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MAY NEWSLETTER- LIFE AND DEATH DECISION-MAKING

The U.S. Marine Corps called several New York City fire chiefs to its military academy to find out how the fire service makes life-and-death decisions. The Marines believe we make frequent and good life-and-death decisions during fires and emergencies, and they wanted to know how we train our fire officers in decision-making.

During a war, the military makes many life-and-death decisions. But when the war ends, so does the decision-making. The fire service makes life-and-death decisions in a war that never ends firefighting. Many soldiers who made life-and-death decisions in the military have retired. The fire service does not have this problem. We continually maintain a corps of fire chiefs, officers and firefighters who learn and know how to make life-and-death decisions. And the fire

service continues to make life-and-death decisions every day throughout this country at fires and emergencies.

The marines wanted to know how we acquire the ability to make life-and-death decisions. We fire chiefs gave them some valuable information. First and foremost, we teach firefighters, officers and chiefs those decisions they make affect their own lives and the lives of the people they serve in the community. Next, the fire service identifies the common life-and-death situations encountered at fires and emergencies. These critical situations get special attention during training sessions. For example:

1. Is the roof stable? Can I cut a roof vent opening or will it collapse?
2. Which one of the injured victims should be removed from the burning building first?
3. Will the burning car explode or should I attempt to rescue the trapped victims?
4. Should the firefighters be withdrawn from the burning building or should I continue the high-risk interior attack?
5. Is the secondary search in the smoke-filled apartment complete or are there still trapped victims?
6. Do I have sufficient resources at the scene or should I call for reinforcements?
7. Is the smoldering fire inside the concealed space extinguished or will it rekindle and a larger, life-threatening blaze occur after I leave the scene?
8. Is this a false alarm or should I search the area again for a fire or victim?
9. Do I have enough resources at the scene to attack the fire or should I order all firefighters to do search and rescue and let the building bum?
10. Should I give up the original burning building and protect adjoining structures with hose lines?

The above are just some of the life-and-death decisions chiefs and company officers make during fires and emergencies every day throughout America. And the following are ways in which fire

chiefs and company officers in the New York City Fire Department learn how to make these decisions.

Mentors

Like soldiers, fire chiefs, company officers and firefighters learn how to make life-and-death decisions through experience. We learn the craft of firefighting by doing it. . Experience is the best teacher, even for decision making. Watching or assisting someone in making a decision is invaluable. It starts as firefighters. We have the "buddy system" of working in pairs. A junior firefighter is assigned to work with a seasoned firefighter. The young firefighter watches as the veteran performs the work. He asks questions of the senior firefighter and learns techniques and practices of life-and-death decision making that will save his life someday. Then, one day on a tour of duty in the firehouse, the senior firefighter is not there. He takes a day off, is promoted or transferred and now the junior firefighter becomes the senior firefighters then he is assigned a rookie to work with. He becomes a mentor to this inexperienced firefighter and teaches the same life-and-death decision-making.

Multiple Officers Response

The same learning repeats itself in the officer rank. At an alarm for a fire and emergency, several units are dispatched to the scene. Each unit has an officer as a supervisor, who is usually a lieutenant. The first company officer arriving at the scene is in command until relieved by a higher-ranking officer. During the incident, the supervisors give orders and oversee the company's operations but also as apprentice fire officers we watch the senior officers make decisions. We watch the good ones. We watch and learn the life-and-death decision-making of a veteran first-line supervisor. In addition, at least one captain responds on every working fire; in New York City, the captain groups are permanent. A captain cannot change groups. The groups are spread out so one captain responds on every working fire alarm of three engines and two

ladders. This permanent group assignment ensures that one experienced company officer, a captain, will be at every working fire.

Two Chiefs at a Fire

When we are promoted to chief officers, the process starts all over again. We learn new life-and-death decisions. We learn life-and-death firefighting strategies that affect the people trapped in burning buildings and nearby buildings. And most important we learn that the safety of all the firefighters at the scene of the fire or emergency is our responsibility, not just the safety of one company. The fireground commander responding with the first alarm is the person who makes the most life-and-death decisions. The life-and-death decisions made in the first few minutes of the fire are the most important. These decisions lay the groundwork for the entire firefighting operation. To ensure proper life-and-death fireground decisions by fire chiefs, New York City has two chiefs respond to every working fire. One battalion chief responds on the initial alarm for a structure fire; if it becomes an all-hands fire, a second battalion chief responds but the first arriving chief is in charge. With two chiefs at the scene, chances are good that one of the two battalion chiefs will have several years of experience. The chief, even if in charge, may call on the expertise of the veteran. In addition, a deputy chief arrives on the second alarm.

