2019 OSHA Update

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Heat Stress: OSHA Tackles the Elements

Hard work in the hot sun can make you ill: sometimes it can be fatal. Heat stress has long been a particular concern of employers in construction and agriculture. In 2019, despite considerable administrative challenges within the U.S. Department of Labor, the Occupational Safety and Health Administration (OSHA) managed to develop a heat stress program to address this issue. Congress has weighed in with proposed legislation, and the Occupational Safety and Health Review Commission issued an important decision dealing with a general duty clause citation for heat exposure. This article will examine each of these in turn.

1. OSHA Heat Stress Program.

In years past exposure to excessive heat has sometimes led to an OSHA citation under the General Duty clause when it results in serious injury or death. In one recent case an employer was cited when a field worker died despite being given water and directed to rest in the shade. (Medical reports suggest that heat alone did not cause death.) Some OSHA guidelines reference standards that appear to say that it is an unreasonable hazard to allow work outdoors when the temperature is in excess of 93 degrees: that would prevent most summertime agriculture and construction work in the southern United States between May and October. Other rules suggest that workers rest for 45 minutes out of every hour: piece-rate workers certainly aren't going to stand for that. More realistically, OSHA requires employers whose employees must work in hot conditions to have a written plan and procedures

for preventing heat-related illness and injury. These include breaks, water, cooling stations, and monitoring to ensure that workers are not in distress.

While OSHA does not have a specific standard that covers working in hot environments, under the OSH Act, employers have a duty to protect workers from recognized serious hazards in the workplace, including heat-related hazards. Guidance developed and published by OSHA is designed to help employers and worksite supervisors prepare and implement hot weather plans.

The "heat index" determines when extra precautions are needed at a worksite to protect workers from environmental contributions to heat-related illness. Workers performing strenuous activity, using heavy or non-breathable protective clothing, and who are new to an outdoor job need additional precautions beyond those warranted by heat index alone.

New workers are generally most at risk for heat-related illnesses. Cal/OSHA investigated 25 incidents of heat-related illnesses in 2005 and determined that in almost half of the cases, the worker involved was on their first day of work. In 80% of the cases the worker involved had only been on the job for four or fewer days. OSHA's guidance emphasizes gradually increasing the workload or allowing more frequent breaks to help new and returning workers adjust and increase their tolerance for hot conditions. Employers are directed to make sure that workers understand the risks and are "acclimatized."

Outdoor workers are particularly vulnerable. These include workers who spend a substantial portion of the shift outdoors, such as construction workers, agricultural workers, baggage handlers, electrical power transmission and control workers, and landscaping and yard maintenance workers. These workers are at risk of heat-related illness when the heat index is high. These additional risk factors must be taken into consideration even when the heat index is not elevated.

OSHA's guidance is advisory and informational: it has not developed a standard or regulation. The heat stress program does not create any new legal obligations or alter existing obligations created by OSHA standards or the OSH Act. The Act's General Duty Clause, Section 5(a)(1), will continue to be applied to require employers to provide their employees with a workplace free from recognized hazards likely to cause death or serious physical harm.

2. Proposed Legislation.

On July 11, 2019, the House Workforce Protections Subcommittee held a hearing about measures proposed to protect workers from heat-related illnesses. H.R. 3668, introduced July 10, 2019 by Rep. Judy Chu (D-CA) (copy attached), would direct OSHA to create, within 42 months, a final standard that mandates workers in high-heat environments – indoors or outdoors – have paid breaks in cool spaces, access to water and exposure limitations to heat. It also would require employers to educate workers on heat-related illness risk factors and procedures for responding to symptoms of heat-related illness. California, Minnesota, Washington state and the U.S. military have adopted their own heat protection standards.

One driver for the legislative initiative is the Review Commission's decision in February regarding A.H. Sturgill Roofing Co., discussed below, in which a 60-year-old roofing worker died from complications from heatstroke. A majority of the Commissioners concluded that OSHA failed to demonstrate that the work was strenuous or that the workers were exposed to heat index values within any of the National Weather Service's warning levels for a prolonged period of time, and vacated OSHA's general duty clause citation.

3. Review Commission Decision.

The Review Commission has taken a balanced approach to this difficult question. In *A.H. Sturgill Roofing Co.*, OSHRC Docket No. 13-0224 (Feb. 28, 2019), the Review Commission, by a 2-to-1 vote, vacated a citation and held that OSHA "failed to demonstrate that the work was strenuous or that the workers were exposed to heat index values within any of the NWS warning levels for a 'prolonged' period of time." A 60-year-old roofing worker's death resulted from "complications from heatstroke" in August 2012. The commission ruled that the heat index that day didn't reach the "caution" level on the National Weather Service's heat advisory chart. The majority took issue with OSHA's broad application of the general duty clause to cite employers when a specific rule doesn't cover a hazard. The general duty clause requires employers to provide workplaces free from known hazards that can be feasibly abated. Commission Chairman Heather MacDougall and Commissioner James Sullivan rejected the general duty clause citation against A.H. Sturgill Roofing Inc. of Dayton and a citation for inadequate training for preventing heat stress.

OSHA argued that Sturgill had failed to adequately protect workers from high temperatures by not providing heat-related training, not making sure workers drank adequate amounts of water, and not checking the background of the 60-year-old worker who died to ensure that he was physically fit enough to do the job.

Commissioner MacDougall observed that "[t]he Commission has been asked in this case to construe the general duty clause to cover work situations in ways that Congress never intended and to unreasonably stretch longstanding Commission precedent by applying the provision to broadly-defined risks inherent in the work being performed." The commission majority concluded that OSHA didn't prove there was excessive heat at the work site or that the labor was strenuous. Also, the majority found that the employer encouraged all employees to take advantage of the immediate access to ice, water, rest, and shade, without fear of reprisal.

Dissenting Commissioner Cynthia Attwood said the worker's death and opinions from doctors treating the worker was proof of a heat hazard. Commissioner Atwood reasoned that the "diagnosis of heat stroke—a diagnosis supported by all of the credible medical evidence—shows that conditions at the worksite presented a heat hazard." The majority rejected this *a posteriori* reasoning.

Another issue in this case was whether the employer should have been aware of the worker's pre-existing medical conditions, including congestive heart failure. It was the temporary worker's first day on the job: the majority found that medical privacy laws would have prevented the employer from asking the worker about his medical history and concluded that the employer had no reason to believe that the worker had medical conditions that could have endangered his health if he performed the assigned work.

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Attachments:

A. Heat Stress Program

B. H.R. 3668: Asuncion Valdivia Heat Illness and Fatality Prevention Act of 2019

HEAT STRESS PROGRAM

1. Definitions (taken from California Code of Regulations, Title 8, Section 3395)

"Acclimatization" means temporary adaptation of the body to work in the heat that occurs gradually when a person is exposed to it. Acclimatization peaks in most people within four to fourteen days of regular work for at least two hours per day in the heat.

"Heat Illness" means a serious medical condition resulting from the body's inability to cope with a particular heat load, and includes heat cramps, heat exhaustion, heat syncope and heat stroke.

"Environmental risk factors for heat illness" means working conditions that create the possibility that heat illness could occur, including air temperature, relative humidity, radiant heat from the sun and other sources, conductive heat sources such as the ground, air movement, workload severity and duration, protective clothing and personal protective equipment worn by employees.

"Personal risk factors for heat illness" means factors such as an individual's age, degree of acclimatization, health, water consumption, alcohol consumption, caffeine consumption, and use of prescription medications that affect the body's water retention or other physiological responses to heat.

"Preventative recovery period" means a period of time to recover from the heat in order to prevent heat illness.

"Shade" means blockage of direct sunlight. Canopies, umbrellas and other temporary structures or devices may be used to provide shade. One indicator that blockage is sufficient is when objects do not cast a shadow in the area of blocked sunlight. Shade is not adequate when heat in the area of shade defeats the purpose of shade, which is to allow the body to cool. For example, a car sitting in the sun does not provide acceptable shade to a person inside it, unless the car is running with air conditioning.

2. Provision of Water and Sports Drinks

Employees shall have access to potable drinking water and sports drinks which will be replenished throughout the shift. The employees will be encouraged to frequently consume small quantities of water and/or sports drinks and trained not to drink only when thirsty.

3. Access to Shade

Employees will be provided with an area with shade that is open to the air for periods of no less than five minutes per break. Employees shall have access to the shade at all times.

4. Acclimatization

Employees who are new to working in hot environments will be identified and assigned work with gradually increasing workloads in the fields and other assignments working in direct sunlight so as to be acclimatized to the heat.

5. Monitoring Weather Conditions

Supervisors will monitor local weather conditions using weather apps on their cell phones periodically during the day.

6. Supervisor's Observation of Employees

Supervisors will actively observe each employee at least once an hour for heat related signs and symptoms. When employees or the crew begin to show signs of heat stress, the supervisor will take appropriate actions based on observations including rotating employees from the field to packing, increasing the frequency and duration of rest breaks or ceasing work until a decrease in temperature.

7. Heat Stress Medical Response

If an individual shows signs and symptoms of heat illness, the employee will be promptly removed to a shaded area and provided fluids. If the employee is not cooling down in the shaded area, the employee will be placed in an air-conditioned space. Should the employee experience more severe heat illness, the supervisor will call 911 for emergency medical services and will direct 911 to the appropriate field or location.

8. Selection of Clothing

Employees shall be trained in how to dress appropriately for working in heat with lightweight breathable clothing and head coverings.

9. Employee Training

Employees will be trained in accordance with the heat stress program developed by the Association of Farmworker Opportunity Programs. See Attachment A. Employees will be trained to notify a supervisor of any observed symptoms of heat illness in themselves or other employees.

10. Supervisor Training

10.1 Supervisors will be trained in accordance with the heat stress program developed by the Association of Farmworker Opportunity Programs. See Attachment A.

10.2 Supervisors will be trained on procedures for observing employee for signs and symptoms of heat illness.

10.3 Supervisors will be trained in C.P.R.

10.4 Supervisors will be trained on how to respond to symptoms of possible heat illness.

10.5. Supervisors will be trained on procedures to contact emergency medical services.

10.6 Supervisors will be trained on the provisions of this program.

ATTACHMENT A

Association of Farmworker Opportunity Programs
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Proyecto Sol

Protéjase del Estrés por Calor

Protect Yourself from Heat Stress

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Hello everyone. Today we are going to talk about what happens to your body when it gets too hot. **Take a look at this picture of Marcos. Does he look sick? What could have caused his illness?**

It turns out that Marcos has been working hard in the fields all day and he is overheated. **Have you ever known or heard of anyone getting sick because they were too hot?**

Heat-related illnesses sometimes affect a person whose body has been hot for too long. If this person has been working hard and sweating and NOT drinking enough water, they may become sick with what we call **heat exhaustion.**

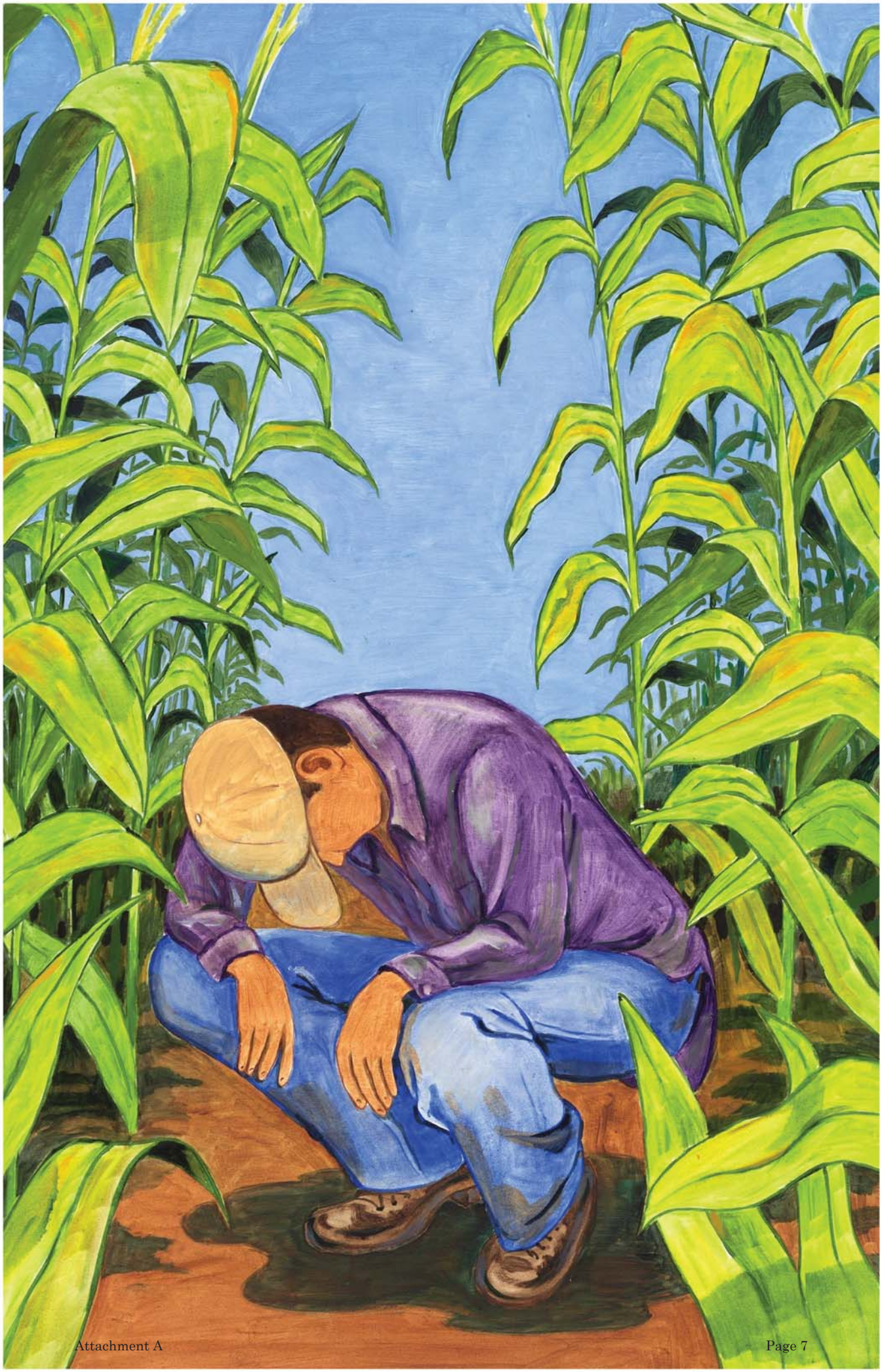
This can also happen if the person has not been taking enough breaks in the shade to cool their body. In these situations, our body becomes strained from too much heat. This can cause serious problems for our internal organs and systems

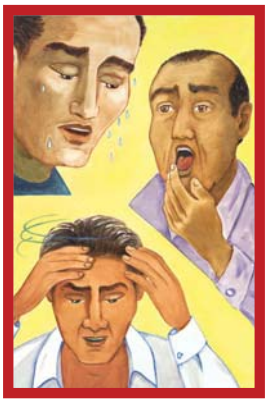
Hola a todos y todas. Hoy vamos a hablar de lo que pasa cuando la temperatura de su cuerpo sube a un nivel peligroso. **Miren este dibujo de Marcos. ¿Se ve enfermo? ¿Qué podría haber causado su malestar?**

Marcos lleva todo el día trabajando en el campo y su cuerpo se ha sobrecalentado. **¿Conocen alguna persona o han oído de alguien que se haya enfermado por sobrecalentamiento?**

Las enfermedades relacionadas con el calor a veces afectan a un individuo cuyo cuerpo ha tenido una alta temperatura por mucho tiempo. Si esta persona ha estado trabajando duro y suda excesivamente, y NO ha tomado suficiente agua, él o ella puede enfermarse con lo que llamamos **agotamiento por calor**.

