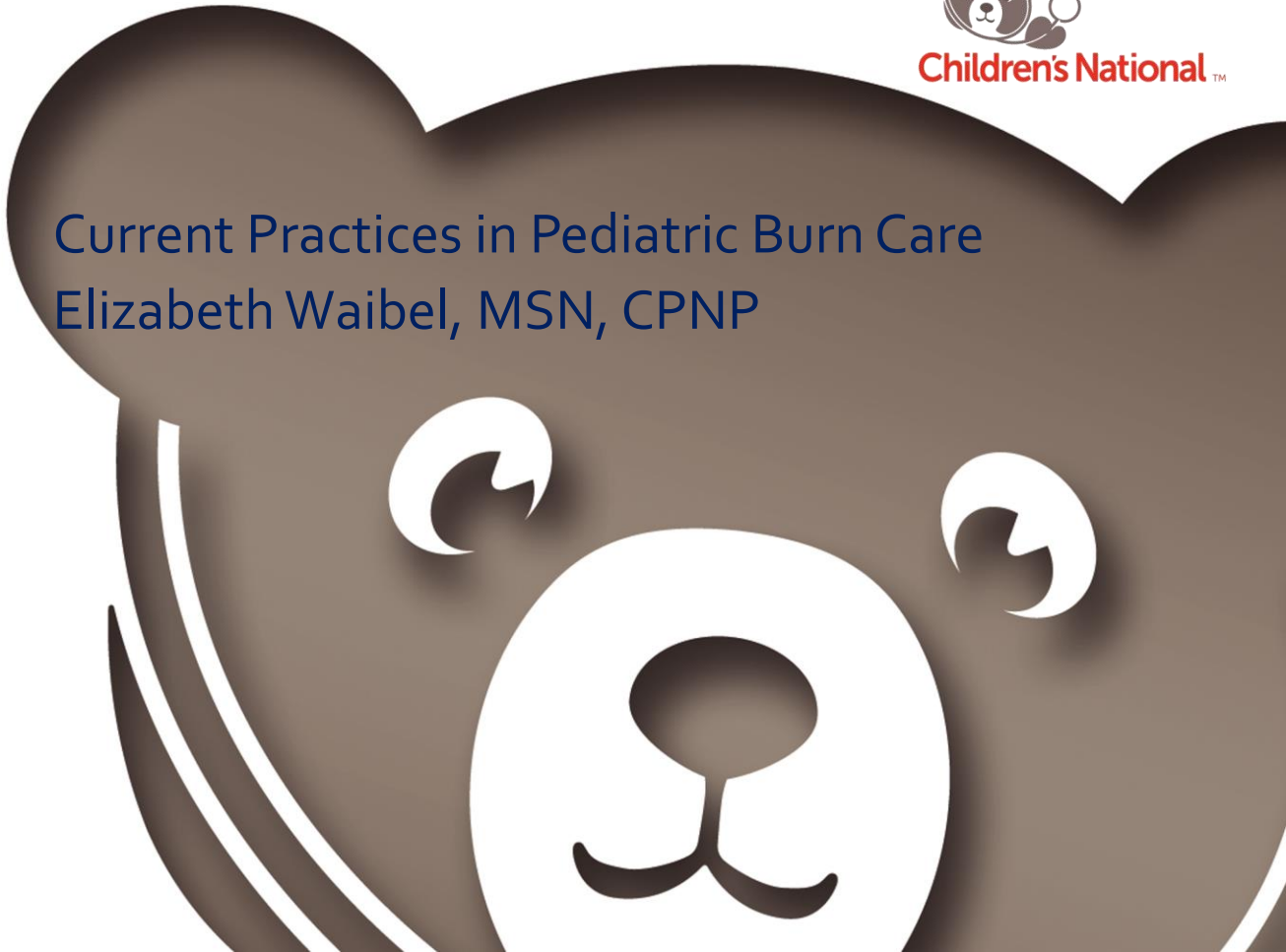
Current Practices in Pediatric Burn Care

Elizabeth Waibel, MSN, CPNP



Disclosure/s

All the planners and presenters for today's CE activity declare they do not have a financial interest/arrangement or affiliation with one or more organizations that could be perceived as a real or apparent conflict of interest in the context of the subject of this activity.

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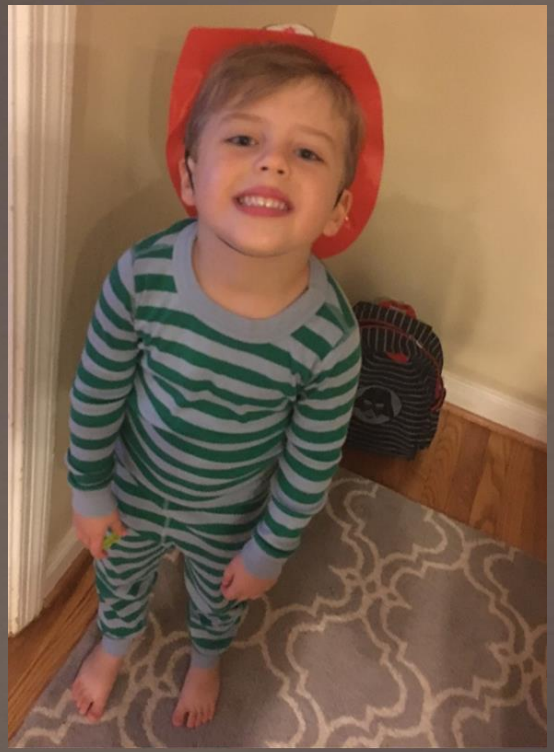
Burns by the numbers



Over 250,000 children are treated for burn injuries annually

300 treated daily in EDs

CNMC:

2014: 2000 burn visits
2015: 1881 burn visits
2016: 1992 burn visits
2017: **2005** burn visits

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Areas of Service for Burn Care

Initial Burn Visits FY18

Washington DC 217

Maryland 386

Virginia/West VA/other.....289

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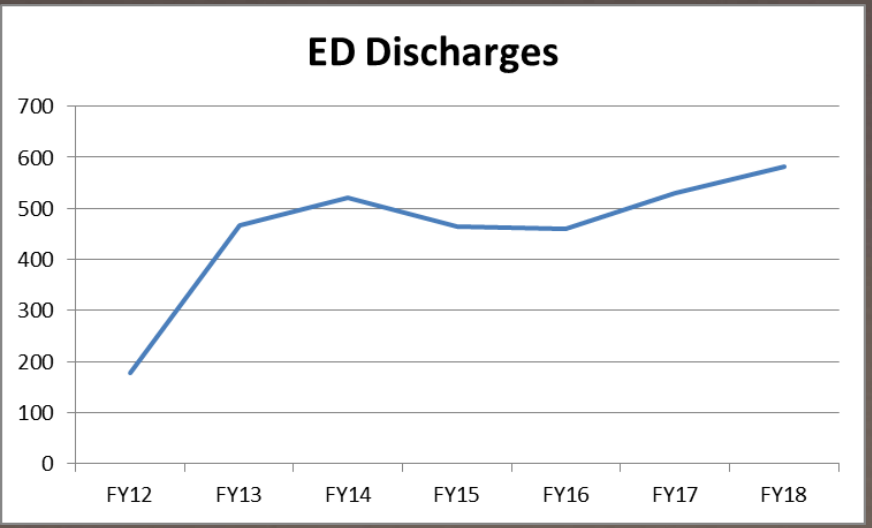
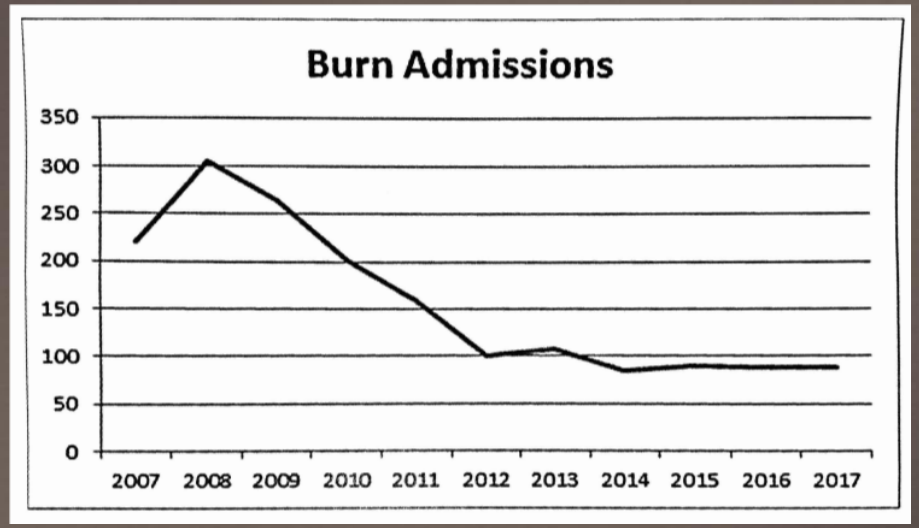
ED Discharges





