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Gordon A. Eadie

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LESSONS LEARNED FROM THE DETROIT TRANSMISSION DIVISION FIRE OF AUGUST 12, 1953

GORDON A. EADIE, M.D.*

For years all of us have been aware of the importance of preparedness for disaster. Most of us have received considerable training in this field. It was especially encouraging to find that during the Livonia fire our plant medical staff was instructed to meet a disaster.

On August 12, 1953, at 3:48 P.M., began probably the most destructive fire in the history of American industry. Within a half hour the General Motors plant at Livonia was an inferno. The many fire departments were unable to bring the fire under control until the plant was a total loss. No one had believed that this modern fireproof building could burn.

The fire was started by a welder's spark which ignited a kerosene-like rust-proofing material in a drip-pan under a conveyor about 12 feet above the floor. Due to the difficulty of fighting a fire so high above the floor, it soon spread rapidly.

By 4 P.M. some men who had been fighting the fire reported to the Medical Department with superficial burns. By this time the entire plant was being evacuated.

The most important equipment for emergency care of injuries was moved out of doors. In a few minutes the smoke became so dense that we were forced to move three times. By 4:30 P.M. our mobile first aid station had settled in a neighborhood backyard. Casualties, thus far, had consisted of minor burns and lacerations. Some of these were sent to Redford Receiving Hospital and others to the Wayne County General Hospital. About this time we detached one of our nurses to set up a first aid station at the west gate of the plant.

At 4:45 P.M. I moved to the south and west sides of the plant where many of the people on the second floor of the office building had been trapped by the sudden rush of heat and smoke from the plant. Many escaped through windows and came down ladders. Several had been sent to the hospital due to smoke, shock and lacerations.

By this time, the Red Cross, the Salvation Army and other disaster agencies had moved into the plant grounds and were serving coffee, sandwiches, providing transportation, etc. Our own mobile first aid station had moved across the highway to a partially finished bank building. Water and electricity had been brought in.

There was a miraculously small number of casualties. A number of firemen had been overcome by smoke and had received oxygen and artificial respiration. Most of these were revived quickly and some went back to the job. By morning we were able to move our field first aid station back to the experimental garage. Except for the office area, the power house, and Medical Department, the plant was a twisted wreck.

In our day-to-day work we stress initiative and encourage creative thinking. As a result, during the fire everyone did a top job, taking responsibility wherever something

*Formerly, Department of Medicine
At Present, Practicing Industrial Medicine, Detroit, Michigan
needed doing. For several years, we have had classes in first aid for Plant Protection Department and supervisors. This training paid off. During the fire many of the minor casualties were cared for before they were seen by medical personnel.

CASUALTIES

Fortunately, all of the burned cases were relatively minor, the result of being splattered by hot oil and tar. We removed the offending material immediately and applied a sterile vaseline or furacin dressing.

There were a number of minor lacerations mostly due to broken glass. We did not attempt any suturing, but sent such cases to outside hospitals. None were severe enough to require hospitalization. Several people had been partially overcome by smoke, heat, etc., and were taken to Receiving Hospital or the County Hospital. A few of these were kept overnight but recovered within a few days.

One man sustained severe damage from heat and smoke. He was an executive who courageously stayed behind in the office building to make a final check. He was trapped by a sudden onrush of smoke and heat, became semiconscious and was rescued in the very nick of time. He was hospitalized for two weeks. He sustained burns of the cornea of both eyes which healed without residuais. For several days the patient coughed up what were probably casts of his bronchioles, grayish in color and streaked with black. X-rays showed an extensive broncho-pulmonary infiltration of both lungs. He had a daily temperature elevation to 101°F for one week. This gradually descended to normal. The sputum decreased in density and by the 15th day was clear. Treatment consisted of antibiotics, steam inhalations, and postural drainage. The patient improved rapidly and was able to return to work the second week of September. Chest x-rays showed progressive clearing over the next several months.

In the spring of 1954 the patient had a recurrence of his cough plus fatigueability and some muscular soreness. He was given a course of antibiotics and sulfa drug during which time he remained home. In a few weeks the cough disappeared, and he was essentially well. Once more, in August, he developed fatigueability and mild cough. A short leave of absence was granted during which he received another “antibiotic blitz.” Since that time he has felt well.

There were three fatalities and all occurred in the Ternstedt Instrument Division area of the plant. This was probably because this area was divided into a number of smaller rooms so that it was easier for people to be lost as soon as the lights went out. In addition, the fire originated to the west of the Ternstedt Division and was blown by a strong west wind into the Ternstedt area. Dense clouds of smoke made it impossible to see. All three casualties were men who apparently had become lost and were killed by asphyxia and heat.

TRANSPORTATION AND COMMUNICATION

Within minutes of the start of the fire ambulances were at the scene. These had been alerted through the Civil Defense system. Numerous Civil Defense organizations such as the Red Cross, the Civil Air Patrol, the Salvation Army, the Boy Scouts and others, provided adequate transportation for all needs. After the first 20 minutes or so, we were entirely dependent for communication upon messengers. The Bell Telephone System can quickly supply field telephones in any emergency. Also the Red Cross can
often supply them. Since the fire our Plant Protection Department has acquired a short wave broadcasting system including "Walkie-Talkie" units which would be of great value in an emergency.

SUMMARY

(1) In probably the greatest industrial fire in history, the number of casualties was remarkably small. However, if the number had been greater we still could have handled them. We had numerous offers of assistance from several industrial physicians in neighboring plants.

The principal reason for the small number of casualties was that every supervisor in the plant took immediate appropriate action and kept his head. Each of the supervisors immediately saw that his employees were safely out of the plant. There was no panic. Thus, the evacuation of the plant was accomplished in an orderly manner and in spite of the rapid spread of the fire.

(2) Transportation and communication: Adequate transportation was provided by the disaster agencies. Communication was dependent for the most part upon messengers.

(3) The Civil Defense organizations took action within minutes of the start of the fire and did a splendid job of providing transportation for the injured, helping in communications, traffic control and many other functions—providing plenty of coffee, sandwiches, etc., for the hundreds of people working at the scene of the disaster. We owe all these organizations a great debt of gratitude!

16083 Southampton, Detroit, Michigan