

## Burn rehabilitation experts outline best treatments for post-burn itching

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Mr. Mashburn, a worker at a paper-recycling plant, fell through a loose grate and into a sump pit in September 2008 as he was preparing to inspect a steam valve. Super hot condensate, at a temperature of at least 140 degrees Fahrenheit, enveloped his legs instantly, searing skin up to his thighs.

A co-worker was able to pull Mr. Mashburn out of the pit within 30 seconds, sparing him a worse fate, but he was left with first-, second- and third-degree burns on both legs.

"Once I got out and pulled my pants and my boots off, I remember just watching the skin peel away like you were taking a ladies stocking off. That's how fast the skin went away," he recalled.

Mr. Mashburn, 56, was airlifted to Parkland Memorial Hospital in Dallas, where he received skin grafts on his right leg and both ankles before returning to his Rockwall County home for rehabilitation. His wounds are healing, but the resulting itching requires the application of moisturizing lotion several times a day to relieve the constant sensory irritation.

"Every day on a scale of one to 10, it's about a 3 or a 4. If the moisturizing lotion wears off, if the skin dries and starts to flake and gets a sunburned look, it gets to 8 or 9 on the itch scale. It's pretty intense," Mr. Mashburn said. "If you've ever had a really bad case of poison ivy, that's what it's like."

He has also had to forgo blue jeans because his calves rub against the pants legs.

Chronic itching, medically termed as pruritus, is an almost universal problem for people recovering from major burns, and it can become debilitating by interfering with daily activities. UT Southwestern Medical Center rehabilitation specialists, after reviewing studies and treatments, have compiled recommended guidelines that appear in the *Journal of Burn Care and Research*.

"When you're not itchy, itching seems minor. But when you're itchy, you constantly think about it," said Dr. Vincent Gabriel, assistant professor of physical medicine and rehabilitation at UT Southwestern and clinical director for the North Texas Burn Rehabilitation Model System. "It disturbs the patients' sleep. At times, they compromise wound healing by scratching. In an extreme case I can recall, one patient would get up at night and rub his back up against door frames and even a tree to get relief."

Burn scar tissue lacks the usual oil glands found in normal skin. As a result, the scar is chronically dry and prone to itching simply from a lack of hydration or lubrication, Dr. Gabriel said.

He and his colleagues outlined a possible hierarchy of treatment strategies in the study, starting with topical creams and ointments and progressing to oral antihistamines as well as evaluating non-medicinal treatments such as lasers, nerve stimulators and massage.

"Your arm is about 9 percent of your body's surface area, and your chest is 18 percent. It's not practical to use one treatment for all of that space, so you have to combine the topical and oral treatment to come up with the best protocol," he said.

Researchers ranked the effectiveness of typical treatments using a method called the Physiotherapy Evidence Database, or PEDro, score. No treatments garnered an "excellent" rating and none were found effective on all patients. Treatments categorized as "good" include:

- cimetidine, a prescription antihistamine pill;
- colloidal oatmeal bath as a topical treatment; and
- pulsed dye laser therapy, in the non-medicine category.

Massage, nerve stimulation and treatment with an antihistamine called Atarax scored "fair."

Other findings from the study include:

- Persistent, post-burn itching was estimated to affect about 87 percent of all patients.
- Itching typically begins in the first two weeks after a burn injury.
- Predictors of itching included wounds requiring more than three weeks to heal.
- Itching is typically worse around the edges of the burned area.

"For years and years afterward, patients will have problems with itching. It's not something that comes up during healing and goes away. It's a chronic problem for them," Dr. Gabriel said.

Dr. Gabriel said the study arose from his and his colleagues' struggles to help alleviate the problem for patients. Researchers reviewed the medical literature since 1950 and found only 10 trials and one case report on effective treatments that met standards for establishing burn care practice guidelines.

"We found a dearth of well-done studies on itching," he said. "Our recommendations combined best evidence available as well as our

clinical experience in our very active burn program."

Source: UT Southwestern Medical Center

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