

BURN CARE COMMENTARY®

FALL 2020



BURN AND RECONSTRUCTIVE
CENTERS OF AMERICA

FROM THE BURN CENTER

Specialized Burn Care is Changing Lives in Your Community



IN THE LAST 80 YEARS, dramatic improvements have been made in burn care that have resulted in quicker healing, fewer complications, less debilitating scars, and higher survival rates.

BRCA has been a part of those improvements since 1978 and is recognized nationwide as a leader in burn care. BRCA's reputation was built upon our mission statement: Healing Patients, Healing Families, Healing Lives®. Our entire team of providers and support staff is committed to that mission by employing the latest technologies and product advancements, as well as by participating in multi-center research.

BRCA is the largest burn care network in the United States with 15 locations

in eight states, including Colorado, Florida, Georgia, Idaho, Mississippi, Nevada, South Carolina, and Texas. Annually, we treat more than 20 percent of the nation's burn injuries.

As the recently named CEO, I am proud to be at the helm and will continue steering BRCA towards treatments that will positively affect patient outcomes. We will continue the legacy of providing expert burn care by developing burn centers in areas of need. Additionally, BRCA's newly-established burn fellowship program will enable us to instill proven practices and techniques into future generations of physicians specializing in burn care.

Our comprehensive list of services for adult and pediatric patients includes acute and reconstructive care for burn injuries, hand/extremity and wound injuries, skin and soft tissue disorders, hyperbaric oxygen therapy, and plastic surgery. For a complete list of services offered by BRCA, please visit burncenters.com/services. Services are available 24/7.

BRCA is committed to making the transfer of patients seamless, quick, and as convenient as possible. For consultations, referrals or transfers, call 855-863-9595 or use the burn app. To learn more about the burn app, please visit burncenters.com/app. If you have any suggestions to improve our processes, please feel free to contact me.

Claus Brandigi, M.D., FACS
CEO, Burn and Reconstructive Centers of America
Medical Director, Joseph M. Still Burn Center at WellStar Cobb Hospital in Austell, GA

Helping Patients and Their Families

"Family is powerful medicine" and Dr. Joseph M. Still understood the power of family three decades ago when he created the Burn Foundation in Augusta, GA. Today, BFA's reach includes all the facilities served by Burn and Reconstructive Centers of America and Joseph M. Still Burn Centers, Inc.

We offer support to burn patients and their families through the healing process, their transition home and back for follow-up visits. Our support includes a friendly conversation over lunch; a place to sleep at the Chavis House retreat; a gas card or bus ticket for their follow-up appointment; or assistance with other items to ensure a successful recovery.

In 2019, BFA provided:

- + 7,986 nights of free lodging
- + Transitional services to 1,093 burn patients
- + \$184,779 in direct patient assistance, including transportation, and other needs.

And we did every bit of this at no charge to the patients and their families. However, those services are only available at no charge because of countless corporate and community partners, as well as those whose lives have been affected by burn injuries.

BFA's goal — in the words of a family member we assisted — is to be "what families need in a time of crisis and (be) great listeners and prayer warriors." We're proud to work toward that goal every day, one patient and one family at a time. If you have a question about the Burn Foundation of America or want to find out ways to support our programs, please give us a call at 1-800-650-BURN (2876). ♦



BURN AND RECONSTRUCTIVE CENTERS OF AMERICA

15 LOCATIONS AND GROWING | 20% OF THE NATION'S BURN ADMISSIONS



COLORADO
AURORA
DENVER

FLORIDA
MIAMI
TALLAHASSEE*
TAMPA

GEORGIA
ATLANTA*
AUGUSTA*
VALDOSTA*

IDAHO
IDAHO FALLS

MISSISSIPPI
JACKSON*

NEVADA
LAS VEGAS

SOUTH CAROLINA
CHARLESTON*

TEXAS
PLANO
SAN ANTONIO

*JMS BURN CENTERS, INC. LOCATIONS

Our Services: Adult and Pediatric

Services vary by location

BURNS

- + Chemical
- + Electrical
- + Friction burn/road rash
- + Frostbite
- + Inhalation
- + Radiation
- + Thermal

