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Learning Objectives




1. Discuss barriers to reducing scald burns comparatively to flame/thermal burns in the pediatric population
2. Articulate the differences in water heating mechanisms with a microwave versus a stove top or a kettle
3. Identify effective, successful community health initiatives to reduce scald burns

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WD1 **Background: OU Health's Oklahoma Children's Hospital** 

- **Only** Level 1 Pediatric Trauma **MC2** hospital in the State of Oklahoma
- PICU: 34 beds with the highest level of acuity
- Level IV NICU: 109 beds of the highest level of neonatal care
- Designated as a Gold Level ELSO Center of Excellence for ECMO
- Full complement of pediatric transplant services: Heart, Lungs, Kidneys, Liver, Pancreas, and Bone Marrow

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Background: OU Health's Oklahoma Children's Hospital Burn Statistics 


228 burns were treated at Oklahoma Children's Hospital between 2015 – 2020.

38% (n= 86) of these were burns from ramen noodles

All of the ramen burns are **partial thickness or deep partial thickness burns, and require a burn center level of care**

How does this compare to burns in your geographic location, especially in hospitals, urgent care facilities, and pediatric medical clinics?

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Background: Scald Burns vs Flame/Thermal Burns at Oklahoma Children's Hospital  **CM1**

The number of scald burns and flame burns has decreased over time.

Thermal burns were **52%** of our total in 2020; **32%** in 2025

Scald burns were **40%** of our total in 2020; **25%** in 2025

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Slide 4

WD1 We are not the only Level 1 now, but we are the only Level 1 peds hospital. Also, none of the data from Edmond or any of the other ambulatory centers was involved in the data collection. I would like to do an explanation of the scope of care provided by OCH? # of beds, # of PICU/NICU beds, level of NICU, transplant, open heart, ECMO, etc. This really shows how pivotal our hospital is.

Wilson-Lowber, Denni (OUH), 2026-01-26T13:43:22.893

MC1 0 Ok! I was including the other hospitals to show breadth, but agree that if they don't count toward numbers, they should not be included. I am waiting to hear from Cherry on official number of beds. I put in the other info :)

Marion, Caitlin (OUH), 2026-01-27T02:48:03.997

WD1 1 Yesssssss!!!!

Wilson-Lowber, Denni (OUH), 2026-01-27T14:58:18.111

MC2 [@Montano, Cherrylene (OUH)] how many licensed pediatric beds do we have?

Marion, Caitlin (OUH), 2026-02-01T03:20:34.304

MC2 0 [@Montano, Cherrylene (OUH)] can you share how many peds beds we have?

Marion, Caitlin (OUH), 2026-02-09T15:35:39.567

Slide 6

CM1 Poll the audience

Story telling/Case Study of an example comparing flame burns vs scald burns?

Marion, Caitlin (OUH), 2026-01-24T03:29:33.574

WD1 0 I guess I could talk about how few flame burns present because advances in safety devices (fire alarms, smoke alarms, carbon monoxide alarms, fire retardant clothing standards) has made it easier to respond before the burns happen. With scalds, the science/affordable interventions just aren't there. ie: floating toys that are temperature guides, but they lack standardization in temp guidance so they can underreport hot temps, or the temperature color-changing items that have no way of measuring accuracy of temp reporting, so parents rely on false showing of colors. Or, we can control our water heater temps, if we *own* our house, but folks who rent can not (especially in apartments or multi-family housing)

Wilson-Lowber, Denni (OUH), 2026-01-26T13:30:30.514

MC1 1 Yes - all are good points! I think that calling out some of the sweeping changes, like lots of families having fire blankets in kitchens, has impacted flame burns.

To maintain audience engagement congruent with our planning table, I recommend polling the audience/brief audience discussion and/or incorporating a brief story that could demonstrate this

Marion, Caitlin (OUH), 2026-01-27T02:44:33.961

WD1 2 I can do that. It is the routine use of smoke/fire/co2 detectors that has made the biggest impact. I could talk about the trends in burns, showing the decrease in fire/flame, and ask them "how many of you have smoke detectors in your house?" then go to "how many consistently use a thermometer to check the temperature of hot tap water?" How many consistently use a thermometer to check the temperature of water-based foods cooked in the microwave?"

