

Clean Water Act

Disease outbreak causes Arizona golf courses to revamp drinking water sanitation standards

BY JAMES E. GUYETTE

Golf course employees nationwide should apply food-service-quality sanitation procedures to their handling of on-course drinking water supplies, according to health officials who investigated a water-borne disease outbreak at Thunderbirds GC in Phoenix in July.

In the wake of the outbreak, investigators from the Maricopa County Department of Public Health examined water-handling practices at

160 other county courses and discovered that 101 failed to meet proper sanitation standards when providing water for golfers. A common scenario was using a garden hose to mix chemicals and fill drinking jugs.

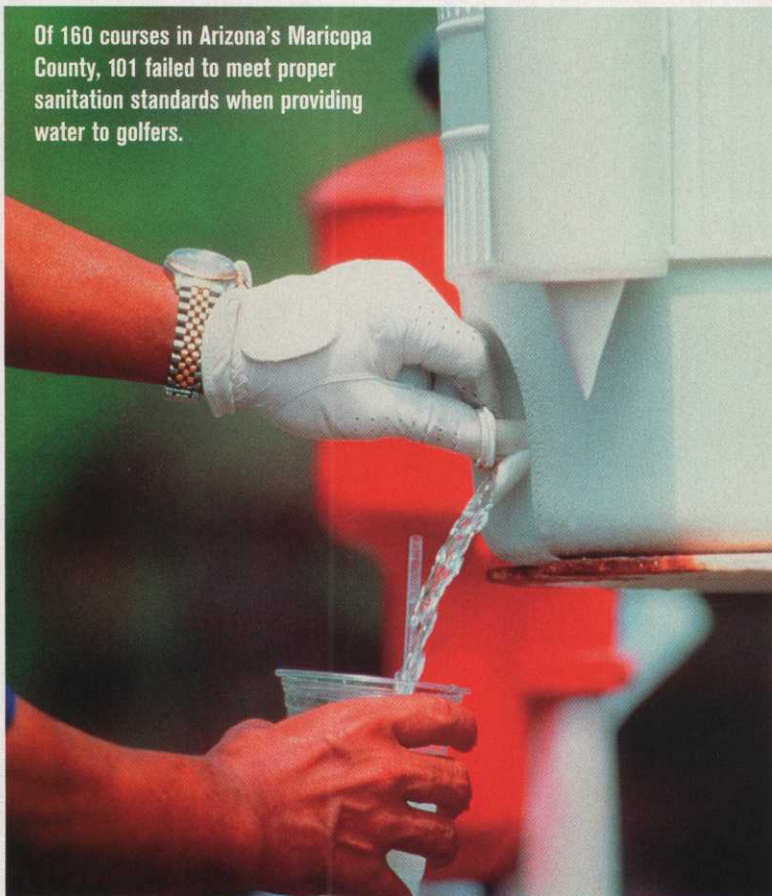
Maricopa authorities cited tainted drinking water as a possible cause in the death of 15-year-old golfer Nils Beeman, who died shortly after playing in the Junior Golf Association of Arizona Tournament at Thunderbirds in July. More than 80 people attending the event became ill with vomiting and diarrhea from the Norwalk virus, a common stomach disorder caused by human fecal contaminants. Although an initial examination of Beeman's body was inconclusive, it's suspected he contracted the Norwalk virus, became ill and died from choking on his vomit. People with the virus usually recover within two or three days without serious or long-term health effects.

Water and ice are sources of the Norwalk virus. It's suspected that water jugs at Thunderbirds GC were contaminated.

Initially dubbed "golfer's sickness," puzzled public health officials conducted a full investigation to find a cause and common link among those ill. The mystery was further compounded when investigators could find no mention of a similar golf course-related problem in existing medical literature. Also, Beeman was seen licking his golf ball while on the links (most likely to remove a grass stain), which further widened the scope of the probe to include toxic substances from pesticides as a cause of his illness.

Because Beeman also played recently at the Raven GC at South Mountain, that course was also investigated. But Raven was later cleared of any connection to the events at Thunderbirds.