HAND AND EXTREMITY INJURIES

- + Complex/traumatic injuries
- + Crush injuries
- + Degloving
- + Replantation

HYPERBARIC OXYGEN THERAPY

- + 24/7 coverage
- + Carbon monoxide
- + Dive complications
- + Wound healing

MICROVASCULAR SURGERY

PLASTIC AND RECONSTRUCTIVE SURGERY

- + Laser scar therapy
- + Scar revision

SKIN & SOFT TISSUE DISORDERS

- + Crush injuries
- + Degloving
- + Diabetic wounds
- + Fournier's gangrene
- + Necrotizing fasciitis
- + Necrotizing soft tissue diseases
- + Skin sloughing disorders
- + Staphylococcal scalded skin syndrome
- + Stevens Johnson syndrome (SJS)/
toxic epidermal necrolysis (TEN)

CRITICAL CARE

- + Adult
- + Pediatric

Healing the Burn: Patient Care on the Front Lines

EVERY 23 MINUTES A PERSON IN THE UNITED STATES GETS BURNED.

That equates to more than 1.1 million burns annually, with nearly half of those seeking some kind of medical treatment.

Burns most often happen in places where people are most comfortable — at home, and are usually (86%) thermal burns from fire or touching a hot surface. Whether it's cooking or one of the estimated 379,600 house fires (U.S. Fire Administration — 2018), odds are, a patient will end up in your ED, ambulance, or office. Burn and Reconstructive Centers of America wants you to be prepared because appropriate care before the patient arrives at one of our burn centers helps ensure the best outcomes.

First and foremost: Concentrate on the ABCs — Airway, Breathing, and Circulation. Check the patient for any signs of other trauma and respond accordingly. Don't let the burn injury distract you. Treating the burn can wait; severe trauma cannot.

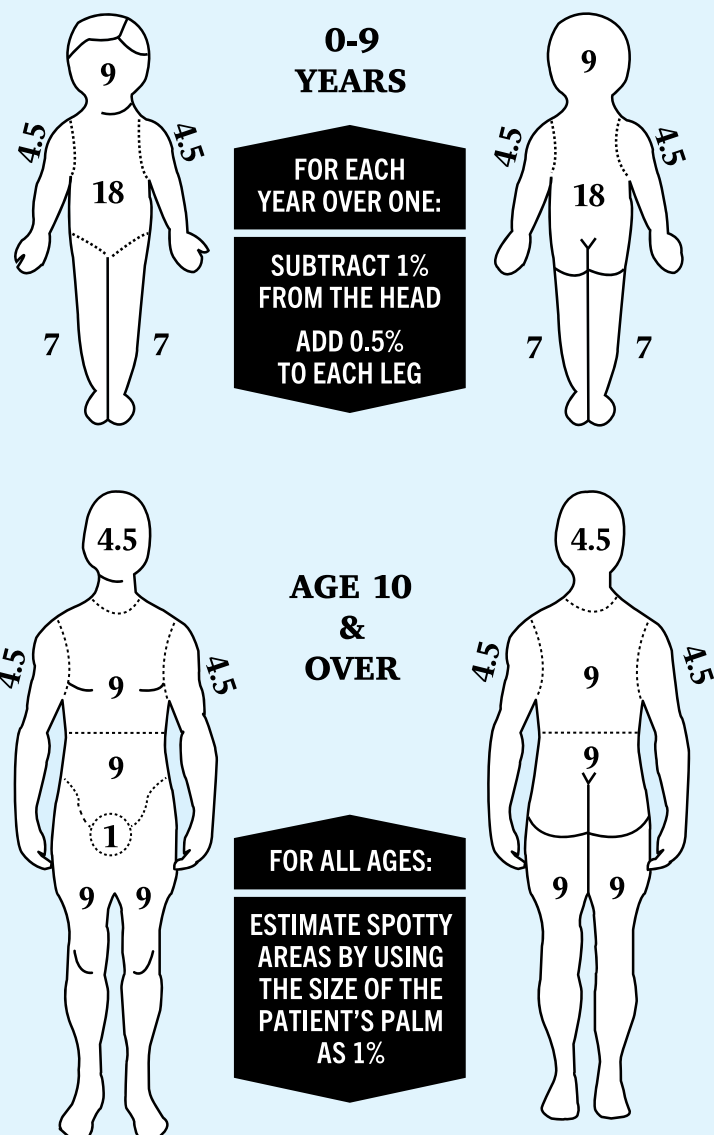
Airway and breathing are the first steps in the ABCs of initial care and transfer preparation.