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Key Components of Burn Assessment

Mechanism of Injury

Intensity & duration

Time from Injury

Location of Injury

(TBSA)

Depth Assessment

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Mechanism of Injury

Thermal Burns

Chemical

Electrical Burns

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What hot liquid is associated with the deepest scald burn?

Contact Burns

Second most common cause of pediatric burns

32%

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Flame Burns

Associated with teenagers/older patients

Invincibility
Playing with matches
Grills/campfires

Associated with more burn deaths due to smoke inhalation
Tip: inhalation injury only occurs in enclosed spaces

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Chemical Burns

Neutralizing agents are CONTRAINDICATED

Flush with copious amount of water

Call poison control

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Electric Burns: Low Voltage Injuries

Healthy Children exposed to common household currents (≤240 V):

- Do **NOT** need an ECG
- Do **NOT** need CPK or Urine Myoglobin
- Very low risk for developing cardiac arrhythmias
- Discharge to home from the ED
- Treat cutaneous injury, f/u only as needed

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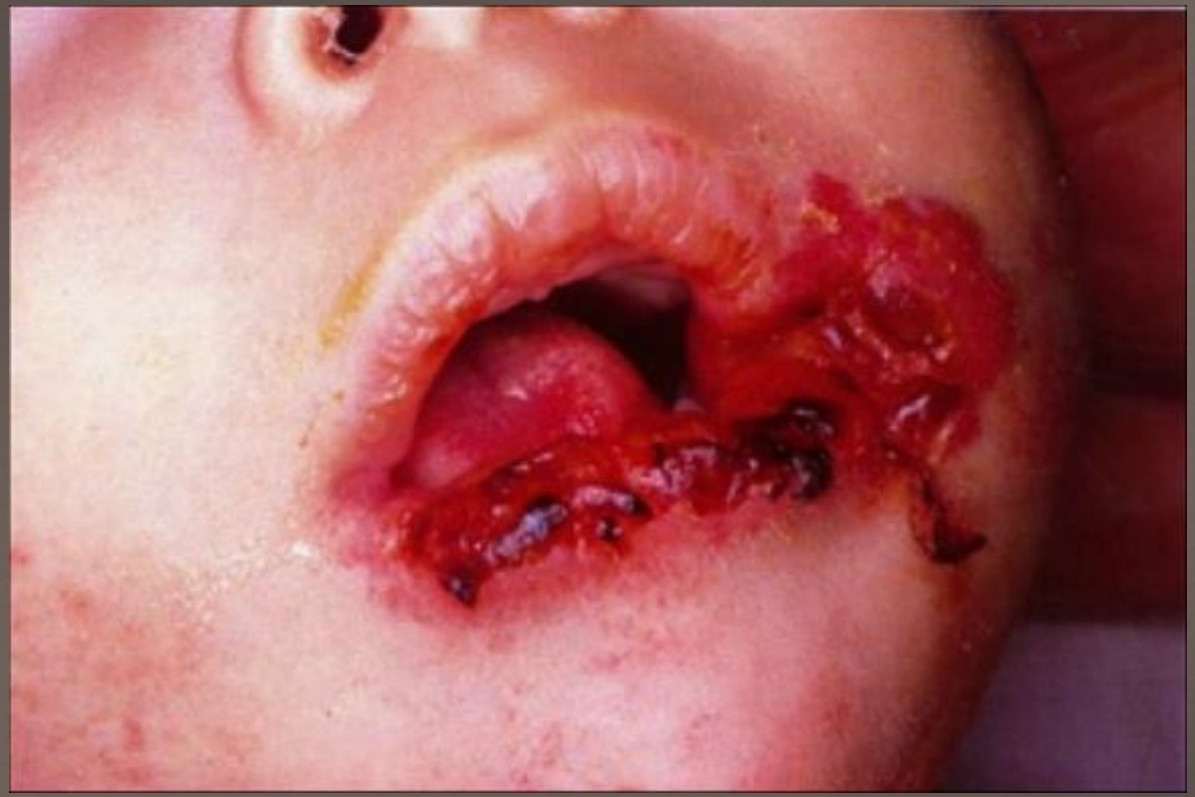

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Electric Burns

- Updated algorithm

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What not to put on a burn…

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Intensity and Duration

How hot was the source?

- Fresh tea or had it been sitting for awhile
- Was the iron on? or off? cooling when touched?

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Time from Injury

When did the incident occur?

Important for:

- Fluid resuscitation
- Identifying burn progression
- Identifying whether care was sought appropriately

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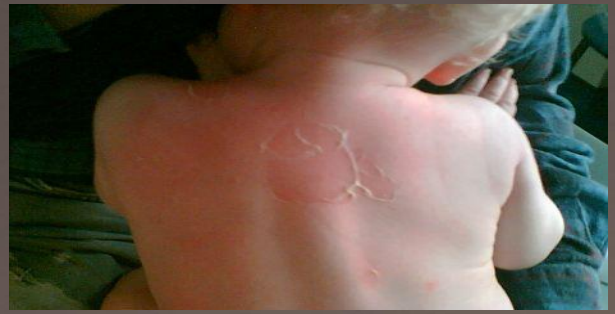
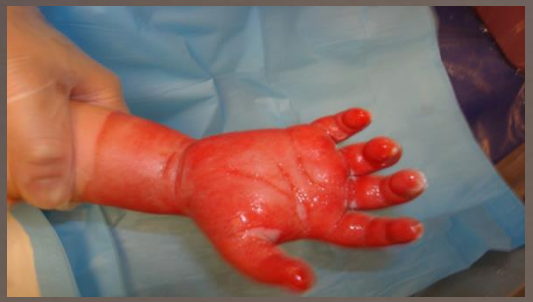
Location of the Injury





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Estimating Burn Size:
Palm Method

Palm of patient = 1% TBSA

Quick and Easy to Use

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New Tool for Assessment

NSW Trauma

smart phone app

(Free download)

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Importance of Estimating Burn Size

