer from infections. Also, please notify the burn care team if you are not feeling well or have been sick; we may ask you to postpone your visit.

Burn Acute Care Unit (8 East)

Location: East Hospital wing, Eighth Floor

What to expect

The acute care unit for burns/plastics and pediatric trauma, or 8 East, is the unit where patients with less severe burns receive care.

Patients admitted to 8 East are referred from the Emergency Department or the Burn/Plastic Surgery Clinic, transferred from the Burn ICU or scheduled for elective burn-related surgeries or therapy.

On 8 East, as throughout the UW Medicine Regional Burn Center, patient care is multidisciplinary. In order to provide the best possible outcome for patients, experts from many different fields provide care and plan for discharge.

This team may include pediatricians, psychologists, pharmacists, nutritionists, discharge nurse facilitators, social workers, recreational therapists, as well as your surgeons, nurses and occupational and physical therapists.

Goals of care

Your care team's goal is to prepare you to become independent and to eventually resume your normal activities. In order to achieve these goals, we emphasize preparing you and your family to:

- Care for your burn wounds at home
- Maintain maximum mobility, range of motion and functionality
- Control your pain at a manageable level with medications that you can take at home

Our multidisciplinary team meets twice a week to review progress of all burn patients and to discuss patient goals and needs.

Rooms

Most of the patient rooms on 8 East are double rooms. This means that you will share a room with another patient.

Whenever possible, we try to room pediatric patients with another pediatric patient or in a single room. Occasionally, room changes are necessary to accommodate new patients that may require a higher level of care.

Visiting

We encourage the presence of family and friends as part of the patient recovery. Quiet time is from 10 p.m. to 8 a.m. Please assist us in providing a quiet and restful time for your loved one and other patients.

For loved ones spending the night, chairs that fold into cots are provided, one per family. If assistance is needed with finding a hotel or other accommodations, our social workers and nurses are available to assist you.

Sick visitors should stay home since many of our patients are at high risk for serious illness.

Pain and itching

Two of the biggest concerns for many patients are pain and itching. Burns are very painful and as they heal, they begin to itch a lot. When the burn hurts, it does not mean that the wound is being harmed.

Your pain level is affected by several factors, including the:

- Size and depth of your burn
- Location of your burn on your body
- Healing stage of your burn

Unfortunately, it is not possible to eliminate the pain, but the burn team will work with you to develop a plan to manage your pain and itching. Your burn team will prescribe medications that reduce your discomfort. Our goal is for you to participate in activities during the day and be able to rest at night.

Medications

Pain is very individualized. It may take several attempts to find the right combination of medications for you.



Some medications are intended to make you comfortable when you are doing daily activities. Other short-acting medicines are used for your wound care.

Unfortunately, some medicine that we use in the hospital cannot be used at home. As you get ready for discharge, we will prescribe pain medicine that you can take safely at home.

Please tell your health-care professionals about all medications you took before you were admitted and any medication allergies you have. Your health-care professional will decide what medications you should receive while in the hospital and begin several new ones to help with your pain, anxiety, itching and healing.



Please ask your nurse if you have any questions about the medications you are receiving so that you can become familiar with the medicine's names and how they are used.

Wound care

Wound care, which includes washing with soap and water and dressing changes, takes place in a variety of settings.

Initially, patients with large or complicated wounds may have their daily wound care in one of the Tank Rooms, which are dedicated rooms that have a special stretcher with a table shower.

An assistant is dedicated to help the nurse with your wound care.

Children will often go to a special bathtub in the pediatric treatment room. Eventually, we try to progress everyone to

being able to take a shower or bath as you would at home.

Wound rounds

Sometimes, when you are having your wound care, you will be part of wound rounds. This is an evaluation period when the nurse removes your bandages so that the burn team, including the surgeons, nurse practitioners, nurses and therapists assess your wound healing progress and make a plan for your continued care.

The team making wound rounds is often a large group and sometimes can feel a little overwhelming. Your nurse will introduce you to the team. This is an additional opportunity for you to hear your plan of care and to ask questions.

At these rounds, the burn surgeons could decide whether you:

- need surgery
- are ready for a new dressing plan
- are ready to go home



A typical day

You can expect to see your surgeons in the afternoon or early evening when they make rounds. If you have specific questions for these health-care professionals, please keep a list at your bedside so that the burn team can answer them when they come to see you.