Esto también puede pasar si la persona no ha tomado suficientes descansos bajo la sombra para refrescar su cuerpo. En estas situaciones nuestros cuerpos se sobre fatigan por el exceso de calor. Esto causa problemas serios a nuestros órganos y sistemas internos.





Heat exhaustion is serious and it is important to recognize the signs and symptoms of this illness.

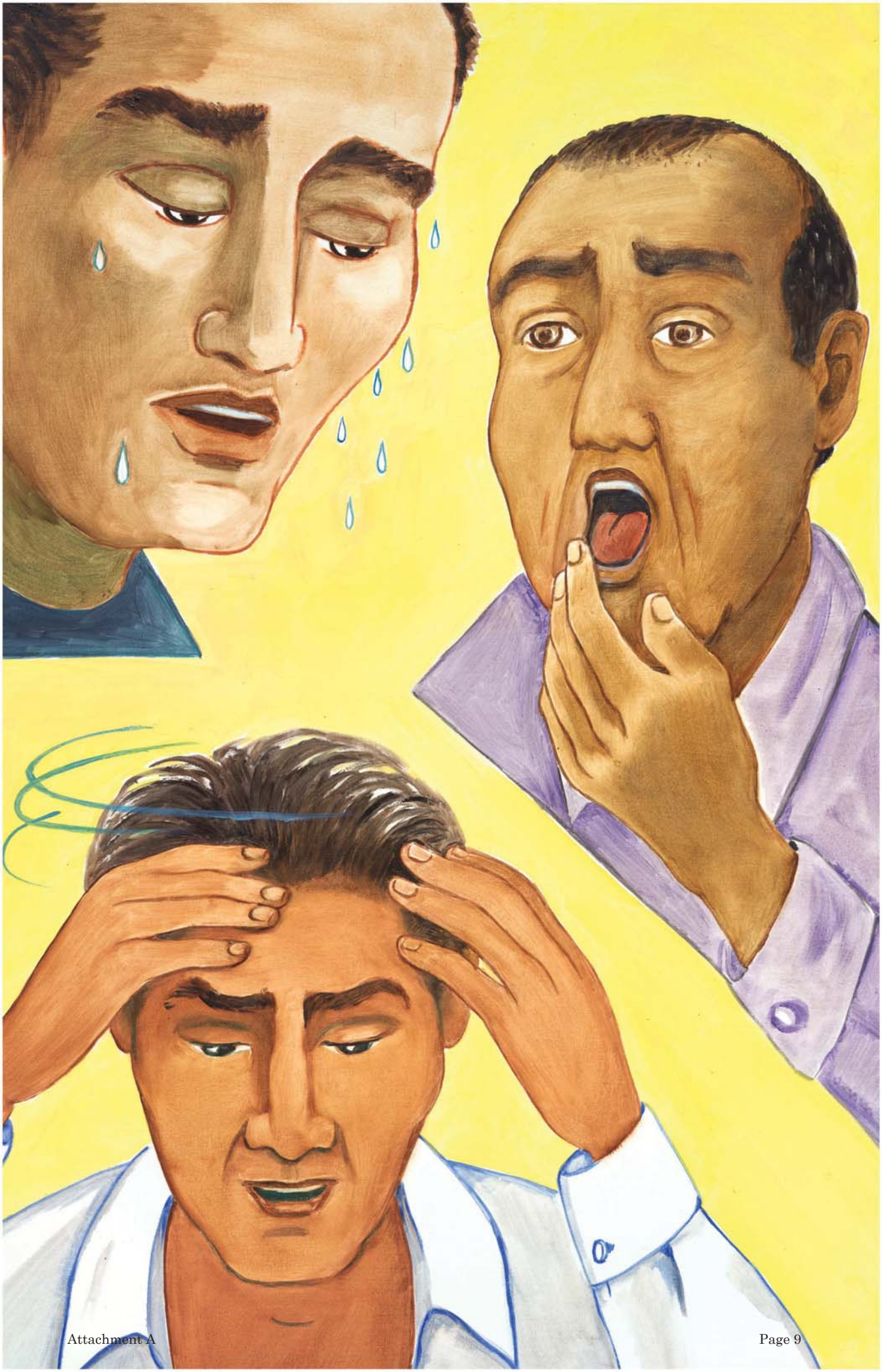
These pictures illustrate some of the symptoms of heat exhaustion, including:

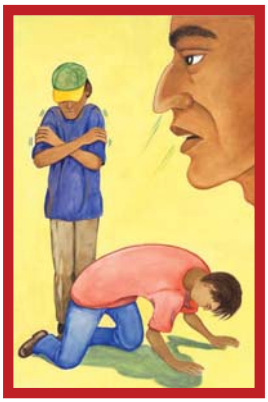
•Sweating a lot
•A dry mouth
•Extreme thirst
•Headaches or feeling dizzy
•Lightheadedness
•Mood changes or irritability

El agotamiento causado por calor es serio, y es muy importante reconocer las señales y los síntomas de esta enfermedad.

Estos dibujos demuestran algunos de los síntomas del agotamiento por calor, incluyendo:

•Exceso de sudor
•La boca seca
•Sed extrema
•Dolores de cabeza o mareos
•Debilitamiento
•Cambio de disposición o facilidad de enojarse



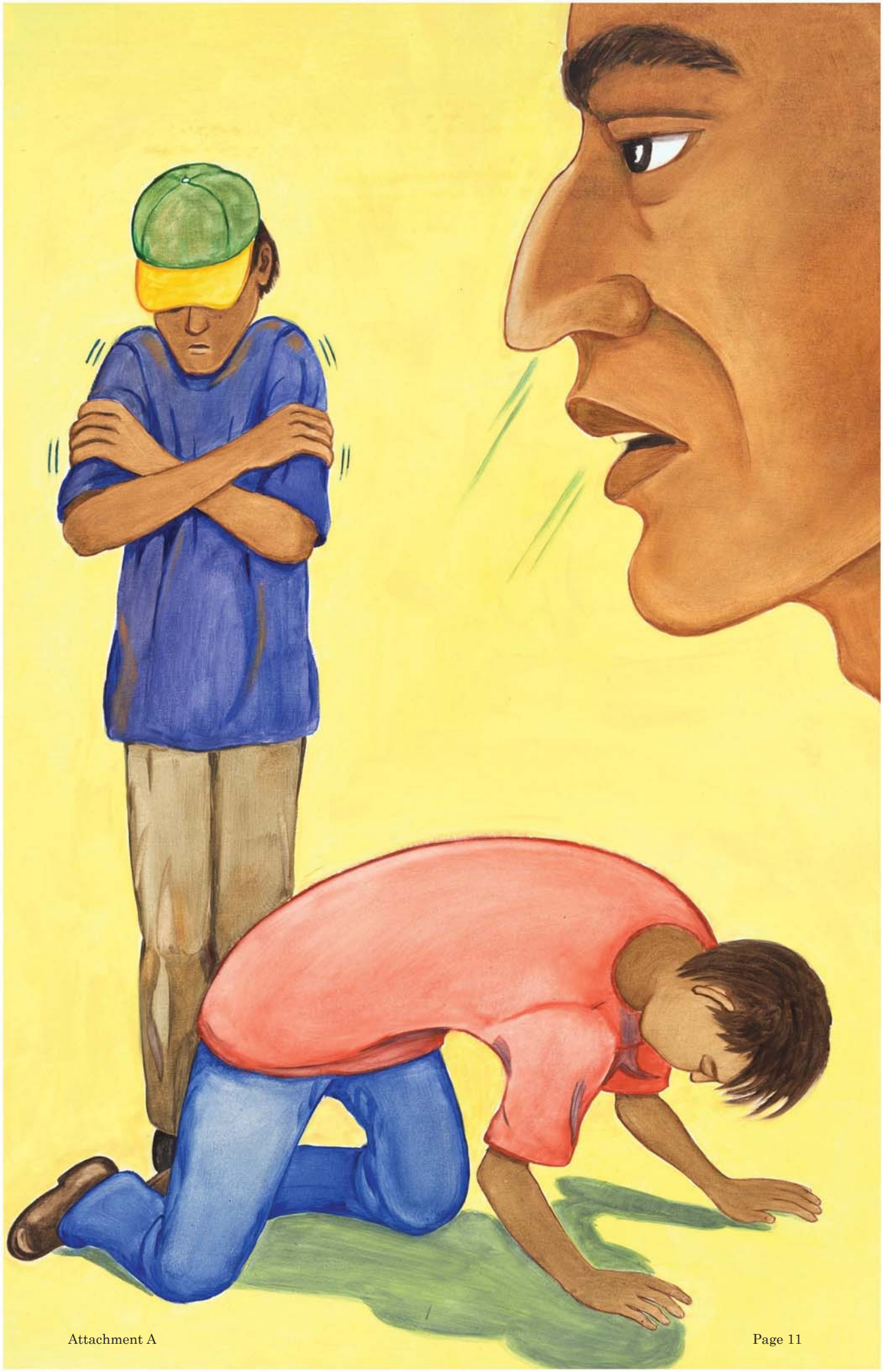


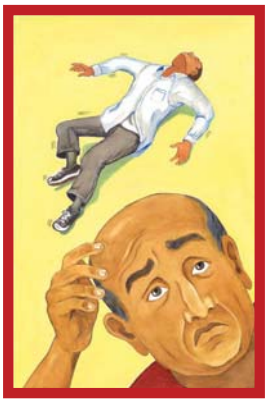
Other possible signs of heat exhaustion are shown here, including:

•Rapid breathing
•Chills
•Fainting or weakness
•Heat cramps
•Nausea
•Decreased or dark-colored urine
•Pale, moist skin

Otros síntomas del agotamiento por calor se muestran aquí, incluyendo:

•Respiración agitada
•Escalofríos
•Desmayo o debilidad
•Calambres de calor
•Ganas de vomitar o nauseas
•Orina disminuida o oscurecida
•Piel pálida y húmeda





Remember Marcos from our first slide? Marcos was experiencing symptoms of heat exhaustion in the field. With help, these symptoms can be taken care of and he will recover. However, if no one helps him, his body will not be able to cool down on its own, and he may experience a more serious problem called **heat stroke.**

Heat stroke is very dangerous and can even result in death. With heat stroke, the body loses its normal ability to cool itself, and internal organs, such as the liver, heart, brain or kidney, may be damaged.

•Some symptoms of heat stroke include:

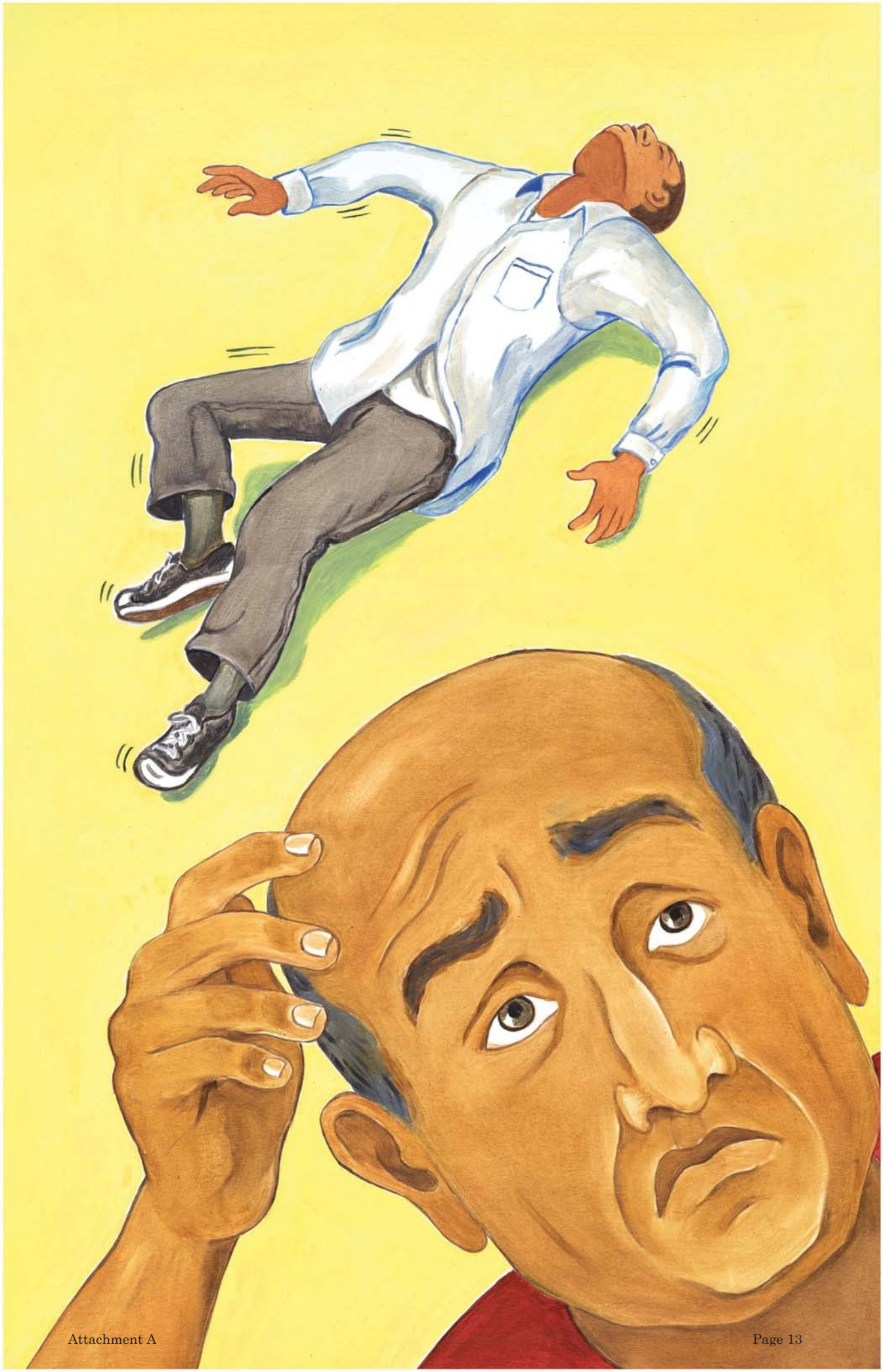
•Extremely high body temperatures (over 104˚F)
•Lack of sweating
•Confusion or aggressive behavior
•Seizures or convulsions
•Coma, in the most serious situations

¿Se acuerdan de Marcos en el primer dibujo? Marcos estaba experimentando los síntomas del agotamiento por calor en el campo. Con ayuda, se pueden aliviar estos síntomas y él puede recuperarse. Sin embargo, si nadie le ayuda, su cuerpo no va a poder enfriarse por sí mismo, y tal vez Marcos experimente un problema aún más serio que se llama **insolación o ataque de calor**.