Due to the nature of their injuries, burn patients may have some component of an airway injury. The importance of assessing the airway and breathing ability cannot be overstated. Intubation may be necessary, but there are several factors to take into consideration:

- + Is the patient's voice hoarse?
- + Is the patient's Glasgow Coma Scale score below 8?

TOTAL BODY SURFACE AREA BY PERCENTAGE

RULE OF NINES



- + Is the patient's chest constricted by burns? Are the burns full-thickness?
- + Is there evidence of an inhalation injury, like singed facial hair or residue in the mouth?
- + What is the patient's carboxyhemoglobin level?
- + If edema develops, will the patient's airway be impacted?
- + If you decide there is no need for intubation, the patient should be administered 100% humidified Oxygen.

FLUID RESUSCITATION

Once the patient has been assessed for trauma and stabilized, you can turn your attention to the burn injury. One of the most important aspects of pre-burn center care is proper fluid resuscitation. The goal of fluid resuscitation is to maintain perfusion and organ function while avoiding inadequate or excessive fluid replacement. It's important to accurately dose fluid, as an overloaded patient often experiences increased mortality and morbidity rates.

MECHANISM OF BURN

America's burn cases break down into four main mechanisms:

- + 86% suffer from thermal burns
 - 43% fire/flame
 - 34% scalds
 - 9% hot objects
- + 4% suffer from electrical burns
- + 3% suffer from chemical burns
- + 7% suffer from other causes

Proper fluid resuscitation is dependent on the accurate calculation of the patient's Total Body Surface Area (TBSA). TBSA is the percentage of the body that has been injured or burned and is usually assessed using the Rule of Nines. It's important to note the distinctions between the adult and pediatric Rule of Nines. There are two main differences:

1. A child's head is proportionally larger at birth, and accounts for 18% of its body area. As the child ages, subtract 1% each year from the head up to nine-years-old. The head of children ages 10 and up should be calculated at 9%.
2. At the same time, you should add 0.5% to each leg for each year up to nine-years-old.

The move towards specialized burn care has enabled burn centers to research, implement and improve early resuscitation practices to avoid over-aggressive fluid treatment. However, not all burn patients need to be resuscitated. Burns under 10% TBSA do not require fluid resuscitation. If you have any doubts, please call a member

of our burn team at 855-863-9595. BRCA's burn experts have treated tens of thousands of burn patients and are available 24/7 to assist in ensuring not only the accuracy of fluid calculation, but also the general need for fluids.