High Activity Assignment

Since experience is the best teacher of decision-makers, many fire officers and chiefs seek assignments in areas where fire and emergency activity is the greatest. Assignments to areas of high fire activity are highly sought after by new chiefs wanting to gain that valuable experience in life-and-death decision-making. Experience also builds confidence in our ability to make correct decisions. This confidence translates into leadership traits and a command presence at fires. Chief and company officers also seek decision-making experiences in different types of emergency situations. Just as a soldier must know about desert warfare, jungle warfare and urban warfare, a fire chief must know about high-rise firefighting, low-rise firefighting, strip-store

firefighting, private-dwelling firefighting, and wildfire firefighting. Some fire departments rotate chief officers automatically after five years in a unit.

Simulation Training

When you consider how long it takes a fire officer or chief to learn the above different aspects of firefighting, you realize there must be other ways to gain experience in making life-and-death decisions. The computer has given the fire service another way to learn life-and-death decision-making. The closest thing to making decisions at a fire is computer simulation decision-making training. Recently, the FDNY obtained a computer program that simulates the type of buildings, the type of fire spread, and the type of strategies and tactics used by the department. This computer program is being used to train new and veteran chief officers with much success. During this training, a new chief officer stands in front of a large screen that shows a real-life moving picture of a spreading fire. Rapid-fire questions are asked of the chief being trained. These questions require the chief to make on-the-spot life-and-death decisions under pressure while being supervised by his peers. The questions are on fire size-up, apparatus placement, ladder raising, hoseline positioning, and offensive and defensive strategies. The key to the success of this computer training over some others is due to the information programmed into the computer. It is based on our city's buildings, our apparatus response to a structure fire, our standard operating procedures, and our strategy and tactics.

Knowledge of Battlefield

Next to having experience in making decisions, having knowledge of the burning building's construction is important for good life-and-death decision making. Fire officers who know the battlefield make good life-and-death decisions. Buildings are the battlefields of fire. Specific building construction knowledge greatly assists the fireground commander. Knowing the fire spread weakness of a building helps us with the strategy and tactics. For example, the

large open stair of a private dwelling ground-floor fire tells us the top-floor bedrooms are a high priority search area; the common roof space or cockloft over a row of stores tells us to get a hoseline into the downwind exposed store, and a fire in an air shaft between two tenement houses tells the knowledgeable chief to get a protective hoseline to the adjoining building and to the top floor to check fire spread. In addition to fire spread weaknesses, buildings have specific collapse dangers, which a fireground commander must know to make good life-and-death decisions. Parapet walls collapse during fires in rows of stores; truss construction is a deadly roof and floor for firefighters; a three-story wood-frame burning building located on a corner is a collapse danger. There are some fire chiefs who know this information - and there are some fire chiefs who don't. Which chiefs do you think will make the best life-and-death decisions at a fire?

Knowledge of Enemy

A fire chief also must know the enemy and how the enemy moves in order to make good life-and-death decisions. The enemy is fire, and fire spreading vertically or horizontally is how it moves. Convection - the transfer of heat by a fluid - is the way most fire spreads. (A fluid is a gas or liquid) Auto-exposure - flames lapping up from window to window - is fire spread by convection. Chiefs must order a hoseline to the upper floors to stop convection fire spread. Radiation - the transfer of heat through space - is the way fire spreads at major conflagrations. The chief must order hoselines into exposed nearby buildings. Radiation spreads fire in all directions upwind and downwind. Conduction - the transfer of heat through solid material - is a fire spread the chief must check for during overhauling. Did fire spread through the brick chimney fireplace? Should I order the wall or ceiling opened up to check for conduction fire spreads?

