DEPARTMENT OF HEALTH AND HUMAN SERVICES
PUBLIC HEALTH SERVICE
CENTER FOR DISEASE CONTROL
ATLANTA, GEORGIA 30333

CDC--MOUNT ST. HELENS VOLCANO HEALTH REPORT #5 June 10, 1980

Emergency Room Visits in Lake Moses, Washington, May 4-31, 1980

After the first eruption, on May 18, 1980, Moses Lake, Washington, located northeast of Mount St. Helens, received 2-4 inches of volcanic ash fallout. Most of the physicians' offices were closed May 18-26, and the residents were told to go to the hospital emergency room (ER) for medical emergencies only. The second eruption, on May 25, 1980, did not affect Moses Lake, since the plume moved southwesterly to northwesterly from the volcano. For the week immediately after the first eruption (May 18-24, 1980), the hospital in Moses Lake experienced a 40% increase in ER visits. This increase can be explained partly by visits of patients who would have gone to their own physicians for services such as medication refills and allergy injections. However, patterns emerge when the types of ER visits are examined separately.

Accidents and injuries: A number of ash-related accidents and injuries occurred during the first week after the first eruption; these included motor vehicle accidents and falls from ladders as residents tried to clean the ash off their rooftops (Table 1). The overall number of accident-injury ER visits actually decreased because of a 45% reduction in the number of visits for other injuries. The injuries in the 2 weeks preceding the eruption were largely due to sporting and recreational activities, such as fishhook injuries.

Table 1. Reasons for emergency room visits in Moses Lake, WA, by week, May 4-31, 1980.

| | Week of May 1980 | | | | |
|---|---|---|---|---|---|
| Reason for Visit | 4-10 | 11-17 | 18-24 | 25-31 | % Change* |
| Accidents/injuries, total | 61 | 63 | 43 | 45 | -29 |
| Motor vehicle accidents | 2 | 4 | 11 | 5 | +117 |
| Falls | 1 | 3 | 6 | 3 | +125 |
| Other injuries | 58 | 56 | 26 | 37 | -45 |
| Respiratory, total | 8 | 9 | 27 | 21 | +182 |
| URI | 1 | 1 | 6 | 9 | +650 |
| Pneumonia/influenza | 0 | 1 | 1 | 1 | +100 |
| Asthma | 2 | 1 | 8 | 5 | +333 |
| Bronchitis | 2 | 2 | 3 | 4 | +75 |
| COPD/emphysema | 2 | 2 | 3 | 2 | +25 |
| Other pulmonary | 1 | 2 | 6 | 0 | +71 |
| Ear (otitis) | 1 | 0 | 6 | 1 | +600 |
| Eye (foreign bodies) | 9 | 8 | 9 | 6 | -12 |
| Psychiatric | 3 | 1 | 3 | 0 | -25 |
| All others | 125 | 140 | 212 | 152 | +39 |
| Overall Total | 207 | 221 | 300 | 225 | +23 |

*Percent increase or decrease in ER visits for May 18-31, 1980, compared with visits for May 4-17, 1980. The first volcanic eruption with ashfall in Moses Lake occurred on May 18, 1980.

Respiratory conditions: Marked increases in the visits because of upper respiratory infections (URI), asthma, and other pulmonary conditions, such as bronchial irritation from ash inhalation, were seen in the ER after the eruption

(Table 1). The increases in URI and asthma persisted through the second post-eruption week. Smaller increases were also seen in the number of visits because of bronchitis and chronic obstructive pulmonary disease (COPD) or emphysema. Twelve patients were hospitalized for pulmonary conditions in the 2 weeks after the eruption, compared with only 4 in the 2 weeks preceding eruption. The admission diagnoses included pneumonia, asthma, acute and chronic bronchitis, COPD or emphysema, and a case of hemoptysis (Table 2).

Table 2. Weekly hospital admissions for pulmonary conditions in Moses Lake, WA, May 4-31, 1980

| | Week of May 1980 | | | |
|---|---|---|---|---|
| Admission Diagnosis | 4-10 | 11-17 | 18-24 | 25-31 |
| Pneumonia | 0 | 1 | 0 | 1 |
| Asthma | 0 | 0 | 1 | 1 |
| Bronchitis | 0 | 1 | 2 | 3 |
| COPD/emphysema | 1 | 1 | 1 | 2 |
| Other (hemoptysis) | 0 | 0 | 1 | 0 |
| Total | 1 | 3 | 5 | 7 |

Other emergency room visits: The number of ER visits because of otitis increased during the first but not the second week after the volcanic eruption. It is possible that these patients returned to their private physicians after May 27, when the physicians reopened their offices. The number of eye complaints, mainly foreign bodies, did not increase after the ashfall. Visits because of psychiatric complaints did not increase.

The closing of physicians' offices for 9 days after the eruption confounds the interpretation of ER visits during this period.

Waste-Water Treatment Problems

EPA Region X reports the ash loadings have created immediate problems for waste-water treatment plants. Deposits of ash reduced sewer and storm capacities, and waste flow was bypassed from most treatment plants during the initial heavy load of ash. These actions prevented prolonged periods of shutdown of the treatment plants, but cleaning and re-starting were required. Most are now back on line. Castle Rock, Washington, has lost its outfall structure (effluent line) on the Cowlitz River, but the plant is still operating, and treated sewage is being discharged over the dike.

ERRATA: In CDC--Mount St. Helens Health Report #4,

Page 2, paragraph 1, line 1, should read as follows: "In Montana and North Dakota these average 24-hour peak levels . . ."

Page 2, Table 1, the "Time-Frame" column should read "24-hr average."

Henry Falk, M.D., Roy Ing, M.D., Jean French, Ph.D., Chronic Diseases Division, Clark W. Heath, Jr., M.D., Director, Chronic Diseases Division, CDC, Atlanta, Georgia. James A. Merchant, M.D., Director, Division of Respiratory Disease Studies, NIOSH, CDC, Morgantown, West Virginia.