REFERRING TO A BURN CENTER

If the patient requires transferring to one of our burn centers, the following steps should be taken to prep them for transfer:

- + Monitor urine output hourly
- + Ensure patient is being kept warm
- + Always assess pulses in the extremities
- + For chemical burns, brush off any chemical residue
- + Find out about the patient's medical history and ask when and how they were burned
- + Cover the burned areas in dry dressings and try to elevate injured areas

Once the patient is ready for transfer, the referring facility should have as much of the following information readily available as possible:

- + **Patient Demographics** (name, age, sex, weight)
- + **Burn information** (time of injury, estimated TBSA%, cause of burn, areas burned, associated injuries)
- + **Allergies**
- + **Current medication**
- + **Medical history** (smoker, alcohol, tetanus status)
- + **Current status** (inhalation injury, alert & oriented, intubated, circumferential burn, pulses present, escharotomies, foley, vitals, IV Lactated Ringers rate and total infused)

REFERRAL CRITERIA

The American Burn Association has established 10 criteria that necessitate transferring a burn-injured patient for treatment. Patients outside these criteria may also benefit from the treatment modalities offered by BRCA:

1. Partial-thickness burns with a $\geq 10\%$ TBSA
2. Burns involving the face, hands, feet, genitalia, perineum, or major joints
3. Third-degree burns of any size in any age group
4. Electrical burns, including lightning strikes
5. Inhalation injuries
6. Chemical burns
7. Burn injuries in patients with pre-existing medical disorders that could complicate management, prolong recovery, or adversely affect recovery
8. Any burns in a patient with concomitant trauma in which the burn poses the greatest risk of morbidity and mortality. If the trauma poses the greatest risk, the patient should be stabilized in a trauma center before being transferred to a burn center.
9. Pediatric burns in settings without qualified personnel or equipment for the care of children
10. Burn injuries in patients who will require special social, emotional, or long-term rehabilitative interventions.



FIRST-DEGREE BURN



SECOND-DEGREE BURN



THIRD-DEGREE BURN



FOURTH-DEGREE BURN

It is also important to determine the severity or depth of a burn injury, which is broken up into four categories:

- + **FIRST-DEGREE BURNS** are superficial, such as minor sunburns. They are red and painful, with no blistering and usually heal without medical intervention.
- + **SECOND-DEGREE BURNS** (partial-thickness burns) are red and painful with large blisters or a wet appearance. Blisters do not indicate only a second-degree burn, but at least a second-degree burn. Medical intervention may be required to promote healing, depending on the severity of the burn.
- + **THIRD-DEGREE BURNS** (full-thickness burns) are charred, leathery, white, and dry in appearance. Because this injury is deeper, the nerves may be affected, and there may be little to no pain associated with the burn. A skin graft is most likely required.

- + **FOURTH-DEGREE BURNS** (deep full-thickness burns) involve exposed muscle, tendon, and bone. These burns require multiple surgical procedures to heal and amputation is a possibility.

Remember: When a burn first happens, what you see initially is not always the final outcome. A burn can progress over the first 12 to 24 hours, which means such injuries should be regularly monitored.

BURN CENTER CARE AND BEYOND

Once a patient arrives at one of our burn centers, our team immediately begins the assessment and treatment process. Depending on the depth of the injury, the intervention can involve surgical procedures and the use of grafts using skin substitutes, such as cadaver skin, or the patient's own skin. Less severe injuries may be treated topically.

Once a patient has progressed through the acute phase of their care, BRCA's

team focuses on their long-term recovery. For some patients, this may mean reconstructive surgery to rebuild and repair injured parts of their body. Sometimes the focus is on the scarring caused by a burn injury. Scars can be constricting, painful, and itchy, all symptoms that can severely alter a patient's quality of life. One of the tools BRCA utilizes to help treat these symptoms is laser therapy. Often, patients can see dramatic results within just a few laser treatments.

In addition to reconstruction and scar management techniques, BRCA partners with physical, occupational and mental therapists to ensure patients sustain not only their physical recovery, but also their mental wellbeing.

Each patient admitted to one of BRCA's facilities is evaluated to determine the potential benefit of physical (gross motor function), occupational (fine motor function and cognitive skills) or speech therapy (beneficial to those who suffered inhalation injuries or were intubated). Rehab is integral to enhancing a patient's quality of life by preventing loss of function, improving function, and providing the patient with tools to promote healing such as splints and compression garments. We understand how stressful this process can be on our patients and aim to accommodate them as much as possible by arranging their rehab to take place at a facility local to their hometown.

