lines suggest that a temperature of 90° at 20% humidity could be suitable for conducting football practice with full protective gear, a temperature of 90° at 80% humidity could create a dangerous environment for which activity and equipment use should be limited. Thus, NATA recommends that coaches and athletic administrators monitor ambient temperature and relative humidity and be prepared to implement appropriate activity restrictions.3

When a participant shows signs of heat illness, secondary prevention is crucial to prevent progression. Any person exhibiting nausea, vomiting, headache, dizziness, or mental status change should be immediately evaluated for potential heat exhaustion or heat stroke by a health professional.3 In mild cases of heat illness (e.g., dehydration or heat cramps), simple interventions that include removal from activity and hydration can be sufficient. However, more advanced conditions, such as heat exhaustion or heat stroke, require aggressive interventions such as cold water immersion and chilled intravenous fluids to lower core body temperature as rapidly as possible.3,10

The findings in this report are subject to at least one limitation. These results are an underestimate of the actual magnitude of heat illness among high school athletes because only heat illnesses resulting in ≥1 days time loss were reportable, only nine sports were assessed, and only schools with an NATA-affiliated certified athletic trainer were included.

If left untreated, heat illness can progress to heat stroke and result in permanent illness or death; thus, prevention is critical. Athletes, coaches, athletic trainers, and parents/guardians should be aware of the hazards and risk factors, follow recommended prevention strategies, and be prepared to respond quickly. CDC is developing an Internet-based course for coaches and others associated with high school athletics to help prevent, recognize, and respond to heat-related illness among student athletes.

REFERENCES
10 Available.

*Participants were given the following options: <0.5 hour, 0.5-1 hour, 1-2 hours, and >2 hours.
†Body mass index (BMI) = weight (kg) / [height (m)]². BMI classifications: <18.5 underweight, 18.5-24.9 normal weight, 25-29.9 overweight, ≥30 obese. Available at http://www.unc.edu/depts/nccsi2009AnnualFootball.pdf.

Notes From the Field: Transplant-Transmitted Balamuthia mandrillaris—Arizona, 2010

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On August 23, 2010, CDC was notified regarding two organ transplant recipients in Arizona who had encephalitis with multiple ring-enhancing lesions revealed by cerebral magnetic resonance imaging. The common organ donor, a Hispanic male landscaper aged 27 years, had died in Arizona from a presumed stroke on July 21. He had a large skin lesion for approximately 6 months on his back that he had attributed to an insect bite. The ill recipients, a male liver recipient aged 56 years, and a male recipient of a kidney and pancreas aged 24 years, received organ transplants on July 22. In addition, two other recipients received organs from this donor: an adult male heart recipient received his transplant in California on July 22, and an adult male kidney recipient received his transplant in Utah on July 23.

On August 8, the liver recipient had onset of diplopia and difficulty walking; he was hospitalized on August 9 and died on August 17. The kidney-pancreas recipient had onset of headache, nausea, and vomiting on August 15 and was hospitalized the same day. A brain biopsy, performed on August 23, demonstrated amebic encephalitis on histopathologic examination; empiric therapy was initiated on August 24. On August 26, Balamuthia mandrillaris antigens were identified in the brain biopsy from the kidney-pancreas recipient and in postmortem brain and liver tissue from the liver recipient, using immunohistochemical staining. B. mandrillaris DNA was detected in the brain tissue from both patients by real-time polymerase chain reaction on August 27. The kidney-pancreas recipient died on August 30. The heart and kidney recipients, who have been asymptomatic, were placed on preemptive therapy on August 26.

This is the second confirmed cluster of transplant-transmitted Balamuthia granulomatous amebic encephalitis (GAE). The first occurred in 2009 in two recipients of kidneys from a common donor.1 Balamuthia GAE is a rare and frequently fatal disease caused by B. mandrillaris, a free-living ameba found in soil.2,3 Persons of Hispanic ethnicity might be disproportionately affected.2,3 Patients can have skin lesions months to years before having encephalitis symptoms. No optimal treatment has been identified; among patients treated with combination antimicrobial therapy, few have survived.1-3 Amebic encephalitis might be more common than previously thought and underdiagnosed among organ donors with encephalitis of uncertain etiology or other neurologic conditions.*

Reported by: Arizona Dept of Health Svcs. Div of Healthcare Quality Promotion, Div of High-Consequence Pathogens and Pathology, Div of Foodborne, Waterborne, and Environmental Diseases, National Center for Emerging and Zoonotic Infectious Diseases; Div of Parasitic Diseases and Malaria, Center for Global Health; C Mbaeyi, BDS, EIS Officer, CDC.

REFERENCES
*Additional information available at http://www.cdc.gov/balamuthia.