>25% leads to a Trauma Activation

>40% leads to Burn Attending Presence in Trauma Bay

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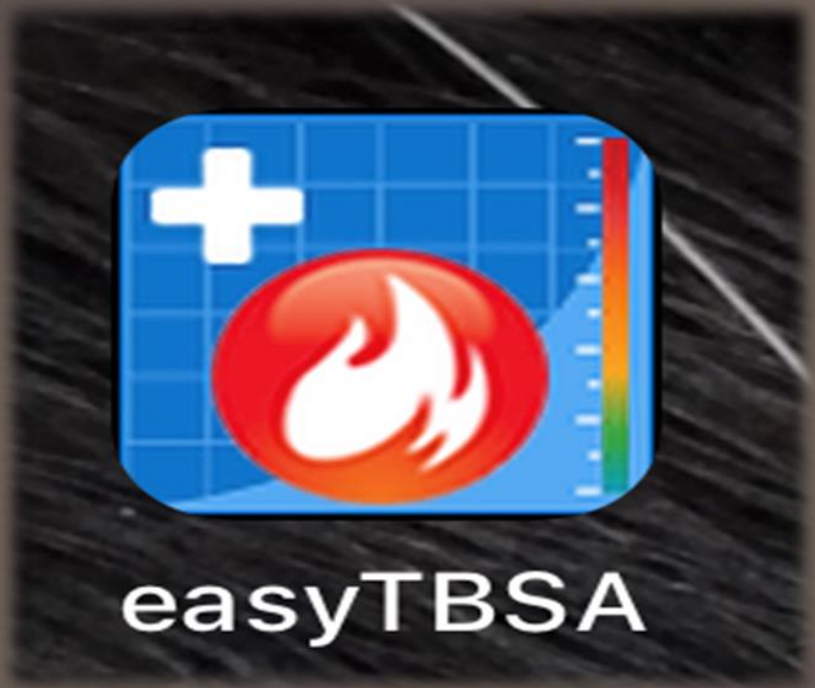
Coming Soon….



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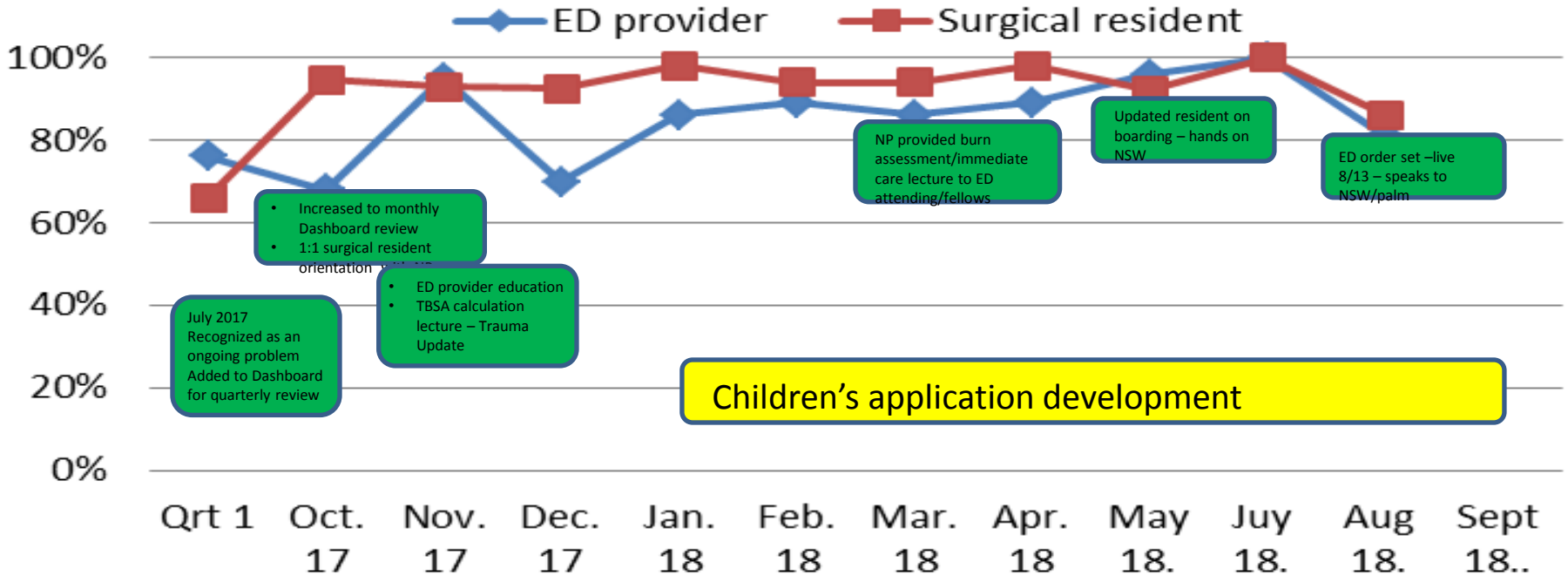
TBSA Agreement



TBSA agreement among ED providers improved from 74% to 92%.

TBSA agreement among surgical residents improved from 65% to 94%

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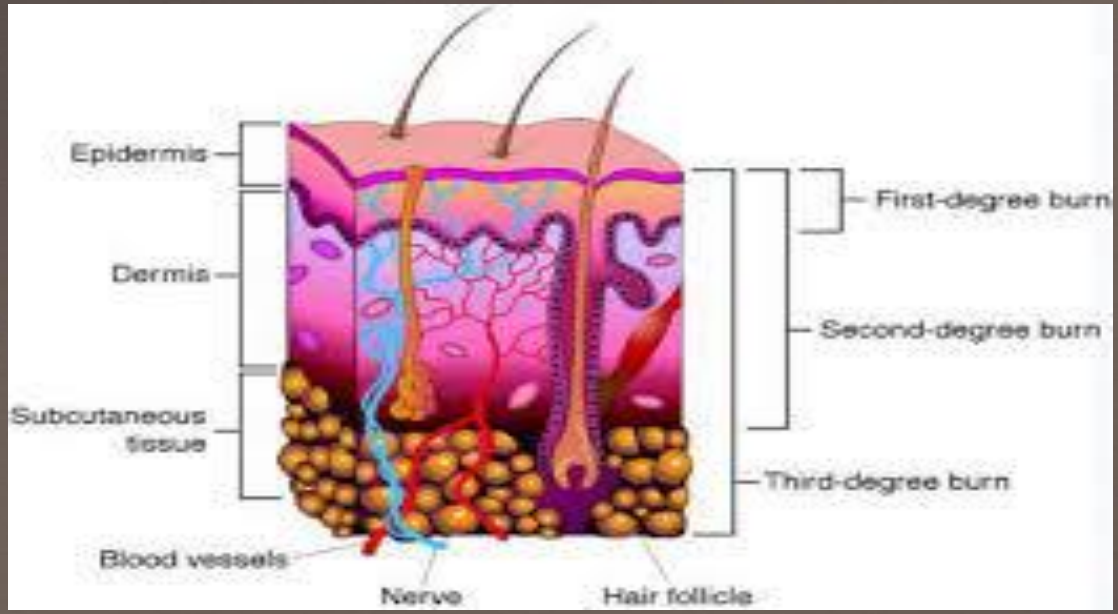
Burn Classification



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Superficial Burn

Erythema and Blanching

Painful

Heal spontaneously within 1 week

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Superficial Partial Thickness