The schedule of a burn patient’s typical day on 8 East is below. This schedule is only an example; your schedule and activities may be quite different.

Sample schedule in the Burn Acute Care Unit	
6 a.m.	Blood draw by phlebotomist, if indicated
6:30 to 7:30 a.m.	Medical team rounds: Assessment by your surgical team
7 to 8 a.m.	Nurse assessment and vital signs: Temperature, heart rate, blood pressure respirations and oxygen level
8 a.m.	Breakfast
8:30 to 10 a.m.	Nurse practitioner assessment to discuss your plan of care and answer any questions
10 a.m.	Wound rounds
11 a.m.	Session with therapy to evaluate range of motion and activity level
Noon	Lunch
3 p.m.	Session with therapy to evaluate range of motion and activity level
4 p.m.	Nurse assessment and vital signs: Temperature, heart rate, blood pressure respirations and oxygen level
5:30 p.m.	Dinner
8 p.m.	Nurse assessment and vital signs: Temperature, heart rate, blood pressure respirations and oxygen level
Midnight	Vital signs: Temperature, heart rate, blood pressure respirations and oxygen level
<i>*Wound care will be scheduled with you in the morning or afternoon.</i>	

Your recovery

On 8 East, many dedicated professionals do their best to make it possible for you to leave the hospital and resume your life. However, the most important member of the health-care team is you. Your commitment to your recovery is an integral part of a successful outcome.



Discharge planning

Planning your discharge from the hospital can be a complex process depending on your medical needs and social situation. The discharge nurse (known as the unit discharge facilitator, or UDF) and social worker will assist in your discharge plans.

Discharge planning should begin at the time of your admission, depending on the severity of your injuries. The UDF meets daily with the burn team, nurses, therapists and other consulting teams to determine whether you are close to discharge.

Together, we formulate a plan based on the information gathered from all the specialists and from your family and you.

Before you go home, you should be able to:

- Care for your wound with help from a friend or relative
- Control your pain with medicine that we can prescribe for you
- Exercise to reach full range of motion and get up out of bed to take care of your activities of daily living

Other important things to consider for your discharge:

- Can I manage my wound care at home or do I need other resources?
- Do I need help with meals, going to the bathroom, etc?
- Can my pharmacy fill my discharge medications?
- How will I travel home?
- How will I travel to and from clinic appointments?
- Can my primary care provider assist with other non-burn medical needs?

The white board in your room has information that might be helpful. You may ask your nurse to speak with the UDF or social worker to discuss your specific discharge plans, including any issues or concerns you may have regarding transportation to follow-up appointments.

Please write down any questions you may have about your discharge. We will do our best to provide you with as much information as possible to make this a smooth and safe transition.

Burn Clinic

Location: East Hospital wing, Eighth Floor

The burn clinic cares for people with burn injuries when they no longer require hospitalization. In clinic, individuals with burns are assessed and treated by a team of doctors, nurse practitioners, nurses and therapists for ongoing wound care, adjustment to being at home with injuries and ability to return to work or school.

When you leave the hospital, you will schedule an appointment to return to the burn clinic. We are located on the same floor as the inpatient burn unit in the East Hospital wing, eighth floor.

It is very important to keep your appointment as we do not take walk-in patients. Please call **206.744.5735** if you are running late or cannot make an appointment. We will do our best to accommodate your needs.

If you have urgent concerns or needs regarding your burn, please call us, and we will schedule the soonest possible appointment for you.

For more information
or to make an
appointment,
call the Burn Clinic,
206.744.5735.

Pain medication

Please take your pain medication, if needed for wound care, 30 minutes before your appointment time. We do not dispense any medicine in the clinic. We can give you a prescription for pain medication, but you must fill it at a pharmacy.

Also, please bring a list of all medications that you are currently taking to your appointment.

Paperwork

Please bring any paperwork that you need completed for work, insurance, etc. to your clinic visit.