Depending on the details of their accident, the severity of the burn, and the treatment options available, a patient may not only feel physically altered but mentally altered as well. Around 16% of burn patients suffer from some form of PTSD.ⁱⁱⁱ A patient's self-image can be irrevocably altered due to a burn or wound. This is most likely to occur in patients with burn injuries/scarring to their face or hands as these are prominently visible parts of the body. In response to this, BRCA

not only works collaboratively with mental health professionals, but also encourages and supports patient support groups at each of our burn centers. These groups provide burn patients the opportunity to share their experiences with nonjudgmental and like-minded people in an atmosphere that promotes wholesome healing.

As the nation's largest burn care provider, Burn and Reconstructive Centers of

America understands the impact burns have on patients and their families. Founded on the belief that access to specialized burn and wound care should be available to all patients, BRCA has treated patients from two days old to 105 years old, including those with burns covering less than 1% to burns more than 95% of the patient's body.

BRCA's mission of Healing Patients. Healing Families. Healing Lives.® speaks

to the work our team and its partners do on a daily basis. We believe the healing of patients begins before they arrive at one of our centers and extends beyond their initial discharge. ♦

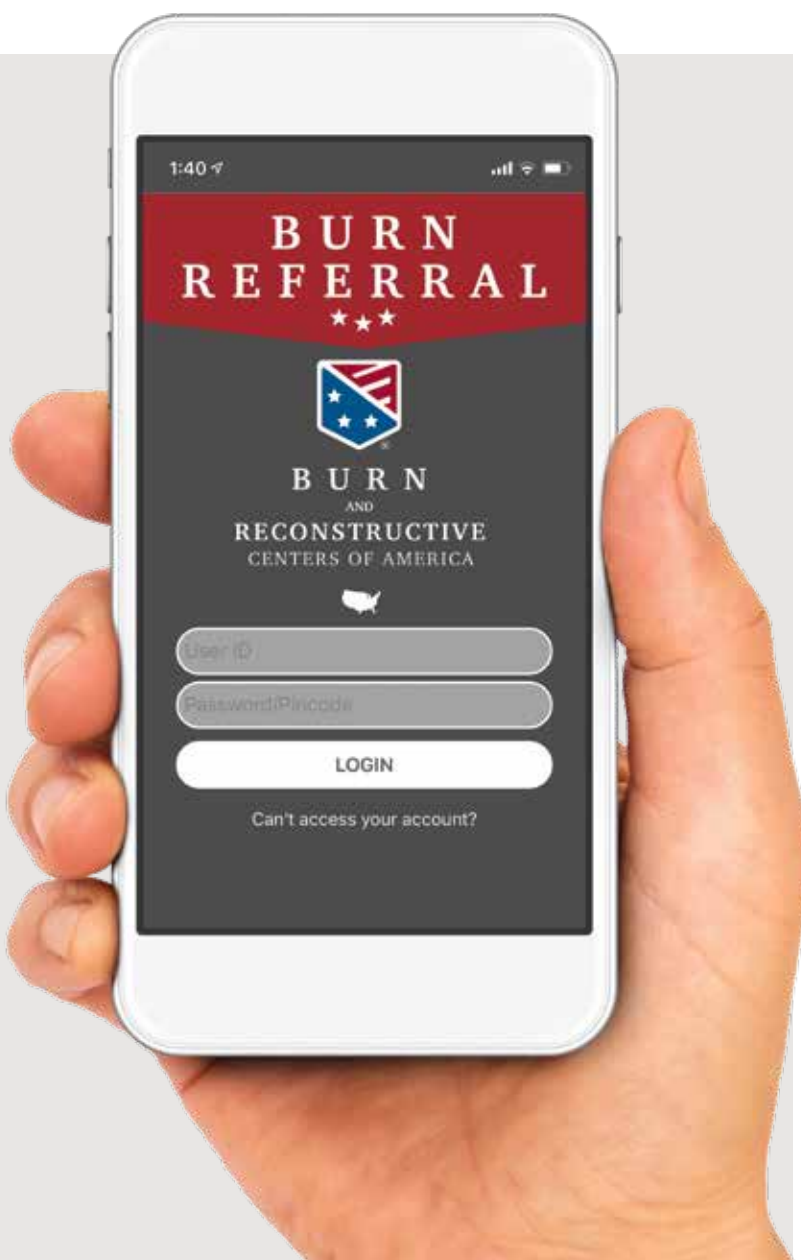
TO LEARN MORE about our services, visit www.burncenters.com. To refer a patient, we can be reached 24/7 at 855-863-9595 or via our burn app (www.burncenters.com/app).

