

Red Spots on Airline Flight Attendants

From January 1 to March 10, 1980, Eastern Airlines (EAL) received 190 reports of episodes of red spots appearing on the skin of flight attendants (FAs) during various flights. The spots were reported to be small drops of red liquid that appeared on exposed areas of the skin during the flight and disappeared shortly afterward. Complaints of symptoms accompanying the spots were rare, but some FAs expressed concern that the spots were caused by bleeding through the skin and might indicate a serious health hazard. On March 12, investigators from CDC traveled to Miami to assist in the investigation.

EAL's medical personnel had examined several persons with the spots and obtained swabs and scrapings as clinical specimens. No evidence of damage to underlying skin was noted on these examinations, nor was any noted by consultant dermatologists who examined affected FAs after the spots had disappeared. Chemical tests on clinical specimens for the presence of blood were negative. Airline personnel had investigated the ventilation systems, cleaning materials and procedures, and other environmental factors on affected aircraft. Air-flow patterns and cabin temperatures, pressures, and relative humidity were found to be normal. Cleaning materials and routines had been changed, but cases continued to occur.

Written reports by FAs of 132 cases occurring in January and February showed that 91 different FAs had been affected, 68 once and 23 several times. Of these cases, 119 (90%) had occurred on a single type of aircraft. Of the 119 cases from implicated aircraft, 96% occurred on north- or south-bound flights between the New York City and Miami metropolitan areas, flights that are partially over water. Only rarely was a case reported from the same airplanes when flying transcontinental or other east-west routes.

The investigation then concentrated on more clearly defining the clinical picture. An EAL physician, a consultant dermatologist, and a physician from the National Institute for Occupational Safety and Health (NIOSH) rode on implicated flights on March 14 and examined 3 new cases considered by the EAL physician and other FAs to be typical cases. Although the spots observed consisted of red liquid, they did not resemble blood.

To identify potential environmental sources of red-colored material, investigators observed the standard activities of FAs on board implicated flights. At the beginning of each flight FAs routinely demonstrated the use of life vests, required in emergency landings over water. Because the vests used for demonstration were not actually functional, they were marked in bright red ink with the words "Demo Only." When the vests were demonstrated, the red-ink areas came into close contact with the face, neck, and hands of the demonstrator. Noting that on some vests the red ink rubbed or flaked off easily, investigators used red material from the vests to elicit the typical clinical picture on themselves. On preliminary chemical analysis, material in clinical specimens of red spots obtained from cases was found to match red-ink specimens from demonstration vests.

On March 15 and 16, EAL removed all demonstration model life vests from all its aircraft and instructed FAs to use the standard, functional, passenger-model vests for demonstration purposes. The airline will continue to request reports of cases to verify the effectiveness of this action.

Although all demonstration vests were obtained from the same manufacturer, the vests removed from specific aircraft were noted to vary somewhat in the color of fabric and in the color and texture of red ink, suggesting that many different production lots may have been in use simultaneously on any given aircraft.

Red Sweats -- Continued

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Editorial Note: Several factors may have accounted for the recent appearance of this problem and its occurrence on only a portion of EAL's flights over water: 1) the age of the vests, 2) variations in the ink used on specific lots, and 3) varying patterns in distributing the vests to EAL's numerous bases and aircraft.

