What doctors want patients to know about burn injuries

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AT A GLANCE: Here are key things you will learn about burn injuries from two burn surgeons with HCA Healthcare in this article:

- Burns are classified into four degrees of depth. First-degree looks like a sunburn, second-degree produces painful blisters, third-degree can appear white, brown, black or leathery, and may be less painful because of nerve damage, and fourth-degree burns extend into deeper tissues, such as muscle or bone.
- For minor burns, stop the burning process by running lukewarm water, pat dry and then apply triple antibiotic ointment or aloe vera. Never use ice, toothpaste, butter or mayonnaise.
- Burn blisters should never be popped at home. A burn center has the proper dressings and evaluation tools to handle them safely.
- Electrical burns can cause serious injuries beneath the skin and can disrupt the heart's rhythm. Always seek immediate medical attention after an electrical injury.
- Deep burns in children require specialized long-term follow-up because scars may restrict movement as children grow.

A burn can happen in seconds—whether from a hot pan, spilled liquid, firework or everyday hazard. During the holidays, busy kitchens and celebrations can create additional risks. Recognizing hazards, knowing first aid and understanding when to seek medical or specialized burn care can make a difference in recovery year-around.

The AMA’s What Doctors Want Patients to Know™ series gives physicians a platform to share what they want patients to understand about today’s healthcare headlines.

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In this installment, two physicians from HCA Healthcare—which has 11 American Burn Association-recognized burn centers—took the time to share what they want patients to know about burns. They discuss everything from recognizing the different degrees to first-aid steps and why a small burn that won't heal deserves a specialist's evaluation. They are:

- Benson J. Pulikkottil, MD, FACS, a plastic reconstructive surgeon and medical director of the Burn and Reconstructive Center at HCA HealthONE Swedish in Englewood, Colorado.
- Haaris S. Mir, MD, FACS, a plastic surgeon and medical director of the Burn and Reconstructive Center at HCA Florida Kendall Hospital in Miami, Florida.

Both physicians lead American Burn Association-verified burn centers, where comprehensive teams provide highly specialized care for patients with injuries ranging from relatively minor burns to severe and complex burn and trauma injuries requiring extensive surgical interventions, advanced wound management, critical care and comprehensive rehabilitation.

HCA Healthcare is part of the AMA Health System Member Program, which provides enterprise solutions to equip leadership, physicians and care teams with resources to help drive the future of medicine.

Understanding burn degrees can help you recognize severity

"A first-degree burn usually looks like a sunburn. The skin is red, and there's no blistering," Dr. Mir said. Meanwhile, "second-degree burns are usually very painful and often cause blisters. A third-degree burn can leave the skin dry or even charred and may not be painful because of nerve damage."

Dr. Pulikkottil explains why deeper burns and injuries of uncertain depth require careful assessment.

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“On the other end of the spectrum is a fourth-degree burn—burns are down to bone, often leading to devastating amputations,” he said. “Second- and third-degree burns can be tricky because it's not always easy to tell how deep the damage goes just by looking at the skin.”

“Most burn reconstructive surgeons like myself can’t see severity through a picture if it’s second- or third-degree, so we’ll bring patients in,” Dr. Pulikkottil added. “We almost always will treat second-degree burns because although you can wait 21 days to allow it to heal, there's some consequence to that. These burns will have to contract down and may not be aesthetically pleasing.”

“Our Burn and Reconstructive Center in Colorado is very unique in that we have five double board certified plastic reconstructive surgeons,” he explained. “We're able to do a lot of the plastic surgical treatments that are necessary immediately on these patients. We're always thinking about obviously saving a person's life, as the top priority, and secondly, we aim to help the patient regain functional independence, confidence, and increased quality of life.”

Know what to do immediately after a burn, and what to skip

“The first thing to do is to remove the burning substance. If you are wearing clothes and got scald burns, you want to remove all the clothing that will persistently continue to burn,” Dr. Mir said. “The second thing you want to do is gently cool the burn with lukewarm water.”

“And then you want to apply some triple antibiotic cream and seek assistance at a burn center as soon as possible, preferably a verified burn and reconstructive center,” he added.