Access to burn experts in the palm of your hand

In emergency situations, time is of the essence. In addition to our 24/7 call center, BRCA provides the Burn App to assist in initiating patient referrals. A password-protected, HIPAA-compliant app, the Burn App employs end-to-end AES 256-bit encryption to ensure patient data is always kept safe. The app allows users to securely send images and information to a BRCA expert, facilitating consultations, referrals and transfers in a HIPAA-compliant environment.



To register, scan the QR code or visit us online at burncenters.com/app.





Back on Track: Driver Beats Burn to Return to Drag Strip

TWENTY-EIGHT SECONDS.

Lyle Barnett was on fire for 28 seconds.

His drag car exploded around him as he hurtled down the quarter-mile strip at 170 mph. It started as a softball-sized orb of ethanol-fueled flames that struck him right in the face. Instinct took over. He took a deep breath, inhaling fire and fumes that scorched his lungs.

"At that moment, I thought I was dead, no

doubt," he said. "I just didn't know how long it was gonna take for me to die."

The September afternoon started as just another day at the track in 2015 for Barnett. At just 24 years old, he was competing at the Lights Out 6 event at South Georgia Motorsports Park in Adel, GA. His custom Corvette, capable of reaching 190 mph in a quarter-mile, was eight months old and had already taken him to the finals of another event. But Lights Out was different.

"We were at the biggest race of the year," he said. "It was a huge stage with thousands of people there and tens of thousands watching online. I mean, it was as big of a stage in radial racing as you could possibly race on."

He was about three-quarters of the way down the track in the opening round of qualifying when an electronics failure caused the dragster's motor to explode, shattering his Corvette, delaying his drag racing dreams and nearly ending his life.

"The entire inside of the car was on fire, all of it," Barnett said. "It was just swirling around. It was everywhere."

And at drag-strip speed, he didn't have a lot of options for escape.

"You don't bail out of a car at a hundred miles an hour," he said.

He felt the flames scarring his body. He felt the crushing impact of the wall.

"I was still fighting for my life," said the 29-year-old racer from Robbins, NC. "I was swattin' around, squirming around, just trying to get away (from the flames)."

It took 28 seconds for the car to slow to a point where he could bail. By then, the flames had burned away the six-point harness and belts holding him in the seat, as well as part of the head and neck restraints he had been wearing. He swatted at the door, trying to find the handle. Finally, the door opened, and he rolled out.

His team ran down the track. The racetrack's emergency crews drove toward the flaming wreckage. Barnett rolled around on the asphalt, hoping to smother the flames.

He was treated at the scene, loaded into an ambulance and taken to a local hospital. From there, he was air-lifted to the JMS Burn Center at Doctors Hospital in Augusta, GA. It's a blur for



Barnett; his memories aren't clear until two weeks after he arrived in Augusta. During those first few weeks, he said, his life hung in the balance. Second- and third-degree burns covered 15% of his body, but the damage inside was far worse.

"There were times there that they thought I wasn't going to make it, especially when they found the inhalation damage to my lungs," Barnett said. "For seven days, it was touch and go, you know: Is he gonna make it? Is he not gonna make it? Is he gonna be on a vent for the rest of his life? What's going to happen?"