At your clinic visit

In keeping with our mission, the clinic provides a multidisciplinary approach to provide optimal patient care. We are sensitive to making your visit as convenient and efficient as possible each time you come to the clinic. At your clinic visit, you may receive several treatments and services, including:

- **Wound evaluation**
A nurse or doctor will examine your wound to determine how it is healing and what treatments are needed.
- **Dressing changes**
Your dressing will be taken off in order to see the wound. A new dressing will be put back on prior to leaving the clinic. Based on the appearance of your wound, your health-care

professional may change the type of dressing recommended so you experience optimal healing.

- **Physical/occupational therapy evaluation**
You may see a physical therapist or occupational therapist if you have limited range of motion or mobility, need a splint or pressure garment, or are ready to progress your activity level.
- **Pressure garments**
You may be measured for custom-fit pressure garments, if needed.



- **Vocational rehabilitation counselor assessment**
If needed, our vocational rehabilitation counselor will assess your ability to return to work and will help coordinate the return to work with your case manager or employer.
- **Rehabilitation psychology evaluation**
Our rehabilitation psychologist will be consulted to help if you are having difficulty adjusting to your injury.
- **Medical discovery participation**
A research coordinator may ask whether you would be open to participating in a research study if you are eligible for any of our ongoing efforts to better understand patients' outcomes after burn injuries. If you have already enrolled in a study, you may receive follow-up assessments, tests or questionnaires at your clinic visit.

Nutrition

To help heal your burn wounds, you will need more calories and protein than you normally eat. Carbohydrates, protein, fat, vitamins and minerals all play a role in the wound healing process. Adequate nutrition will help you heal and aid in the prevention of infection.



During your hospitalization, we will assess your calorie and protein needs to determine the amount of nutrition you will need to heal. To increase the amount of calories and protein you eat and drink, you may need to eat snacks and drink supplements between meals. Additionally, we may provide supplemental vitamins and minerals.

Inpatient meals

Harborview provides meal service for breakfast, lunch and dinner. You will be provided a menu daily to select foods for each meal. A meal host, a member of the nursing staff or a family member can help you complete the menus.

If you have food allergies or would like to request a special diet, ask to speak with a dietetic technician or dietitian. If you have diabetes or other medical conditions, we will encourage you to follow an appropriate diet.

Feeding tube

Patients with large burn wounds may require more nutrition than you can eat. In order to help you meet your caloric goals, we may place a feeding tube that will temporarily provide you with additional nutrition to help you heal. If we must place a breathing tube, we will use a feeding tube to provide nutrition. Once you are able to eat adequately, the feeding tube will be removed.

After discharge

After you leave the hospital, it is important to maintain good nutrition to help you continue the healing process. A healthy, well-balanced diet includes:

- Lean protein, such as lean meat or poultry, fish or dairy products
- Fruits
- Vegetables
- Whole grains

Protein sources should be included at each meal.

Healthy eating will help you feel better and stronger. However, you do not need to eat as much as you did in the hospital. Balancing your nutrition with exercise will help you recover.

Physical and occupational therapy



You will work with your therapists in the hospital and when you go home. We are active members of the burn team and help coordinate your recovery and your discharge plans.

Stretching

You must move your burned areas as much as possible to help your skin heal and prevent it from shrinking.

- Your therapist will teach you how to do stretching exercises.
- If you have a new skin graft and the surgeon has cleared you to move, the therapist will teach you how.
- You can stretch most areas by yourself. Sometimes you may need help to stretch areas that are difficult, such as your hands, elbows and shoulders.
- The therapists will teach your family and friends how to help you stretch and may give you equipment to help you get the best stretch.

How do I know if I am stretching enough?

- You should be stretching every hour you are awake. If you don't feel a stretch, you are not stretching far enough.
- When your burned areas are not bandaged, you can see that you are stretching enough if your skin turns pale or white during your stretch.
- After your burns are healed, you can massage your scars during stretching. You should continue to stretch after you leave the hospital. When you return to the outpatient burn clinic, a therapist will review your stretching program and may increase your goals and progress you to a next step.

Positioning and splinting

Sometimes the burn team will recommend using splints to keep your burned joints immobilized – either after surgery or when you are sleeping or not actively exercising.

Your therapists will recommend certain positions to keep your joints from getting stiff and your skin from getting tight as it heals. They also can help with swelling. It is important to keep the injured parts of your body in the position that the therapists recommends.

