

Shriners Hospitals for Children® Love to the rescue.™

SHC Community Health Needs Assessment

Shriners Hospitals for Children® - Cincinnati

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Mission and Vision

Mission:

- Provide the highest quality care to children with neuromusculoskeletal conditions, burn injuries and other special healthcare needs within a compassionate, family-centered and collaborative care environment.
- Provide for the education of physicians and other healthcare professionals.
- Conduct research to discover new knowledge that improves the quality of care and quality of life of children and families.

This mission is carried out without regard to race, color, creed, sex or sect, disability, national origin or ability of a patient or family to pay.

Vision:

• Become the best at transforming children's lives by providing exceptional healthcare through innovative research in a patient and family centered environment.

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Our Commitment to the Community

Hospital Overview

Shriners Hospitals for Children-Cincinnati is a licensed 30-bed pediatric hospital specializing in the treatment of severe burns and reconstructive surgery. Shriners Hospitals for Children®--Cincinnati

opened in 1968 and remains committed to providing medical care for children with burn injuries, as well as educating the public about burn prevention, burn care, and providing medical education to physicians interested in burn protocols. The hospital is a leader in acute pediatric burn care and is one of only four freestanding hospitals in the country dedicated to the treatment of pediatric burns. The hospital features the nation's only CAMTS-certified pediatric burn air transport service.



The hospital has been instrumental in advancing pediatric burn care and survival rates, as well as helping to advance and measure the "quality of life" of the post-burn patient. With extensive in-house follow-up clinics, outreach clinics and telemedicine sites, we offer a multidisciplinary after-care model designed for better recovery rates. Improved outcomes are measured in terms of patient physical, psychological, and social integration.

The mission for Shriners Hospitals for Children-Cincinnati remains in alignment with the health care needs of the communities it serves through increasing burn awareness, improving burn injury outcomes, providing reconstructive surgical care, and providing education for both the general public and medical community.

Shriners Hospitals for Children—Cincinnati currently serves the needs of the children that have sustained burn injuries or are in need of reconstructive surgery living in the Midwest, South, Upper Midwest, Plains and Southeast. Cincinnati Shriners Hospital provides education and consultation to the medical community to include emergency departments, medical schools, pediatric practices, family medicine practices, urban and rural health clinics, and school nurses. In the review of the evaluations

from previous presentations it became apparent that medical professionals who provide care to pediatric patients do not receive evidenced-based burn care education on a routine basis.

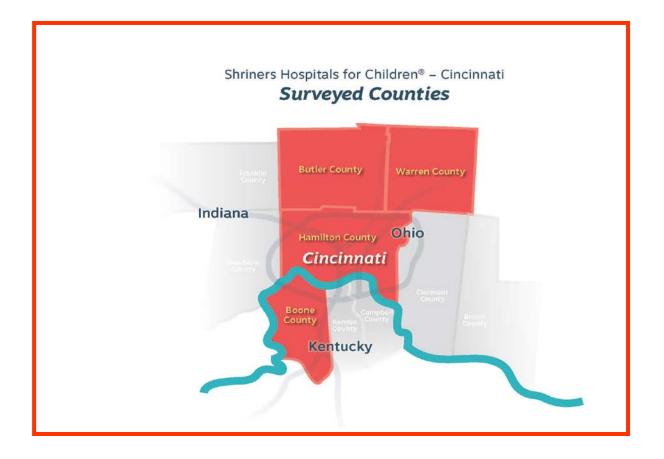
Cincinnati Shriners Hospital took a proactive approach in fulfilling its educational mission to the community by hiring a full-time Director of Professional Relations. This position was created to provide direct outreach to the medical community in Ohio, Kentucky, West Virginia, Indiana, Illinois, Missouri, Tennessee, Georgia, Florida, North Carolina, Upstate New York, and 11 other states. The focus of our educational mission is to make Shriner's educational and outreach programs available to communities in need of training, and to provide the highest level of burn awareness training to the general public.