Pink

Blanching

Moist, blisters present

Intense pain

Heal within 1-3 weeks

Minimal scarring, hypopigmentation

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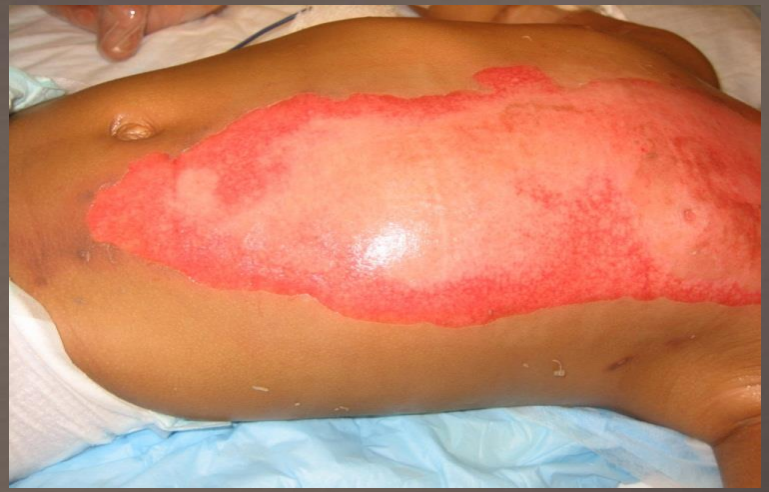
Deep Partial Thickness

Red, can be pale/yellow

Less painful

Heals in 3-6 weeks +

Will have residual scarring and hypopigmentation



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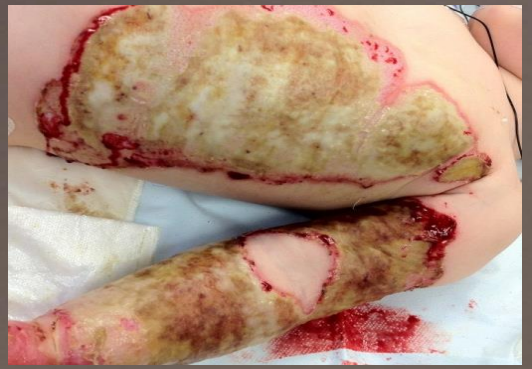
Full Thickness

No blanching

Ivory, brown, black (dry eschar)

Minimal to no pain

May require skin grafting



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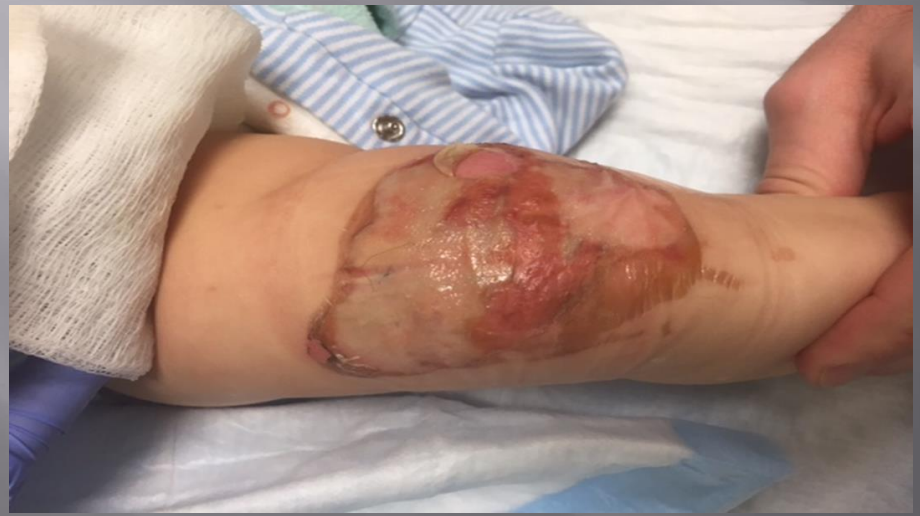
What to do?



New Guidelines for ED burn management

Partial Thickness burns <5% managed in ED unless burn is involving:

Airway/eyes
Genitalia
Palmar crease of the hand
Sole of the foot

-OR-
Concern for NAT
Is caused by a treadmill

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Minor-Moderate Burns

- Ensure adequate analgesia (pre-procedure and for home/follow up appts)
- Debride with gauze/wound cleanser
- Dress (mepilex), kerlix, tubifast
- Follow up:

-Parent to call **(202) 476-2150** within 24 hours of d/c from ED for a burn clinic appointment.

Please also email npsurgery@childrensnational.org

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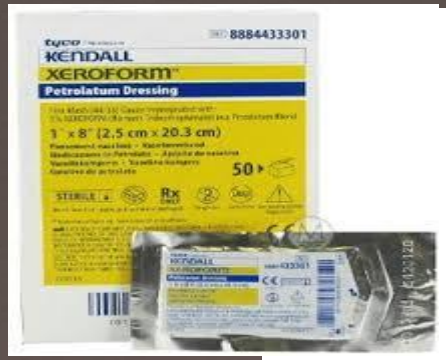
Burn Dressings



Moderate/Major (>5-10%)

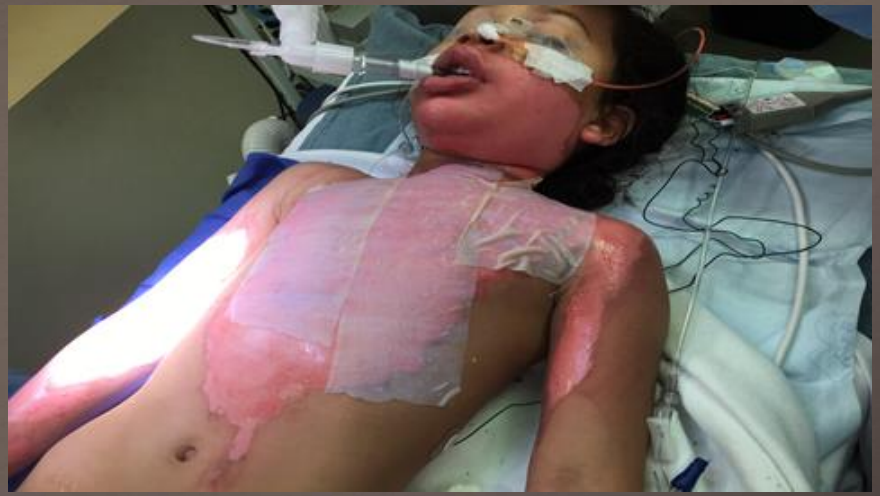
Large burns (> 10 %)*:*

Petroleum or dry dressing **no wet dressings

Pain medication, do not debride

EZ Derm (porcine xenograft)

- Provides wound coverage
- Minimizes painful dressing changes
- Decreased hospital LOS