La insolación es muy peligrosa y su resultado puede ser mortal. Con la insolación, el cuerpo pierde su capacidad normal de refrescarse, y los órganos internos, como el hígado, el cerebro o los riñones, pueden ser dañados.

Algunos síntomas de la insolación incluyen:

•Alturas extremas de las temperaturas del cuerpo (más de 104 grados Fahrenheit)
•La piel no suda
•Confusión o comportamiento agresivo
•Convulsiones o ataques
•Coma, en los casos más graves



Other signs of heat stroke are:

•Being unresponsive to clapping
•Dizziness
•Fast pulse
•Dry, hot, red skin (looks like sunburn)

Otros signos de la insolación son:

•No responder al sonido de las palmadas
•Mareo
•Pulso rápido
• Piel seca, caliente y enrojecida (parece a una quemadura de sol)

So, how do we tell the difference between heat exhaustion and the more serious heat stroke? The main difference is in the level of confusion that a person is experiencing. If someone you know is experiencing any of the symptoms that we have seen, you should ask the person the following questions:

•What is your name?
•What day is this?
•Where are we?

If a worker cannot answer any of these three questions, we should assume that he or she is suffering from heat stroke.

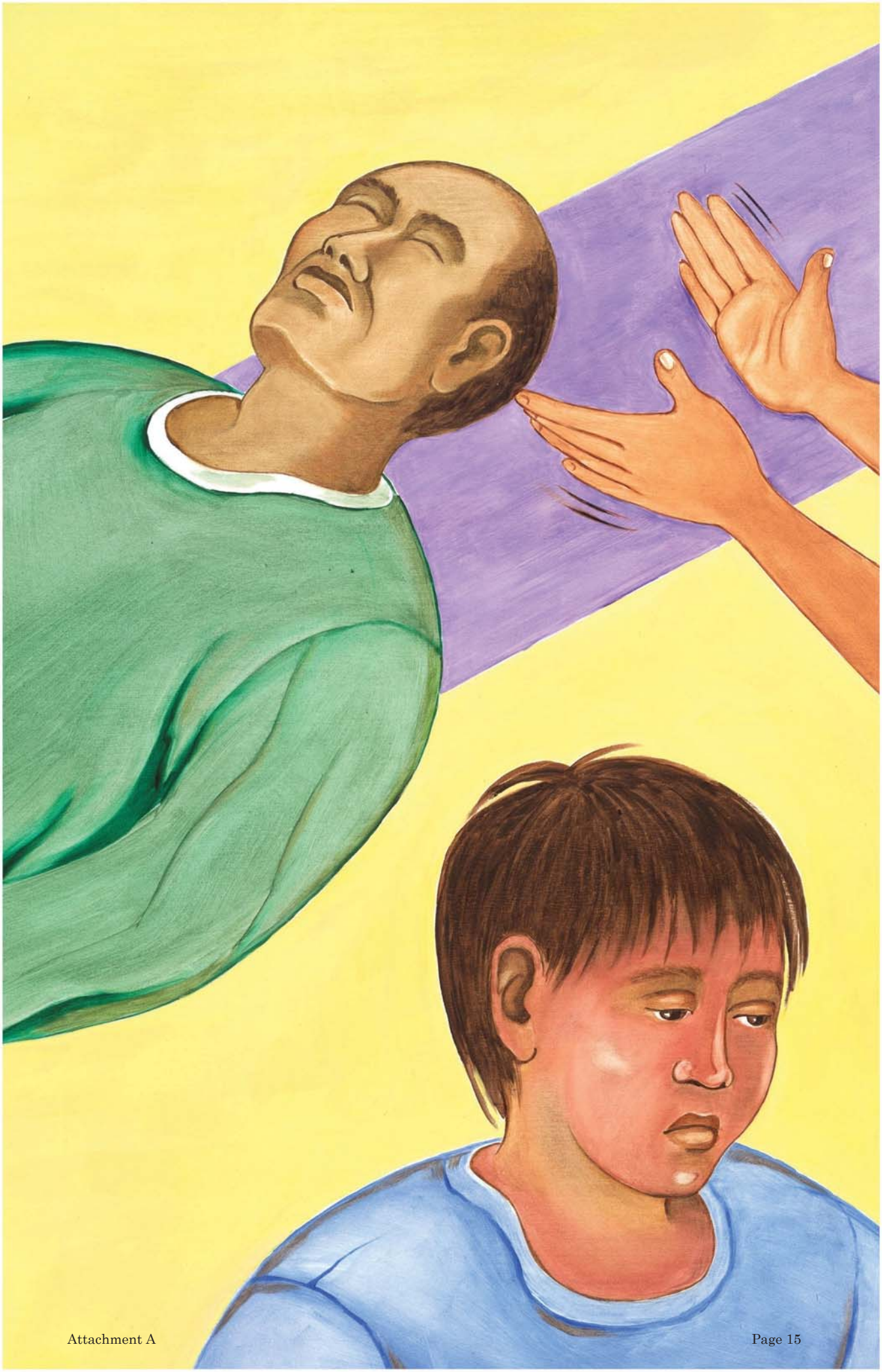
Trainer activity:
Let's practice these questions in a role play. Work with the person next to you and pretend that one of you is sick. Assume that your sick partner has been dizzy and breathing rapidly. Ask your partner the three questions, and depending on the response, decide if he or she is suffering from heat exhaustion or heat stroke.

Entonces, ¿cómo podemos diferenciar el agotamiento por calor de la insolación? La diferencia principal está en el nivel de confusión que experimenta la persona. Si alguien a su lado está experimentando cualquiera de los síntomas que hemos visto, hay que hacerle las siguientes preguntas:

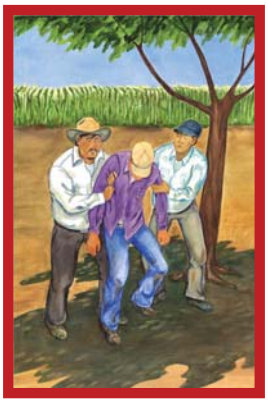
•¿Cuál es tu nombre?
•¿Qué día es hoy?
•¿Dónde estamos?

Si el trabajador/la trabajadora no le puede contestar ninguna de estas tres preguntas, debe suponer que está sufriendo de insolación.

Actividad de entrenador/a:
Pongamos estas preguntas en práctica. Trabaje con la persona a su lado, e imagine que uno de ustedes esté enfermo. Su compañero enfermo está mareado y respirando rápidamente. Hágale a su compañero estas tres preguntas, y dependiendo de la respuesta que recibe, decida si él o ella esté sufriendo de agotamiento por calor o insolación.



As we have seen, there are many signs to indicate that a person is suffering from heat exhaustion or heat stroke.



Como ya hemos visto, existen muchas señales para indicar que una persona está sufriendo del agotamiento por calor o la insolación.

What do you think you should do if someone has symptoms of heat exhaustion?

Trainer note: Encourage participants to share answers in a discussion. When the discussion is complete, walk participants through the three first-aid slides, even if participants have already mentioned some of the answers. It will serve as reinforcement and review.

It is very important to act immediately if you think that someone is suffering from heat exhaustion. You should take the following actions:

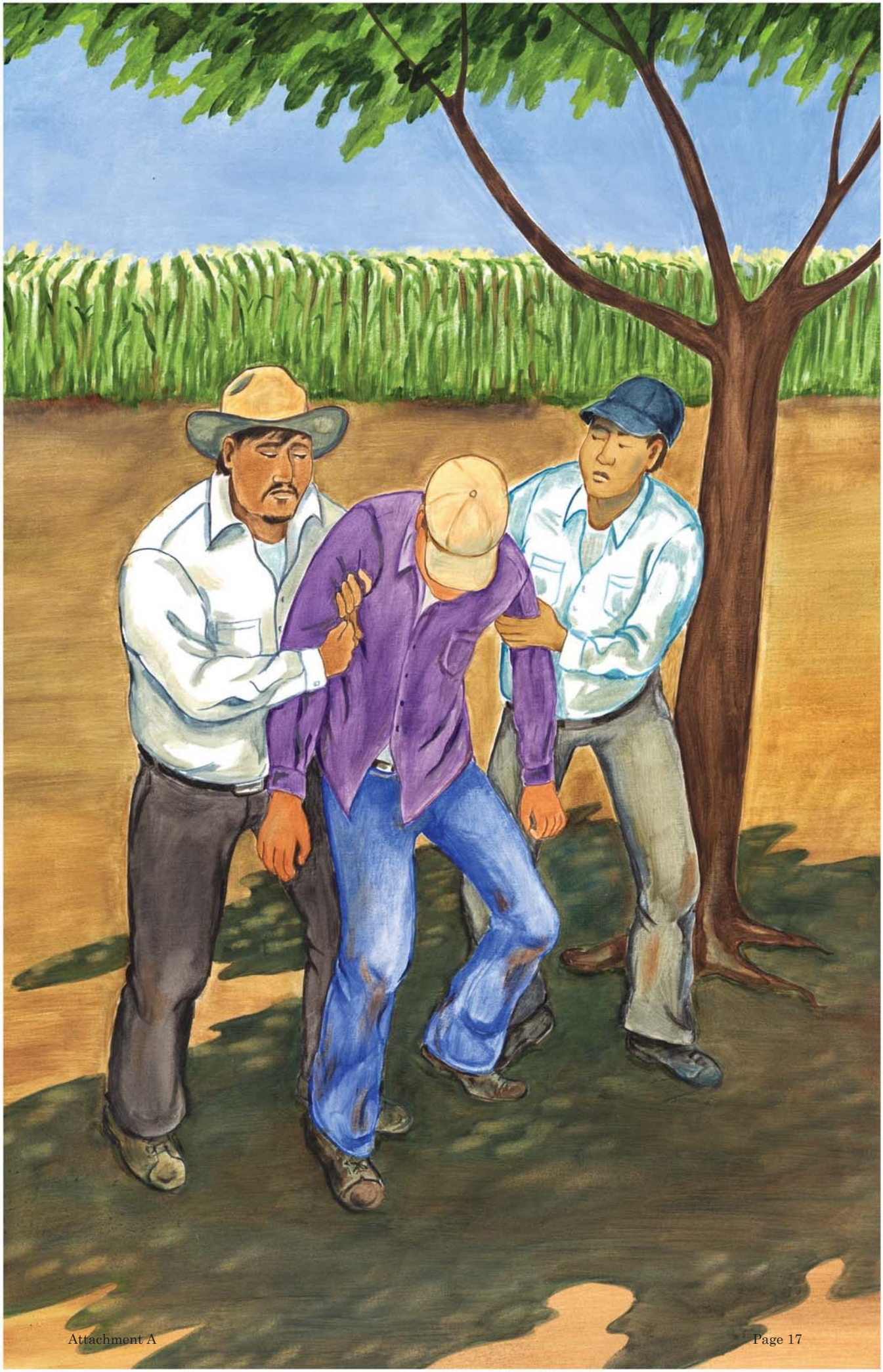
•Stop working
•Immediately move the person into the shade and have them rest lying down
•Give the person water and have them drink as much as possible, in small quantities

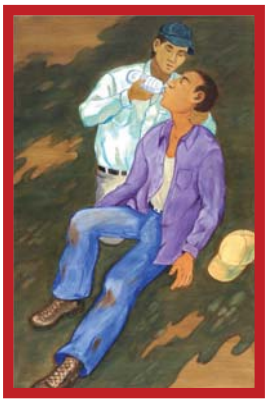
¿Qué creen que se debe hacer si alguien tiene los síntomas del agotamiento por calor?

Nota para entrenador/a: Anima a los participantes a compartir sus respuestas en una conversación con el grupo entero. Cuando termine la conversación, guía a los participantes por los primeros tres dibujos, aunque ya hayan mencionado algunas de las respuestas correctas. Servirá como refuerzo y repaso.

Es muy importante tomar acción inmediata si cree que alguien está sufriendo del agotamiento por calor. Tome los siguientes pasos:

•Deje de trabajar
•Mueva inmediatamente la persona a la sombra y acuéstelo/la
•Dele agua y hágale tomar lo más que pueda, pero en pequeñas cantidades



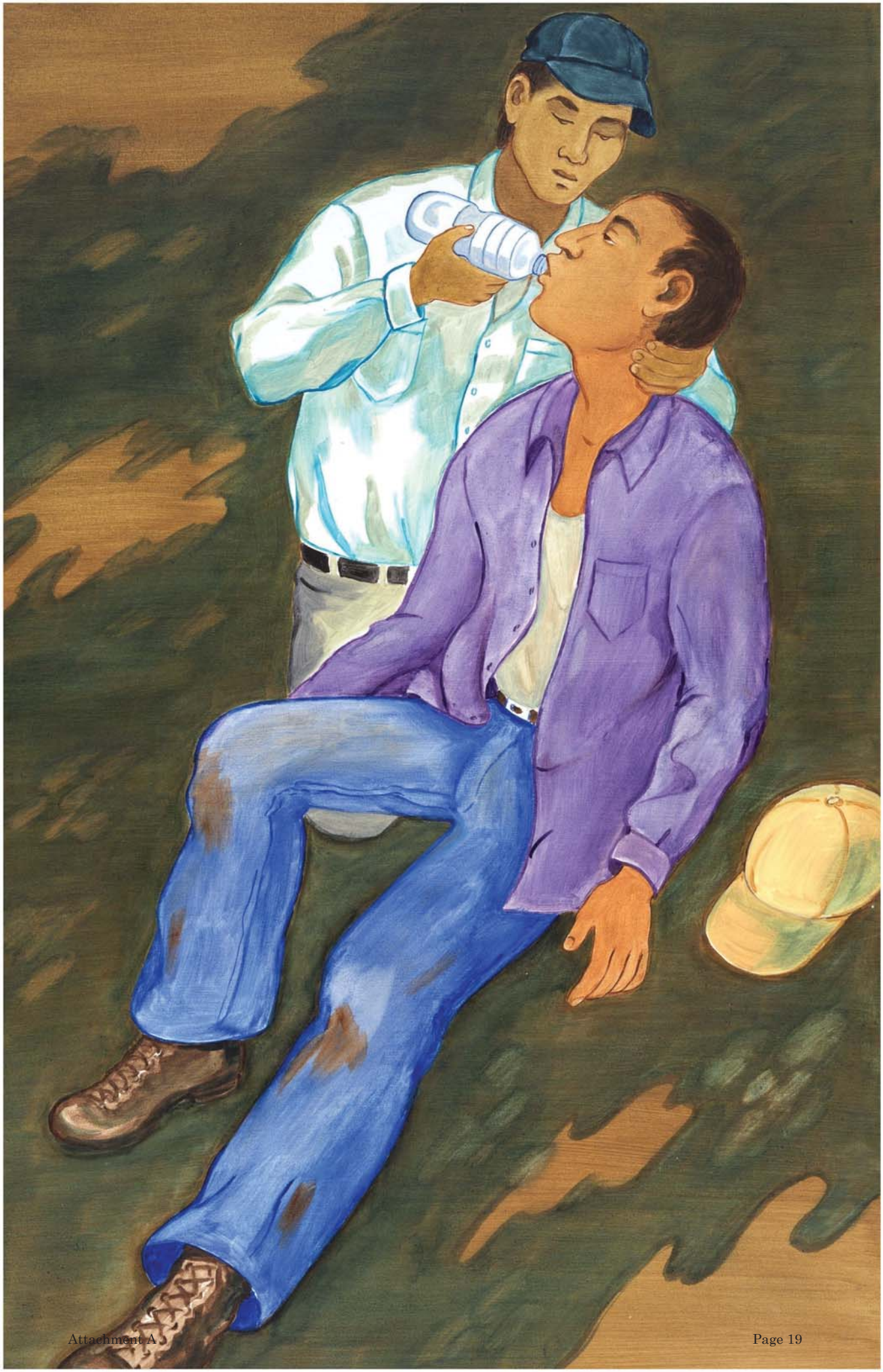


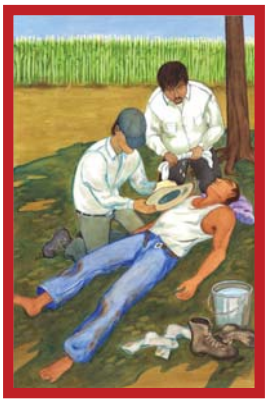
Once the person is in the shade, you should continue cooling his or her body:

•Splash the person's body with room-temperature water
•Continue giving them water to drink, in small quantities
•If the person vomits, be sure to clear all fluids from their mouth before giving them more water

Cuando la persona ya está bajo la sombra, debe continuar refrescando su cuerpo:

•Rociar con agua al tiempo (templada) el cuerpo de la persona
•Continúe dándole agua de tomar, en pequeñas cantidades
•Si la persona vomita, recuerde limpiar todos los fluidos de su boca antes de darle más agua





After splashing the person with water and giving them water to drink, immediately do the following:

•Loosen all clothing, especially around the neck, chest and waist
•Use a hat, shirt or cardboard to fan the person
•If the person does not improve, or if the person has lost consciousness, call for medical help immediately
• Stay with the person

When treating a person for heat exhaustion, you should NOT:

•Give the person salt
•Let the person go back to work

Do you think that the response to heat stroke is different from the response to heat exhaustion?