Sometimes, splints are used to help parts of your body stay stretched and in the right position to encourage healing. Splints can also be used after surgery to help keep the newly grafted area from moving.



Your therapist will teach you how to apply the splint safely and how to care for it.

After your burns heal, the burn team may recommend that you wear a pressure garment to provide vascular support or put pressure on a scar. Your therapist may measure you for these customized tight and stretchy clothes.

Mobility

It is normal to feel stiff or unsteady. It is important to return to your regular activity level as soon as possible to prevent loss of endurance. Normal movement, such as walking, is a great way to stretch. We encourage you to walk with your family and the nursing staff as much as you can.

You should be as active as possible while you are in the hospital to prevent further complications. Your therapists will work with you even if you have burned legs or feet. Therapists will not provide walkers or crutches unless you have a broken bone or have pre-existing difficulty walking.

Activities of daily living

After a burn injury, you may have trouble doing everyday activities, such as getting dressed and bathing. Your therapist will encourage you to do all of your activities without extra devices if you did not need them before.

Your therapist will teach you how to do activities safely. They also will help you carry out the activities you were able to do by yourself before you were burned. This can include activities you need to do to return to work.

Strengthening

After an injury, it is normal to feel weak and tired. Your body is working hard to heal. You can expect to be exhausted by things that were easy before the injury, especially if you have been in the hospital recovering from a major burn or an inhalation injury. You need to build up your strength. Your therapists will work with your health-care team to develop programs to increase your strength and return to your pre-injury condition.

Burn reconstruction

Burn wounds and donor sites occasionally heal with hypertrophic scars, which are raised, red, itchy and painful. When burn scars occur near joints, function and range of motion can be severely limited.

The goal of burn reconstruction is to improve the appearance and function of a healed burn or skin graft.

If non-operative measures do not resolve your scars or joint tightness, surgical procedures may be necessary for to revise raised scars that do not flatten as they mature or to release tightness around joints, such as the elbow and axilla due to scarring.

While it is impossible for reconstructive surgery to erase scars, we can achieve significant improvements in function and appearance.

Depending on the indication and the issue, the timing of burn reconstructive procedures can vary from months to years following the initial burn injury. In fact, we have patients who have undergone burn reconstruction procedures more than 30 years following their initial injury.

Our burn reconstruction clinic is held each week in the Burn and Plastic Surgery Clinics and is staffed by our multidisciplinary team of burn experts.

Late burn effects

Discoloration

Skin discoloration in healed areas is part of the normal healing process. It can be temporary or permanent. Normal coloration may vary from light to deep pink, brown or a grayish color.

Discoloration varies with each individual, depending on the following:

- How deep the burn was
- How long it took to heal
- Exposure to the sun
- Ethnic and individual skin color tendencies

New skin is more sensitive to sunlight and can be traumatized by getting a tan or sunburn, leading to long-term discoloration. It is best to avoid direct exposure to sunlight. Wearing sunscreen and clothes that cover healed burns is important when you will be exposed to sunlight. The newly healed skin remains sensitive to the sun for at least one year.



Scarring

Scars may result after a burn injury. Some scars resolve after several months to years. Some are permanent. The severity of the scarring after a burn depends on the depth of your burn, how long it took to heal, your age, culture and individual scarring tendencies. A second-degree burn generally makes less scar tissue than third-degree burns.

Individuals with fair skin generally will have less scarring than those with olive or dark skin. Individuals older than 65 typically have less scar tissue and young adults tend to have more. Some parts of the body are also more prone to scar formation than others.

Blisters

Blisters commonly occur in healed or grafted areas. Blisters are created by pressure or friction from linen or rubbing, bumping against objects or standing for long periods of time without appropriate support. Blistering decreases gradually as the healed skin matures.

Temperature intolerance

New skin can be more sensitive to both hot and cold temperatures. Common symptoms include heat intolerance and discomfort in hot weather and may include slight tingling and numbness. Likewise, intolerance of cold, especially in hands and feet, may occur in cold climates – or even in the kitchen freezer.

If you have questions about late burn effects, please call the burn clinic at 206.744.5735 or 800.448.2876.