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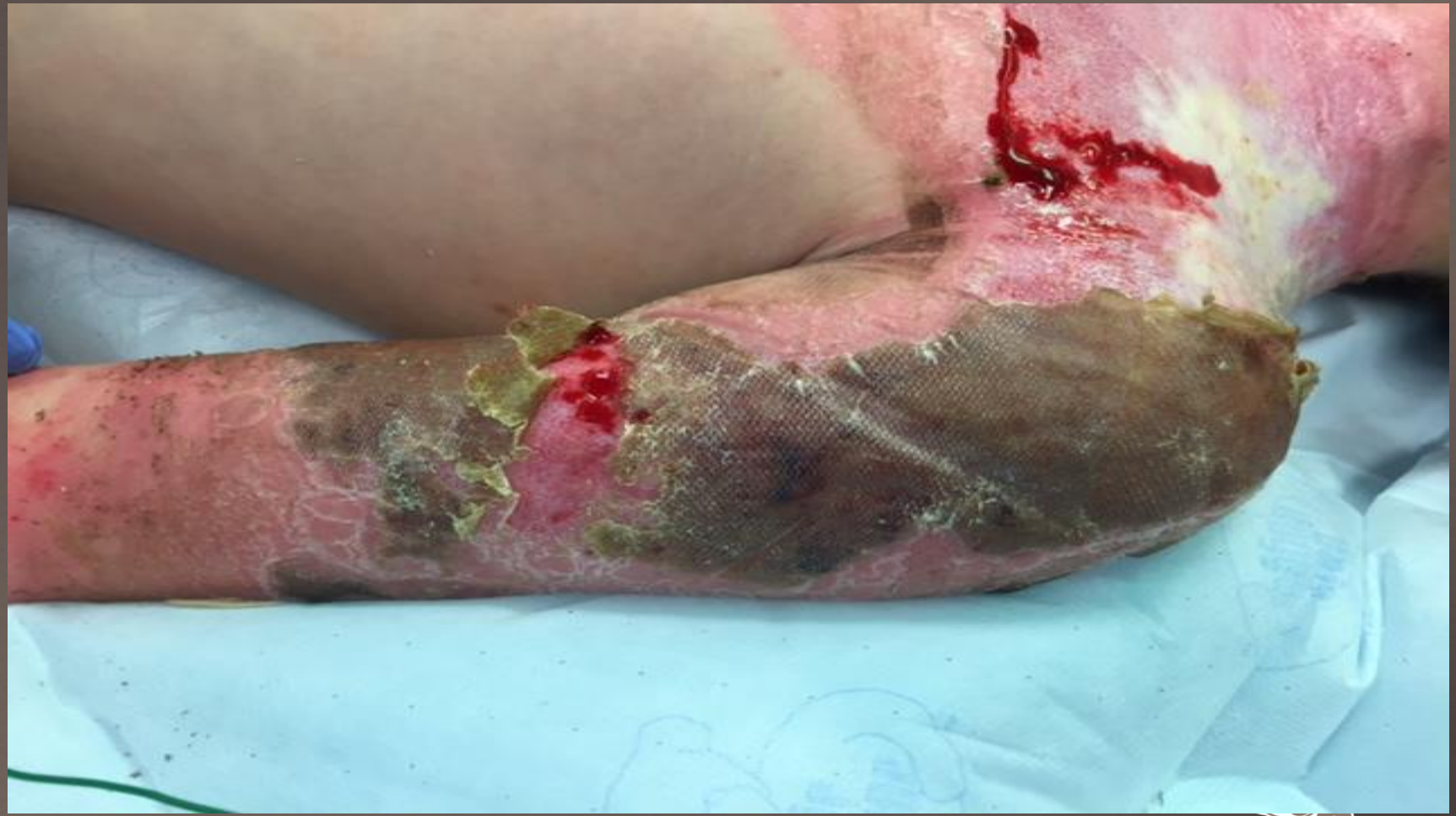
Allyn



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Fluid Resuscitation

Burns less than 15% TBSA

- Maintenance IV Fluid

Burns greater than 15% TBSA

- 1.5x Maintenance IVF
- Then Parkland Formula in ICU only.
- Goal: ED to PICU <1 hour

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Pain Control-Initial Debridement

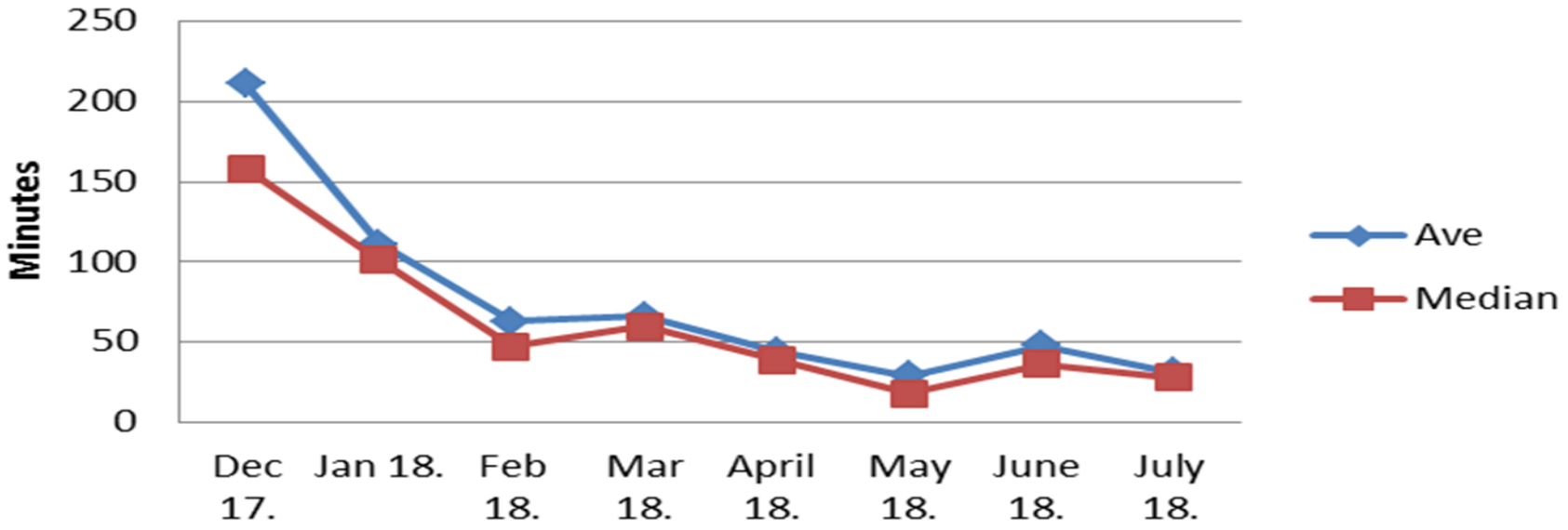
Minor/Moderate Burns:

- IN Fentanyl
- Morphine IV
- Ketamine
- Anesthesia

Major Burns >15% TBSA:

- Debridement in PICU/OR

Door to Initial Pain Med
Pain Score 2-10



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Special Cases: Treadmill Injuries