During his five months in the burn unit, Lyle underwent multiple surgeries, many of which focused on his severely burned face and hands. Various skin substitutes, including porcine and cadaver grafts, were used to help cover the larger burned areas and allow them to heal some before applying permanent skin grafts.

"During all this, I was learning to walk again, eat on my own again, coming off of a ventilator, and trying to regain some range of motion in my hands," he said. "Your hands are 100 percent of

your independence, so the time I spent without them was humbling."

At one point, doctors even reconstructed his eyelids. They made his hands work again. They helped heal his lungs.

"How they did it, I don't know," Barnett said. "I just know that when I was prepped for surgery and (Vice President of Non-Physician Providers Beretta Coffman) would come in and tell me how it was gonna go, nothing was sugarcoated. . . . But what they said they were gonna do, they did, and they did it perfect."

After he was discharged from the hospital, Barnett's healing continued. He returned to the Augusta burn center for a series of laser treatments on his scars. The procedures helped reduce redness, irritation and itching associated with his scars.

"Today, I really don't have any side effects that keep me from doing my normal day-to-day thing," he said. "My hands...are very tender. Just walking by a door jamb can knock the hide off. I have to be careful in the sun with my face graft, but with a good layer of sunscreen and a hat, I'm good."

Barnett also returned to the burn center to talk with patients who were going through similar situations. He provided mini-race cars to help transport young patients around the hospital. He sent Christmas gifts. He wanted to give the patients hope, provide some light at the end of their tunnel. Mainly, he answered questions, especially ones about life after the burn center, the people that stare, the face and body patients see in the mirror.

"I don't even remember what I looked like before," he said. "You know, I can look at pictures, and it just doesn't relate anymore. I had the thickest, darkest, blackest eyebrows you'd ever seen in your life. Now, I ain't got a stitch. . . . They tell me, 'Oh we can graft those, we can give you new eyebrows.' I don't want new eyebrows. This is me. You either take me or leave me."

He is grateful to the dedicated burn professionals for not only saving his life, but allowing him to thrive and push forward. He's gotten engaged. He's back in the driver's seat of a dragster.

"It's all I know," he said of racing. "It's what drives me to get out of bed in the morning." ♦

BRCA FOUNDATION

Improving patient care through access to education



IT IS THE GOAL OF BRCA

FOUNDATION to enhance clinical care through improved access to and dissemination of burn care education. We work with physicians and health care professionals to enhance knowledge, competence, and performance in practice, and, ultimately, improve patient outcomes.

As part of the effort to improve access to burn care education, the Foundation serves as the host of the Joseph M. Still

Burn Symposium, an annual gathering of medical professionals dedicated to the constant improvement of burn care in America.

In addition, the Foundation recently introduced two new initiatives to help promote burn care and burn prevention education:

CONTINUING MEDICAL EDUCATION AND CERTIFIED EDUCATION OPPORTUNITIES

Burn, hand and wound education resources are now available anytime, anywhere, through BRCA Foundation's new online courses and podcasts. CloudCME and Burn Care Radio allow health care professionals access to continuing education credits, the newest medical topics provided by experts in the field, and live virtual and in-person education opportunities. You can register online at burncenters.cloud-cme.com

or search CloudCME in your chosen app store. Burn Care Radio podcasts can be found on Amazon Podcasts, Apple Podcasts, Google Podcasts, iHeart Radio, Spotify and BuzzSprout.

Founded in 2018, our mission is simple: BRCA Foundation is committed to helping patients and their families, while continuously working to improve care throughout the world.

As an accredited provider of *AMA PRA Category 1 Credit™* Continuing Medical Education Credits, BRCA Foundation offers both Continuing Medical Education and Certified Education credits for many of the online modules. ♦

FOR MORE INFORMATION, please visit burncenters.cloud-cme.com.