Trainer note: Encourage participants to share answers. When the group discussion has finished, move through the steps for responding to heat stroke, pointing out the differences between this response and the response for heat exhaustion.

If you think that the person is suffering from heat stroke, you must do many of the same things as for a person suffering from heat exhaustion:
•Start cooling down the body immediately
•Get the person into the shade
•Remove or loosen clothing
•Take off the person's hat, shoes and socks
•If the person is conscious and not vomiting, help them drink as much as possible, in small quantities

Después de rociar a la persona con agua y darle agua para tomar, haga inmediatamente lo siguiente:

•Afloje toda su ropa, especialmente por el cuello, el pecho y la cintura
• Abaníquelo con una gorra, una camiseta o un pedazo de Cartón
•Quédese con él o ella
•Si la persona no mejora, o pierde consciencia, llame de inmediato para pedir ayuda médica

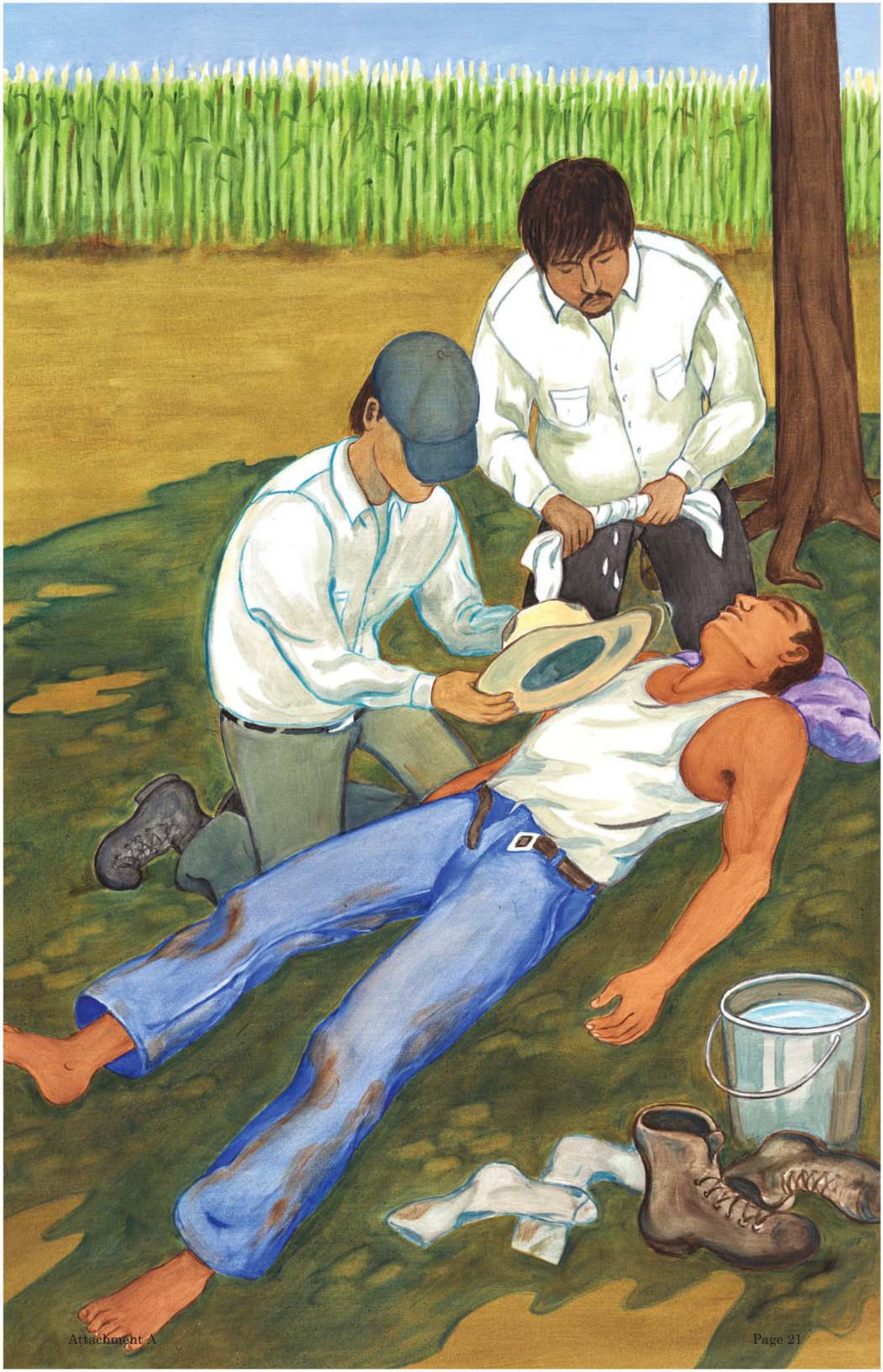
Cuando se trata de una persona que padece de agotamiento por calor, es importante que:

•No le dé sal a la persona
•No deje que la persona vuelva a trabajar

¿Creen que la respuesta de emergencia a la insolación es diferente que a la respuesta de emergencia de agotamiento por calor?

Nota para entrenador/a: Anima a los participantes a compartir sus respuestas. Cuando el diálogo del grupo haya terminado, repase los pasos a seguir de una respuesta de emergencia a la insolación, haciéndoles entender las diferencias de ésta respuesta y la respuesta de emergencia para el agotamiento por calor.

Si cree que la persona está sufriendo de insolación, tiene que seguir los mismos pasos al caso de la persona que está sufriendo del agotamiento por calor:
•Empiece a refrescar su cuerpo de inmediato
•Mueva la persona a la sombra
•Remueva o afloja a su ropa
•Quítele la gorra, los zapatos y los calcetines de la persona
•Si la persona está consciente y no está vomitando, ayúdele tomar la mayor cantidad de agua posible pero en pequeñas porciones



•Pour cool water on their chest and apply wet towels or wet sheets to their body
•If there is ice on site, place ice packs in their armpits and groin area
•To avoid cooling the person too drastically, massage the person's limbs
•Elevate the person's legs
•Fan them with a hat, shirt or piece of cardboard
•Stay with the person
•Get the person medical care as soon as possible
•If the person begins to shiver, you are cooling him or her down too quickly—remove ice or stop splashing with water until they stop shivering

As with heat exhaustion, when treating a person for heat stroke you should NOT:
•Give the person salt
•Let the person go back to work

Remember that it is always important to seek medical attention. However, in the case of heat stroke, the most important thing is to start cooling down the person IMMEDIATELY. If you don't, the person could die. If it is faster, drive the person to a clinic or hospital yourself instead of waiting for an ambulance. But DO NOT stop fanning or pouring water on the person until a medical professional is attending them. If you need help transporting the person and keeping them cool, ask other workers to help you.

Trainer note: Point out to the participants that the biggest differences between the responses to heat exhaustion and heat stroke are in the urgency—both for medical attention and for the cooling of the person's body. Heat stroke is much more serious and the urgency and severity of the situation should be emphasized. It should also be noted that if a worker is unsure of whether a coworker has heat exhaustion or heat stroke, it is best to err on the side of caution and contact medical professionals immediately.

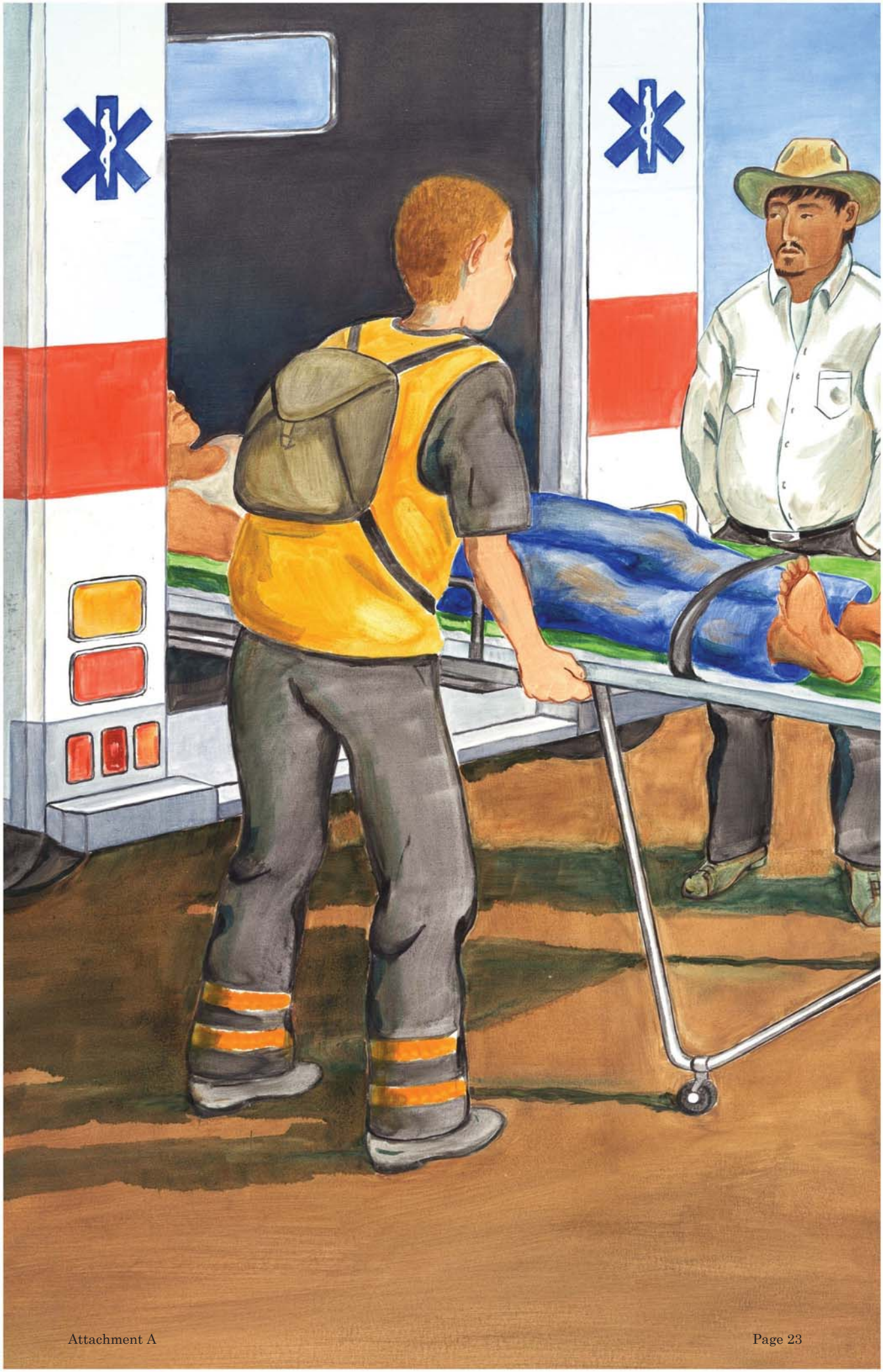
•Échele agua fresca sobre su pecho y cúbralo con toallas mojadas o sábanas mojadas a su cuerpo
•Si hay hielo disponible, ponga paquetes de hielo en las axilas y la ingle o entre las piernas
•Para evitar enfriar demasiado rápido a la persona, dele masaje en las extremidades
•Levántele las piernas a la persona
•Abaníquele con una gorra, una camiseta o un pedazo de cartón
•Quédese con la persona
•Busque ayuda médica profesional lo más pronto posible
•Si la persona comienza a temblar, quiere decir que lo está enfriando demasiado rápido—remueva el hielo o deje de rociar agua hasta que deje de temblar

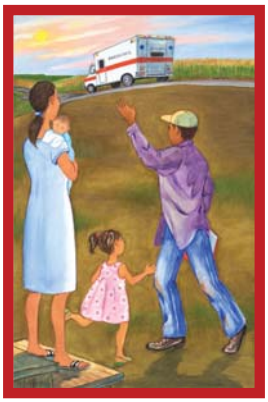
Igual al agotamiento por calor, cuando se trata a una persona por insolación, es importante que:

•No le de sal a la persona
•No deje que vuelva a trabajar

Recuerde que es siempre importante buscar atención médica. Sin embargo, en el caso de la insolación, la cosa más importante es empezar a refrescar a la persona INMEDIATAMENTE. Si no lo hace a tiempo, la persona se podría morir. Si les resulta más rápido, maneje usted mismo a la persona a una clínica o al hospital en vez de esperar la ambulancia. Pero NO DEJE de abanicar o rociar agua a la persona hasta que le atiende un profesional médico. Si necesita ayuda para transportar a la persona, o mantenerle frio, pídale ayuda a los demás trabajadores.

Nota para entrenador/a: Muéstrales a los participantes la mayor diferencia entre las respuestas de emergencia al agotamiento por calor y la insolación está en la urgencia—la urgencia de la necesidad de atención médica y la urgencia de enfriar el cuerpo de la persona. La insolación es mucho más seria y la urgencia y la severidad de la situación deben ser enfatizadas. Hazles reconocer también si el trabajador o la trabajadora no está seguro/a de que su compañero tenga agotamiento por calor o insolación, es mejor ser prudente y contactar a profesionales médicos de inmediato.