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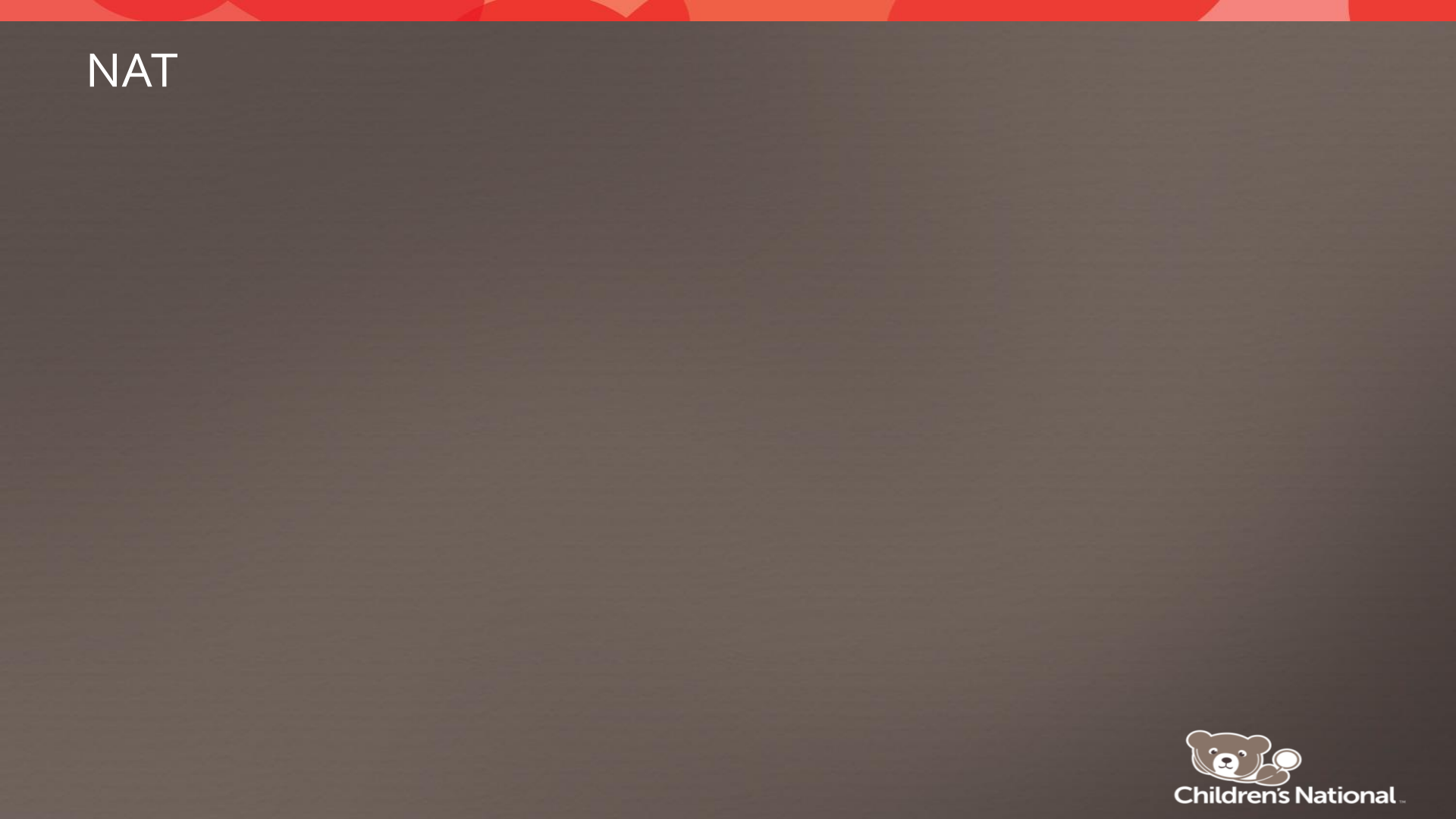
NAT



Burn Center Referral

TBSA burned >10%

Full thickness injury

Hands, feet, genitalia, perineum involved

Suspicion of inflicted injury

Circumferential injury

Other comorbid diseases

Social concerns

Electrical injury

Inhalation

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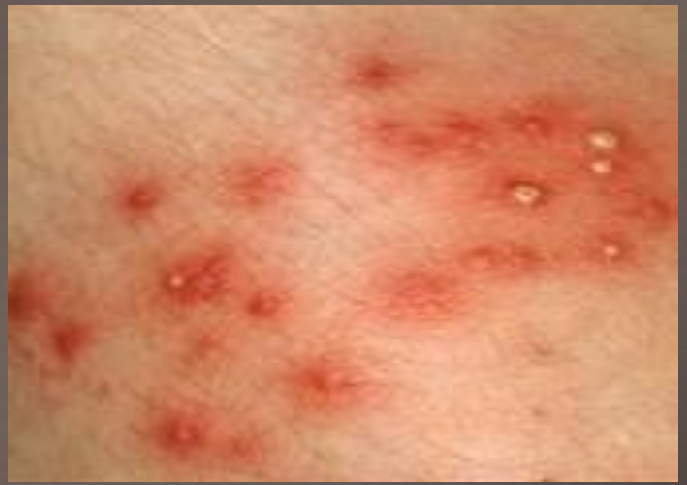
Complications following burn injury

- Fever
- Immunosuppression
- Infection (rare)
- Staph/HSV rash
- Dehydration
- Wound conversion
- Feed intolerance-STOP feeds



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Services Provided at CNMC

Experience

CNMC has over 2500 burn patient visits/year

A dedicated team and growing team of burn care experts

Burn Surgeons, Plastic Surgeons, Intensivists, Trauma/Burn NPs, Forensic Pediatricians, Occupational/Physical Therapists, Nutritionists Child Life, Social Work, Case Management, and burn RNs

Access to long acting
wound care

Rehabilitation services

Scar management techniques
-steroid therapy
-laser treatments

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Burn OR 14

Dedicated OR time every weekday morning for IP/OP procedures

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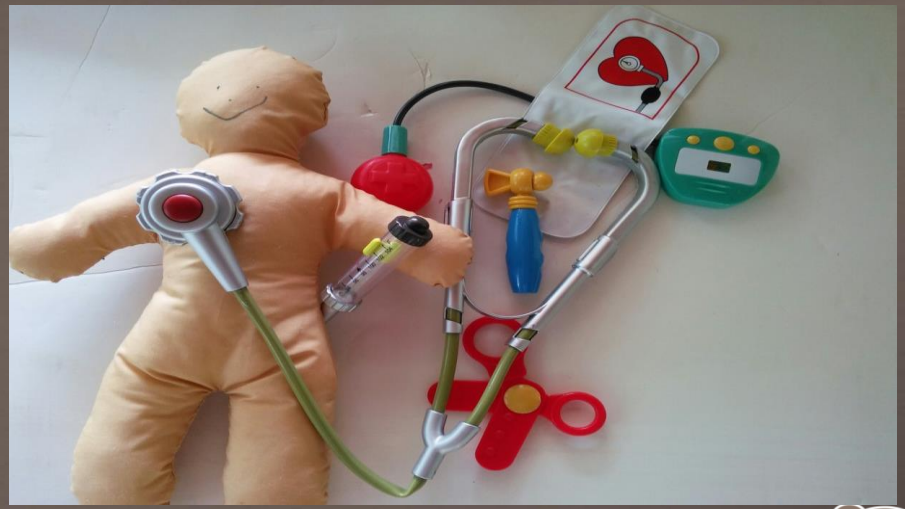
Outpatient clinic support

- Dedicated burn psychologist
- Child life presence all clinics
- PT
- OT
- Scar clinic
- Compression



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Sun shirt initiative

Protective clothing! Ultraviolet Protection (UPF) 30-50+.
Blocks 96-98% of the sun's harmful rays.

*look for us next year! Buy a shirt and help support a burn patient!

November 2, 2017

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In Summary

PRIORITIES IN CARE

- Assessment of TBSA/depth
- Pain Control
- Wound Coverage
- Follow up
- Minor burns: debride and refer
- Mod-major or special considerations:admit

