



**BOARD OF CERTIFICATION  
FOR EMERGENCY NURSING**

Excellence. Achievement. Impact.

*“Where excellence and compassion meet courage and resilience.”*

## Burn Nursing Excellence: The Certified Burn Registered Nurse (CBRN)

Burn care expertise contributes to high quality care and optimal outcomes for patients with burn injuries and their families. As part of interprofessional burn care teams, registered nurses (RNs) have major roles in every phase of burn care—including prehospital and initial management, acute and critical care, patient and family support, rehabilitation, aftercare, and education and injury prevention. Burn nurses provide the majority of direct care and coordinate many patient care activities.<sup>1,2</sup>

In October 2023, just over two years after entering into a collaboration with the American Burn Association (ABA) for the initial development of a burn nursing specialty certification exam, the Board of Certification for Emergency Nursing (BCEN<sup>®</sup>) introduced the world’s first burn nursing specialty certification program—the Certified Burn Registered Nurse (CBRN).<sup>3</sup>

### Burn Injury: A Global Public Health Problem

Burn injuries affect people of all ages worldwide and are a leading cause of morbidity and mortality in civilian and military settings. Annually, an estimated 11 million worldwide have burns severe enough to require medical attention, with 180,000 deaths (the vast majority of which are in low- and middle-income countries).<sup>4</sup> Burns are the fifth most common cause of non-fatal childhood injuries worldwide.<sup>4</sup>

In the United States:

- Burn injuries rank 6<sup>th</sup> among the top 10 preventable injury-related deaths.<sup>5</sup>
- An estimated 404,000 patients with burn injuries received medical treatment at EDs in 2021.<sup>6</sup>
- There are 40,000 annual hospitalizations for burn injuries, including 30,000 at hospital burn centers.<sup>7</sup> Burn-related inpatient stays are twice as long and costly as non-burn-related stays.<sup>8</sup>
- Flash/flare injuries are the top cause of admission to U.S. burn centers at 37%, followed by 30% from scalds.<sup>9</sup>
- In 2021, fires caused an estimated 3,800 civilian deaths (up 8.6% from 2020), including 3,010 from structure fires and 680 from vehicle fires.<sup>10</sup>

- Burns and inhalation injuries comprise up to 25% of military casualties in modern combat.<sup>11</sup>
- Estimated medical costs associated with burn-related injuries in 2010 totaled approximately \$1.5 billion with an additional \$5 billion associated with lost work.<sup>8</sup>

### All About Burns: From Minor Medical Problems to Life-Threatening Emergencies

Burns are caused by friction or exposure to thermal (high heat or extreme cold), electrical, chemical or radiation sources. Burns are also classified by the depth of the burn (e.g., superficial, partial- and full-thickness). Gender, age and the percentage of body surface burned are also key predictors of mortality and morbidity.<sup>12</sup>

Burns are primarily characterized by damage to the skin, resulting in death of the affected skin cells. Depending on their severity, burns can also damage deeper tissues. The skin is the body’s first line of defense, protecting the body from injury, infection, and pathogens and other harmful environmental factors. Skin also plays a key role in preventing fluid loss, regulating body temperature, and enabling sensory input to the nervous system.

Burn injuries can result in a wide variety of local and systemic complications. Local complications include skin and wound infection, which can lead to systemic infection and even death. Various systemic complications of burn injuries can result in organ failure and death. Sepsis, a significant complication, is the leading cause of death in burn patients. Inhalation injuries, which occur when fumes or poisonous gasses are inhaled, frequently lead to pulmonary and systemic complications, which in turn also increase the risk of death after a burn injury.<sup>12</sup>

“When compared to other critically ill patients, those who have suffered severe burns are more likely to develop infection, systemic inflammatory response and sepsis.”<sup>12</sup> Patients with severe burns “frequently experience varying degrees of organ failure, and when multiple major organs are affected, mortality becomes extremely high.”<sup>12</sup>

## **Dramatic Advances in Burn Care**

Major advances in burn care approaches, therapies and surgical procedures have transformed clinical practices during the past half-century—dramatically increasing survival rates, contributing to improved outcomes for all types and classes of burns, and improving the health, function and quality of life of burn survivors.<sup>13</sup> Equally as important, burn awareness/injury prevention campaigns and more stringent regulations and safety protocols have also reduced the incidence and severity of burns.