Dr. Pulikkottil urged that "for a very serious burn, call 911.”

“If you are a bystander, witness or family member helping someone who has suffered an electrical injury, make sure the power source is turned off before approaching or touching them,” Dr. Pulikkottil emphasized. “For chemical burns, protect yourself by wearing gloves

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or other protective gear to avoid coming into contact with the chemical."

Meanwhile, "if it's a family member who sees an electrical injury, make sure that wire is not in direct contact with you," he said. "If it's a chemical burn, make sure you're not unprotected—you have gloves, you have protective measures to keep the chemical off of you."

"Most of the burns we see are minor, such as someone accidentally touching a candle and burning their fingertips," Dr. Pulikkottil said. "I often see patients who have tried some home remedies that I would not recommend. For smaller burns, I recommend gently cooling the area under lukewarm running water and covering it with a clean, nonstick dressing."

Skip home remedies for burns

Some common household treatments for burns seem intuitive but can worsen an injury. Burn blisters, in particular, require special handling.

"Yes, ice can soothe the pain, but it causes constriction of blood vessels and can actually deepen the burn by reducing blood flow to the area," noted Dr. Mir. "Additionally, I've seen some people use toothpaste or mayonnaise, but I would not recommend it."

"I've also seen people use honey, but it's not the medical-grade honey that's needed," he said. "The best treatment for a burn at home is to wash it with lukewarm water and apply a non-adherent dressing if possible, or triple antibiotic ointment.

"Aloe vera works well, or even Aquaphor ointment, which can be obtained from any pharmacy over the counter," Dr. Mir added.

Don't pop burn blisters at home

"The blister should not be popped at home, as this can cause a lot of pain, and you may not have the appropriate dressings available," Dr. Mir said, emphasizing that "the best thing to do is just put triple antibiotic ointment on."

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“When you go to a burn center for treatment, we can determine whether the blister should be left intact or popped at that time because we have appropriate dressings and wound care to put on a blister,” he said, noting that “you may want to pop a blister so you can see how deep the burn is and provide the appropriate treatment.

“It's essentially removing the dead tissue and evaluating the wound,” Dr. Mir added. “But if you don't have the appropriate dressings, this can make the burn more painful as it will dry out with the air and cause crusting.”

Don’t assume that a small burn can just be managed at home

"Knowing when to come in is hard for people because often we get these burns on Thanksgiving, Christmas Eve or New Year's Eve, when people push it off and say they’ll come in later if it’s a smaller burn,” noted Dr. Pulikkottil.

“We sometimes see burns from exploding vape pens. While these burns may be small, they can cause serious damage to the deeper layers of skin,” he added. “The same can happen when someone accidentally touches their leg against a hot motorcycle muffler. Even though the burn may look small, the damage can be much deeper than it appears.”

“We often see patients who have tried treating these smaller burns at home with ointments and basic wound care, but the burns just aren't healing,” Dr. Pulikkottil said. “I encourage patients to come into our clinic so we can take a closer look. Sometimes we can reassure them that they're doing everything right, while other times we may find that the burn could affect their movement or ability to use the injured area.”

“At HCA HealthONE Swedish, our Burn and Reconstructive Center combines specialized burn care with advanced reconstructive surgical services,” Dr. Pulikkottil shared. “This approach allows me and my team to consider not only how an injury heals, but also how it could affect movement, function and quality of life over time.”

Depending on the injury, treatment may include therapy, wound debridement or skin grafting. “I think one of the hardest things for people to do is to put their ego aside and just

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come in," he added.

"The reason I recommend coming to a burn center is that you will get somebody who treats burns on a day-in and day-out basis," said Dr. Mir. "We have all the specialized experience and wound care and dressings resources available that care teams may not have."

"If you're unsure where to seek care for a minor burn, HCA Healthcare's free, 24/7 Consult-A-Nurse service can help you decide whether to visit an urgent care center or emergency department," Dr. Mir said, emphasizing that "serious burns require immediate medical attention."

The first 24 hours are crucial for severe burns

"A first-degree burn with just local wound care and putting aloe vera will heal in a week, like a sunburn," Dr. Pulikkottil said. "A second-degree burn, if it's superficial, the literature says within 21 days."