Remember Marcos? Well, he has been released from the hospital after being treated for symptoms of heat exhaustion. Thankfully, his coworkers knew what to do and because of their quick response, Marcos has recovered. Now he and his family must think about how he can prevent heat exhaustion in the future.

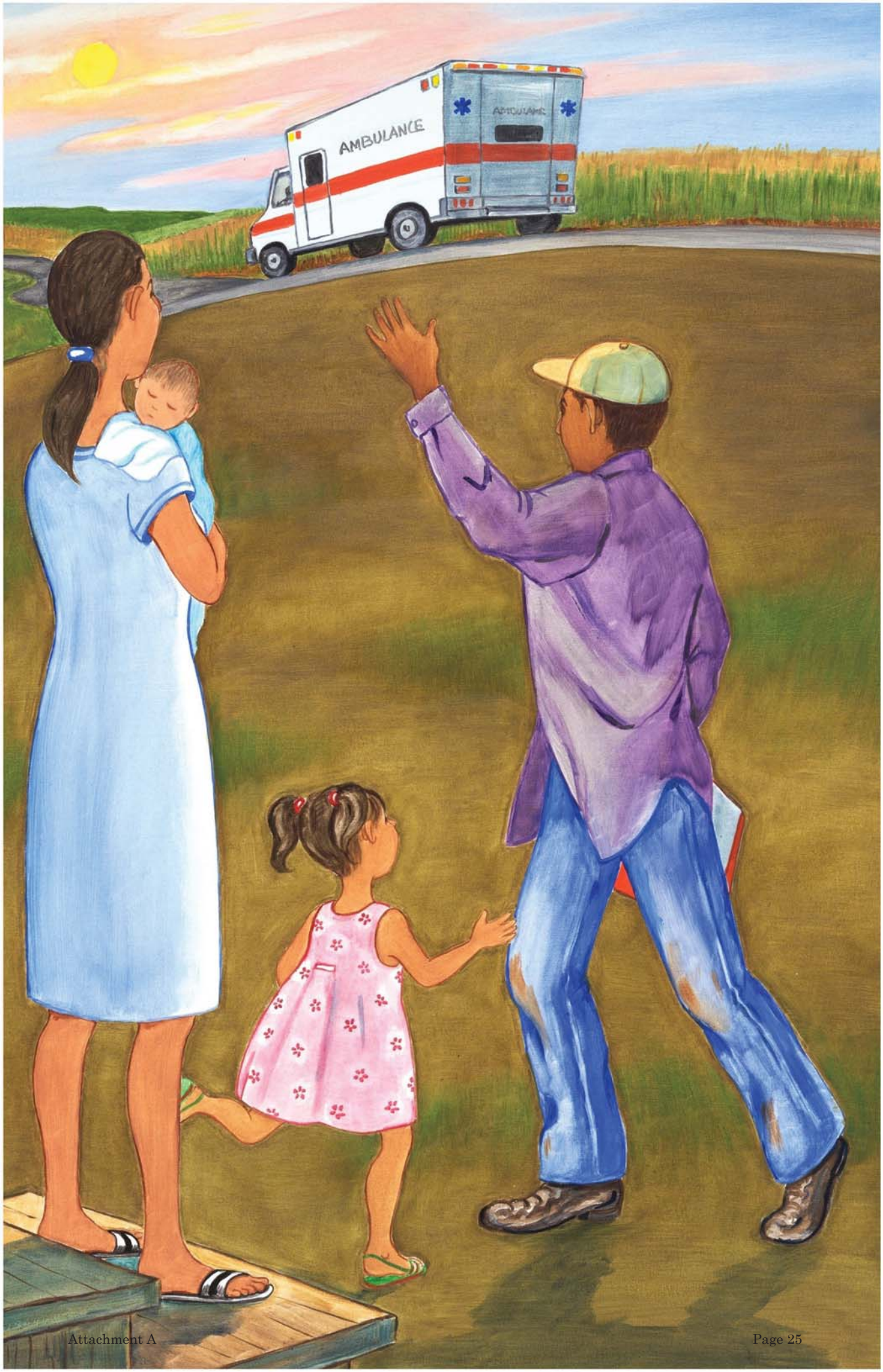
Do you have any ideas about ways for Marcos to prevent future heat-related illnesses?

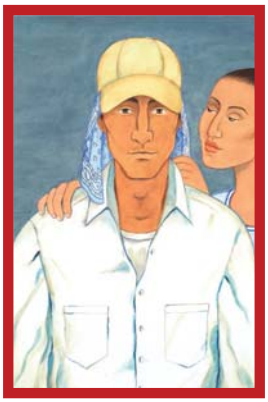
Trainer note: Encourage participants to share answers. Add any of the listed responses that have not been mentioned in the discussion.

¿Se acuerdan de Marcos? Bueno, le dejaron salir del hospital después de haber sido tratado por los síntomas del agotamiento por calor. Afortunadamente, sus compañeros de trabajo sabían que hacer, y tomaron acción rápida. Marcos se ha recuperado. Ahora él y su familia tienen que pensar en cómo prevenir el agotamiento por calor en el futuro.

¿Tienen alguna idea de cómo Marcos podría prevenir las enfermedades relacionadas con el calor en el futuro?

Nota para entrenador/a: Anima a los participantes a compartir sus respuestas. Agrega a la conversación cualquier respuesta que no ha sido mencionada.


AMBULANCE



To prevent heat-related illnesses, we can take preventative steps.

Appropriate clothing can be a very useful tool in lowering your risk for heat-related illnesses.

What kind of clothing is best to prevent heat exhaustion and heat stroke?

•Always wear loose-fitting, light-colored clothes that are made of cotton; this type of clothing breathes better and absorbs less heat from the sun
•DO NOT wear dark-colored clothing or clothing made of synthetic fabrics such as polyester, nylon and rayon; this type of clothing will absorb and hold heat

Trainer demonstration: Pass around a synthetic, dark shirt and a light-colored cotton shirt to demonstrate the difference

•Always wear a hat with a brim or cap
•Use a bandana under your hat; you can also wet a bandana and place it on your neck to keep you cool

Trainer demonstration: Show how to use a bandana under your hat

Para prevenir las enfermedades relacionadas con el calor, podemos tomar pasos preventivitos.

La ropa apropiada puede ser una herramienta muy importante en disminuir el riesgo de obtener una enfermedad relacionada con el calor.

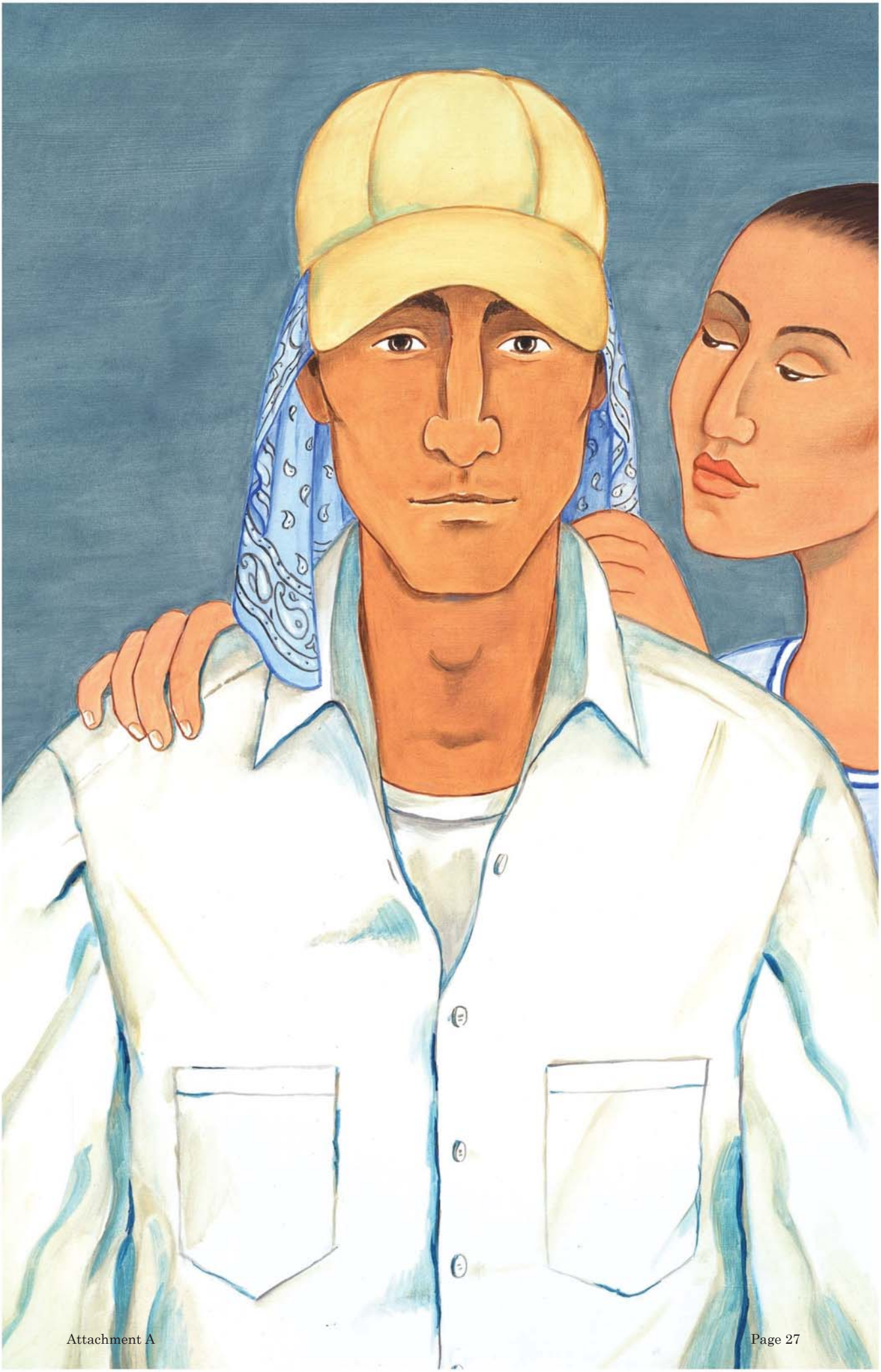
¿Qué tipo de ropa es mejor para prevenir el agotamiento por calor y la insolación?

•Siempre póngase ropa suelta, ligera y de colores claros, hecha de algodón; este tipo de ropa respira mejor y absorbe menos calor del sol
•NO se ponga la ropa de colores oscuros ni la ropa hecha de fábricas sintéticas como el poliéster, el nilón o el rayón; este tipo de ropa va a absorber y almacenar el calor

Demonstración de entrenador/a: Pasa por el grupo una camiseta sintética y oscura, y una camiseta de color clara hecha de algodón para mostrarles la diferencia

•Siempre use un sombrero de ala ancha o una gorra
•Utilice un pañuelo bajo su gorra; también puede mojar al pañuelo y ponerlo detrás de su cuello para mantenerle fresco

Demonstración de entrenador/a: Modela como usar el pañuelo bajo tu gorra



Drinking water is another important way to prevent heat-related illnesses. Sufficient water helps your body to regulate and maintain its normal temperature.

Tomar agua es otra manera importante para prevenir las enfermedades relacionadas con el calor. Tomar suficiente agua ayuda a su cuerpo a regularse y mantener su temperatura corporal.

How often should you drink water during the day while working in the field?

•Drink plenty of water before going to work
•While you are working, drink one quart of water in small quantities throughout each hour (this equals one cup of water every fifteen minutes)

Trainer demonstration: Demonstrate the correct amount with a water bottle prop

•Drink BEFORE you get thirsty
•DO NOT drink alcohol, energy drinks or soda, or use drugs; all of these substances make it easier for your body to lose water and increase your chance of heat exhaustion or heat stroke

Trainer demonstration: Show examples of energy drinks and sodas so that the participants understand what you are referring to

¿Cuán frecuente se debe tomar agua durante el día cuando trabaja en el campo?

•Tome mucha agua antes de ir a trabajar
•Cuando está trabajando, tome un cuarto de galón de agua en pequeñas cantidades durante cada hora (esto es equivalente a una taza de agua cada quince minutos)

Demonstración de entrenador/a: Demuéstrales la cantidad adecuada con una botella de agua

•Tome agua antes de que tenga sed
•NO TOME alcohol, bebidas energéticas o sodas, ni uses drogas; todas estas substancias facilitan que su cuerpo pierda agua, y aumenta el riesgo para el agotamiento por calor o insolación

Demonstración de entrenador/a: Muestra los ejemplos de las bebidas energéticas y las sodas para que los participantes entiendan a que refieres

When you are working in the heat, resting can help your body cool down and prevent it from over-heating.

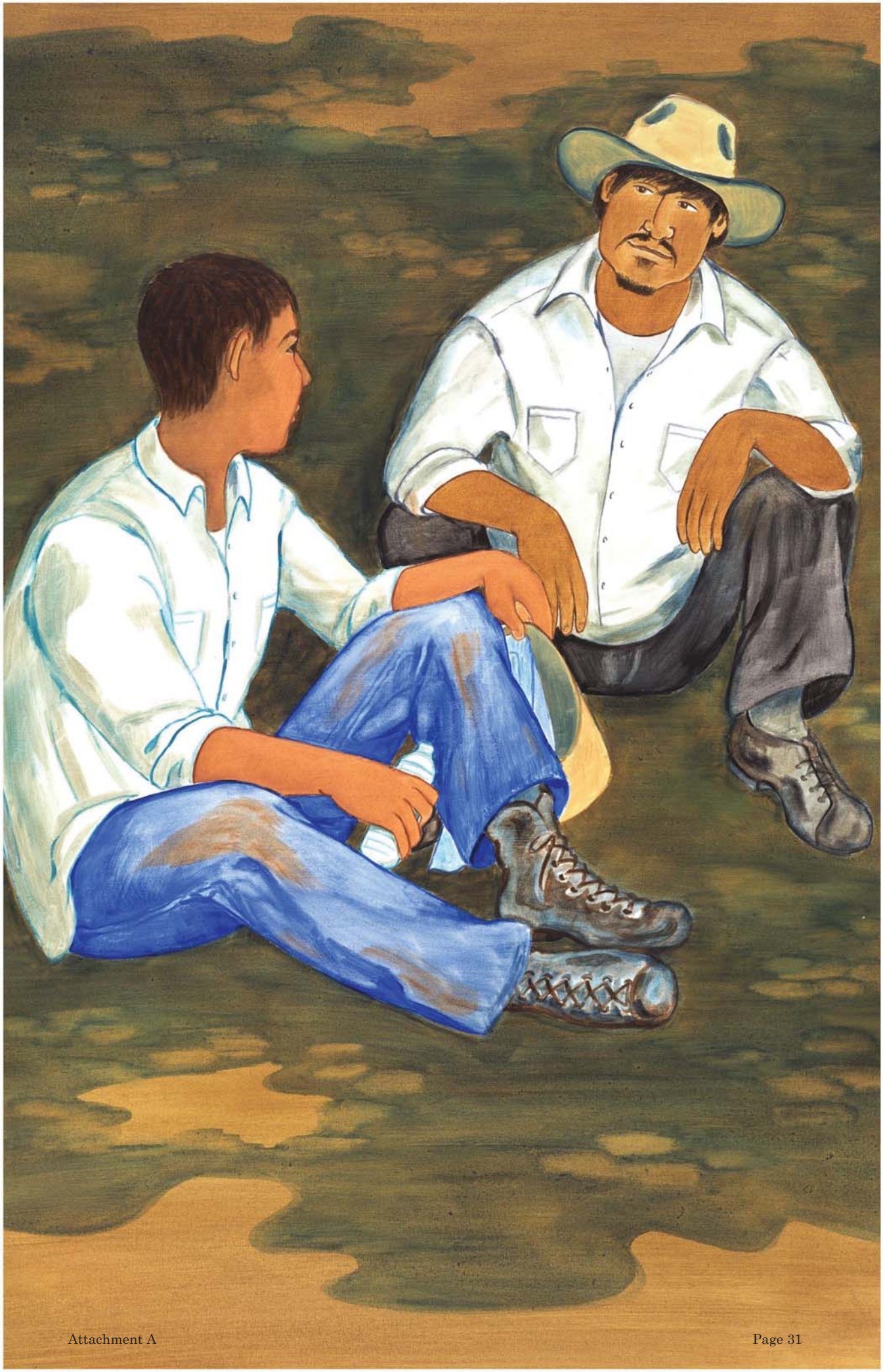
How often do you take breaks at work?