In the mid-1970s, approximately 9,000 people died from burn-related injuries in the U.S., and burns covering more than 20% of a patient's body were nearly always fatal.<sup>8</sup> "Forty years later, the number of burn-related deaths [had] declined by over 50% and patients with burns covering up to 90% of their bodies [could] survive with appropriate treatment" (although often with permanent impairments).<sup>8</sup>

In addition to the American Burn Association, with its robust clinical, education, research and prevention agenda and national burn center verification program, U.S.-based organizations driving major innovations in burn care, burn safety and patient support include state and regional burn centers, the Army Burn Center at the U.S. Army Institute for Surgical Research, and the Phoenix Society for Burn Survivors. Outside the U.S., the International Society for Burns Injuries, Canadian Burn Association, Australia & New Zealand Burn Association, British Burn Association, and European Burns Association support burn care specialists, advance research and best practices, and lead injury prevention initiatives.

## **Getting the Right Treatment at the Right Time**

Burns are an extremely dynamic type of injury as the depth and extent of the damage to the body is often difficult to estimate. While minor burns can typically be safely treated at home, burns over joints, the perineal region or that are deep or larger size burns warrant immediate medical attention. Serious burns may require specialized treatment at burn centers and months of follow-up care.

- The emergency department (ED) is a key point of initial care and stabilization of the burn patient, with up to 92% of burn injuries initially presenting to the over 4,500 hospital-based EDs across the U.S.<sup>14</sup>
- Burn visits are more than twice as likely to have an inter-facility transfer compared to the general ED population.<sup>14</sup>
- Although inter-facility transfers of ED patients with burn injuries only represent 3.6% of the transfer volume, approximately 18,000 burn-related injuries were transferred annually, more than double the national rate, according to a recent study.<sup>14</sup>

The speed with which the severity of burn injuries are assessed (burn size, depth of injury, and need for fluid resuscitation) is a key factor in determining the appropriate clinical procedures. The ability to quickly determine the amount of fluid required for a patient with

a large burn injury may have profound implications for end-organ perfusion. "Early diagnosis and treatment lead to improved morbidity and mortality, shorter hospital stays, and decreased costs."<sup>15</sup>

## **Burn Centers & Burn Teams**

Burn injuries are among the most severe types of trauma. Burn centers, like trauma centers, offer a higher level of care due to their considerable institutional resources and the presence of burn specialists who are well-prepared to address the significant morbidities and mortalities associated with severe burns.

- Today, there are 145 burn centers in the U.S., 80 of which are ABA-verified.
- A 2008 study found that nearly 80% of the U.S. population lives within two hours by ground or rotary air of a verified burn center.<sup>16</sup> Seven states have no burn center within their borders.
- Sixteen burn centers serve Canada's population of 38 million, 13 burn centers serve Australia's and New Zealand's 32 million citizens, and 90 burn centers serve 742 million across Europe.

Burn care teams include burn surgeons, nurses (in many roles), anesthesiologists, respiratory therapists, occupational and physical therapists, dietitians, and psychosocial experts.<sup>13</sup> Together, these extraordinarily skilled, knowledgeable, and compassionate teams work in close concert to "minimize pain and infection, reduce cosmetic deformities, ensure a timely recovery, and establish physical and psychological rehabilitation."<sup>2</sup>

Burn centers—with their highly skilled and diverse interprofessional care teams, specialized equipment and facilities, and ability to deliver inpatient and outpatient care—reduce complications, reduce costs and deliver better functional outcomes. Burn centers are also leading centers of research in a rapidly evolving field.

## **Unique, Complex Care Challenges**

Burns are among the most challenging and complicated injuries, with potentially devastating physical, psychosocial and financial impacts for patients and families. Severe burns may result in scarring, disfigurement, recurring infections, nerve damage, loss of mobility, lifelong disabilities, and psychological trauma.

Due to the complex nature of burn injuries, burn care involves "substantial clinical time that exceeds the time nurses spend with many other patient populations,"<sup>17</sup> to include a lengthy period of recovery during both the acute and rehabilitative phases.

Due to the condition of burn patients and the intense and often prolonged nature of treatment and recovery, burn care in general—and burn nursing in particular—is emotionally challenging and physically demanding.<sup>2</sup> Finely tuned psychosocial skills are required to navigate the communications challenges heightened by patients who are in pain and the concerns and attitudes of their families and support system.<sup>2</sup>

## **The Burn Nurse: At the Center of Direct Care & Burn Team Coordination**

At the center of the interprofessional burn care team is the burn nurse. As the primary medical staff providing direct care for burn patients, a burn nurse must possess “a range of skills from the management of acutely unwell critical-care patients on mechanical ventilation and renal support, sophisticated wound dressing techniques ...”<sup>13</sup> to “pain management, infection control and nutritional support.”<sup>2</sup> The burn nurse also helps to ensure “the optimal functional and cosmetic reconstruction ... and helps the patient return to their previous state of physical and psychosocial function.”<sup>2</sup>