Process and Methods

One of the identified priorities from Shriners Hospitals for Children—Cincinnati's prior Community Needs Health Assessment was Education For The Health Care Community and this assessment targets those goals.

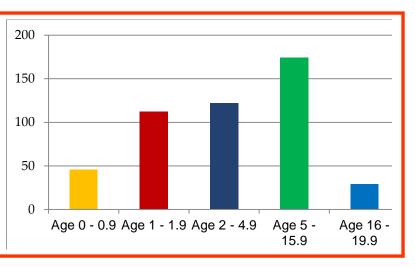
The current assessment process included collecting survey data from providers, including physicians, mid-level providers, nurses, and first responders at pediatrician and family practice medical offices, community health clinics, first responder presentations, and emergency departments in a local four-county area served by Shriners Hospitals for Children—Cincinnati. Secondary data related to the health of the community was collected through the assistance of the staff and through focus group discussions and key community health informant interviews.

Three Ohio counties in the Greater Cincinnati were surveyed: Butler County, Hamilton County and Warren County, and one Kentucky county in the Greater Cincinnati area was surveyed: Boone County.

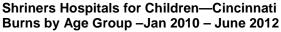


Because Shriners Hospitals for Children--Cincinnati is the only hospital in the region that provides pediatric burn care, and the only stand-alone pediatric burn hospital in its 22-state region, and does not

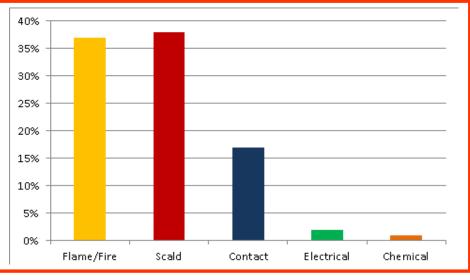
have an emergency department, burned patients must be triaged by other health care facilities and professionals prior to transfer. This triage may be in the field, emergency department or a doctor's office, ensuring the need for different levels of education and knowledge. With this in mind, Cincinnati Shriners decided to assess the level of burn care knowledge in the community.



Cincinnati Shriners has a referral catchment area of approximately 22 states. In 2015,



area of approximately 22 states. In 2015, Source: [®] ABA2014 National Burn Repository Benchmark Report pediatric patients were referred from 25 different states. In reviewing referral data it was recognized that 54 (53.9) percent of the acute burn referrals came a four-county area surrounding the hospital. These counties included Hamilton, Butler and Warren Counties in Ohio and Boone County in Kentucky. With this information it was decided to assess the burn care knowledge in those areas. It was also determined that 48% of our patient population is under the age of 4 and 75% of the burns are caused from flame or scald injuries.



Shriners Hospital For Children-Cincinnati Acute Burn Sources - Jan 2010 - June 2012

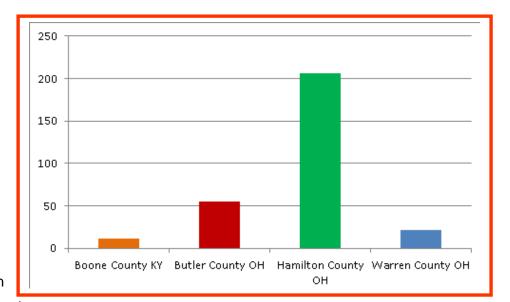


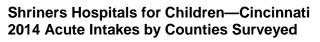
Acting on these findings, a survey was developed to assess the need of the providers in a four-county area surrounding the Cincinnati hospital. The surveys were distributed from January 2015 to September 2015. This survey was given to rural emergency departments who refer to tertiary hospitals and first responders. These outlying hospitals are the first point of contact for stabilization of the pediatric burn patient. Health care in rural areas is often provided by federally qualified health care centers (FQHC) who serve the underserved. These centers do not have the access to the resources and education that is offered in metropolitan areas. Assessments were also given to health care providers who may be the first point of contact for minor burn care in the office setting. This included pediatricians, family practice offices, mid-level providers, health departments, first responders and nurses. The physician liaison has attended several community coalition meetings assessing the need at the community level for increased burn education and resources. The attendance at these meetings includes community leaders, representatives from the local school systems, health departments, and many federally-funded organizations that offer services for the underserved.