"When we treat more serious burns that require surgery, we may need to use a skin graft, which involves taking healthy skin from another part of the body, often the thigh, to cover the burned area," he explained. "It typically takes about three days for the graft to begin attaching to the injured area and another seven to 10 days for it to become more established. One thing I want patients to understand is that complications from burns don't always appear right away."

"That often means that when a burn patient comes in with a significant burn, the burn is the tip of the iceberg," Dr. Pulikkottil said, adding that "What many people don't realize is that serious burns can affect the entire body, not just the skin. We see complications involving the kidneys, abdomen and eyes, which is why it's so important to closely monitor these patients."

"While some smaller, superficial burns may allow a day or two before seeking follow-up care, even small burns can require prompt medical attention depending on their depth, location or cause. But for the bigger burns, that first 24 hours is where people live or die," he emphasized.

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Electrical, chemical and inhalation burns require swift emergency evaluation

"Any electrical burn injury, all bets are off. You may see something small on the skin, but those electrical burn injuries burn from the inside out," Dr. Pulikkottil said. "The deepest structures—the bones, the nerves that are close to the bones—are really damaged."

"Anytime an electrical burn injury occurs, the patient should be sent to a burn unit," he said. "Not just for the burn, but because the electricity can alter the way electrical impulses pass in your body."

"Your heart is essentially a conductor, so you can get arrhythmias, problems with your heart from an electrical burn injury," Dr. Pulikkottil added. "These patients must come in—even if nothing happens—so they get observed and get monitors on their heart."

With "chemical burns, it's really hard to know in the field what kind of chemical it is, but the best thing to do is irrigate, irrigate, irrigate, transport the patient, make sure all clothes are off that have whatever irritant or solution is on them," he explained.

Inhalation injuries add another layer of danger in house fires.

"Carbon monoxide, for example, is something that accumulates during a house fire," Dr. Pulikkottil said. "We can put patients in our hyperbaric chamber to alleviate the signs, symptoms and sequelae of carbon monoxide poisoning."

Burn injuries can pose unique risks for children

"Burn injuries around the kitchen are usually from children reaching over and spilling a hot pan over themselves or maybe touching a hot plate on the oven while they're in the kitchen," Dr. Mir noted. "To prevent this, the best way is to first make sure the children are a safe distance away while cooking at home."

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“The second thing, which I do myself, is to cook on the back burners, so that it's out of reach of children,” he said. Also, “my recommendation is to keep the water temperature in the water heater less than 120 degrees so that if a child is in the shower or in the bathtub and they turn up the water, they won't suffer an acute burn."

When a child does get burned, specialized follow-up is essential—not just at the time of injury but over years.

"Children typically heal a lot better than adults when they're burned,” Dr. Mir shared. “While children’s thinner skin and greater skin surface area relative to their weight can make burns more serious, their growing bodies can also repair tissue more quickly.

“I recommend that any child that gets burned come to a burn center,” he added. “Children require psychosocial support, sometimes specialized bandages, and may require anesthesia to clean the burn tissue.”

“If the burn is deeper and does come across joints, their skeletal growth will exceed the growth of their scar tissue, which can result in burn scar contractures,” Dr. Mir said, noting that “kids need to be followed up pretty routinely as they grow, especially if they have burns across joints, because they do require continuous monitoring, splinting, and even scar releases.”

“Burn scar contracture happens when scar tissue tightens and limits movement. Children with deeper burns, will need follow-up care as they grow,” he explained.

“Our patients in the burn program at HCA Florida Kendall Hospital benefit from inpatient, critical care and outpatient services for both children and adults,” Dr. Mir said. “This continuum of care is particularly important for patients who may require additional treatment, monitoring or rehabilitation after their initial injury.”

Kitchens become more dangerous during the holidays

The holidays bring people together in kitchens, and with that comes distraction, unusual equipment and elevated burn risk. Whether it is Thanksgiving, Christmas, New Year’s Eve, the Fourth of July or any other holiday, it is important to assess burn risk.