These sensations gradually decrease as the healed skin toughens and the nerves begin to grow back into the burned tissue. The following may be helpful:

- Choose more temperate environments
- Wear appropriate clothing
- Avoid exposure to the hot or cold for long periods

Swelling (edema)

Swelling can occur when arms or legs are involved and kept down, a dependent position. Swelling also causes an increased risk of infection when the burns are still open. Even after the burns heal, the swelling can cause throbbing and pain. This circulation problem usually corrects itself within a few months. Exercise in moderation and elevating the affected body part when sitting or lying down helps to minimize the swelling.

Dry skin

Dry, scaly appearance to healed skin is a common complaint due to damage to the oil-producing glands in the skin. We recommend using moisturizer until glands in the healed skin function again. It is important to apply the moisturizer lightly to avoid clogging skin pores.

Itching

Itching usually accompanies dry, scaly, healed skin. Scratching may create new wounds in newly healed skin and is not recommended. The following tips may decrease itching:

- Patting or firmly pressing on the itchy area
- Lukewarm baths with an application of oil or lotion
- Prescription medications, in the case of severe itching

Pain

Traumatized and exposed nerves create a pain experience in individuals with burns. Many different methods are used to treat pain or make it more tolerable. When narcotic medications are used, the individual may not drive, operate heavy equipment or work. As healing progresses, other sensations that occur are itching, tingling and/or tightness; these sensations are normal parts of the healing process.

Bathing

After a burn injury, individuals generally can bathe daily in their usual manner. All dressings covering the burns are removed prior to bathing. Dressings that stick can be soaked off in the bath or shower.

Skin, burns and healed areas should be washed using mild soap and water to wipe off wound debris and medication. After bathing, the skin and burns are patted dry and dressings applied as directed.

Exercise

The first few months after healing are a critical period for maintaining good range of motion. After healing, the skin continues to contract and tighten. Most noticeable are stiffness and pulling in the joints after long periods of inactivity, such as while sleeping or watching television.

Regular aggressive exercise minimizes the stiffness and loss of joint function. It is impossible to exercise too much. *The more you do, the more you will be able to do.*

Diet

Nutrition is important for health and recovery from a burn injury. Preferred diets are rich in lean protein to complete healing and maintain good tissue structure. Protein may be obtained from:

- Beans
- Nuts
- Cheese
- Fish
- Eggs
- Meat and poultry
- Milk

Multivitamins and minerals are essential for healing and maintaining normal body functions. Once your wounds have healed, resuming a balanced diet is key to avoiding weight gain.

Emotional readjustment

Individuals with burns and their families have often made significant adjustments in their lives. Changes in sleep, mood and appetite are common; nightmares are also normal.

These changes can be unsettling. Getting back to a normal sleep cycle, a workable family routine and regular exercise improves both sleep and mood. Changes in physical appearance may cause frustration and sadness.

It is not uncommon for the sex drive to be decreased following a prolonged illness. When genitals or surrounding areas are involved, this area may be sensitive and may blister for a few months. Generally, individuals with burns resume sexual relationship as their tolerance allows. Sex drive should return as normal state of health is achieved.

Please let our Rehabilitation psychologist know if you are having any of these symptoms. Discussions about fears and frustration with family and friends may help decrease some anxiety. If you have any concerns, ask to speak to our psychologist, an expert in acute stress and post-traumatic stress.

Common terms

Burn depth

Burn occur when skin and sometimes underlying tissue is damaged by chemical, electricity, heat or radiation. A burn is classified by depth.

There are three classifications:

- Superficial**
 This type of burn is also known as **first degree burn**. It is not deep and involves only the outer layer of skin. The skin is usually pink and tender with little to no blistering. It usually needs no other treatment except moisturizer, and it will heal on its own. A sunburn would be an example of a superficial burn.
- Partial thickness**
 A partial thickness burn is also known as a **second degree burn**. This burn is deeper and involves more layers of the skin. It may be pink to pale pink, is often blistered and is usually painful. The skin may heal but sometimes may have a better outcome with surgery if healing is slow.

In most situations, surgery should be considered for burns that take longer than three weeks to heal. Second degree burns should be washed and may need to be debrided and will need bandages.

- Full thickness**
 A full thickness burn is also called a **third degree burn**. This burn is very deep, and all layers of the skin are injured. The burn might appear cherry red, pale and dry and sometimes even brown.