The data contained within this report was compiled from a variety of sources intended to establish a sufficient need in a fourcounty community for pediatric burn education, along with burn-related surgical and clinical care. For the purpose of this assessment, we focused on burn injury data from Ohio and

Kentucky. More than 50 percent of

our patient volume is from Ohio,





proving we have successfully serviced this population's needs for more than 45 years. Kentucky, by comparison, has a smaller population that is largely rural. This puts the probability of children dying in residential fires two to three times more likely than that of children living in cities, according to the United States Fire Administration. Kentucky is within reasonable proximity to Cincinnati Shriners Hospital, which makes our outreach efforts feasible and our hospital services available.

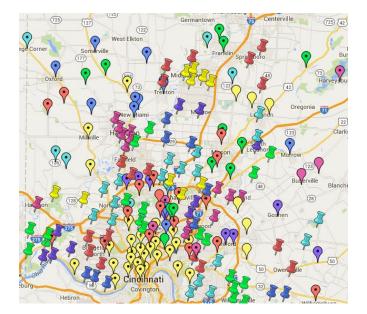
Hamilton County, Ohio, is completely urban or suburban in makeup; however the remaining three counties have both suburban and rural areas. Most of these rural areas are unincorporated and have no fire departments. Distance from these unincorporated rural areas to the closest fire department ranges between six and 25 miles away. Many of these fire departments are volunteer fire departments who may lack the proper equipment and have access to education related to emergent burn care. Children throughout the United States from low-income families are greater risk for burn injuries from fire due to lack of fire alarms, substandard living conditions, alternative heating sources, and inadequate adult supervision due to economic constraints.

Children in rural areas are two to three times more likely to die in residential fires than children in cities.

Forty-seven percent of children who died from fires or burns were ages 4 and under, twice that of children ages 5 to 9 years old.

More than 50 percent of all child fire deaths occur to those under age 5.

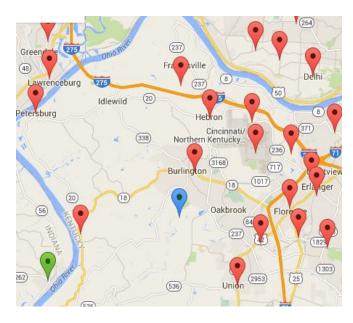
Source: National SAFE KIDS Campaign and United States Fire Administration/ National Fire Data Center, "The Fire Risk to Children," December 2004.



Fire stations in Butler, Hamilton and Warren Counties, OH

Source:

https://www.google.com/maps/d/viewer?msa=0&ie=UTF &mid=19kUC0ezLGMdeoJHLnuBfYKIVNzA



Fire stations in Boone County, KY

Source:

https://www.google.com/maps/d/viewer?msa=0&ie=UTF &mid=19kUC0ezLGMdeoJHLnuBfYKIVNzA The data contained in this report is taken from the National Trauma Registry for the American College of Surgeons/American Burn Registry, U.S. Fire Administration/ National Fire Data Center (a part of the Federal Emergency Management Agency), National Fire Protection Association, National Burn Repository, The American Burn Association Burn Outcome Program, and Shriners Hospitals for Children—Cincinnati's Burn Registry.

The qualitative data is from direct face-to-face feedback from the providers surveyed, focus groups and personal interviews collected by the director of professional relations and the physician coordinator.

| Pediatricians and Fam | ily Care Phys | sicians Distrib | ution by Cou | nty |
|--------------------------------|---------------|-----------------|--------------|-----------------------|
| | Butler | Warren | Hamilton | Boone |
| Total Physicians | 134 | 93 | 662 | 87 |
| Population by Physician | 2,747:1 | 2,287:1 | 1,212:1 | 1,366 :1 |
| Population 2010 | 368,130 | 212,693 | 802,374 | <mark>118,81</mark> 1 |
| Change since 2010 | 35,323 | 54,310 | -42,929 | 32,820 |
| Population Density (per sq mi) | 783.1 | 522.4 | 1,943.90 | 462.5 |
| % Population under age 18 | 25% | 27% | 24% | 28% |

