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Laboratory tests done at the University of Southern California found the hepatitis A virus in the waters off the east end of Goleta Beach, right, and Leadbetter Beach.



JEFF MAY/NEWS-PRESS

Hepatitis A found in water at beaches, treatment plant

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Researchers have discovered the hepatitis A virus in water samples from two South Coast beaches, a creek and the city's sewage treatment plant, raising questions about the potential risk to the public's health.

For the present, however, that threat appears not to have materialized into an actual source for widespread disease.

Heal the Ocean, a citizens group, collected the samples at six local beaches and one creek in October and sent them to a University of Southern California laboratory for analysis. The lab found the hepatitis A virus in samples taken in the surf zone at Leadbetter Beach and the east end of Goleta Beach, Las Palmas Creek in Hope Ranch, and the treated wastewater at the city's El Estero plant.

"It certainly indicates that the water is

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Hepatitis finding prompts concerns

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dirtier than we thought," said Jeff Young, a Heal the Ocean founder who collected the samples himself. "I don't think anybody wants to swim at a beach if there's going to be hepatitis in the water."

At the same time, health officials hastened to reassure the public that there has been no local outbreak of hepatitis A, a disease of the liver. In fact, they said, the cases appear to be on the decline in Santa Barbara County.

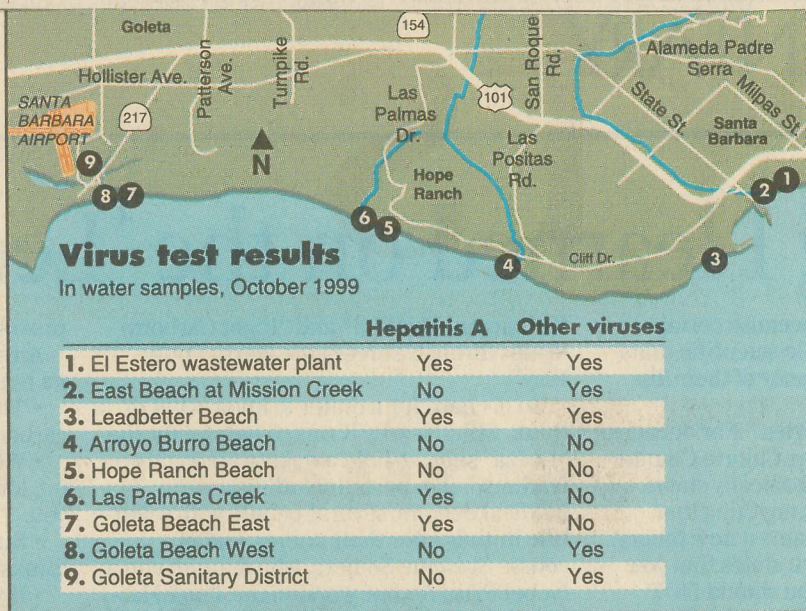
Sixteen cases of hepatitis A were reported to the county in the first nine months of this year. Last year, a total of 54 cases were reported in 12 months, down from 71 the year before. A public health nurse visits every infected patient to determine the likely cause — and in most instances, finds that people have contracted the disease after traveling abroad.

"The vast majority of cases we have had involve recent foreign travel," said Elliot Schulman, the county health officer. "We have not seen a group of people who have gone to the ocean and had an outbreak of hepatitis."

Hepatitis A is a disease of the liver. The virus appears only in humans and is excreted in the feces. The disease is typically contracted by drinking contaminated water or eating contaminated food. After exposure, there is an incubation period of 15 to 40 days. Hepatitis A is usually a mild illness, characterized by the sudden onset of fever and abdominal discomfort, followed by jaundice.

Other forms of the hepatitis virus, such as hepatitis B and C, are not transmitted through contaminated water or food, but by sexual contact, blood products or intravenous drug use.

Young said he found it troubling that Leadbetter Beach and Goleta Beach were posted open and safe for swimming in October, based on the weekly county tests for bacteria — and yet the hepatitis A virus was present in the water. Goleta Beach regularly tests as one of the cleanest beaches in the county with respect to bacterial contamination; and Leadbetter rarely has been posted closed because the creek that runs into it is very small and dries up quickly.



SOURCE: University of Southern California

MICHELLE SHAPIRO/NEWS-PRESS

In addition to hepatitis A, the USC lab tested for human intestinal viruses that can cause severe diarrhea and respiratory infection, as well as polio. These organisms, known as enteric viruses, were identified in samples taken from Leadbetter Beach; East Beach at Mission Creek; Goleta Beach West; and in the treated wastewater at the El Estero and Goleta sewage plants. Only Arroyo Burro Beach and Hope Ranch Beach tested clean for all viruses, including hepatitis A.

It is the second time that USC has looked at water samples from the South Coast. In August, at the request of Heal the Ocean, the lab examined six samples taken from the sewage treatment plants in Santa Barbara and Goleta and found enteric viruses in five of six samples. In a separate test, the Goleta plant determined that the viruses in its wastewater were dead.

Heal the Ocean has long questioned whether the present beach testing program on the South Coast was adequate to protect the public's health. The county samples 15 South Coast and three North County beaches every week for bacteria levels. Twenty South Coast creeks also are regularly sampled for bacteria, heavy metals and pesticides. There are no state standards for viruses in ocean water or treated wastewater; and neither the county nor the treatment plants test for them.

"Heal the Ocean will have to do more testing of viruses to see if we can discern any trends," Young said. "Is there a risk that we're not forewarned about?"

Schulman agreed that more information was needed. But he said he was not surprised that hepatitis A was present in the ocean and creek water samples, for it appears in the human intestines; and the beaches and creeks have been found to be contaminated with high level of intestinal bacteria. It also is important, Schulman said, to determine whether the virus in the samples is alive and therefore infectious; and whether it is present in sufficient concentrations to make people sick.

F.Y.I.

A state hearing on the public health threats from coastal water pollution will be held in Santa Barbara from 5:30 to 8:30 p.m. Thursday. (Nov. 18)

The state Assembly Select Committee on Coastal Protection and the Assembly Committee on Natural Resources will preside; and Assemblywoman Hannah-Beth Jackson, D-Santa Barbara, will open the discussion.

Jeff Young of Heal the Ocean is scheduled to speak, along with a representative of Heal the Bay, a Santa Monica citizens group. Several scientists and state officials will make presentations on viruses and bacteria in coastal waters and ways to protect public health.

The public also will be invited to comment. The meeting will be held in the county Board of Supervisors hearing room in the County Administration building.

—NEWS-PRESS STAFF REPORT

To test for viruses, each 5-gallon water sample is filtered down and concentrated to 1 teaspoon in the lab. Alison Davis, the USC lab manager, said that the samples from Leadbetter and Goleta beaches showed very low concentrations of hepatitis A. The sample from Las Palmas Creek in Hope Ranch, where the homes are on septic tanks, showed a very high concentration of hepatitis A, Davis said.

Davis said that the virus was probably alive in these samples because hepatitis A is very hardy. It is difficult, she said, to grow the virus in the lab to determine conclusively whether it is alive or not.

"I'd be worried about where it was coming from," Davis said.