PHOENIX POWERS™

Extending its education outreach beyond medical professionals, BRCA Foundation proudly introduces Phoenix Powers! A superhero fighting to prevent burn injuries, Phoenix Powers is dedicated to empowering children through burn prevention programs and safety activities. At home or at school, Phoenix Powers collaborates with parents, caretakers, and teachers to defend children from preventable burn accidents or help them establish steps to take if one occurs. For more information and to download a Phoenix Powers coloring page, please visit: burnfdn.org/phoenix-powers. ♦





Remembering Dr. Fred Mullins, 1966-2020

BURN AND RECONSTRUCTIVE CENTERS OF AMERICA LOST ITS FOUNDER IN JUNE.

Dr. Fred Mullins faithfully served as the Medical Director of the JMS Burn Center at Doctors Hospital and President/CEO of Burn and Reconstructive Centers of America.

In his more than 30 years of caring for thousands of patients, Dr. Mullins helped transform burn care across the nation

and the globe. Dr. Mullins practiced under the leadership of the founder of the Augusta burn center, Dr. Joseph M. Still. Dr. Mullins became the Medical Director of the burn center in 2003 and led the center's transformation into Burn and Reconstructive Centers of America — a national presence with 15 locations in eight states.

Above all, Dr. Mullins was committed to the care of our patients. That's the ethic he instilled in everyone who worked with

him and around him. We're proud to purposefully deliver acute, life-saving care and long-term reconstructive planning and therapy to new burn patients, while also offering reconstructive and plastic surgery programs to restore function and form to the lives of burn survivors and other patients across the nation.

Dr. Mullins's legacy is not what BRCA has achieved so far. It's what's on the horizon beyond what we can see. It's what we will become. ♦

ONLINE CME CREDITS

2020 JMS BURN SYMPOSIUM - ON DEMAND

Visit burncenters.cloud-cme.com | Available starting October 19

In order to register for the course, you must have a CloudCME account. When and if you have a CloudCME account, by selecting Online Courses you can locate one of the courses promoted. After selecting the course you can now register. By completing the pre-test, post-test and evaluation, you will be rewarded the credit associated with the activity. Each credit hour is \$10, and you can pay securely online.

THE ONDEMAND LIST IS AS FOLLOWS:

- + 2020 JMS Burn Symposium
Advances in the Treatment of Major Burns
David Herndon, M.D.
Activity Code: 349, 1 credit hour
- + 2020 JMS Burn Symposium
Case Study: Care of the Burned Pregnant Patient
Beretta Craft-Coffman, PA-C
Activity Code: 398, 0.25 credit hour
- + 2020 JMS Burn Symposium
Back to the Basics of Burns
Shawn Fagan, M.D., FACS
Activity Code: 399, 1 credit hour
- + 2020 JMS Burn Symposium
The Healing Power of Art
Joel Thomas Hall
Activity Code 400, 1 credit hour
- + 2020 JMS Burn Symposium
Things That Make You Go Hmmm...
Kim Linticum, ACNP-BC
Activity Code: 401, 0.50 credit hour
- + 2020 JMS Burn Symposium
Creative Reconstructive Options for Severely Traumatic Injuries
Benson Pulikkottil, M.D.
Activity Code: 402, 1 credit hour
- + 2020 JMS Burn Symposium
Virtual Reality for Reducing Pain and Perioperative Anxiety in Pediatric Burn Patients
Heather Schwartz, DNP, MSN, APRN, CPNP-AC, FNP-C
Activity Code: 403, 0.25 credit hour



BRCA
FOUNDATION

SAVE THE DATE
FEBRUARY 28 - MARCH 1, 2021



JOSEPH M. STILL
BURN SYMPOSIUM

Château Élan | Braselton, Georgia



BRCA
FOUNDATION

Joseph M. Still Burn Symposium is hosted by BRCA Foundation.

For more information, visit burncenters.com/symposium