Source: www.grahamcenter.org/maps-data-tools/interactive/primary-care-physician.html

Qualitative Data – Direct Feedback

To determine what education was needed, a survey was created and distributed to pediatric providers in Boone County, Kentucky, and Butler, Hamilton and Warren counties in Ohio. The survey asked three questions and the provider's professional title:

Shriners Hospitals for Children—Cincinnati Survey:



Community Burn Education

1. Do you see a need for burn care education in the health care

setting? YES - NO

- 2. Have you had burn education in the past year? YES NO
- 3. How long ago did you receive burn care education, if ever?
 - a. 1-5 years ago
 - b. 5-10 years ago
 - c. >than 10 years ago
 - d. I have never received burn education
- 4. Would you be interested in burn education? YES NO
- 5. Please select your professional title.
 - a. MD/DO
 - b. NP
 - c. PA
 - d. RN

Surveys were distributed by the director of professional relations and the physician coordinator during face-to-face visits to the providers, ensuring a 100 percent response rate. Participants were asked four questions and their answers recorded.

Focus groups were also conducted with community and public health organizations as a means to gather feedback on the need for burn education in their communities.

Survey Response

Total number of respondents 125 (including health fair survey data where applicable)

| | Percent of total respondents answering "Yes" |
|---|--|
| Do you see a need for burn education in the health care | |
| setting? | 100% |

| Have you received burn education in the past one year? | |
|--|-----|
| Yes | 11% |
| No | 89% |

| How long ago did you receive burn education, if ever? | Percent of respondents who have received burn education in the past |
|---|---|
| 1 to 5 years ago | 1% |
| 5 – 10 years ago | 8.9% |
| > than 10 years ago | 9.2% |
| I have never received burn education | 85% |

| Would you be interested in burn education? | Percent of total respondents answering "Yes" |
|--|---|
| | 100% |

| Please select your professional title: | Percent of professional titles surveyed/responded |
|--|--|
| MD/DO | 10.4% |
| Nurse Practitioner | 20% |
| Physician Assistant | 6.4% |
| RN | 12.8% |
| First Responder | 50.4% |

Metropolitan-wide focus groups and personal meetings were conducted with a large low-income insurer, CareSource, and Ohio County agencies including the Hamilton County Health Department,

Closing The Healthcare Gap, Hamilton County School Nurses, Lakota Local Schools School Nurses, and Butler County Family & Children First. Kentucky agencies providing feedback included First Steps and the Northern Kentucky Health Department.

Key Findings

Survey results, focus groups and personal interviews all revealed an overwhelming lack of burn education in the four counties surveyed, especially in the past one to five years, and all 125 survey responders indicated they saw a need for burn education in the health care setting. First responders received minimal burn education as part of their coursework and were the largest group to have received recent burn education.

There was an overwhelming response for the desire of burn education. One hundred percent of all focus group participants, survey respondents and agency contacts are interested in burn education.

Area and regional demographics have not changed since the previous Community Needs Health Assessment completed in 2012. Table 1 shows current population demographics.