I will have to think about how to put that in slide format.

Slide 6 (Continued)

Wilson-Lowber, Denni (OUH), 2026-01-27T15:02:11.467

If fire/flame burns are down,



what is behind this downward trend in our data?

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Background: Scald Burns vs Flame Burns at Oklahoma Children's



- Increased safety requirements in clothing, furniture, smoke and carbon monoxide detectors, increased knowledge of accelerant safety and quicker methods of mitigation if exposed, increased motor vehicle safety
- Public education and awareness on television, social media, health fairs, schools, and in churches

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If all the numbers were improving, why are there so many ramen burns?



There is still a giant disconnect between children, parents, and the use of microwaves to make water-based foods

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Methods of Boiling Water



Stove

Stove transfers heat from the burner to a pot via conduction.

- Heat transferred from the pot to the bottom layer of water
- Convection occurs when the hotter water rises from the bottom and cooler water descends, evenly distributing heat
- Bubbles form when water reaches the boiling point - 212°

Microwave

Microwave emits electromagnetic waves that excite water molecules. Unlike heating on the stove, there is no hot surface for bubbles to form on

- This process heats water unevenly and can lead to "superheating"
- Water exceeds 212°, but does not have bubbles
- If water is heated until bubbles appear, it is **well past the boiling point**

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Ramen Noodles



38% of partial and full-thickness scald burns occurred from children making ramen noodles in the microwave.

- Microwaves are usually positioned above the child's head, positioning their face, chest, abdomen, and legs in the direct path of spills
- Ramen noodles were typically heated for 3 - 5 minutes, but some kids reported heating water for >8 minutes
- **Everyone** loves ramen noodles! (Chicken especially) There are minimal differences in socioeconomic status and ramen noodle burns-they are not an exclusive food scarcity product. (Thanks to Kpop Demon Hunters, they are even more popular now!)
- Younger children (ages 1-3) pull hot noodles off tables or counters
- Kids would cook the noodles, then walk around with them or sit with them on a non-stable surface (soft couch, rocking recliner, bed) and spill them

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Critical Access to Care



Most ramen noodle burns impact 7% - 15% of the Total Body Surface Area (TBSA) in partial thickness to full thickness burns

- They require critical collaboration with multiple disciplines
 - Wound care, surgery, PT/OT, rehabilitation
- >33% of Oklahoma residents live in rural or critical access areas requiring significant travel time to access healthcare

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Curiosity led to a Plan



1. We couldn't believe the chart reviews
2. Then finally identified the Ramen Connection

Plan: #TRAUMEN

Targeted education for two population groups:

1. Young Children 12 months – 3 years
2. Children 7 – 14 years old

We needed a simple message for a simple product

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Messaging



10,000 burns happen every year to kids because they make ramen noodles in the microwave by themselves.

After just two minutes in the microwave, these noodles are over 200 degrees, and can cause severe burns in less than 3 seconds.

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After just two minutes in the microwave, these noodles are over 200 degrees, and can cause severe burns in less than 3 seconds.

Don't learn safety by accident!



Oklahoma's Children's Hospital

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Oklahoma's Children's Hospital

Cada año, 10,000 niños sufren quemaduras por preparar ellos mismos los fideos ramen en el microondas.

Después de solo dos minutos en el microondas, estos fideos están a más de 200 grados de temperatura, y pueden causar quemaduras graves en menos de 3 segundos.

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No aprendas seguridad por accidente!