Of 160 courses in Arizona's Maricopa County, 101 failed to meet proper sanitation standards when providing water to golfers.



RON CHAPPLER / GETTY

“The collected data indicate that those who were sick were significantly more likely to have consumed water from the course’s jugs than did those who were not sick,” said Dr. Jonathan Weisbuch, director of the Maricopa County Department of Public Health.

Weisbuch noted there were no reports of illness traced back to the course after July 23, when his department changed the water-handling procedures. The golf course’s “water-handling, ice-handling and hand-washing practices were substandard” before July 23, Weisbuch said.

David Ludwig, manager of the county’s public health division, said the course’s employees were not handling the ice and water safely. An unidentified golf course employee who was assigned to dispense the water into plastic jugs also had the virus. Ludwig said it is a “chicken or egg” issue as to whether the course employee spread the virus after getting it from an outside source or if he contracted it while at Thunderbirds.

The drinking water had been prepared in the maintenance facility when it should have been dispensed from the foodservice facility, Ludwig said. “[The course] had a new snack bar where [employees] could have handled the water properly,” he added. Also, a reverse osmosis device that removes chlorine to present a spring water-like taste had been attached to the water supply, and the lack of chlorine may have allowed the pathogen to survive, Ludwig noted.

As investigators examined water-handling practices at 160 other area courses, they discovered that 101 failed to meet proper sanitation standards. “Some were worse than others,” said Ludwig, who also reported that some operations “were severely challenged” in the way they prepared golfers’ drinking water. The county has since produced official standards governing all beverage handling at golf courses. (They can be viewed online at www.maricopa.gov/enusvc/ENVLTH/SPPRGM/safepermitt.asp.)

Ludwig said several courses placed public drinking jugs within the watering patterns of irrigation systems that were spraying effluent water. He said containers at some courses weren’t cleaned for up to a month, and some operations were using the same garden hose to mix pesticides and prepare drinking water.

At one course, Ludwig said he saw an ice machine in a maintenance facility that had herbicides stored to its right and insecticides stored to its left, while a garden hose lay dripping on the

floor. It seemed obvious the hose was used to prepare chemicals and also fill the drinking jugs.

Ludwig said drinking water should come from a separate supply, and a three-compartment restaurant-type sink should be used to clean the drinking containers and nozzles. He said irrigation water should not come in contact with drinking water, and ice consumed by people should not be touched by human hands. Also, ice machines should not be located inside maintenance facilities. Instead, they should be in foodservice-quality structures.

Either bottled water should be served or the dispensers should be secured under lock and key to prevent golfers from accessing the ice, Ludwig added. “The ice is only as good as the golfers’ hands that were in there before.”

Thunderbirds’ officials declined comment, citing repercussions over the ongoing investigation. But local media accounts noted that tee times at the facility were suffering in August. A negative impact was also felt at Raven until the course was officially cleared in Beeman’s death.

These are some of the golf course water and ice-handling procedures being enacted by Maricopa County. They also apply to baseball facilities and other athletic sites:

- The spigot shall be of a gravity-flow design to prevent contamination during use.
- Dispensers shall be cleaned and sanitized at least once every 24 hours (in a food-grade, three-compartment sink).
- Cleaning and sanitizing a dispenser nozzle prior to filling containers is required.
- Containers shall not be (placed or stored) on the floor at any time.
- Garden hoses are not approved for water dispersal. Plumbing codes must be met.
- Food-grade hoses are to be used only for drinking water, not for use on other equipment or tasks.
- Ice must be dispensed with an ice scoop without coming in direct human contact.
- Hands must not come into contact with drink/cooling ice at any time.
- Water dispensers must be placed in a tamper-proof setting to eliminate access to the ice or contents of the dispenser by removing the top cover.
- Service cups must be provided and protected at the dispenser. ■

A COMMON SCENARIO WAS USING A GARDEN HOSE TO BOTH MIX CHEMICALS AND FILL DRINKING JUGS.

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