Table 1

| Demographics | Butler County | Hamilton County | Warren County | Boone County | Ohio | Kentucky |
|---|------------------|--------------------|------------------|-----------------|------------|-----------|
| Population, 2014 estimate | 374,158 | 806,631 | 221,659 | 126,413 | 11,594,163 | 4,413,457 |
| % below age 5 | 6.2% | 6.6% | 5.9% | 7.2% | 6.0% | 6.3% |
| % below age 18 | 24.3% | 23.3% | 25.9% | 27.3% | 22.8% | 22.9% |
| % 65 and older | 13.2% | 14.2% | 13.0% | 11.2% | 15.5% | 14.8% |
| % Non-Hispanic White | 86.5% | 69.0% | 90.1% | 92.0% | 83.0% | 88.3% |
| % Non-Hispanic African- American | 8.1% | 26.1% | 3.5% | 3.2% | 12.6% | 8.2% |
| % Hispanic | 4.5% | 2.9% | 2.6% | 4.0% | 3.5% | 3.4% |
| % Other | 5.40% | 4.90% | 6.40% | 4.80% | 4.50% | 3.60% |
| % Not proficient in English | 6.9% | 6.9% | 7.5% | 6.3% | 6.6% | 5.0% |
| High school graduate or higher, persons age 25+ | 88.9% | 88.6% | 92.0% | 91.9% | 88.5% | 83.0% |
| Bachelor's degree or higher, percent of persons age 25+, | 27.4% | 33.7% | 37.9% | 30.4% | 25.2% | 21.5% |
| Persons per household, 2009- 2013 | 2.66 | 2.39 | 2.74 | 2.78 | 2.47 | 2.5 |
| Per capita money income in past 12 months (2013 dollars), 2009-2013 | \$26,813 | \$29,681 | \$33,172 | \$29,235 | \$26,046 | \$23,462 |
| Median household income, 2009-2013 | \$56,610 | \$48,593 | \$72,487 | \$67,225 | \$48,308 | \$43,036 |
| Persons below poverty level, percent, 2009-2013 | 13.6% | 18.0% | 6.3% | 9.0% | 15.8% | 18.8% |

Source: www.countyhealthrankings.org

Action Plan

Outreach Activities

Once the community providers' lack of knowledge on burn care treatments was established, Cincinnati Shriners Hospital used its expertise to provide this needed education to all levels of health care providers and first responders.

Community outreach staff visit the offices and provides a one-hour lecture with a PowerPoint presentation about pediatric burns, including types of burns and management. Folders are distributed to all attendees that include burn treatment information, and information about the hospital's website and referral options. Evaluation and feedback forms are completed by all participants to ensure that the information being presented is relevant and can be applied in their respective settings.

Weekly and monthly, the community outreach team determine the communities, counties and states where this education is needed. The team identifies hospitals and provider offices in the targeted area and makes contact, offering a one-hour pediatric burn care presentation. To make the education even more valuable to the providers, a one-hour CME credit offered in collaboration with Cincinnati Children's Hospital through the Accreditation Council of Continuing Medical Education, or a one-hour CEU credit by the Ohio Nurses Association (OBN-001-91), an accredited approver by the American Nurses Credentialing Center's Commission on Accreditation is awarded to lecture attendees. This education is offered at no charge to the organization.

Since implementation of the education, evaluations and feedback has been overwhelmingly positive. The next step is to monitor patient outcomes to demonstrate the education effectiveness.

Collateral Material

To reinforce the education, a binder was created to distribute to pediatric providers that included descriptions and care for all types of burns and reconstruction services. Additional information was provided about Shriners Hospitals for Children—Cincinnati's mission and vision, along with detailed information about the Shriners Hospital system, how to refer patients, and contact and telephone number information. *(Exhibit 6 and Exhibit 8)*

A burn wound treatment algorithm and a burn triage algorithm were created and laminated and left behind at provider offices, clinics, schools and hospitals for easy reference. *(Exhibit 4 and Exhibit 5)*

Cincinnati Shriners Hospital also created a user-friendly website with the same information, including an interactive option to refer patients. This information is also provided at the time of the education. *(Exhibit 7)*

Referral sheets (*Exhibit 9*) were created and distributed during physician liaison office visits to make referring patients to the Cincinnati hospital even easier for provider offices. For follow up visits, Safety Cards were created (microwave soup scalds (*Exhibit 2*) and campfire safety (*Exhibit 3*) for distribution.

Unmet Health Care Needs & Care for the Underserved

Because Shriners Hospitals for Children—Cincinnati is a specialty hospital, specializing in acute burn care, rehabilitative care and specialized pediatric plastic surgery and skin conditions, unfortunately, our facility does not have the resources to care for these immediate needs. However, the Cincinnati hospital is integrally connected with many resources in the community to refer the patients and families we see for assistance if the need is there.