The skin is unable to grow back. This type of burn requires skin grafting to heal. These burns are usually not painful because the nerve endings have been destroyed. Full thickness burns also need daily cleaning and dressing changes.

Grafts and surgery

Surgery may be necessary to help you recover from your burn. This surgery, known as excision and grafting, involves removing the burned tissue and transferring, or grafting, a layer of skin from another part of your body to cover the wound.

If you are going to have surgery, your nurse will review the procedures using our educational operative book, which explains surgical terms and provides more detail. The book also includes helpful pictures.

Becoming educated about your burn, the healing process and how to care for yourself after discharge is the best way to make sure you are successful after you leave.

The burn center offers pamphlets, handouts, support groups and other educational materials to assist you.

Please do not hesitate to ask for materials you think might be helpful.

Donor site

The area that the skin graft is taken from is called a donor site. When we remove the skin graft, we create a shallow partial thickness wound that heals on its own in 10 to 21 days, depending on the depth of the donor site and your age.

Dressings and bandages



Your wounds will usually need to be cleaned once a day with soap and water. They are covered with the ointment or cream the health-care professional has prescribed, as well as with clean bandages.

The choice of dressing depends on the type and location of the burn, the stage of healing and whether the burn was grafted. You may use several different kinds of dressings during your stay.

The most common types are:

- **Silver sulfadiazine**
Silver sulfadiazine is also called Silvadene[®] or SSD.[®] It is a white cream with antibacterial properties. It feels cool, and most patients find it soothing. It is usually used on partial thickness burns and full thickness burns that have not been grafted.
- **Greasy gauze**
This nonstick gauze has ointment applied to it. The most common gauze used is Xeroform,[®] which looks yellow because of antimicrobial ointment. This treatment is used for shallow burns, burns that are almost healed and skin grafts. It may be used with or without an additional antibiotic ointment.
- **Acticoat[®]**
This silver-coated dressing is used to cover donor sites and some shallow burns. The silver is known to help fight infection. It will cover your donor site for five to seven days or until the wound has healed.
- **Mepilex Ag[®]**
This dressing also contains silver and may be used on donor sites or shallow burns. It is unique because it has an adherent surface that sticks well to the surrounding skin and to the wound.

It must be covered with an elastic bandage wrap. It will stay in place for seven to 10 days or until the wound has healed.

- **Sulfamylon**

You may hear this referred to as sulfa-wets. This antimicrobial dressing may be used immediately after surgery on new grafts and some large donor sites. Often, the dressing is left in place for three to seven days, and the sulfamylon solution is reapplied every four hours to keep the wound moist.

Your multidisciplinary team

Our multidisciplinary burn specialists work together as a team to help you recover. You will meet these burn specialists throughout your stay – and will see many of them on wound rounds, when the team examines patient wounds to determine whether patients are ready to go home or need surgery.

If you have questions or would like more information about your health-care team, please do not hesitate to ask a member your nurse.

General surgeon

A fully trained attending surgeon responsible for making many of the major decisions regarding your care, especially regarding your need for surgery or your ability to go home.

The burn center has three attending surgeons who rotate monthly. During your hospital stay, you may have more than one attending but only one at a time.

Plastic surgeon

A fully trained attending surgeon who may be your burn attending but will also participate in your care if you have reconstructive needs or face burns.

Pediatricians

Burn attending and resident pediatricians consult on all patients 15 years old and younger to assist with pediatric medical needs, including common pediatric ailments and recommendations regarding vaccinations.

Fellow

A fully trained general or plastic surgeon that is specializing in burns and oversees the daily rounds and reports to the attending surgeon.

Nurse practitioners

Our nurse practitioners care for patients on the acute care floor from 6 a.m. to 6 p.m. Monday through Friday and may follow-up with you in clinic, too. These burn specialists work closely with the surgeons to coordinate your care.

Nurses

Fully trained registered nurses care for you daily. They are also responsible for your wound care and teaching you how to do your own wound care. They are your advocates and are excellent resources for communicating your needs to the rest of the burn team.

Nutritionists

Our nutritionist, or dietitian, is available daily to assess your nutritional needs and consult on diets.