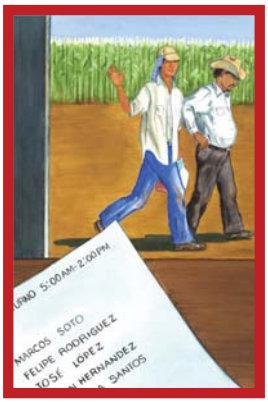
•Take regular breaks or rest periods in the shade
•If you are in a pesticide-free area, take off heavy, restrictive personal protective equipment during breaks

Cuando trabaja en el calor, el descanso puede ayudar a refrescar el cuerpo y también prevenirlo de sobrecalentarse.

¿Cuán frecuente toman descansos cuando trabajan?

•Tome descansos periódicos bajo la sombra
•Si está en un lugar libre de pesticidas y de los residuos de los pesticidas, quítese la ropa pesada y restringida de protección personal durante sus descansos del trabajo





Thinking about when, where and how you work is always important to maintain your health and safety.

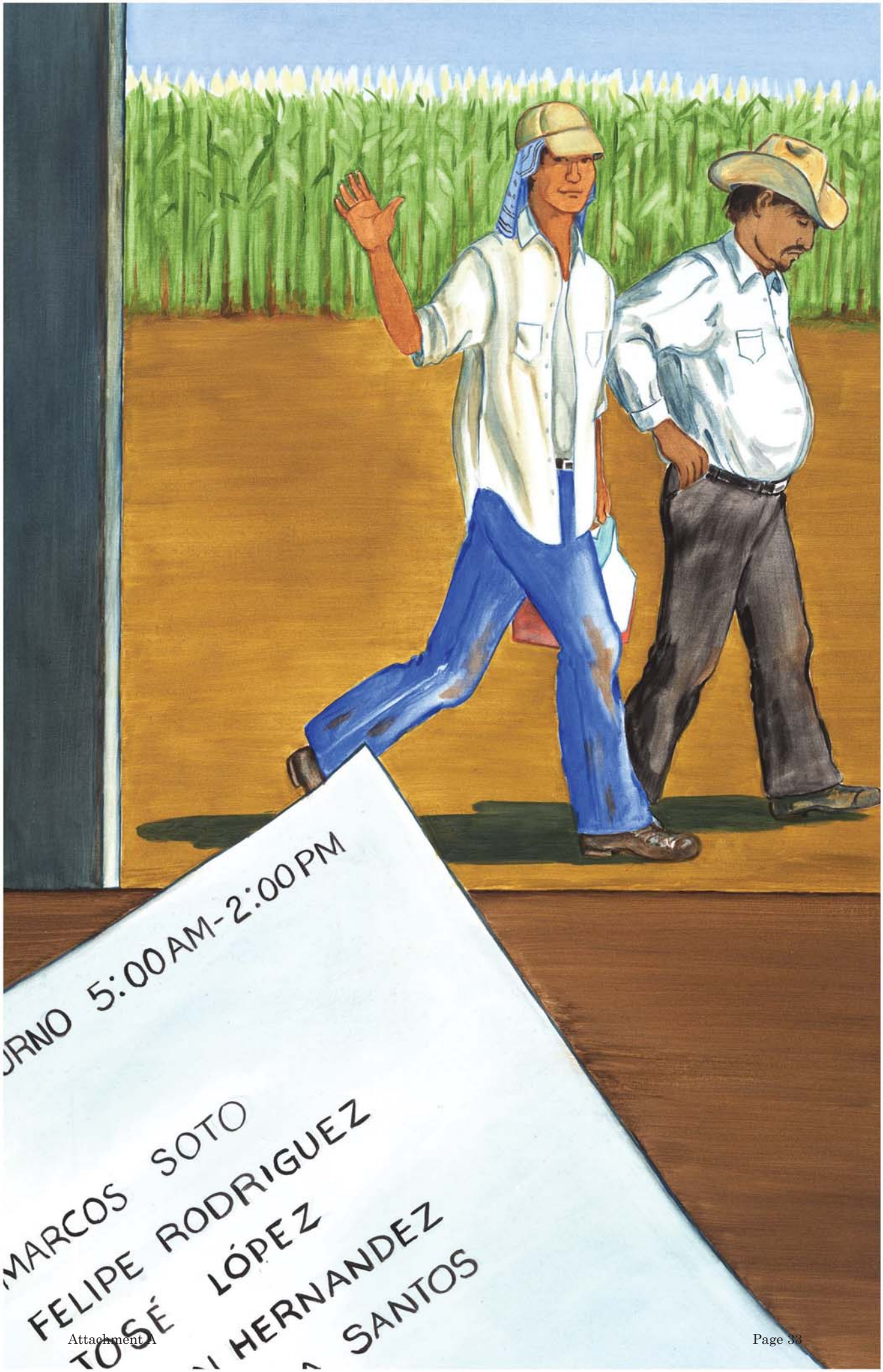
What time of day do you usually work and for how long?

•When possible, work during the cooler hours of the day
•Be careful about working in the heat during a heat wave, as your body may not be used to the higher temperatures
•If you have never worked in the heat, or haven't done so in more than two weeks, work shorter shifts until your body has adjusted
•Work with a friend or co-worker and keep an eye on each other at all times

Pensando en cuándo, dónde y cómo uno trabaja es siempre importante para mantener la salud y la seguridad.

¿Generalmente, a qué horas del día trabajan y por cuánto tiempo?

•Cuando sea posible, trabaje durante las horas más frescas del día
•Tenga cuidado cuando tiene que trabajar durante una ola de calor, ya que su cuerpo no estará acostumbrado a las altas temperaturas
•Si nunca ha trabajado en el calor, o no lo ha hecho por más de dos semanas, trabaje turnos más cortos hasta que su cuerpo se haya ajustado
•Trabaje con un amigo o compañero de trabajo y cuídense el uno al otro a todo tiempo


URNO 5:00AM-2:00PM
MARCOS SOTO
FELIPE RODRIGUEZ
TOSÉ LÓPEZ
HERNANDEZ
SANTOS

Now that we know the best ways to prevent heat-related illness, we are going to look at people who may be more likely to get ill from exposure to heat.

Ahora que conocemos las mejores maneras de prevenir las enfermedades relacionadas con el calor, estamos listos para entender que personas tienen más riesgo enfermarse por la exposición al calor.

Can you think of any personal characteristics that might put a person at higher risk for developing heat exhaustion or heat stroke?

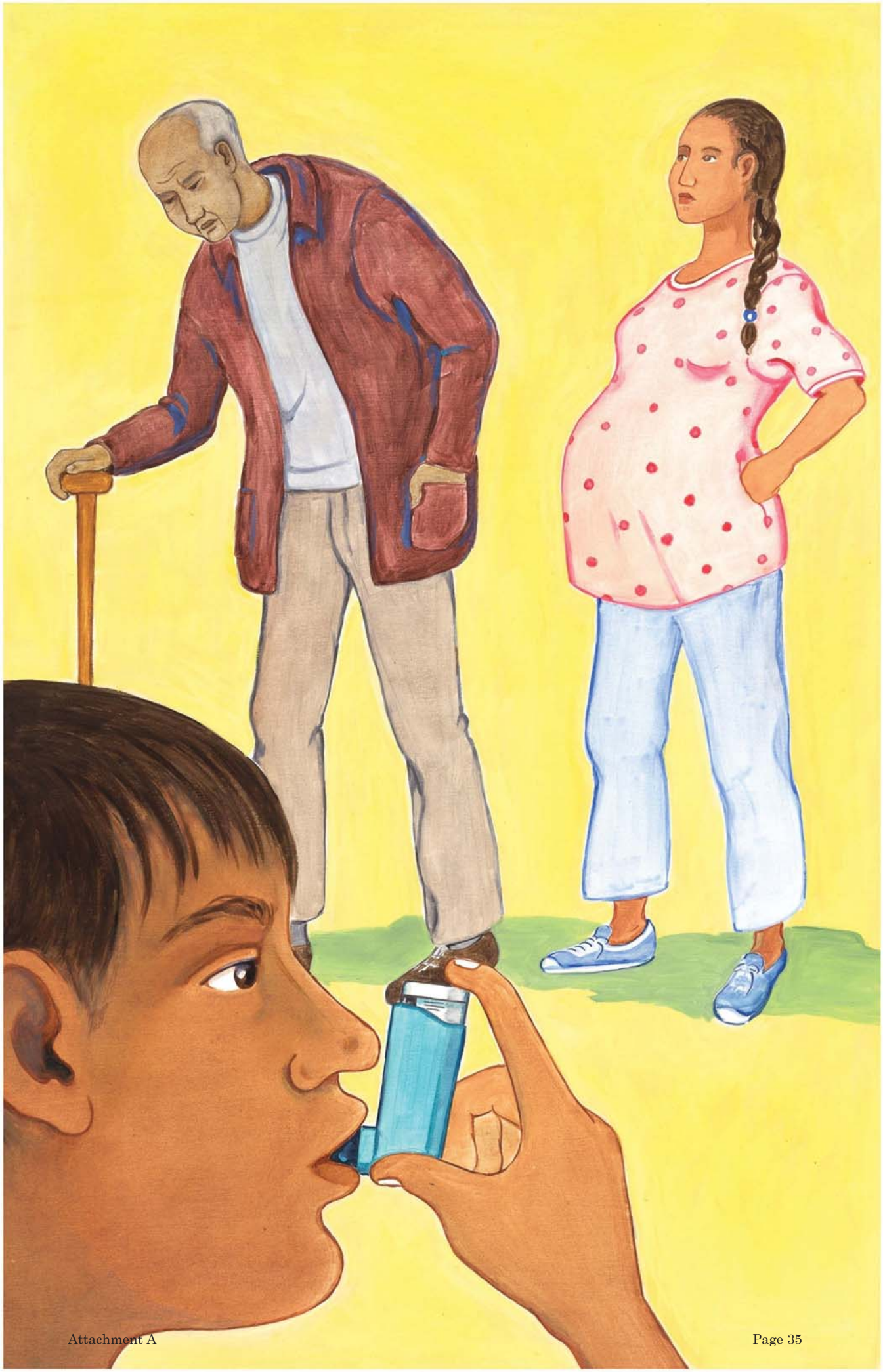
Trainer note: Encourage participants to share answers. Add any of the listed responses that have not been mentioned in the discussion.

Well, some of the personal risk factors for heat-related illness include:
•***Weight***—people who weigh more take longer to cool down
•***Pregnancy***—pregnant women are more sensitive to heat
•***Age***—very young or very old people are more susceptible to heat-related illnesses
•***Existing medical conditions***—people with diseases such as diabetes or high-blood pressure are more likely to develop heat-related illnesses
•***Medications***—there are certain medications that affect the body in a way that changes its normal response to heat
•***Physical fitness***—muscles that are used to being active work more efficiently and generate less heat; people with strong cardiovascular systems also adjust better to changes in temperature and physical activity

¿Pueden pensar en algunas características personales que podría subir el riesgo de sufrir el agotamiento por calor o la insolación?

Nota para entrenador/a: Anima a los participantes a compartir sus respuestas. Agrega cualquier respuesta a la conversación que ya no ha sido mencionada.

Bueno, algunos de los factores personales de riesgo por las enfermedades relacionadas con el calor incluyen:
•***El peso***—las personas que pesan más tardan más en enfriarse
•***El embarazo***—las mujeres embarazadas son más sensibles al calor
•***La edad***—las personas muy jóvenes o muy viejas son más susceptibles a las enfermedades relacionadas con el calor
•***Condiciones médicas preexistentes***—los individuos con enfermedades como la diabetes o la hipertensión están más dispuestos a sufrir las enfermedades relacionadas con el calor
•***Los medicamentos***—existen algunos medicamentos que cambian el modo normal del cuerpo en como responde al calor
•***El estado físico***—los músculos que son acostumbrados a estar activos funcionan con más eficiencia y generan menos calor; las personas con sistemas cardiovasculares fuertes también se adaptan mejor a los cambios en temperatura y la actividad física



Other personal factors affecting a person's risk for heat exhaustion or heat stroke include:

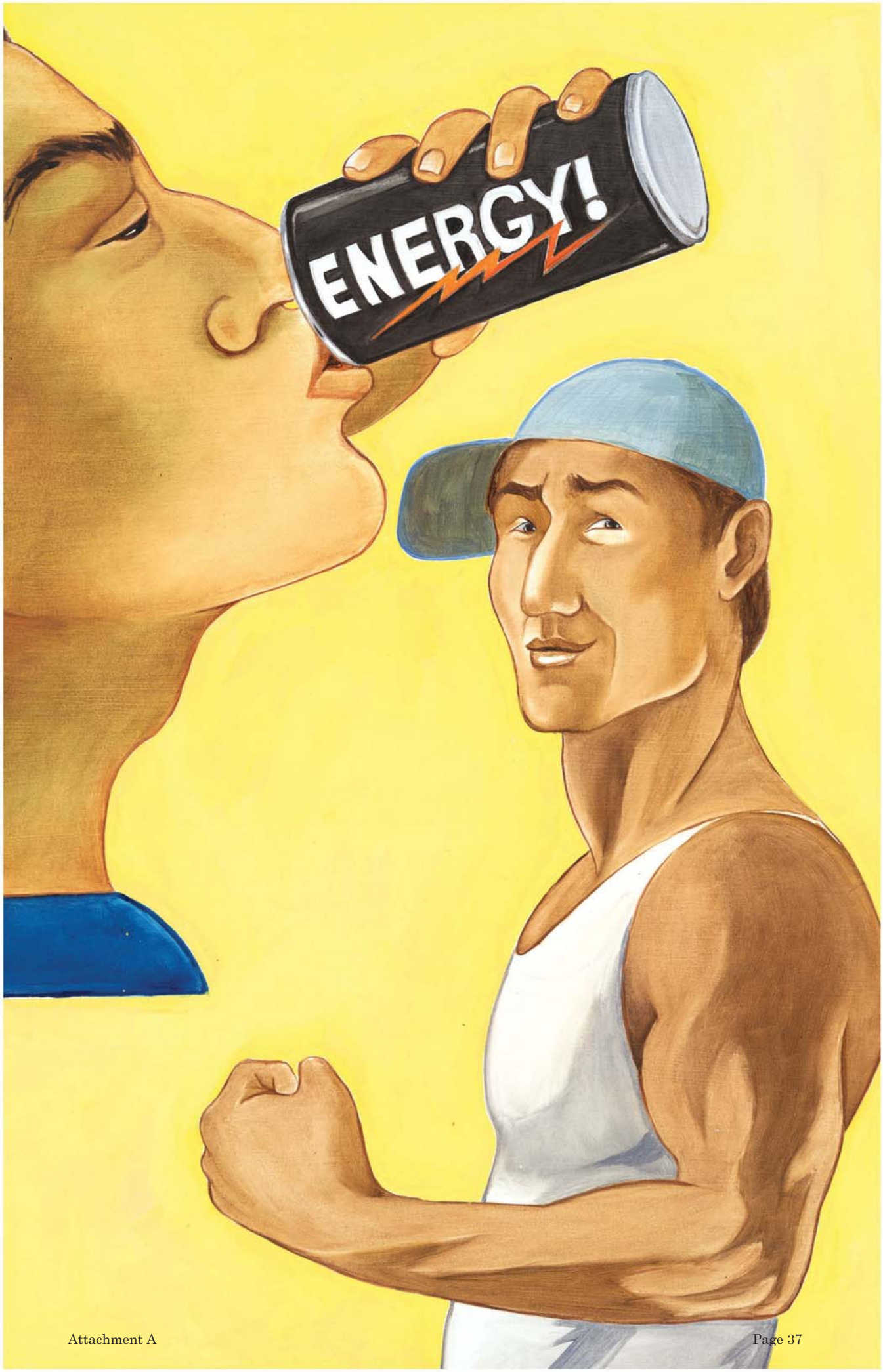
•***Acclimatization***—people who are new to farm work or not used to working in heat are more prone to heat-related illnesses
•***Drinks***—as we have already mentioned, drinking alcohol or energy drinks makes it easier for your body to lose water and increase your chance of heat exhaustion or heat stroke
•***Attitudes***—some people think things like "I'm tough. I don't need a water break," "I'm not thirsty, so I don't need to drink," "I'll lose pay if I take a break," or "Drinking cool water will hurt me if I am already hot." Incorrect beliefs such as these may cause people to practice unsafe work behaviors in the heat.

What can you do if one of these factors applies to you? If you have a personal risk factor that increases your chance of developing heat exhaustion or heat stroke it is important to inform your employer and to take extra care to rest and drink plenty of water. In the case of attitudes and beliefs, it is important that you understand the danger of heat-related illness, how to prevent it and the important of your own health and safety for yourself, your employer and your family.

Otros factores personales que afectan al riesgo para agotamiento por calor o insolación incluyen:

•***La aclimatación***—las personas que son nuevas al trabajo agrícola o las que no están acostumbradas a trabajar en el calor son más susceptibles a las enfermedades causadas por el calor
•***Las bebidas***—como ya mencionamos, consumir alcohol o bebidas energéticas hacen que el cuerpo pierda agua fácilmente, y aumenta el riesgo de sufrir agotamiento por calor o la insolación
•***Las actitudes***—algunas personas dicen: "Soy hombre. No necesito un descanso para tomar agua," "No tengo sed, así que no necesito tomar agua," "Voy a perder dinero si tomo un descanso," o Tomando agua fría hará daño si ya tengo calor." Creencias incorrectas como estas pueden causar que la gente se comporte peligrosamente cuando trabajan en el calor.

¿Qué se puede hacer si uno de estos factores de riesgo le aplica a usted? Si tiene un factor personal de riesgo que aumenta su posibilidad de sufrir agotamiento por calor o insolación, es importante informar al contratista o mayordomo y tomar tiempo de descanso y tomar suficiente agua. En el caso de las actitudes y las creencias que mencionamos, es importante que entienda el peligro de las enfermedades relacionadas con el calor, como prevenirlas, y la importancia de su propia salud y seguridad, para ti mismo, el contratista o mayordomo, y tu familia.


ENERGY!

Personal risk factors can increase someone's risk of heat exhaustion or heat stroke. But there are also characteristics of the environment in which a person works that affect their risk for heat-related illnesses.

Can you think of any environmental factors that might increase a person's risk for heat exhaustion or heat-related illness?

Trainer note: Encourage participants to share answers. Add any of the listed responses that have not been mentioned in the discussion.

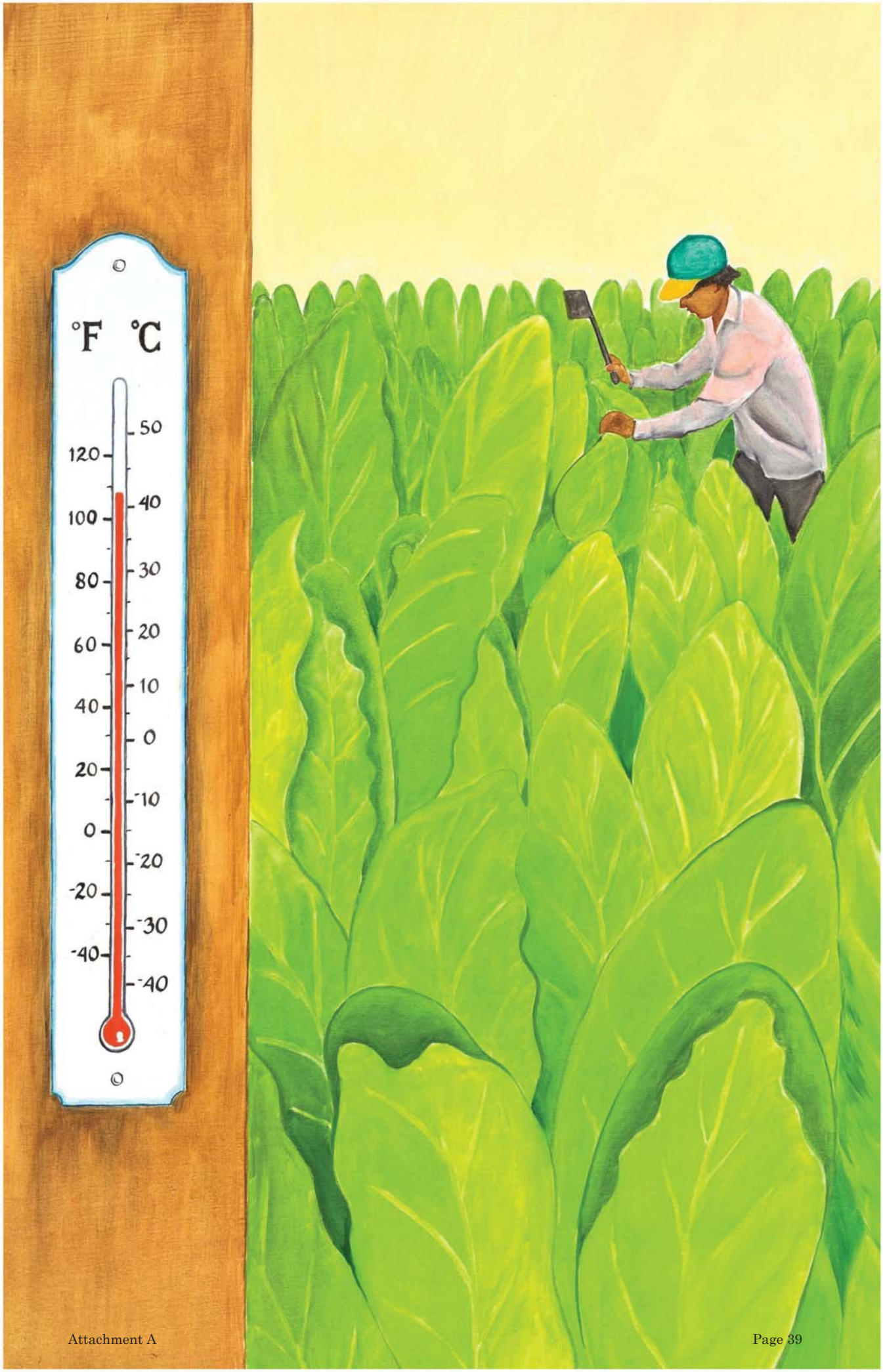
•***Temperature***—higher temperatures increase the risk of heat-related illnesses
•***Shade or cloud cover***—lack of shade or cloud cover means that people are working in direct sunlight which increases their risk for heat exhaustion or heat stroke
•***Wind***—wind helps sweat to evaporate and the body to cool; if the air isn't moving, then a person's risk for heat-related illnesses increases
•***Humidity***—more humid environments make it more difficult for your sweat to evaporate and more difficult for your body to cool itself
•***Presence of heavy machinery***—some farm machinery, such as tractors and combines, can produce large amounts of heat
•***Time of day***—afternoon hours are often hotter than earlier, morning hours.

Muchos factores personales pueden aumentar el riesgo de padecer de enfermedades causadas por calor. Pero también existen características del ambiente en la cual trabaja una persona que afectan a su riesgo por las enfermedades relacionadas con el calor.

¿Saben de algunos factores ambientales que podrían aumentar el riesgo de una persona padecer de agotamiento por calor o de enfermedades relacionadas con el calor?

Nota para entrenador/a: Anima a los participantes a compartir sus respuestas. Agrega a la conversación en grupo cualquier respuesta que no ha sido mencionada.

•***La temperatura del aire***—las temperaturas más altas aumentan el riesgo de las enfermedades relacionadas con el calor
•***Sombra o la cubertura de nubes***—falta de sombra o de nubes significa que las personas están trabajando en la directa luz del sol, lo que aumenta el riesgo para el agotamiento por calor o insolación
•***El viento***—el viento ayuda evaporarse al sudor y refrescar al cuerpo; si no hay viento, aumenta el riesgo de sufrir las enfermedades causadas por calor
•***Humedad***—en los ambientes más húmedos, cuesta que se evapore la transpiración y que se refresque su cuerpo
•***La presencia de maquinaria pesada***—algunas maquinas agrícolas, como los tractores y las cosechadoras, pueden producir enormes cantidades de calor
•***Tiempo del día***—en las tardes hace más calor que en las horas tempranas de la mañana.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Other environmental factors that can affect a person's risk for heat-related illness include:

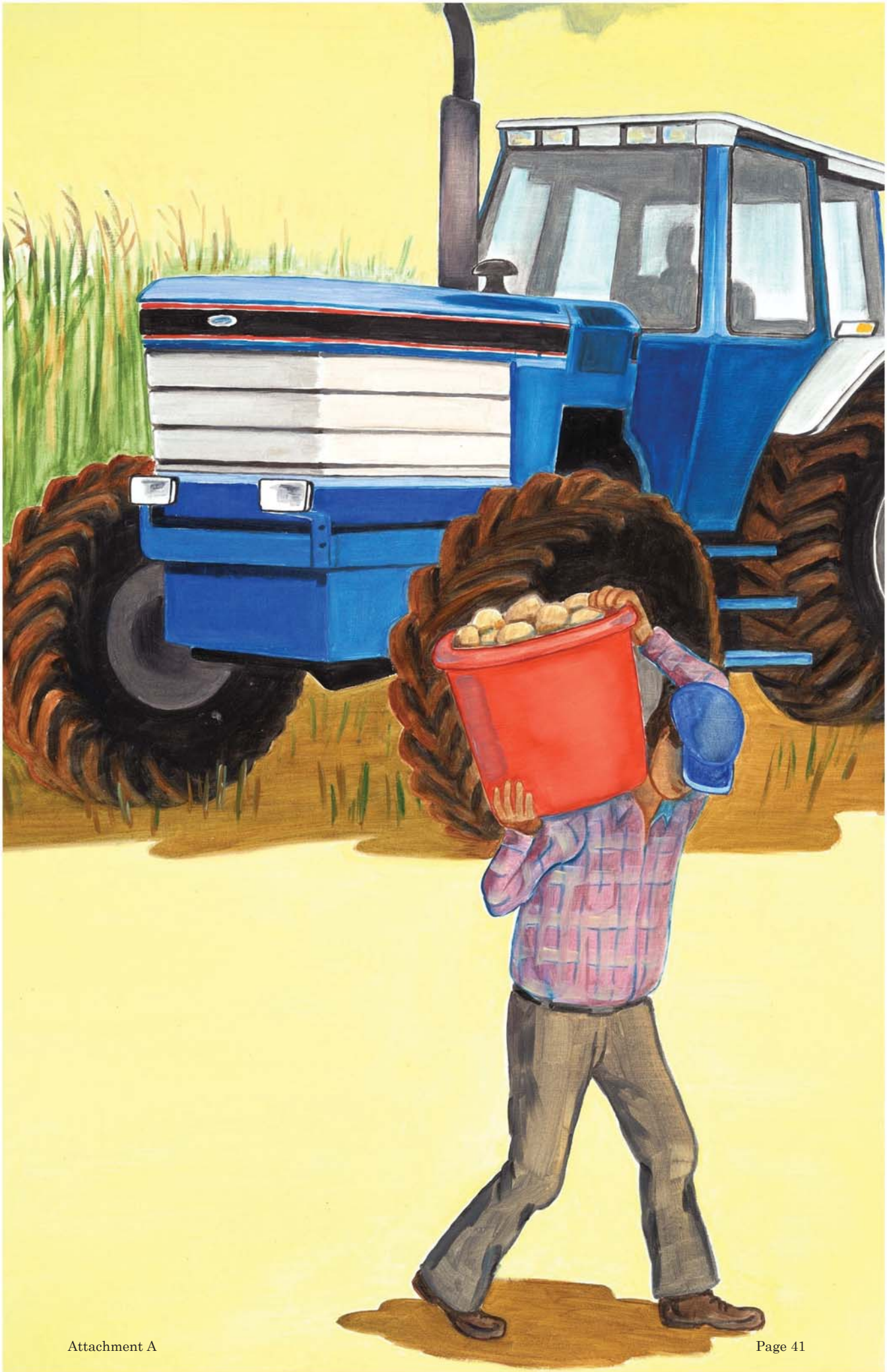
- ***Workload***—physically demanding work makes the body generate more heat
- ***Heavy clothing***—clothing items such as those used as personal protective equipment trap heat and do not allow a person's body to cool down properly
- ***Pesticide exposure***—certain pesticides can cause a person to sweat more and increase their risk of a heat illness

Trainer activity: To wrap up the discussion, ask a volunteer to summarize what he or she has learned today. Then, ask volunteers to share actions that they plan on taking in the future to reduce their personal risk of developing heat-related illnesses.