Two local health partners, Cincinnati Children's Hospital Medical Center and the Health Collaborative, identified six child health priority areas, as well we as other health needs, and barriers to child health and wellness were identified. The Health Collaborative is a regional and local nonprofit that serves as a neutral forum for health care in the Greater Cincinnati region, these needs and barriers are listed below:

- 1. **Asthma** According to research published in the Journal of Pediatrics, from September 2010 through August 2011, the asthma admission rate in Hamilton County was double the national average, and in some neighborhoods the rate was 10 times the national average.
- 2. Child Mental Health and Child Trauma The Cincinnati Children's Psychiatry Department has seen a 60% rise in the number of children coming to the Emergency Department for psychiatry evaluation between 2011 and 2015, and a 70 percent rise in inpatient admissions over the same period.
- 3. Early Literacy/School Readiness.
- 4. Infant Mortality Hamilton County has one of the highest infant mortality rates across the country.
- 5. **Obesity** A total of 35.4% of all Cincinnati Children's patients in fiscal 2013-2014 were overweight or obese, and among patients who lived in Hamilton County, 36.3% were overweight or obese.

6. Child Safety and Unintentional Injury -- Nationally, unintentional injury is the leading cause of death for children under the age of 19.

Our Family Services department works closely with county and local health departments, Child Protective Services, institutions and agencies to help families find the assistance they need. An RN Care Manager coordinates needs and services for families and patients using resources in their home community. This may include outpatient physical and occupational therapy, DME providers, Health and Human Services departments, churches, schools, and the Red Cross, among many others too numerous to mention here. Table 2 lists many the resources we use.

Table 2.

| Comm | unity Resources |
|--|---|
| Hamilton County-Cincinnati Health Department | Marilyn Crumpton, M.D., M.P.H., Director of Growing Well Cincinnati, medical director for the Division of School & Adolescent Health at Cincinnati Health Department, Coordinator for Closing The Health Care Gap, and medical consultant for Cincinnati Public Schools (CPS). |
| Lakota Local Schools School Nurses | Carolyn Adee, R.N., Health Coordinator at Lakota Local Schools |
| Family & Children First | Sandy Smoot, Coordinator, Warren County Family & Children First Council |
| Northern Kentucky Health Department | Gerry Tolbert, M.D., Medical Director |
| First Steps | Kathy Rudnick, Director, Northern Kentucky Region |
| Cincinnati Children's Hospital Medical Center (CCHMC) | Full service pediatric, academic, research hospital. Medical & psychosocial needs, including Child Protective Services. |

Acknowledgements

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National Fire Protection Association. Reports and Statistics. "Demographics and Fire Victim Patterns." 2010.

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United States Fire Administration/Federal Emergency Management Agency. "The Rural Fire Problem in the United States." August 1997.

County Health Rankings, www.countyhealthrankings.org, retrieved 2/11/2016.

Census Statistics. quickfacts.census.gov/qfd/states/00000.html, retrieved 2/11/2016.

Fire Station Maps,

https://www.google.com/maps/d/viewer?msa=0&ie=UTF&mid=19kUC0ezLGMdeoJHLnuBfYKIVNzA. Retrieved 4/27/2016.

Primary Care Physician Statistics, www.grahamcenter.org/maps-datatools/interactive/primary-care-physician.html, retrieved 4/28/2016.

http://healthcollab.org/wp-content/uploads/2016/02/Cincinnati-CHNA-Report-2016-FINAL.pdf, retrieved 5/20/16.

Exhibit 1

Shriners Referral Card

A double-sided, fold-over business card size referral card was created to distribute to our supporting Shriners. When Shriners meet a family who may be able to use our services, he hands the family this card.

The card has telephone numbers for both the hospital's emergency burn service number and Patient Access number to schedule OPD appointments for small burns and plastic surgery appointments. There is also space where the Shriner can also write his name and Shrine Temple.