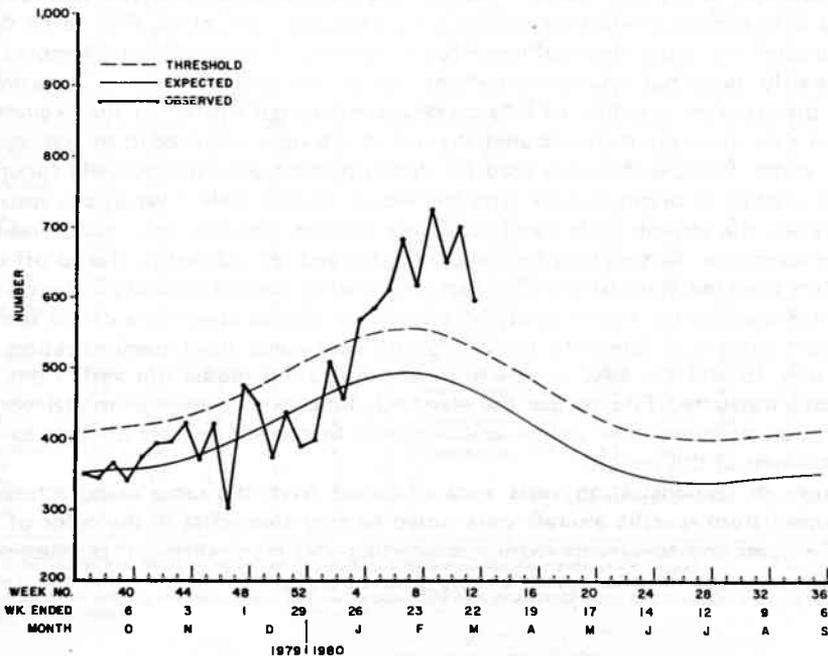
Current Trends

Influenza -- United States

For the week ending March 15, 3 states (Michigan, Nebraska, and Virginia) reported widespread outbreaks of influenza to CDC. Three states (Delaware, North Carolina, and Oregon) reported regional outbreaks, and 36 states reported sporadic influenza cases.

For the ninth consecutive week, the number of pneumonia and influenza (P&I) deaths reported from 117 U.S. cities remained above the epidemic threshold. For the week ending March 22, P&I deaths decreased from the previous week's total (Figure 1).

FIGURE 1. Observed and expected number of deaths attributed to pneumonia and influenza in 117 U.S. cities, 1979-80



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International Notes

Measles — Khao I Dang Holding Center, Thailand

In mid-January 1980, outpatient clinics in the Khao I Dang Holding Center for Kampuchean refugees (1), then holding approximately 110,000 refugees, began reporting large numbers of cases of measles in children. Review of hospital inpatient records disclosed a small number of measles admissions beginning in early December and a subsequent sharp increase in admissions for measles complications beginning the second week of January.

A measles vaccination program had begun in early December, but only 3,500 (32%) of the estimated 11,000 children in the 9-month to 5-year range had been immunized before the outbreak. Subsequently, during an intensified campaign, 9,000 additional doses were administered to children from 6 months through 5 years of age.

A total of 584 children with measles were hospitalized between December 1 and February 5, most in a 100-bed ward reserved for measles patients; 68.4% were ≤ 5 years old. Complications in these patients included pneumonia (73.1%), diarrhea (48.0%), bloody diarrhea (13.4%), dehydration (20.9%), and otitis media (16.0%). Nine (75%) of the 12 measles deaths were associated with severe pneumonia; the others were associated with encephalitis, dehydration, and exfoliative dermatitis. Nine of the deaths were in children ≤ 5 years of age.

Measles vaccination histories were obtained for 178 patients; of these, 13 (7.3%) had been vaccinated more than 14 days before onset of illness. An additional 15 (8.4%) had been vaccinated during the incubation period of their illness, that is, less than 14 days before onset of illness.

Two weeks after the vaccination campaign was completed, the number of measles cases requiring admission had fallen to a level low enough to permit the closing of the measles ward.

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Editorial Note: Measles morbidity and mortality are high among malnourished children (2). The safety and efficacy of measles vaccine in malnourished children has been demonstrated (3). Among refugees, where crowding is associated with increased opportunity for large measles outbreaks and malnutrition, measles vaccine should be an integral (and early) aspect of relief and rehabilitation efforts. Measles vaccination coverage and effectiveness should be assessed as part of routine surveillance of refugees.

References

1. MMWR 1979;28:569-70.

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