Oklahoma's Children's Hospital

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Oklahoma's Children's Hospital

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Aimed to Spread Message to all 77 Counties in Oklahoma

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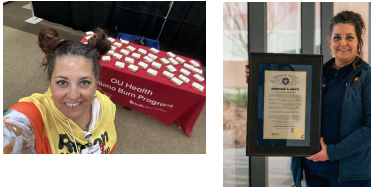
Engaging the Audience

- Every child and parent we talk to engages, responds, and asks questions
- Many children show us their previous scars from ramen, or share stories of how they forgot to add the water and caused a fire in the microwave
- Most adults have no idea how microwaves cook, or how hot water-based foods get
- Most adults say that "my kids aren't old enough to use a stove, so I let them use a microwave"
- Many people leave our booth to find other family members and friends and bring them over to hear our message
- Over 36,000 ramen noodles distributed in Oklahoma

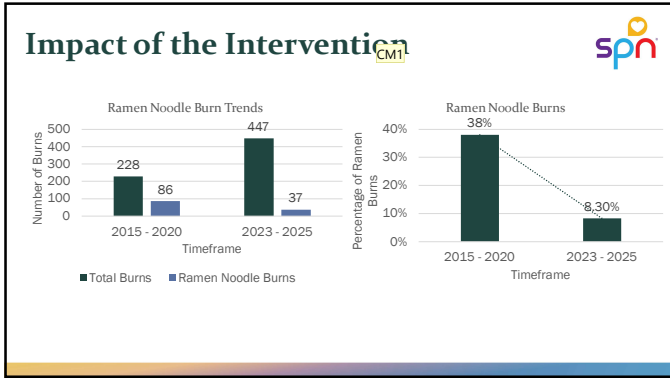
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Effective Delivery Techniques

- Local TV stations
- Radio interviews
- Social Media
- Ramen Apparel
- Safe Kids Oklahoma
- Oklahoma Fire Department
- Oklahoma Department of Health
- House and Senate Representation
- Oklahoma Firefighters Burn Camp



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Tips and Takeaways

- Story telling through data
- Reducing significant burn injuries is achievable through a simple and engaging program
- Word of mouth attracts new community agencies to participate
- Novelty of program has increased our overall community engagement
- Consumer Product Safety Commission is using our program to pattern microwave safety messaging for children and has designated us to lead this initiative

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Consumer Product Safety Commission

- Able to verify all of our data, and actually suggested that that number of reported burns is probably significantly higher than originally reported due to lack of standard burn reporting guidelines of non American Burn Association Burn Centers
- Scald burns consistently make up the larger portion of pediatric burn injuries
- Newly created Task Force would address children using microwaves with water-based foods

Do you want to help change the narrative?

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Slide 19

- CM1** [@Wilson-Lowber, Denni (OUH)] do you know why we have seen a significant increase in burns from 2023 - 2025 compared to 2015 - 2020? I wonder if Meditech limited us?
Marion, Caitlin (OUH), 2026-01-24T03:22:53.529
- WD1 0** ~~100~~ I feel is due to documentation. However, the overwhelming decrease in burns via microwaves is absolutely impacted by education.
Wilson-Lowber, Denni (OUH), 2026-01-24T03:26:45.515
- MC1 1** Agreed! Just wanted to call this out since everyone will ask us why so many more burns were reported overall in the 2023 timeframe
Marion, Caitlin (OUH), 2026-01-27T02:45:48.244
- CM2** Not sure if we should have both graphs or just one?
Marion, Caitlin (OUH), 2026-01-24T03:23:10.580
- WD2 0** The sample size difference in total burns is poignant. We identified at the Consumer Product Safety Commission that burns are grossly underreported because they don't fall in "trauma" reporting guidelines, like TQIP unless they are fire/flame. If a child is taken to urgent care, or their pediatrician, for example, those numbers aren't recorded at all. It is the opinion of the CPSC and the other agencies involved in this deep dive initiative that there are many more pediatric scald burns treated annually than are reported.
Wilson-Lowber, Denni (OUH), 2026-01-26T13:39:47.110
- MC2 1** That is very interesting! We should definitely discuss that somewhere in the presentation; it may be good to include it here
Marion, Caitlin (OUH), 2026-01-27T02:46:28.526

Connect and Collaborate With Us!



*Thank
you!*