Exhibit 2

Microwave Noodle Soup Scald Safety Card

A double-sided 4" x 3" card was developed to hand out to physician practices and health clinics by the physician liaison. Ramen noodle scalds are one of the top scalds seen in our outpatient department, especially in the 12month – 4 year old age range.



Campfire Safety Card

A double-sided 4" x 3" card was developed to hand out to physician practices and health clinics by the physician liaison. We see many children who have fallen into campfires and fire pits of all ages. Some of these children require acute hospitalization and skin grafting.



Initial Burn Wound Care Handout

This 8-1/2" x 11" handout was developed to assist emergency departments and medical providers with early burn wound treatment. We see many children who received improper treatment from which arise complications and delay in healing.

This handout is used in two delivery methods:

- a. Laminated copies of this handout are delivered to physician practices and health care clinics by the physician liaison during her visits. The Director of Professional Relations also delivers the laminated version to hospital emergency departments she visits.
- b. This handout is included in the lecture folder.

INITIAL BURN WOUND CARE

Build Your Campfire with the Circle of Safety

Do not wash unless visibly dirty



Pediatric Burn Triage Handout

This 8-1/2" x 11" educational handout was developed to assist emergency departments and pre-hospital providers with early burn wound treatment. Many children with mismanaged burns come through our doors. Improper early treatment can create complications and delays in healing.

This handout is used in two delivery methods:

- a. The Director of Professional Relations delivers a laminated version to hospital emergency departments.
- b. This handout is included in the lecture folder.

| PEDIATRIC BU | JRN TRIAGE | | |
|--|--|--|--|
| *Pre/Early Hospital <5 years: 6-13 years: 14 years: | 125 ml/hr 250 ml/hr | | |
| TBSA < 10% (Total Body Surface Area) | TBSA > 10% (Total Body Surface Area) | | |
| NO fluid resuscitation needed KEEP WARM No wet dressings | KEEP WARM No wet dressings Apply dry dressings Arphy dry dressings | | |
| Cleanse wounds with soap and water Apply antibiotic ointment | | | |
| Secure with gauze NO oral antibiotics indicated | Insert IV PARKLAND FORMULA: 4ml x % burn x kg | | |
| | 1/2 of total over first 8 hours (NO bolus therapy) | | |
| Notify IRINERS HOSPITALS FOR CHILDREN schedule an Outpatient Appointment | Maintain urine output 0.5-1 ml/kg/hr (if < 0.5ml/kg/hr, increase total | | |
| 866-947-7840 | fluid amount by 1/3#) (NO bolus therapy) | | |
| | | | |
| | Transfer to SHRINERS HOSPITALS FOR CHILDREN | | |
| | 866-947-7840 | | |

Acute Burn-Emergency Services

Also laminated and delivered to hospital emergency departments, this handout was created specifically for emergency departments to post in their area. It keeps Shriners Hospitals for Children—Cincinnati top of mind, with the emergency telephone number listed. A plain version without lamination is included in the education folder.



If you know a child we can help, call or go to: shrinershospitalcincinnati.org Burn & Emergency Services 866-947-7840

Burns Plastic Surgery

Cleft Lip & Palate

Reconstructive Surgery Complex Wounds & Skin Conditions

ces Provided Regardless of a Family's Ability to Pay

Plastic Surgery Services 855-206-2096

Exhibit 7

Cincinnati Hospital Website

The Cincinnati Hospital Website handout is included in the educational folder.

Pediatric Specialty Care

The Pediatric Specialty Care handout describes patient eligibility and the lack of a financial burden for patients of Shriners Hospitals for Children-Cincinnati.

Exhibit 9

The Referral Pad was created to make it easier for pediatric providers refer patients to Shriners Hospitals for Children—Cincinnati. Fields for the child and family's name and address, the referring provider's information and the child's condition are provided. Several options for hospital referral are provided on the page:

- The referral sheet can be faxed to the hospital's Patient Access Department.
- A phone number is provided to call the hospital with the referral information.
- Information about how to use the referral option on the hospital's website.