“Nurses are part of a critical surveillance system for burn patients. They perform serial observations and assessments to prevent surgical complications, such as wound and graft infection, scar contractures, physical deconditioning, and cardiac or respiratory complications.”<sup>17</sup> Burn nurses are often the first to notice and “bring attention to any changes in the condition of a patient and institute a remedial action.”<sup>13</sup>

Burn nurses also fulfill the crucial roles of coordinating patient activities across the team and communicating with, and advocating for, patients and their loved ones. “Continuity of nursing staff for patients allows trusting relationships and bonds to develop, improving satisfaction for both patients and staff.”<sup>13</sup> In fact, recent research clearly shows that burn patient outcomes depend on nursing resources.<sup>17</sup>

The bottom line: Continuity of care is essential, from the trauma bay to the return to home, work and community. Moreover, burn nursing demands multifaceted technical expertise over the broad range of clinical and professional areas specific to the unique needs of the burn patient.

## **The Undeniable Value of Specialty Certification**

Specialty certification, also known as board certification in a nursing specialty, offers RNs and advanced practice nurses (APRNs) an important means to independently validate their knowledge, skills and judgment across a nursing specialty. Specialty certification both helps to ensure that nurses obtain the education and training necessary to practice in areas that require specialized knowledge and skills, and also provides a framework for continued competency through recertification.

National specialty certification advances quality care and practice, and more specifically, has a positive impact on nurse success and satisfaction and certain patient outcomes.<sup>18</sup> Employing specialty board certified nurses and creating a culture that promotes and supports the maintenance of certification are hallmarks of high-performing organizations.<sup>19</sup>

Specialty certification also offers valuable assurances—to the nurse in the form of confidence, to their colleagues and employers, who know them as expert resources and mentors, and to patients and their families, who can know they are being treated by the best of the best.

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## **Two Key Organizations, World’s First Burn Nurse Credential**

Burn nursing was recognized as a nursing specialty by the American Nurses Association (ANA) on August 12, 2020.<sup>20</sup> This followed a decade of focused effort by the ABA and the burn nursing community, including the development of competency standards and characteristics of the professional burn nurse as ultimately published in *Burn Nursing: Scope and Standards of Practice*. In its standards, ABA “encourages professional and specialty certification to enhance the quality of nursing practice and patient care.”<sup>21</sup>

In summer 2021, BCEN and the ABA partnered to jointly develop the initial burn nursing specialty certification exam, with BCEN owning the certification program and maintaining the exam and certification renewal process. In fall 2021, BCEN quickly assembled a diverse working panel of world-class burn and trauma nurses with nearly 200 years of collective experience to define the burn nursing body of knowledge and guide development of the Certified Burn Registered Nurse (CBRN) exam.<sup>22</sup>

Meanwhile, nurse members of the ABA developed *Burn Nursing: Injury Prevention to Rehabilitation and Aftercare*, which serves as a primary reference for nurses studying for the CBRN exam. As the leading professional organization for burn care providers, the ABA supports specialty nursing certification. “Quality care begins with the competency and skill of individual clinicians.”<sup>23</sup>

In July and August 2023, 268 nurses sat for the CBRN beta exam, with 165 “beta testers,” including civilian and military nurses in the U.S. and Canada, plus 61 experts integral to the development of the CBRN becoming the world’s first certified burn nurses. Then in October 2023, BCEN launched the CBRN worldwide.<sup>3</sup>

## **CBRNs & Burn Nursing’s Auspicious Future**

Burn nurses have deep passion and pride in their specialty. Working in a burn center, collaborating with a specialized team, and caring for patients and their families are sources of professional and personal satisfaction.<sup>2</sup>

With the CBRN, RNs and APRNs can at last be formally recognized for their burn specialty expertise—spanning prehospital care and initial management, acute and critical care, post-acute rehabilitation, outpatient and community care, aftercare and reintegration, injury prevention, and patient and family support.

A growing community of Certified Burn Registered Nurses (CBRNs) will help advance clinical practice, galvanize education and research, and build collective power to advocate for changes to prevent burn injuries and support patients and their families. Once hundreds and even thousands of CBRNs exist within the world of burn care, we can test the impact of this advancement on select patient care outcomes.

What an exciting plan and bright future for our specialty!

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## Authors:

**Gretchen J. Carrougher**, MN, RN, CBRN, Research Nurse Supervisor/Northwest Regional Burn Model System Program Coordinator, UW Medicine Regional Burn Center at Harborview Medical Center, and BCEN CBRN Exam Construction and Review Committee Chair, and **Emily Werthman**, MSN, RN, CBRN, Burn Program Coordinator, The Johns Hopkins Burn Center at Johns Hopkins Bayview Medical Center.

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