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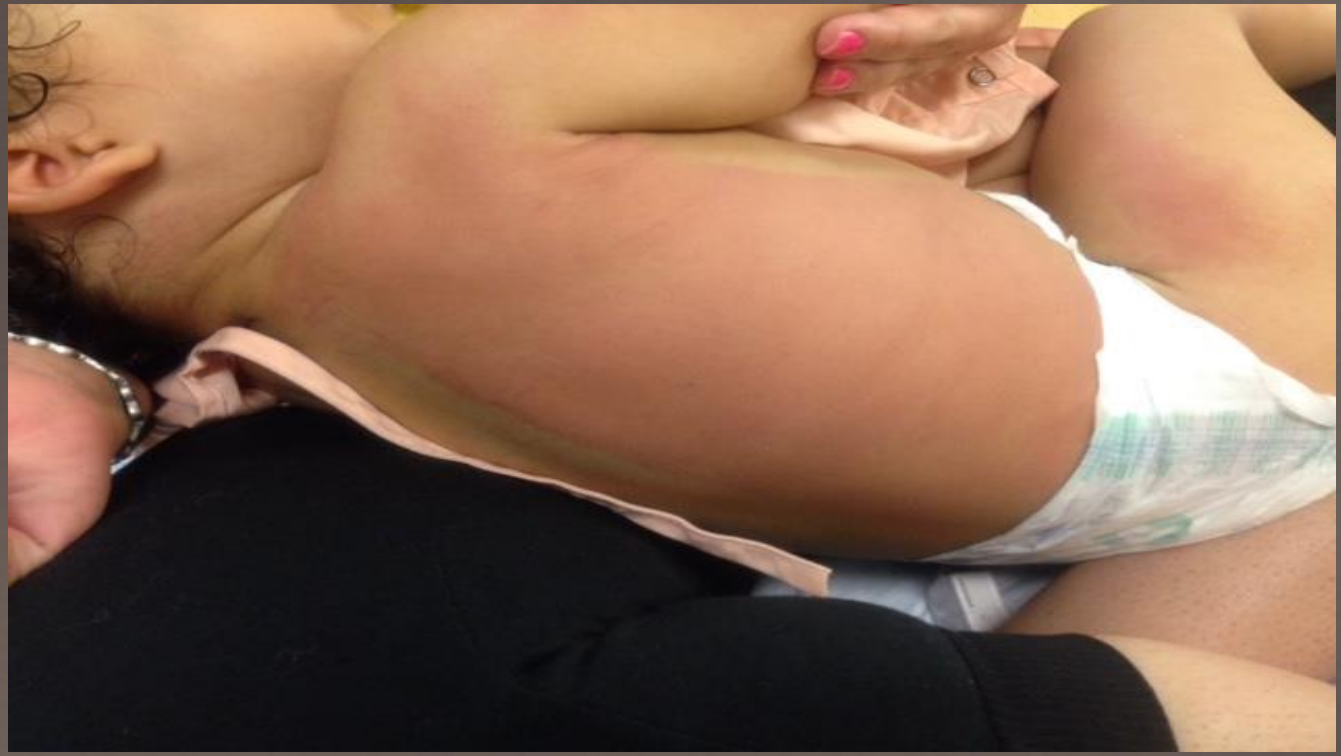

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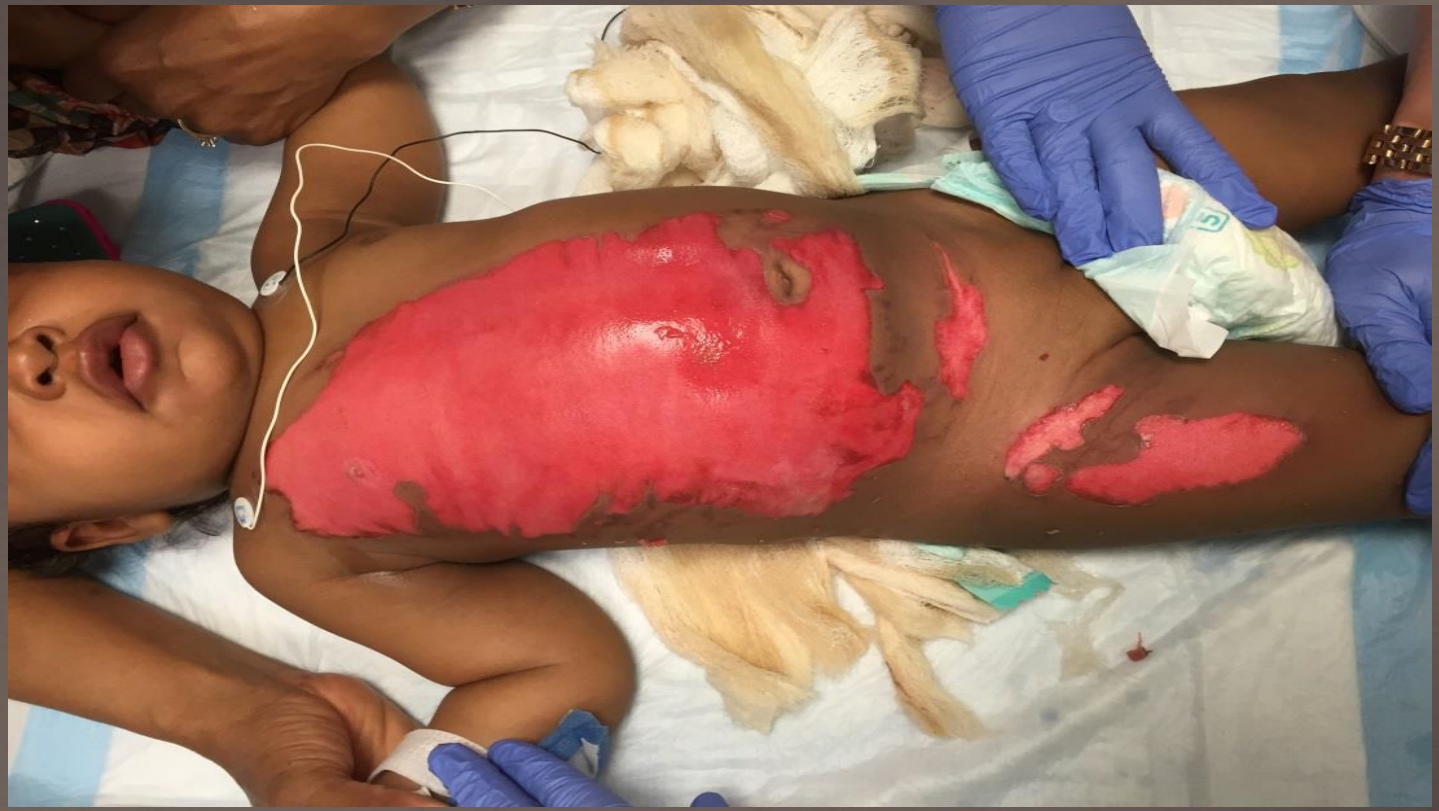

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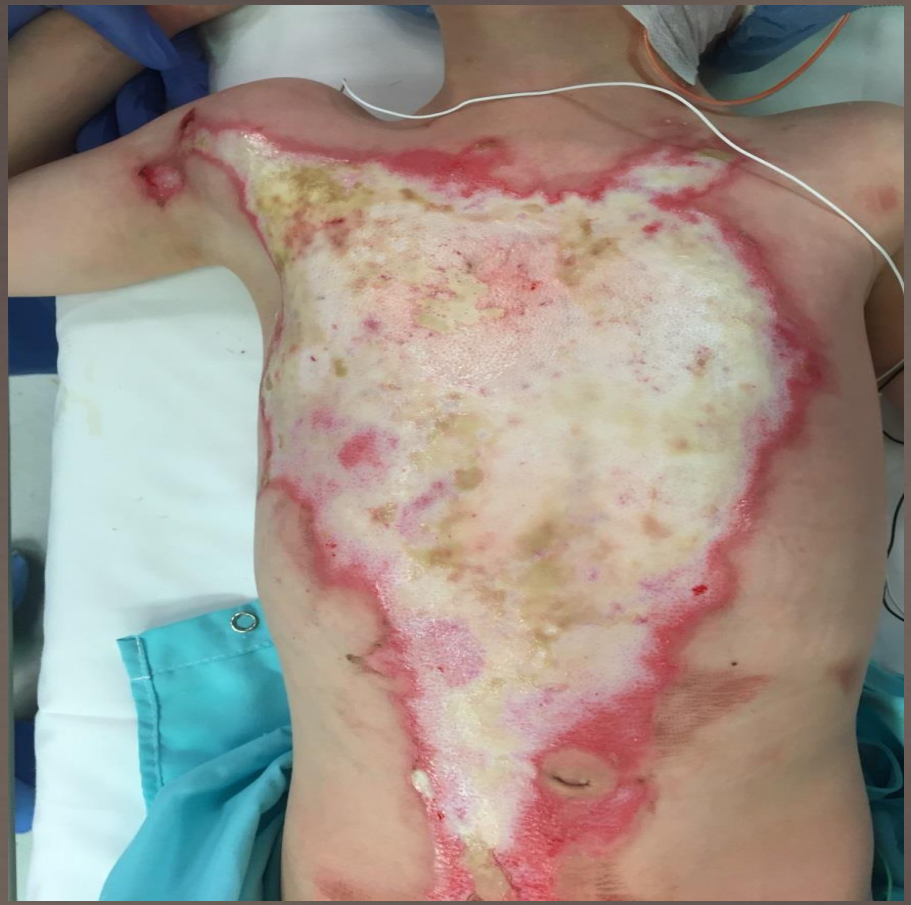