Pharmacists

Pharmacists with expertise in burns are available daily to assist with your pain management, antibiotic needs and other general medication consultation. Pharmacists work closely with the burn team to make sure you are getting the right medicines at the right dose at the right time. We want to make sure that you or your loved one is comfortable and that each medication is working effectively without side effects.

Physical and occupational therapists

Physical and occupational therapists are specialists whose goal is to help you return to normal activity. The burn center therapists are specially trained to work with people who have had a burn injury.

Physiatrists

Physiatrists, or rehabilitation physicians, may consult for long term rehabilitation needs, especially if you have been in the hospital for a long time.

Residents

Residents are medical doctors that are completing additional specialized training. One third-year chief surgery resident and four, first-year surgery residents rotate monthly through the burn center to gain exposure to the specialty of burn injuries. One of these doctors is in the hospital 24 hours per day, seven days per week.

Social workers

Your social worker can help you and your family talk about the event that led to your injury and process what has happened. He or she can help answer questions about insurance or disability; connect you with community resources, such as transportation or housing; coordinate discharge planning; and arrange discussions with your insurance company or other organizations that are involved in your health care. Our social workers are available 24 hours a day, seven days a week.

Spiritual care

Our chaplains recognize the importance of the spiritual component of health and have a multi-faith ministry. Our chaplain residents are available for on-going spiritual and emotional support 24 hours a day, seven days per week.

If you or a family member needs emotional or spiritual support, your nurse can page the on-call chaplain. Our chaplains are also available to attend family conferences or serve as a resource for community faith contacts.

Recreational therapist or child life specialist

This professional helps with pediatric patient needs, including preparing patients for surgery, spending time with them during wound care, finding activities to occupy them and preparing children to see a loved one who is a patient. They may also assist with recreational activities for adults.

Rehabilitation psychologists

Our rehabilitation psychologists can help you and your family cope with your burn injury and the stress that you may feel. We have special training in non-pharmacological pain management techniques, such as imagery, hypnosis and virtual reality that may be involved with helping you with your pain management.

We can also work with you on common issues related to hospitalization, such as sleep problems, nightmares, changes in mood and anxiety about your hospitalization or returning home. Our rehabilitation psychologists are available Monday through Friday.

Respiratory therapists

A respiratory therapist may help care for you if you have a breathing tube or if you have chronic lung conditions.

Vocational rehabilitation counselor

Our burn vocational rehabilitation counselor is available to assist you through your return to work process by assessing your physical and emotional ability to return to work; assisting with paperwork, such as obtaining physician signatures for work release letters or related forms; guiding you to resources to prepare for job tasks or advocating for you with your employer or Labor and Industries case worker.

UW Medicine Regional Burn Center history

Until 1974, Seattle had no organized burn care. With the vision and support of the medical director at that time, Harold Laws, and the chief executive officer, Robert Jetland, a burn center was promised to a team of physicians from Texas whose names sounded much like the stars in “The Godfather”: Drs. Canizaro, Carrico, and Curreri.

P. William Curreri, the Burn Doc, had the good sense to bring with him Janet Marvin, who was the chief burn nurse in Parkland Memorial Hospital in Dallas, and she brought Leslie Einfeld.

Harborview converted the labor and delivery unit into a large ward using the labor rooms and an intensive care unit using delivery rooms. There were 14 total beds, including four small monitored cubicles for the sickest patients.

Realizing they did not have to care for burns any more, the local hospitals immediately emptied their units of the sickest patients. Responding to this influx, nurses Marvin and Einfeld trained a cadre of nurses, many of whom had never seen a burn before.

Prominent within this group was Verna Cain, who would be the nurse manager of the outpatient burn clinic for 30 years. As might be expected, the burn center flourished with a steady census, but a high mortality kept the patient turnover high.

Early funding secured

In 1976, King County put up a bond issue to complete the north tower of the hospital using the burn center as the centerpiece. At a time when many bonds routinely failed, the Harborview bond passed by almost 80 percent.

That same year several surgeons, including Drs. Canizaro and Curreri, left for Cornell. Dr. David Heimbach was asked to move from UW Medical Center to Harborview to temporarily supervise the burn center and to head the search for a new director.

General and plastic surgery a unique combination for burn centers

Also that year, Dr. Loren Engrav agreed to become the chief of the fledgling Division of Plastic Surgery. This began a memorable partnership between general and plastic surgery that has spanned 32 years.

