Medical Aspects of Tragedy At MGM Fire in Las Vegas

The MGM Grand Hotel fire last Nov. 21 was a tragedy which alerted the entire nation to the potential hazards of a high-rise fire and the possibly inadequate protection afforded the guests.

While much has been written about this fire and in the months to come much more will be disclosed—either in print or in court—confusion continues to abound. Some claim there was no report of "smell of smoke" or other unusual activity prior to fire erupting in the main-floor coffee shop and casino area. Others state that the odor of smoke was noticeable for a definite period before the flames became visible. In any event, most investigators agree the fire had been smoldering for over two hours before it was discovered.

Yet, virtually overlooked in all reports is the EMS role following the outbreak of the fire.

The scenario: As a paramedic, try to picture the scene: Opened in December 1973 at a cost of $106 million, the MGM Grand Hotel is 26 stories high and contains 2076 guest rooms and a 140-yard-long casino. At 7:20 a.m. on Nov. 21, first-arriving fire fighters are confronted with smoke in the area around the delicatessen. Then suddenly a wall of flame erupts along with very dense smoke from the ceiling down to about 4½ feet above the floor. A general alarm is issued, followed by an additional request for help.

This will ultimately bring to the scene some 250 fire fighters, 40 pieces of fire fighting equipment (including 14 rescue vehicles from Las Vegas), 15 ambulances, 50 Clark County school buses, approximately 15 helicopters, and hospital staff, including physicians, nurses, a pharmacist, an IV therapist, etc.

The magnitude of the EMS problem was immense—one requiring a total community effort.

While in light of impending litigation it is not wise to become too specific, an overview is certainly in order.

The 50 buses were used to transport hotel guests—some of whom were injured. They were medically evaluated at four area hospitals and at the Las Vegas Convention Center. Those transported to the Convention Center were evaluated with blood gases drawn and evaluated at Sunrise Hospital (the state's largest). If a problem was noted, Sunrise then contacted the Convention Center and the patient was transported to the hospital.

Hospital involvement: In all, the four hospitals evaluated 529 victims. The Convention Center evaluated another 150 victims for a total of 679 evaluations, with a total hospitalization of 382.

The operation at Sunrise Hospital drew much of the praise. Just two days prior to the fire, it had participated in a simulated airplane crash in a residential neighborhood and within 45 minutes of the report of the MGM incident, it was fully activated with complete hospital staffing—including the clearing of two entire wards and the staffing of the Convention Center as a satellite hospital evaluation center.

A confidential report states: "This group (Sunrise Hospital) was very impressive in the knowledge they displayed about employee and hospital capabilities and action. . . ."

According to the United States Fire Administration, of the 84 dead, 10 were burned to death because of their location in the casino area and at the front entrance. Three jumped to their deaths, and all others were smoke inhalation victims—two on the 16th floor and all the rest above the 20th floor.

No serious burn injuries: Of the injured, there were no major burns treated at any of the four hospitals.

Five had heart-related problems and had to be admitted to intensive care units for further evaluation.

Three persons were admitted with multiple fractures and one with a broken back.

Thirteen fire fighters were treated for minor injuries and smoke inhalation.

Several days after the fire, a select group was allowed to view 30 of the bodies at the Clark County Morgue. In the short period of observation, it was noted the victims of smoke inhalation appeared to have died very quickly—raising the possibility of a toxic substance being involved. Many of the victims did not appear to have ingested smoke for extensive periods of time.

Medical investigation: While Clark County is well capable of conducting an autopsy, many smaller communities lack such capabilities. To assist such localities, Merritt Birky, Ph.D., Center for Fire Research, National Bureau of Standards, has prepared a "Post-Fire Medical Investigation Checklist." It was presented at the United States Fire Administration's Sixth Annual Conference, Jan. 19-21 in San Francisco, and it is printed here.

The objective is to determine cause of deaths, and is divided into three sections.

A. General observations
1. Record location of victims.
2. Evidence of struggling.
3. Evidence of soot deposits around nose, mouth and skin.
4. Evidence of burns (chemical and thermal) around nose and mouth and on skin.
5. Condition of eyes—corneal clarity.

B. Toxicological measurement of blood samples

1. Carboxyhemoglobin determinations
2. Total hemoglobin
3. Blood pH
4. Alcohol and other drug screen
5. Hydrogen cyanide determinations (should be done immediately if at all possible)

C. Autopsy observations and sample collections

1. Upper respiratory system (nose and trachea)
   Evidence of edema and soot deposits
   Collect soot deposits for chemical analysis
2. Lower respiratory system (bronchi and lungs)
   Evidence and degree of edema and soot analysis
   Collect soot deposits for chemical analysis

As was stated before, it will be some time before the complete story is released. Yet is seems apparent that under the most trying of conditions, the paramedics of the Clark County and Las Vegas Fire Departments, plus the cooperation of the entire community, acted in the best of EMS traditions. □ □

Letters to the Editor

August Cover Remarks

Pennsauken, N.J.

In regard to the letter to the editor by George Noll in your November 1980 issue, Mr. Noll admits knowing nothing about the background of the fire or the picture that appeared on the cover of the August 1980 issue. In my opinion, you cannot take a photograph of an emergency or hazardous situation, without it looking dangerous to the people involved in the situation. Instead of criticizing the magazine and the picture he knows nothing about, why doesn't he write an article on fire safety, and include some statistics about the safety record of the fire service. To my thinking, that would be more constructive.

Ernest F. Busch
Fire fighter, Pennsauken. N.J.

Physical performance tests

Maywood, N.J.

The Maywood, N.J. Volunteer Fire Department is in the process of designing a physical proficiency test (in addition to a medical exam) in order to help us evaluate the potential of applicants for membership.

It is our intent to include several exercises of a highly practical, fireground nature. Not wishing to "re-invent the wheel" we would appreciate hearing from departments (paid or volunteer) having such entry level physical tests in place.

Specifically, we request descriptive data of the exercises employed and, if possible, any analyses of the test results which may be available.

Please send information to Maywood Fire Department, 15 Park Ave., Maywood, N.J., Attn.: Capt. James P. Moran or call (201) 845-8696, 845-8800, or 284-2133.

J. P. Moran
Captain, Maywood, N.J. Fire Dept.