

Podcast Transcript: Heat Stress and Worker Health

[Theme music]

Ashley Ahearn (AA): You're listening to Environmental Health Chat – a show from the National Institute of Environmental Health Sciences that explores the connections between our health and our world.

I'm Ashley Ahearn.

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During the increasingly hot summer months many of us look for shade, air conditioning, or lake and ocean-side retreats to stay cool. But for some in the workforce, those options may not be available. Take farmworkers, delivery drivers, warehouse workers, landscapers, and construction workers, for example.

Kevin Riley (KR): This work is happening in an increasingly hot climate. More and more workers are being impacted by higher baseline heat, by heat waves, and by other climate events.

AA: Dr. Kevin Riley is the director of the Labor Occupational Safety and Health Program at UCLA, and he's the investigator for the Western Region Universities Consortium, which is funded by the NIEHS Worker Training Program.

The Consortium is a collaboration between four universities – UCLA, UC Berkeley, the University of Washington, and Arizona State University. Collectively, they provide worker training and education programs for folks from the Southwest to Alaska who work in hazardous environments where the risks of extreme heat may be very different from those faced by the general public.

KR: Workers are often exposed to heat at greater frequencies, greater duration, and intensity. Work is often physically demanding, which adds to the heat burden. And then of course, if folks are wearing protective gear – let's say to protect themselves from other sorts of hazards they may be encountering at work – that gear could be putting an excess burden on folks' bodies as well. So, things like respiratory protection or hazmat suits or other kinds of things, that only adds to the heat burden.

AA: Spending hours outside working in the sun or in a hot warehouse or industrial facility near furnaces or other machinery can cause our body temperatures to spike. Heat stress may appear first as a higher heart rate, a rash, clammy, cold skin, cramps, dizziness and nausea or vomiting. If workers can't get out of the heat and get hydrated and rest, things can get worse.

KR: And you may see folks exhibiting things like confusion, fainting, convulsion – these are really, really serious consequences to heat exposure. And at that point, you need immediate medical attention because if it goes beyond that, folks can die from heat exposure. I mean, it can be fatal.

AA: But for many workers, asking for training or protective measures may feel impossible. Dr. Riley says it's one thing to understand the health risks, it's another to understand the societal,

economic, and cultural barriers that can prevent people from getting the help they need when working in high temperatures.

KR: There may be communities who are reluctant to say, step up to an employer and express concerns or to ask to step away from work. I think what's even more fundamental in terms of a lot of the training and outreach that we do is thinking about what's the nature of those employment relationships on driving people's exposure to heat?

AA: If workers don't have a secure employment agreement or immigration status, or they aren't unionized, they may not want to make a fuss or draw attention to themselves. Many farmworkers are paid by the piece – meaning by the amount of the crop that they harvest. That system incentivizes workers not to take breaks and get out of the sun or hydrate, because it means money out of their own pockets.

KR: If you've got folks who are economically insecure, if they're working paycheck to paycheck, they're terrified of losing that job. It's very unlikely workers are going to step away or ask for interventions from an employer.

AA [on tape]: So if a worker, for example, one of these folks who may be economically insecure, or is afraid of any retribution from their manager, but they notice improper heat protection in their workplace, and maybe don't want to say anything about it out of fear. What advice would you give someone like that? Are there resources or groups that would be available to help them?

KR: Yeah. So, first of all, it's really worth acknowledging it's a very hard issue, you have to take it really seriously, if someone is working in a situation and they're afraid of stepping up for fear of losing a job. That is a very, very real fear for a lot of people. One piece of advice we typically give is that there are worker and occupational health advocacy organizations around the country that support workers and confronting problems on the job.

AA:...Organizations like the National Council for Occupational Safety and Health, which is a national network of worker organizations around the country with worker centers where people can turn for advice or support on issues related to health and safety, wages, and other issues. Dr. Riley says his center at UCLA also hears from workers from the surrounding area and they try to connect them with the right resources.

KR: The other thing, actually, if I could toss one other thing in here, is that workers do have a right to raise an anonymous complaint to an OSHA program. And they have a right to do that without fear of retaliation. And then inspectors would, in theory, respond by following up, maybe doing a worksite visit, and investigating whether or not employers are actually complying with existing standards and provisions.