Otros factores ambientales que pueden afectar el riesgo de sufrir las enfermedades relacionadas con el calor incluyen:

- ***Carga de trabajo***—el trabajo que lleva gran esfuerzo físico hace que el cuerpo genere más calor
- ***La ropa pesada***—los artículos de ropa, como los que se usan como equipo personal de protección, atrapan al calor y no permiten que el cuerpo se refresque adecuadamente
- ***La exposición a los pesticidas***—algunos pesticidas pueden causar a una persona sudar más y aumentar su riesgo por enfermedad causada por calor

Actividad de entrenador/a: Para terminar la charla, pide que un voluntario dé un resumen de lo que se ha aprendido hoy. Después, pide que más voluntarios compartan las acciones que piensan llevar a cabo en el futuro para reducir su riesgo personal de sufrir de enfermedades causadas por el calor.



116TH CONGRESS
1ST SESSION

H. R. 3668

To direct the Occupational Safety and Health Administration to issue an occupational safety and health standard to protect workers from heat-related injuries and illnesses.

IN THE HOUSE OF REPRESENTATIVES

JULY 10, 2019

Ms. JUDY CHU of California (for herself, Mr. SCOTT of Virginia, Ms. ADAMS, Mr. RIJALVA, Mr. LEVIN of Michigan, Ms. JAYAPAL, Ms. WILD, Ms. BONAMICI, Ms. OMAR, Mr. MCGOVERN, Mr.TAKANO, Mr. DESAULNIER, Mr. DANNY K. DAVIS of Illinois, Ms. NORTON, Mr. COHEN, Mrs. WATSON COLEMAN, Ms. ROYBAL-ALLARD, Mr. CÁRDENAS, Mr. SABLAN, Mrs. NAPOLITANO, Ms.VELÁZQUEZ, and Ms. MENG) introduced the following bill; which was referred to the Committee on Education and Labor

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A BILL

To direct the Occupational Safety and Health Administration to issue an occupational safety and health standard to protect workers from heat-related injuries and illnesses.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE AND FINDINGS.

(a) SHORT TITLE. — This Act may be cited as the "Asuncion Valdivia Heat Illness and Fatality Prevention Act of 2019".

(b) FINDINGS. — Congress finds the following:

(1) Excessive heat exposure poses a direct threat to workers and the economy. Climate change increases this danger, as 18 of the 19 hottest years on record have occurred since 2001. Rising temperatures are projected to cause an increase in heat-related workplace injuries and illnesses, a dramatic loss in labor capacity, and decreased productivity.

(2) Heat-related illnesses can arise when high temperatures rise above the body's capacity to dispel heat. Impacts range from comparatively minor problems such as heat cramps to severe afflictions such as organ damage, heat exhaustion, stroke, and death.

(3) Farmworkers and construction workers suffer the highest incidence of heat illness, but all outdoor and indoor workers employed in excessively hot and humid environments are at significant risk of material impairment of health or functional capacity.

(4) Asuncion Valdivia was a California farmworker who died of heat stroke in 2004 after picking grapes for 10 straight hours in 105-degree temperatures. Instead of calling an ambulance, his employer told his son to drive Mr. Valdivia home. On his way home, he started foaming at the mouth and died.

(5) People working in excessive heat suffer diminished mental acuity and physical ability, which increases the risk of accidents. Heat-related injuries and illnesses increase workers' compensation costs and medical expenses.

(6) The costs of lower labor productivity under rising temperatures is estimated to reach up to $160,000,000,000 in lost wages per year in the United States by 2090 according to the 2018 National Climate Assessment. The drop-in productivity decreases income for employers and workers. Global gross domestic product losses from heat are projected to be greater than 20 percent by the end of this century.

(7) Every year, thousands of workers become sick and some die from exposure to heat. Between 1992 and 2017, 815 United States workers died from heat and almost 70,000 were seriously injured. These numbers are generally understood to be gross undercounts because many heat-related illnesses and deaths are blamed on natural causes.

(8) Workers have a legal right to a safe workplace. The vast majority of heat-related workplace deaths and illnesses can be prevented by access to water, rest, and

shade. Many employers don't provide these simple measures for workers according to the Occupational Safety and Health Administration.

(9) Employers often retaliate against employees if they report or seek assistance due to problems with heat. Many employees are therefore afraid to report problems and face increased risk of heat-related illnesses or death.

(10) In the absence of a Federal standard, multiple branches of the United States Armed Forces—including the Army, Navy, Marine Corps, and Air Force—have issued heat prevention guidelines, and several States—California, Washington, and Minnesota—have issued heat prevention standards. The National Institute for Occupational Safety and Health (NIOSH) issued criteria for such a standard in 1972, updating it in 1986 and 2016.

(11) Congress created the Occupational Safety and Health Administration to ensure safe and healthful working conditions by setting and enforcing standards pursuant to section 6 of the Occupational Safety and Health Act of 1970. Employees are exposed to grave danger from exposure to excessive heat. The Occupational Safety and Health Administration must develop a standard to protect workers from the significant risks of heat-related illness and death.

SECTION 2. OSHA SAFETY STANDARD FOR EXPOSURE TO HEAT AND HOT ENVIRONMENTS.

(a) PROPOSED STANDARD. — Not later than 2 years after the date of enactment of this Act, the Secretary of Labor shall, pursuant to section 6(b) of the Occupational Safety and Health Act (29 U.S.C. 655), promulgate a proposed standard on prevention of occupational exposure to excessive heat.

(b) FINAL STANDARD. — Not later than 42 months after the date of enactment of this Act, the Secretary shall promulgate a final standard on prevention of occupational exposure to excessive heat that shall—

(1) provide no less protection than the most protective heat prevention standard adopted by a State plan that has been approved by the Secretary under section 18 of the Occupational Safety and Health Act of 1970 (29 U.S.C. 667) and, at a minimum, include the requirements described in section 4; and

(2) be effective and enforceable in the same manner and to the same extent as any standard promulgated under section 6(b) of the Occupational Safety and Health Act of 1970 (29 U.S.C. 655(b)).

(c) INTERIM FINAL STANDARD. —

(1) IN GENERAL. — If the proposed standard described in subsection (a) is not promulgated not later than 2 years after the date of enactment of this Act, the Secretary of Labor shall promulgate an interim final standard on prevention of occupational exposure to excessive heat not later than 2 years and 60 days after such date of enactment—

(A) to require covered employers to develop and implement a comprehensive workplace excessive heat prevention plan to protect covered employees from excessive heat that may lead to heat-related injuries and illnesses; and

(B) that shall, at a minimum—

(i) provide no less protection than the most protective heat prevention standard adopted by a State plan that has been approved by the Secretary under section 18 of the Occupational Safety and Health Act of 1970 (29 U.S.C. 667);

(ii) establish requirements with respect to exposure limits that trigger action to protect covered employees from heat-related illness, hydration, scheduled and paid rest breaks in shaded or climate-controlled spaces, an acclimatization plan, exposure monitoring, and other measures to prevent exposure to heat above safe limits, employee and supervisor training, hazard notification, an emergency medical response plan, heat-related surveillance, recordkeeping, and procedures for compensating piece rate workers for required heat-related rest breaks;

(iii) take into consideration the NIOSH Criteria for a Recommended Standard: Occupational Exposure to Heat and Hot Environments published by the National Institute for Occupational Safety and Health in 2016; and

(iv) include a requirement to protect employees from discrimination or retaliation for exercising the rights of the employees under the interim final standard.

(2) APPLICABILITY OF OTHER STATUTORY REQUIREMENTS. — The following shall not apply to the promulgation of the interim final standard under this subsection:

(A) The requirements applicable to occupational safety and health standards under section 6(b) of the Occupational Safety and Health Act of 1970 (29 U.S.C. 655(b)).

(B) The requirements of section 553(c) of chapter 5 and chapter 6 of title 5, United States Code, and chapter 55 of title 42, United States Code.

(3) EFFECTIVE DATE OF INTERIM STANDARD. — The interim final standard shall—

(A) take effect on a date that is not later than 30 days after the promulgation of such standard, except that such interim final standard may include a reasonable phase-in period for the implementation of required engineering controls that take effect after such date;

(B) be enforced in the same manner and to the same extent as any standard promulgated under section 6(b) of the Occupational Safety and Health Act of 1970 (29 U.S.C. 655(b)); and

(C) be in effect until the final standard described in subsection (b) becomes effective and enforceable.

SECTION. 3. DEFINITIONS.

In this Act:

(1) COVERED EMPLOYEE. — The term "covered employee" includes an individual employed by a covered employer.

(2) COVERED EMPLOYER. — The term "covered employer"—

(A) means an employer that employs an individual to work at a covered workplace; and

(B) includes a contractor, subcontractor, a temporary service firm, or an employee leasing entity.

(3) COVERED WORKPLACE. — The term "covered workplace" includes a workplace with occupational exposure to excessive heat.

(4) EMPLOYER.—The term "employer" has the meaning given the term in section 3 of the Occupational Safety and Health Act of 1970 (29 U.S.C. 652).

(5) EXCESSIVE HEAT.—The term "excessive heat" includes outdoor or indoor exposure to heat at levels that exceed the capacities of the body to maintain normal

body functions and may cause heat-related injury, illness, or fatality (including heat stroke, heat exhaustion, heat syncope, heat cramps, or heat rashes).

(6) SECRETARY. — The term "Secretary" means the Secretary of Labor.

SECTION. 4. REQUIREMENTS FOR FINAL STANDARD ON PREVENTION OF OCCUPATIONAL EXPOSURE TO EXCESSIVE HEAT.

(a) IN GENERAL. — The final standard promulgated under section 2(b) shall, at a minimum—

(1) take into consideration the NIOSH Criteria for a Recommended Standard: Occupational Exposure to Heat and Hot Environments published by the National Institute for Occupational Safety and Health in 2016;

(2) establish requirements with respect to exposure limits that trigger action to protect covered employees from heat-related illness, hydration, scheduled and paid rest breaks in shaded or climate-controlled spaces, an acclimatization plan, exposure monitoring, and other measures to prevent exposure to heat above safe limits, employee and supervisor training, hazard notification, medical monitoring, an emergency medical response plan, heat-related surveillance recordkeeping, procedures for compensating piece rate workers for required heat-related rest breaks, and a heat prevention plan; and

(3) include the requirements described in subsection (b).

(b) REQUIREMENTS. — The final standard promulgated under section 2(b) shall include the following:

(1) HEAT ILLNESS PREVENTION PLANS. —

(A) IN GENERAL. — A covered employer shall develop, implement, and maintain an effective, written excessive heat illness prevention plan for covered employees, which shall—

(i) be developed and implemented with the meaningful participation of covered employees and, where applicable, employee representatives and collective bargaining representatives, for all aspects of the plan;

(ii) be tailored and specific to hazards in the covered workplace;

(iii) be in writing, in English and in the language understood by a majority of the employees, if such language is not English; and

(iv) made available, upon request, to such employees, the employee representatives for such employees, and the Secretary.

(B) PLAN CONTENT. — Each plan shall include procedures and methods for the following:

(i) Initial and regular monitoring of employee exposure to determine whether employees are exposed to excessive heat.

(ii) Provision of water, paid rest breaks, and access to shade or cool-down areas.

(iii) Emergency response.

(iv) Acclimatization.

(v) Hazard prevention, including engineering controls, administrative controls, or personal protective equipment to correct, in a timely manner, applying industrial hygiene principles of the hierarchy of controls, including, as appropriate—

(I) engineering controls that may include isolation of hot processes, isolation of employees from sources of heat, local exhaust ventilation, shielding from a radiant heat source, and insulation of hot surfaces, the provision of air conditioning, cooling fans, cooling mist fans, evaporative coolers, and natural ventilation;

(II) administrative controls that limit exposure to a hazard by adjustment of work procedures or work schedules, which may include acclimatizing employees, rotating employees, scheduling work earlier or later in the day, using work-rest schedules, reducing work intensity or speed, changing required work clothing, and using relief workers; and

(III) personal protective equipment which may include water-cooled garments, air-cooled garments, reflective clothing, and cooling vests.

(vi) Coordination of risk assessment efforts, plan development, and implementation of the plan with other employers who have employees who work at the covered workplace.

(vii) Compensating piece rate workers for required heat-related rest breaks.

(2) TRAINING AND EDUCATION. —

(A) EMPLOYEE TRAINING. — A covered employer shall provide annual training and education to covered employees who may be exposed to high heat levels, which shall cover the following topics:

(i) Identified heat illness risk factors.

(ii) Personal factors that may increase susceptibility to heat-related illness.

(iii) Signs and symptoms of heat-related illness.

(iv) Different types of heat illness.

(v) The importance of acclimatization and consumption of liquids.

(vi) Engineering control measures.

(vii) Administrative control measures.

(viii) The importance of reporting heat-related symptoms being experienced by the employee or another employee.

(ix) Recordkeeping requirements and reporting procedures.

(x) Emergency response procedures.

(xi) Employee rights.

(B) SUPERVISOR TRAINING. — In addition to the training and education required in subparagraph (A), training and education shall be provided to covered employees who are supervisors that shall cover the following topics:

(i) The procedures a supervisor is required to follow under this Act.

(ii) How to recognize high-risk situations, including how to monitor weather reports and weather advisories, and not assigning an employee to situations that predictably compromise the safety of the employee.

(iii) The procedures to follow when an employee exhibits signs or reports symptoms consistent with possible heat illness, including emergency response procedures.

(C) GENERAL TRAINING REQUIREMENTS. — The education and training provided under this paragraph to covered employees shall meet the following:

(i) In the case of such an employee whose job circumstances have changed, within a reasonable timeframe after such change of job circumstances, education and training shall be provided that shall be—

(I) in addition to the education and training provided under subparagraph (A) and, if applicable to such employee, subparagraph (B); and

(II) applicable to such change of job circumstances.

(ii) Applicable education and training shall be provided for each new covered employee prior to the employee's job assignment.

(iii) The education and training shall provide such employees opportunities to ask questions, give feedback, and request additional instruction, clarification, or other follow-up.

(iv) The education and training shall be provided in-person and by an individual with knowledge of heat illness prevention and of the plan of the employer under this section.

(v) The education and training shall be appropriate in content and vocabulary to the language, educational level, and literacy of such covered employees.

(3) RECORDKEEPING. — Each covered employer shall—

(A) maintain at all times—

(i) records related to each plan of the employer, including heat illness risk and hazard assessments, and identification, evaluation, correction, and training procedures;

(ii) data on all heat-related illnesses and deaths; and

(iii) data on environmental and physiological measurements related to heat; and

(B) make such records and data available, upon request, to covered employees and their representatives for examination and copying in accordance with section 1910.1020 of title 29, Code of Federal Regulations (as such section is in effect on the date of enactment of this Act).

(4) WHISTLEBLOWER PROTECTIONS. —

(A) POLICY. — Each covered employer shall adopt a policy prohibiting any person (including an agent of the employer) from discriminating or retaliating against any employee for—

(i) exercising the rights of the employee under this Act; or

(ii) reporting violations of the standard to any local, State, or Federal government.

(B) PROHIBITION. — No covered employer shall discriminate or retaliate against any employee for—

(i) reporting a heat-illness-related concern to, or seeking assistance or intervention with respect to heat-related health symptoms from, the employer, local emergency services, or a local, State, or Federal government; or

(ii) exercising any other rights of the employee under this Act.

(C) ENFORCEMENT. — This paragraph shall be enforced in the same manner and to the same extent as any standard promulgated under section 6(b) of the Occupational Safety and Health Act (29 U.S.C. 655(b)).