Offering both general and plastic surgery during the acute care phase was – and still is – unique among burn centers.

Marvin’s influence on research, nursing education and training was hugely important as the entire burn team learned new techniques together. This was the beginning of the multidisciplinary approach to burn care, involving experts from surgery, nursing, therapy, psychology, primary care and many other specialties joining to provide excellent patient care.

Marvin, the only nurse to ever become an associate professor of surgery, eventually left to become nursing director at the Shriners Hospitals for Children Burn Institute in Galveston, Texas.

New skin grafting brings positive results

Realizing what dismal results were produced by treating burn patients with salve, painfully washing and daily picking the infected wounds by the nursing staff, Drs. Heimbach and Engrav took the almost unheard of step of taking patients to the operating room before they became infected - removing the burns surgically and immediately skin grafting.

It wasn't long before they demonstrated improved survival rates, reduced length of hospital stay and improved patient ability to regain quality and quantity of life. These positive steps re-kindled Dr. Heimbach's interest in burn treatment - something he had lost after a depressing tour at a military burn unit during the Vietnam War. He agreed to become burn director in 1977.

Burn fellowship started

In 1980, a burn fellowship was started at the burn center and, since then, a burn surgeon has trained here every year. The fellowship now accounts for about 25 percent of the young burn surgeons practicing in the United States. In addition, more than 25 international surgeons have spent at least a year learning burn care and research here.

Current faculty and director

Dr. Nicole Gibran was among the best of these burn fellows. She continued training with a basic science research fellowship at University of Washington and then joined Heimbach and Engrav on the faculty, where her career has flourished.

In 2002, she was selected as director of the burn center. She currently serves on the board of trustees of the American Burn Association and is president in 2011 to 2012. She has active National Institute of Health Grants, and has held the prestigious position of section chair for surgical grants.

In 2004, a brilliant plastic surgeon, Dr. Matthew Klein, joined us as a burn fellow and remained on the faculty, ensuring the continuation of the unique marriage of general and plastic surgery for the acute care of the burn patients.

In 2007 a brilliant general surgeon, Dr. Tam Pham, brought additional critical care skills to round out the full service burn team.

Drs. Heimbach and Engrav are still active, but approaching the end of their productive careers. Dr. Engrav is submerged in basic research in hypertrophic scarring. Dr. Heimbach has taken on National and International responsibilities establishing the burn center verification program of the American Burn Association, and is developing a model for introducing burn care into developing countries, in the first instance in Bhutan.

For Dr. Heimbach's work in 2009, he received the Unsung Heroes of Compassion award given by the Dalai Lama and in 2010 he received the prestigious Tanner Vanderput Boswick Burn Award for dedication to international burn care.

Burn center growth and development

Since inception in 1974, the UW Medicine Regional Burn Center has grown from 14 to 42 beds, and admissions have grown from 200 to more than 900 in 2010. One third of these patients are children.

Our catchment area includes Washington, Alaska, Idaho and Montana, about one-quarter of the landmass of the United States and serving about 9 million people. We were one of the first burn centers to undergo the rigorous burn verification program of the American College of Surgeons and the American Burn Association and have been continuously verified since 1994.

There are currently 53 verified centers in the United States. As our reputation has spread, 72 surgeons from 38 U.S. cities and 202 surgeons from 44 countries have visited our burn center.

Current mission

At the UW Medicine Regional Burn Center, we strive every day to be the best that we can be. We believe that active education and research programs are necessary to maximize patient outcomes and patient safety. For this reason, our mission includes excellence in clinical care, education and research.

We take pride in our education outreach programs for health care professionals and lay public around the Pacific Northwest. We also are always trying to find new ways to improve patient outcomes with our research studies in areas of ICU care, quality improvement, wound care, stress and long-term outcomes.

The future

The UW Medicine Regional Burn Center continually strives for innovations in care, clinical and basic research and continued education efforts. Areas that still need to be solved include:

- Hypertrophic (red, raised, painful, and unsightly) scarring
- Skin coverage for very large burns
- Burn prevention (more than 90 percent of burns could be prevented)
- Pain and itch control
- Less painful wound care and wound covers that don't require daily wound care
- Cost containment