Knowledge of Strategy and Tactics

To make good life-and-death decisions a fire chief must know strategy and tactics. Fire department tactics are the operations of a fire company performed at a fire. The company tactics achieve the chief's fireground strategy. For example, a strategy of protecting life at a fire in a private house will be achieved by companies performing tactics such as forcible entry, ground ladder placement, hoseline placement, window ventilation, and search and rescue. When the fire service began to describe how it extinguished fire, the first explanations of firefighting strategy came from chiefs who studied successful company tactics. Tactics came before strategies. The firefighting strategies we use today were developed years ago by chiefs who analyzed successful time-proven tactics. The dictionary defines strategy as the planning and directing of large-scale military actions. The fire service defines strategy as the planning and directing of the actions of large numbers of firefighters, apparatus, and equipment at fires and emergencies. To make effective life-and death-decisions a fireground commander must have many different types of strategies or plans. The most important strategy is a firefighting strategy. It may be a step-by-step plan, such as protecting life, preventing fire extension, confining the fire on all sides, extinguishing the fire, overhauling to prevent rekindle, and securing and safeguarding the premises before leaving the scene; or the strategy may simply be locating, confining and extinguishment. After deciding the firefighting strategy, the fireground commander must have the ability to direct fire companies to perform any number or any type of firefighting tactics necessary to accomplish the strategy. In addition to the firefighting strategy, many other plans may have to be put into operation at a moment's notice. Some life-and-death strategy/ plans a fire chief may have to implement at a fire or emergency are: the incident command system, how to set up and locate a command post; how and when to establish a fireground designation system for communications to the area around a burning building (exposures 1, 2, 3 and 4); how to use a fire building designation system to communicate and define specific areas inside a burning building (sectors A, B, front and rear); how to set up a communications plan to switch from a

tactical channel to a command channel when radio message overload occurs and how to increase pressure for master streams.

Controls on Decision Makers

The fire service controls and supervises the life-and-death decisions made by a company officer and a fire chief. All critical decisions are monitored. The purpose of this oversight is to help the new fire chief learn decision-making and to prevent a serious error. Radio progress reports of fire conditions and actions taken are a control. These reports require the chief in charge to evaluate the results of his actions. It also allows a higher-ranking, more-experienced chief to monitor and control the actions of a new fireground commander. If radio reports indicate problems or that the fire or emergency is not being controlled, a supervisor may respond and take control. Another control occurs when greater alarms are transmitted. Calling for additional resources automatically triggers the response of a higher-ranking, more experienced chief. Standard operating procedures carried out at all structure fires act as a control on life-and-death decision making. Before leaving the scene of a major-alarm fire, the fire chief is responsible for three critical life-and-death decisions:

1. Primary search.
2. The secondary search.
3. The decision to declare the fire under control.

Lessons learned

We learn life-and-death decision making in the fire service the same way we learn any skill. We learn it by study and by doing it. First, we are apprentices. We study, watch others and learn. Next, we become journeymen. That means that after years of study, we know how to make decisions but we lack experience. Finally, after several years, if we make good decisions and have no disasters, we may become masters of our profession

Newsletter questions

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Questions

1. Over the past 50 years, the fire service continuously made more life and death decisions than the military service

   Answer_____

2. Which one of the following is not a life and death decision made by a fire chief?

   A. Is this fire extinguished and should we leave the scene or will it rekindle?
   B. Should I open up this plaster wall and examine for concealed fire spread behind the partition wall?
   C. Is this burning building going to collapse and should I withdraw firefighters?
   D. Is this a false alarm or should I search the area again?
   E. Where should I set up apparatus staging for incoming fire apparatus?

   Answer_____

3. Which one of the following is not a method to teach fireground commanders life and death decision- making?

   A. Assign a mentor
   B. Have multiple commanders respond to an incident
   C. Computer simulation training
   D. Assignment to an area of low fire and emergency activity

   Answer_____

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True or false

4. The life and death decision-making changes for each rank in the fire service and new skills must be learned as we go up the ranks?

   Answer_____

5. Which one of the following is an incorrect answer regarding knowledge of the fire service battlefield?

   A. In an urban area, the battlefield is a structure

   B. Two factors of a structure firefighters must know about are the fire spread weakness and the collapse dangers

   C. The fireground commander need not know about the inside of a structure in the response area

   D. A large open stairway indicates top floor bedrooms are a high- priority search area

   Answer_____

Answers:

1.True; 2. E; 3. D; 4.True; 5. C

To use this newsletter for training in firehouse:

1. Read the newsletter.
2. Print out the newsletter. Copy for each firefighter.
3. Use bold print as key words for training presentation.
4. Use questions for discussion.
5. Use questions to test firefighters.