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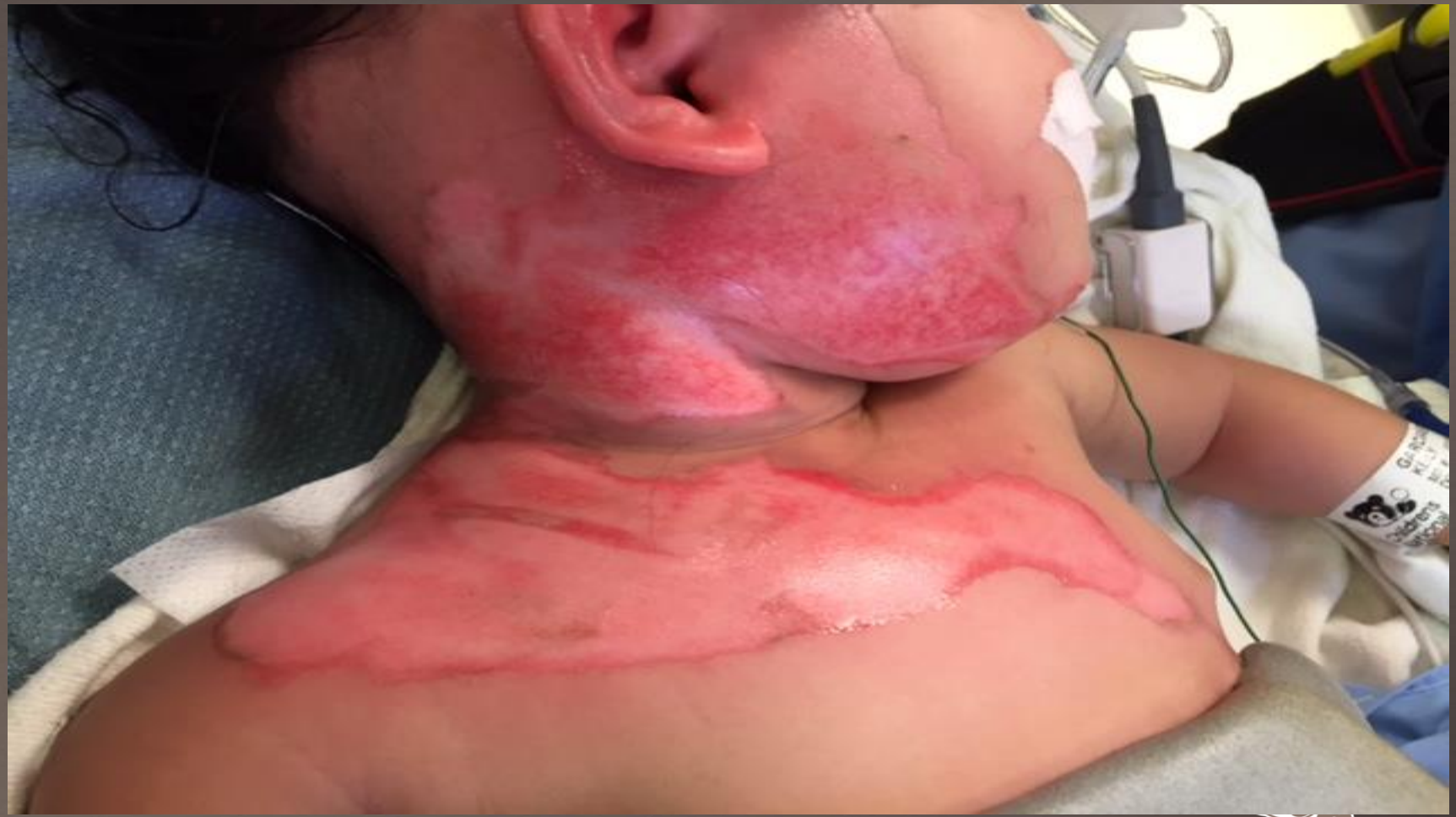

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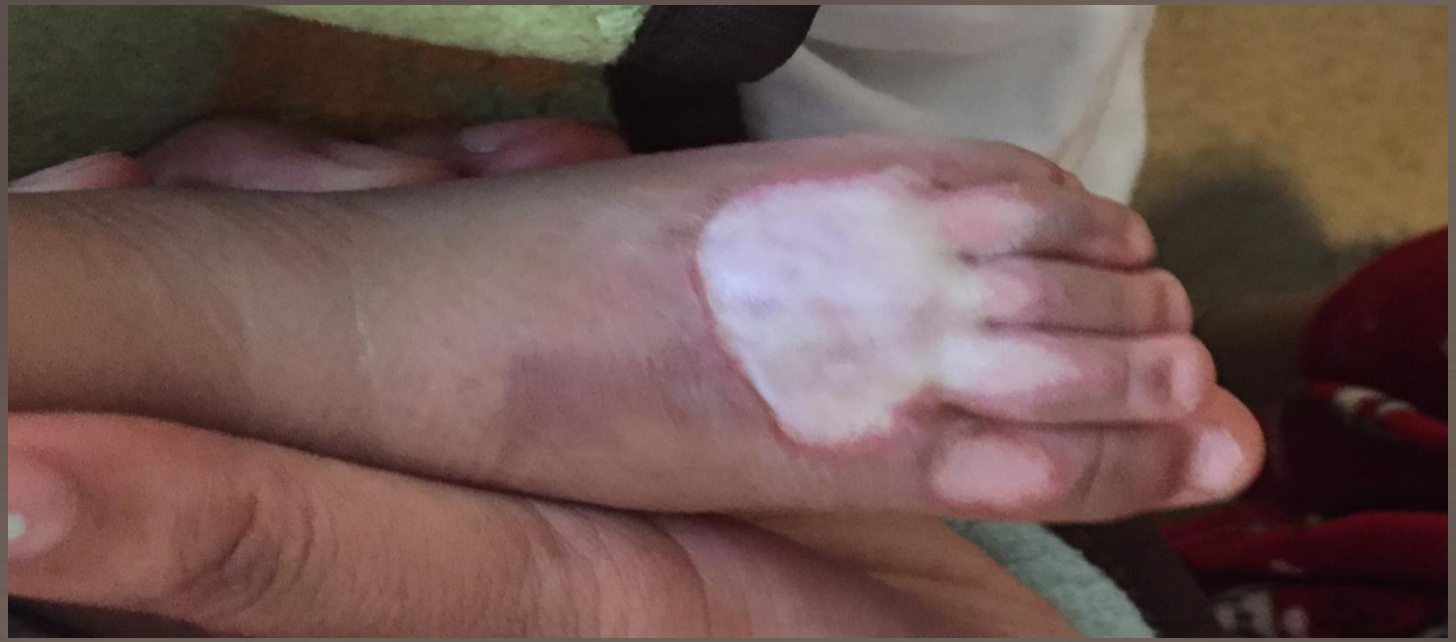

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