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"We don't want to make families not have fun and not make memories, but at the same time, it's often when there's a lot of people over and you let your guard down a little that injuries can occur. Alcohol might be involved too," Dr. Pulikkottil said. "One of the best things to do is create a safe zone. You can use some tape and put it by the kitchen floor to make a square—no kids are allowed into that space."

Also, "have all handles turned to the back, put pots on the back burner," he added, emphasizing that "frying turkeys, unless you really know how to do it, just avoid it because a little bit of frozen water in a turkey can cause an explosion. Also, doing this outside mitigates the risk of having a house fire."

For "slow cookers and pressure cookers, making sure that you don't just pop the top off, that you relieve the pressure slowly. We get lots of burns to the head from those," Dr. Pulikkottil said. "Transporting oil—just don't do it, because inevitably the floor is slippery and somebody will fall. And those are very, very deep burns that require surgery."

"Prevention is better than any cure. My recommendation is to have the non-essential people out of the cooking space, as this is where most of the accidents happen while cooking," urged Dr. Mir. "A lot of people like to fry turkeys outside, and they place a cold turkey in hot oil, which can cause a lot of oil splashing and burning."

"If grease does catch fire in the kitchen, the best thing to do is to turn the heat off and smother the flame with a metal lid or baking sheet," he added. "Contrary to what people believe, throwing water on burning grease can actually create a big splash and make the fire even worse and spread."

Let the professionals control the fireworks

"Sparklers burn on the order of thousands of degrees," said Dr. Pulikkottil, recognizing that "they're fun, except when you get burned by them—and kids are often the recipient of this."

"I've had so many patients who lit fireworks that just don't go off, or they go to put it down or walk away slowly and then it explodes. Or they put a rocket down and it doesn't go off, so they go to get it and it explodes. It's just not worth it."

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“We see tons of firework and sparkler injuries during New Year's and July 4th. Every year we have somebody who loses fingers,” Dr. Pulikkottil said. “One bad decision can affect someone's function for life."

Burn care is more than a skin graft and some ointment

"Burn care is really not just, 'Oh, you come in with a burn, get some ointment.' It can be really, really complicated and time-consuming,” Dr. Pulikkottil said. “We put a lot of love into these patients. We have a dedicate team of therapists, social workers, and dietitians who work together to support patients throughout their healing process.”

"As a plastic and reconstructive surgeon, we're well-equipped to heal and treat all types of burns, going from simple burns to blast injuries which have open fractures, especially in the hand or even in the lower extremity,” Dr. Mir said. “We're able to move tissue around and come up with unique techniques in covering these burn tissues. We're seeing these patients from A through Z.”

Specialized burn centers also have the expertise and resources to make timely treatment decisions and adjust care as patients’ needs evolve.

"When a patient comes to us, this is what we do,” Dr. Pulikkottil said. “We can immediately determine what the patient needs and start implementing these reconstructive efforts—whether it's a skin graft, a flap, microvascular surgery. Just like in sports when a team changes plans quickly in response to new information, we can make a call and adjust our treatment plan right away based on what the patient needs.”

Burn recovery extends beyond the hospital

“These patients stay for months, so in a lot of ways, we become family,” Dr. Pulikkottil shared.

“What I wish patients knew is that there's no one simple solution to treating these burn injuries, and sometimes they do require a multimodal approach which can take time,” Dr. Mir said, emphasizing that “the goal is to provide the best form and function for these

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patients.”

A 2026 research abstract coauthored by Dr. Mir and his colleagues and published in the *Journal of Burn Care & Research* highlights how HCA Florida Kendall Hospital is extending its burn care expertise beyond a hospital setting.

“Burn recovery doesn’t end when a patient leaves the hospital,” Dr. Mir said. “By sharing our expertise with rehabilitation and home health nurses, we’re helping them feel more confident caring for burn patients, recognizing potential complications and knowing when to seek additional specialized care.”

From the first assessment to wound management, reconstructive surgery and rehabilitation, specialized burn care often requires an individualized, multidisciplinary approach. For Drs. Pulikkottil and Mir, the goal extends beyond helping wounds heal. It is also about helping patients regain function, independence and the ability to return to the activities that matter most to them.

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