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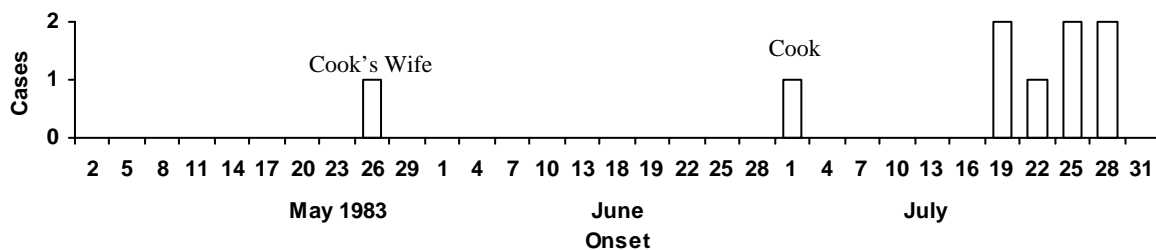
**Bulletin Number 10**  
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**HEPATITIS A OUTBREAK ON AN OFFSHORE PETROLEUM  
PRODUCTION PLATFORM**

August 8, 1983 the Epidemiology Office was informed that three Cook Inlet petroleum platform workers, one of whom was on vacation in Ontario, Canada, had developed viral hepatitis. Two more hepatitis patients, working in Idaho and Prudhoe Bay at the time they became ill, were found by contacting everyone who had worked on the platform during the preceding six weeks. With the cooperation and support of the petroleum company operating the platform, we were able to sample serum from all 45 persons who had worked on the platform at some time between 2-4 weeks prior to the onsets of illness in the five identified patients. Serum was tested for immunity to hepatitis A (HAVAB) and for evidence of recent hepatitis A infection (HAV-IgM).

Of the 45 workers tested, 6 were HAVAB positive; 7 other workers, including the 5 persons already known to have hepatitis A, were positive for HAV-IgM. One patient, a cook, was positive for both HAVAB and HAV-IgM; 31 workers, negative on both tests, were still hepatitis A susceptible.

**Figure 1. Hepatitis A in workers on a petroleum production platform**



Among the seven workers with HAV-IgM only were the 5 with typical clinical disease and 2 with mild illness characterized by nausea and malaise without jaundice. Their symptoms began July 19-26. The cook claimed that on July 2-3, he was affected by mild nausea and weakness, which resolved by July 4 when he left the platform at the end of his regular shift. The cook's wife, a day care instructor, had onset of serologically diagnosed hepatitis A on May 26; her illness followed that of one of the toddlers attending her day care.

Platform workers were helicoptered on and off their work station. With the help of the log book kept near the helicopter bay, we were able to determine which workers were present on the platform at any time. Figure 2 shows the relationship between the presence of the infected cook on the platform and the presence of seven (numbered 1-7) co-workers who subsequently developed hepatitis A. It appears that infection was transmitted during two phases: June 27-29 to a group of five workers, and July 4-6 to 2 workers. By July 4-6 the cook was no longer on the platform.

We compared risk factors between the seven platform workers who developed hepatitis A in late July and their 29 co-workers who remained susceptible. The two groups did not differ significantly in terms of age or gender. There was a significant difference ( $<0.05$ , by Wilcoxin Rank Sum Test) in preferences for certain foods, including ice, potato salad and fruit salad. On the platform, ice was made by an automatic machine which stores cubes until used. Potato and fruit salads were prepared in large amounts, chilled, and served repeatedly for several days until gone. We suspect that either ice or salad served to transmit hepatitis A virus. The cook who would have been shedding virus in late June could have contaminated either. Refrigeration might have kept the virus viable until July 4-6, by which time the cook had gone and the two hepatitis A patients, not on the platform in late June, arrived.

As part of our control efforts, immune globulin (IG) was administered to all 39 employees who were on the platform July 20-28. Fifty-four personal contacts of the five patients with clinical hepatitis were also treated with IG; no member of either group developed clinical hepatitis.

The source of this outbreak of hepatitis A on an offshore drilling platform was traced to an Anchorage day care and required patient and contact follow-up in Canada, Idaho, and Prudhoe Bay. Effective control of hepatitis A and other infectious diseases is effected only by enthusiastic and prompt reporting by Alaskan health care professionals, coupled with in-depth investigation and rapid institution of control measures.

Figure 2: exposure of hepatitis A cases to the platform cook (Acknowledgments: L.O. Davidhizer, D.O., Soldotna, Kathy Davidhizer, Soldotna; Northern Regional Laboratory)

**Figure 2. Exposure of hepatitis A cases to the platform cook**