AA: Some steps that can help protect workers from the dangers of heat stress include shifting more strenuous tasks to cooler parts of the day, providing rest and water breaks, and allowing workers to properly acclimatize to heat.

The NIEHS Worker Training Program is developing a heat stress prevention toolkit for distribution to training centers, non-profit organizations, and other organizations across the country. Health and safety trainers or professionals will be able to use the toolkit to educate

workers and volunteers who are responding to disasters or working in hazardous sites in extreme heat. The first resource in the toolkit, called Building Blocks for a Heat Stress Prevention Training Program, was released in May 2024. The toolkit will feature several tools and resources with information about how to protect workers, disaster responders, and volunteers from heat-related illnesses and injuries.

KR: Sometimes those folks work for agencies, they work for contractors, they may have other sort of employment relationships that are bringing them into those spaces. But there's also a lot of volunteer groups that might be doing that work as well. And so, having to think about what is the best way to educate that broad range of disaster responders? What are best practices for protecting folks from heat exposure? And just sort of making sure that there are resources available to that wide range of disaster workers. I think for any of us just having a pool of training tools that we can always be drawing from, getting inspiration from, getting ideas from, that's always just really helpful.

AA: Dr. Riley and his team at UCLA were asked to contribute to this national effort because they have expertise providing training and information to workers at the regional level – especially around heat – and they have strong partnerships with community groups.

KR: And one of the things we were hearing from some of our partners in our network is that there are more and more workers here in California who are speakers of Indigenous languages from Mexico or Central America and they may not even speak Spanish.

AA: To bridge that language barrier, Dr. Riley and his team developed a series of videos in six different Indigenous languages to help workers understand the risks of working in hot environments. The videos provide visual explanations of the symptoms and response measures, with narration in the Indigenous language and subtitles in both English and Spanish.

KR: These now live on our website, they're easily accessible to anyone who might want to use them. We know some of our partners have been using them. And one of the goals is for the partners to be able to take those short videos and messages and to integrate them into presentations or outreach or education activities they may be doing with workers for whom those languages are relevant.

AA: Dr. Riley and his team have developed similar Indigenous language educational resources on COVID-19 and wildfire smoke hazards, as well.

So, what is the role of regulation and policy in protecting workers in hot environments? Very few states have enacted any sort of heat standards or requirements of employers. After an extreme heat wave killed farmworkers in California in 2005, it became the first state to require certain safety measures for outdoor workers, like shade structures and providing potable water and rest breaks. Colorado, Washington, Minnesota, and Oregon have also implemented heat illness prevention measures.

KR: In those states there are fundamental requirements for employers to provide training for workers around heat hazards and for employers to be taking measures to prevent heat illness from their workers. Beyond that, we currently have no federal heat standard. So, at the federal level there are no explicit requirements for employers to be providing training or protections in any sort of way.

AA: There are efforts underway to get a federal heat standard in place, and other states around the country are considering similar measures. Dr. Riley is optimistic that the tide is turning.

KR: I think the message to decision makers is that it's not rocket science in a lot of ways. What we have in California are relatively basic requirements that employers are following.

AA: As the global climate warms, more workers will be challenged to do their jobs in dangerously hot conditions. The uptick in extreme weather events will also require more disaster response, potentially in hot temperatures. Dr. Riley knows that his work – and the work of the Western Region Universities Consortium and the NIEHS Worker Training Program – to help workers across the country understand how to stay safe, is needed now more than ever.

KR: I think recognizing how consequential these changes are that are going on around us in our environments and acknowledging that in a lot of these broad discussions about community-based [climate] interventions there's not enough emphasis on the worker side of this to recognize the uniqueness of workers' exposures – whether it's heat or extreme storms, wildfires, other climate issues – recognizing their unique exposures and the unique needs that they may have as we're all trying to find ways to adapt to a changing climate around us.

[Music comes up]

AA: I'm Ashley Ahearn. Thanks for listening to Environmental Health Chat.